

Statement of Basis

**Permit to Construct No. P-2016.0050
Project ID 61771**

**Champion Home Builders
Weiser, Idaho**

Facility ID 087-00007

Final

February 8, 2017
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Permit Writer



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

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ACRONYMS, UNITS, AND CHEMICAL NOMENCLATURE

AAC	acceptable ambient concentrations
AACC	acceptable ambient concentrations for carcinogens
acfm	actual cubic feet per minute
Btu	British thermal units
CAA	Clean Air Act
cfm	cubic feet per minute
CFR	Code of Federal Regulations
CO	carbon monoxide
CO ₂	carbon dioxide
DEQ	Department of Environmental Quality
dscf	dry standard cubic feet
EL	screening emission levels
EPA	U.S. Environmental Protection Agency
ft	feet
GHG	greenhouse gases
gr	grains (1 lb = 7,000 grains)
HAP	hazardous air pollutants
hr/yr	hours per consecutive 12-calendar-month period
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
lb/hr	pounds per hour
MACT	Maximum Achievable Control Technology
MMBtu	million British thermal units
MMscf	million standard cubic feet
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
POM	polycyclic organic matter
ppm	parts per million
PSD	Prevention of Significant Deterioration
PTC	permit to construct
PTE	potential to emit
<i>Rules</i>	<i>Rules for the Control of Air Pollution in Idaho</i>
scf	standard cubic feet
SIP	State Implementation Plan
SO ₂	sulfur dioxide
SO _x	sulfur oxides
STP	standard temperature and pressure (273.15 K and 100 kPa)
T/yr	tons per consecutive 12-calendar-month period
T2	Tier II operating permit
TAP	toxic air pollutants
U.S.C.	United States Code
VOC	volatile organic compounds
µg/m ³	micrograms per cubic meter

FACILITY INFORMATION

Description

Champion Home Builders (Champion) manufactures mobile homes. The facility is located in two manufacturing buildings located at 1425 and 1442 Sunnyside Road, Weiser, Idaho. Champion manufactured mobile homes are made up of one or more modules or “floors,” each of which can be a bedroom, bathroom, kitchen, or other living area. A completed living structure consists of one or more floors placed side-by-side and/or stacked vertically.

Manufacturing processes include wood sawing, wood sanding, gluing, caulking, painting, and metal welding. The facility also includes a number of small, natural gas-fired space heaters (i.e. fuel burning equipment) with heat input ratings of less than 10 MMBtu/hr.

Modules are constructed in an enclosed 148,000 square foot facility. The assembly line is organized into 31 stations where the construction process takes place. The design of the plant allows two-section or three-section modules/homes to travel side-by-side until reaching the final stations, where they are split apart for completion and close up. Modules/homes are constructed from lumber with a steel chase/undercarriage for support during transportation. A portion of the lumber arrives pre-cut to fit the specific module design. Other lumber is cut within the factory mill to meet the specific needs of the project.

The floor department constructs the modular floor’s frames utilizing wood, decks them with 4x8 ft sub-flooring, installs floor insulation and electrical wiring, installs necessary plumbing, installs HVAC ducting, and lays linoleum and or carpet flooring.

The cabinet shop assembles and installs cabinet doors into base and overhead cabinets. The countertops are manufactured and finished with laminates, granite and/or quartz. The completed cabinets are then secured into the modules.

The wall department frames the walls with pre-cut lumber, white glue and/or two part foam adhesive and gypsum board. The roofing department uses pre-manufactured trusses and lumber with gypsum installed with two-part foam adhesive. Electrical wiring is installed, and interior and exterior walls are prepped, textured and painted. All interior painting is conducted with the units fully enclosed within the plant and encapsulated with plastic. Exterior painting occurs without the plastic covering, but enclosed within the manufacturing building.

Following the completion of a modular unit, electrical and water checks are performed. Lastly, all units are cleaned, prepped for shipping, and moved into the yard via tractor.

Permitting History

This is the initial PTC for this facility. The two manufacturing buildings were previously operated under two T2 permits which were issued in 2000. The 1425 Sunnyside Rd. location (operating under T2-087-00007) was formerly owned by Redman Home Builders, but has since been purchased by Champion. The 1442 Sunnyside Rd. location (operating under T2-087-00008) has always been owned and operated by Champion since 1998.

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

Table 1 PERMITTING HISTORY

Issue Date	Permit Number	Project	Status	History Explanation
December 19, 2000	T2-000072A (087-00008)	Initial T2 for a manufactured home manufacturing facility.	T	Initial permit for 087-00008. Terminated 8/7/15.
December 19, 2000	T2-000072 (087-00007)	Initial T2 for a manufactured home manufacturing facility.	E	Initial permit for 087-00007.
February 8, 2017	P-2016.0050 PROJ 61771	Initial PTC to combine facilities 087-00007 and 087-00008.	A	Initial permit.

Application Scope

This permit is the initial PTC for this facility.

The applicant has proposed to:

- Change the ownership of the former Redman Home Builders facility to Champion Home Builders,
- Operate both facilities under one PTC, and
- Increase manufacturing capacity.

Application Chronology

August 3, 2016	DEQ received an application.
August 10 – August 25, 2016	DEQ provided an opportunity to request a public comment period on the application and proposed permitting action.
September 1, 2016	DEQ determined that the application was incomplete.
September 26, 2016	DEQ received supplemental information from the applicant.
October 25, 2016	DEQ determined that the application was complete.
December 16, 2016	DEQ made available the draft permit and statement of basis for peer and regional office review.
December 23, 2016	DEQ made available the draft permit and statement of basis for applicant review.
January 3 and 6, 2017	DEQ received additional information from the applicant, including facility draft comments and information pertaining to existing natural gas-fired heating units.
January 23, 2017	DEQ made available updated draft permit and statement of basis documents for applicant review, including a modeling review memorandum.
February 3, 2017	DEQ received the permit processing fee.
February 8, 2017	DEQ issued the final permit and statement of basis.

TECHNICAL ANALYSIS

Emissions Units and Control Equipment

Table 1 EMISSION SOURCES AND EMISSION CONTROLS INFORMATION

Source	Control Equipment
<p><u>Sawing and Sanding</u> Maximum operation: 10 modules/day (Permit Condition 2.12)</p>	<p><u>Mill Baghouse</u> Manufacturer: RDS Collection System Model No.: NA PM₁₀ Control Efficiency: ≥99.8%</p> <p><u>Cabinet Shop Dust Filtration System</u> Manufacturer: Dustek Dust Systems Model No.: 750 PM₁₀ Control Efficiency: ≥ 98%</p> <p><u>Mill and Cabinet Shop Cyclone</u> Fan flowrate: 4,200 cfm PM₁₀ Control Efficiency: ≤ 0.015 gr/dscf</p> <p><u>Reasonable control of fugitive emissions</u> Operations conducted within an enclosure or enclosed building</p>
<p><u>Painting, Gluing, Caulking, and Welding</u> Maximum operation: 10 modules/day and as limited by production and emission limits</p>	<p><u>Reasonable control of fugitive emissions</u> Operations conducted within an enclosure or enclosed building</p>
<p><u>(8) Frame Shop Space Heaters</u> 6 radiant tube type heaters Manufacturer: Ambi-Rad Model: PT-150 Maximum Capacity: 150,000 BTU Fuel: natural gas</p> <p>2 portable construction heaters Manufacturer: Sure Flame Model: S405 Maximum Capacity: 400,000 BTU Fuel: natural gas</p>	<p>None</p>

Table 1 Regulated Sources (continued)

Source	Control Equipment	
<u>(36) Space Heaters – Division 17 (South Plant)</u>		
29 radiant tube type heaters		
Manufacturer: Ambi-Rad	None	
Model: PT-150		
Maximum Capacity: 150,000 BTU		
Fuel: natural gas		
3 unit type heaters		
Manufacturer: Dayton		
Model: 4LX64		
Maximum Capacity: 300,000 BTU		
Fuel: natural gas		
1 radiant tube type heater		
Manufacturer: Dayton		
Model: 7DC27		
Maximum Capacity: 25,000 BTU		
Fuel: natural gas		
1 radiant tube type heater		
Manufacturer: Dayton		
Model: 7DC29		
Maximum Capacity: 40,000 BTU		
Fuel: natural gas		
2 portable construction heaters		
Manufacturer: Sure Flame		
Model: S405		
Maximum Capacity: 400,000 BTU		
Fuel: natural gas		

Table 1 Regulated Sources (continued)

Source	Control Equipment
(17) Heaters – Division 18 (North Plant)	
7 unit type heaters	None
Manufacturer: Dayton	
Model: 4Lx64	
Maximum Capacity: 300,000 BTU	
Fuel: natural gas	
9 unit type heaters	
Manufacturer: Lennox	
Model: LF24-250A-5	
Maximum Capacity: 250,000 BTU	
Fuel: natural gas	
1 tube type heater	
Manufacturer: Dayton	
Model: 7D843	
Maximum Capacity: 100,000 BTU	
Fuel: natural gas	

Emission Inventories

Potential to Emit

IDAPA 58.01.01 defines Potential to Emit (PTE) 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.

Uncontrolled Potential to Emit

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

The uncontrolled PTE is used to determine if a facility is a “synthetic minor” source of emissions. Synthetic Minor sources are facilities that have an uncontrolled PTE for regulated air pollutants or HAP above the applicable Major Source threshold without permit limits.

The following table presents the uncontrolled PTE for regulated air pollutants. The uncontrolled PTE was calculated by assuming previously permitted allowable emissions were uncontrolled and continuous operation at 8,760 hr/yr; permitted allowable emissions had been based on operations of 2,080 hr/yr.

Table 2 UNCONTROLLED POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Source ¹	Locations	PM ₁₀ /PM _{2.5}	SO ₂	NO _x	CO	VOC	HAP ²
		T/yr	T/yr	T/yr	T/yr	T/yr	T/yr
Welding	Frame Shop	< 1.0	---	---	---	---	0.051
Sawing and Sanding	Frame, Mill, Cabinet Shops	< 56.0	---	---	---	---	---
Painting, gluing, and caulking ³	Facility-Wide	< 210.0	---	---	---	< 104	---
NG-fired Fuel Burning Equipment ⁵	Facility-Wide	0.33	0.03	7.30	1.03	0.3	---
Total, Point Sources		< 270	0.03	7.30	1.03	< 105	0.051

- 1 Includes all point sources listed except adhesives and caulks. PTE = previously permitted allowable emissions x 8760/2080
- 2 Per the permit application, HAP emissions are from welding only
- 3 Painting includes all facility-wide painting (frame painting, interior painting, and exterior painting)
- 4 Adhesives and caulking emissions were not previously regulated.
- 5 Fuel burning equipment (space heaters) with a cumulative heat input of <10.0 MMBtu/hr. PTE assumes 8760 hr/yr operation.

Potential to Emit

Project emission increases and decreases as provided in Appendix A were used to establish the change in potential emissions at a facility as a result of this project.

The change in facility-wide potential to emit is used to determine if a public comment period 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 and HAP.

Table 3 CHANGES IN POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Source	PM ₁₀ /PM _{2.5}	SO ₂	NO _x	CO	VOC	HAP
	T/yr ¹	T/yr ¹	T/yr ¹	T/yr ¹	T/yr ¹	T/yr ¹
Emission Increases	8.7	0.0	0.0	0.0	7.2	8.7
Emission Decreases	13.2	0.0	0.0	0.0	2.3	0.0
Changes in Potential to Emit	-4.5	0.0	0.0	0.0	4.9	8.7

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

As illustrated in Table 3, PM₁₀/PM_{2.5}, VOC and HAP emissions decrease post-project. This is due to the use of better emissions controls and using products that contain no- or low-VOCs and HAPs. Annual SO₂, NO_x, and CO emissions increase because the natural gas-fired fuel burning equipment may operate longer during the year post-project (3,756 hr/yr versus 2,080 hr/yr).

Project 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 IDAPA 58.01.01.585 and 586. Daily TAP emissions that are less than or equal to the EL times 24, or the AAC (24-hour standard, Section 585), or the AACC (annual standard, Section 586) demonstrate pre-construction compliance with IDAPA 58.01.01.210. Should a TAP-containing product change from that evaluated in this analysis and if the new TAP emissions exceed the EL times 24, then the facility is required to model the relevant TAP emissions rate(s) to determine compliance with corresponding AAC or AACC. This approach is consistent with the TAP exemption criteria contained in IDAPA 58.01.01.223.02.b, which allows the facility to conduct a modeling analysis and make the change if ambient compliance is demonstrated. DEQ approval is not necessary for the change to be made; however, documentation of the exemption must be maintained in accordance with IDAPA 58.01.01.220.02. In addition, a certified annual report is required by the exemption criteria in accordance with IDAPA 58.01.01.223.05. Again to be consistent with the exemption requirements, the permit requires that Champion submit a certified annual report when modeling is conducted.

The estimated emission increase of TAP that did not exceed applicable EL demonstrated preconstruction compliance with TAP standards in accordance with IDAPA 58.01.01.210.05 for uncontrolled average emission rates, and in accordance with IDAPA 58.01.01.210.08 for controlled average emission rates. Modeling analyses conducted in the development of TAP rules indicates that if a controlled average emission rate is below the applicable EL, controlled ambient concentrations are expected to be below the applicable acceptable ambient concentration. Daily and annual limits (Permit Conditions 2.12 and 4.3) were included in accordance with IDAPA 58.01.01.210.08.c to limit TAP emissions from painting, gluing, caulking, and welding operations.

The estimated emission increases of TAP that exceeded applicable EL (acetaldehyde, formaldehyde, benzene, acrylamide, vinyl chloride, and quartz) were modeled to demonstrate preconstruction compliance with the applicable acceptable ambient concentration for non-carcinogens and carcinogens (AAC and AACC); refer to the Ambient Air Quality Impact Analyses section and memorandum in Appendix B for additional information.

Project HAP Emissions

Uncontrolled and controlled potential to emit total HAP is estimated to be less than 0.05 T/yr, as shown in Table 2 through Table 3. Daily and annual limits (Permit Conditions 2.12 and 4.3) were included to limit annual HAP emissions from painting, gluing, caulking, and welding operations.

Ambient Air Quality Impact Analyses

As presented in the Emission Inventories section, the estimated emission rates of criteria pollutants (PM_{2.5}, PM₁₀, SO₂, NO_x, CO, and VOC) from this project were either below regulatory concern thresholds (BRC), or below DEQ modeling thresholds published in the State of Idaho Air Quality Modeling Guideline.¹

With the exception of acetaldehyde, formaldehyde, benzene, acrylamide, vinyl chloride, and quartz TAP emissions, estimated emission rates of TAP from this project were below applicable screening emission levels (EL) established in IDAPA 58.01.01.585-586.

Estimated emission increases of TAP that exceeded applicable EL (acetaldehyde, formaldehyde, benzene, acrylamide, vinyl chloride, and quartz) were modeled by the applicant to demonstrate preconstruction compliance with applicable acceptable ambient concentrations, for non-carcinogens and for carcinogens (AAC and AACC). As presented in the modeling memorandum in Appendix B, because the ambient concentration results at the point of compliance were less than or equal to applicable AAC and AACC for the modeled TAP (acetaldehyde, formaldehyde, benzene, acrylamide, vinyl chloride, and quartz), preconstruction compliance was demonstrated in accordance with IDAPA 58.01.01.210.08 for controlled average emission rates.

¹ Criteria pollutant thresholds in Table 2, State of Idaho Guideline for Performing Air Quality Impact Analyses, Doc ID AQ-011, September 2013.

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).

An ambient air quality impact analyses document has been crafted by DEQ based on a review of the modeling analysis submitted in the application. That document is part of the final permit package for this permitting action (see Appendix B).

REGULATORY ANALYSIS

Attainment Designation (40 CFR 81.313)

The facility is located in Washington County, which is designated as attainment or unclassifiable for PM_{2.5}, PM₁₀, SO₂, NO₂, CO, and Ozone. Refer to 40 CFR 81.313 for additional information.

Facility Classification

The AIRS/AFS facility classification codes are as follows:

For THAP (Total Hazardous Air Pollutants) Only:

- A = Use when any one HAP has actual or potential emissions ≥ 10 T/yr or if the aggregate of all HAPS (Total HAPs) has actual or potential emissions ≥ 25 T/yr.
- SM80 = Use if a synthetic minor (potential emissions fall below applicable major source thresholds if and only if the source complies with federally enforceable limitations) and the permit sets limits ≥ 8 T/yr of a single HAP or ≥ 20 T/yr of THAP.
- SM = Use if a synthetic minor (potential emissions fall below applicable major source thresholds if and only if the source complies with federally enforceable limitations) and the potential HAP emissions are limited to < 8 T/yr of a single HAP and/or < 20 T/yr of THAP.
- B = Use when the potential to emit without permit restrictions is below the 10 and 25 T/yr major source threshold
- UNK = Class is unknown

For All Other Pollutants:

- A = Actual or potential emissions of a pollutant are ≥ 100 T/yr.
- SM80 = Use if a synthetic minor for the applicable pollutant (potential emissions fall below 100 T/yr if and only if the source complies with federally enforceable limitations) and potential emissions of the pollutant are ≥ 80 T/yr.
- SM = Use if a synthetic minor for the applicable pollutant (potential emissions fall below 100 T/yr if and only if the source complies with federally enforceable limitations) and potential emissions of the pollutant are < 80 T/yr.
- B = Actual and potential emissions are < 100 T/yr without permit restrictions.
- UNK = Class is unknown.

Table 4 REGULATED AIR POLLUTANT FACILITY CLASSIFICATION

Pollutant	Uncontrolled PTE (T/yr)	Permitted PTE (T/yr)	Major Source Thresholds (T/yr)	AIRS/AFS Classification
PM	< 270	39.16	100	SM
PM ₁₀ /PM _{2.5}	< 270	39.16	100	SM
SO ₂	0.03	0.011	100	B
NO _x	7.30	3.130	100	B
CO	1.03	0.442	100	B
VOC	< 105	17.91	100	SM
HAP (single)	< 0.051	8.7	10	SM80
HAP (Total)	0.051	8.7	25	SM

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 production increase. Therefore, a permit to construct is required to be issued in accordance with IDAPA 58.01.01.220. This permitting action was processed in accordance with the procedures of IDAPA 58.01.01.200-228.

Tier II Operating Permit (IDAPA 58.01.01.401)

IDAPA 58.01.01.401 Tier II Operating Permit

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

Visible Emissions (IDAPA 58.01.01.625)

IDAPA 58.01.01.625 Visible Emissions

The sources of PM emissions at this facility are subject to the State of Idaho visible emissions standard of 20% opacity. This requirement was included in Permit Conditions 2.7 through 2.9.

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_{2.5}, PM₁₀, SO₂, NO_x, CO, and VOC, or 10 tons per year for any one HAP or 25 tons per year for all HAP combined, as addressed in the Emission Inventories section. 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 were not applicable.

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 not a designated facility as defined in 40 CFR 52.21(b)(1)(i)(a), and does not have facility-wide emissions of any regulated NSR pollutant that exceed 250 T/yr.

IDAPA 58.01.01.677 – Standards for Minor and Existing Sources

A person shall not discharge into the atmosphere from any fuel burning equipment in operation prior to October 1, 1979, or with a maximum rated input of less than ten (10) million BTU per hour, particulate matter in excess of 0.015 gr/dscf corrected to 3% oxygen for gas fuel. :

Champion is subject to this rule because it operates fuel-burning equipment with a maximum rated input capacity of less than 10.0 MMBtu/hr. The fuel-burning equipment is space heaters having a cumulative heat input of less than 10.0 MMBtu/hr. The following calculation illustrates that the fuel-burning equipment is in compliance with this emissions standard.

- Max. heat rate = $10.0 \frac{MMBtu}{hr}$
- Fuel heating value of natural gas in ambient air = $1020 \frac{Btu}{scf}$,
- F-factor for natural gas = $8710 \frac{dscf}{MMBtu}$ at STP (EPA Method 19)
- Emission factor = $7.6E - 06 \frac{lb}{scf}$ (AP-42, Table 1.4-2, 1998)
- Conversion, 7000 grains (gr)/pound (lb)

1) combustion gas volume at 3% oxygen:

$$\left(8710 \frac{dscf}{MMBtu} \right) \left(\frac{20.9}{20.9 - 3} \right) = 1.02E + 04 \frac{dscf}{MMBtu}$$

2) dry combustion volume of 1 scf natural gas

$$\left(1.02E + 04 \frac{dscf}{MMBtu} \right) \left(1020 \frac{Btu}{scf} \right) = 10.4 \frac{dscf}{scf}$$

3) grain loading calculation to demonstrate compliance with grain loading standard

$$\left(7.6E - 06 \frac{lb}{scf} \right) \left(7000 \frac{gr}{lb} \right) = 0.05 \frac{gr}{scf}$$

$$\left(0.05 \frac{gr}{scf} \right) \div \left(10.4 \frac{dscf}{scf} \right) = 4.81E - 03 \frac{gr}{dscf} < 1.5E - 02 \frac{gr}{dscf} \text{ (Standard)}$$

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)

Champion is not subject to the Paint Stripping and Miscellaneous Surface Coating Operations – Area Source MACT. A breakdown of this federal regulation is provided to document how the regulation does not apply.

*NOTE: Applicability to each subsection is provided in **RED TEXT**.*

§ 60.11169 What is the purpose of this subpart?

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

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

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

- *Motor vehicle and mobile equipment surface coating* means the spray application of coatings to assembled motor vehicles or mobile equipment. For the purposes of this subpart, it does not include the surface coating of motor vehicle or mobile equipment parts or subassemblies at a vehicle assembly plant or parts manufacturing plant.

Motor vehicle means any self-propelled vehicle, including, but not limited to, automobiles, light duty trucks, golf carts, vans, and motorcycles.

Mobile equipment means any device that may be drawn and/or driven on a roadway including, but not limited to, heavy-duty trucks, truck trailers, fleet delivery trucks, buses, mobile cranes, bulldozers, street cleaners, agriculture equipment, motor homes, and other recreational vehicles (including camping trailers and fifth wheels).

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

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

§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.

Champion has requested that DEQ impose federally enforceable permit conditions that prohibits at all times paint stripping operations that involve the use of chemical strippers that contain methylene chloride (MeCl). Because MeCL will not be used, it will not be emitted; therefore, this subsection does not apply.

(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.

Champion performs spray application of coatings to mobile equipment.

(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.

Champion has requested that DEQ impose federally enforceable permit conditions that prohibits at all times the use of any coating that contains a target HAP. Again, because no coatings containing a target HAP will be used, target HAPs will not be emitted. This subsection also does not apply.

(b) An area source of HAP is a source of HAP that is not a major source of HAP, is not located at a major source, and is not part of a major source of HAP emissions.

Champion is not a major source of HAP.

Applicability Conclusion: After the issuance of this PTC, Champion will be prohibited from using products containing MeCl and target HAPs. Therefore, none of the requirements of this subpart apply.

Permit Conditions Review

This section describes those permit conditions that have been added, revised, modified or deleted as a result of this permitting action.

Permit Conditions 1.1

This permit condition establishes the scope of this permitting action.

Permit Conditions 1.2

This permit condition describes the emission sources and activities regulated by this permit.

Permit Conditions 2.1 through 2.4 (Permit Conditions A.2.1 and A.3.1 of T2-000072A; and A.2.1 and A.3.1 of T2-000072)

All reasonable precautions shall be taken to prevent particulate matter from becoming airborne in accordance with IDAPA 58.01.01.650-651.

The permittee shall maintain records of all fugitive dust complaints received. The permittee shall take corrective action as soon as reasonably possible, but no later than twenty-four (24) hours after a valid complaint is received, unless the permittee demonstrates to the Department's satisfaction that the longer response time was necessary. The records shall, at a minimum, include the date that each complaint was received and a description of the following: the complaint, the permittee's assessment of the validity of the complaint, and any corrective action taken.

These permit conditions have been updated for clarity and to reflect current permitting language. These permit conditions incorporate facility-wide fugitive emission requirements for sawing, sanding, painting, gluing, caulking, and welding operations in accordance with IDAPA 58.01.01.650-651.

Permit Conditions 2.5 and 2.6 (Permit Conditions A.2.2 and A.3.2 of T2-000072A; and A.2.2 and A.3.2 of T2-000072)

In accordance with IDAPA 58.01.01.778, the Permittee shall not allow, suffer, cause or permit the emissions of odorous gases, liquids, or solids into the atmosphere in such quantities as to cause air pollution.

The permittee shall maintain records of odor complaints received. The records shall, at a minimum, include the date that each complaint was received and a description of the following; the complaint, the permittee's assessment of the validity of the complaint, and any corrective action taken. If the complaint has merit the permittee shall take corrective action, as soon as reasonably possible, but no later than twenty-four (24) hours after a valid complaint of odor is received, unless the permittee demonstrates to the Department's satisfaction that the longer response time is necessary.

These permit conditions have been updated for clarity and to reflect current rule citations and permitting language. These permit conditions incorporate facility-wide odor emission limits for sawing, sanding, painting, gluing, caulking, and welding operations in accordance with IDAPA 58.01.01.775-776. Compliance is assured by monitoring and responding to odor complaints.

Permit Conditions 2.7 through 2.9 (Permit Conditions A.1.1, B.1.1, and C.1.1 of T2-000072A; and A.1.1, B.1.1, C.1.1, and E.1.1 of T2-000072))

Emissions from any stack, vent, or other functionally equivalent opening at the facility, shall not exceed twenty percent (20%) opacity for a period or periods aggregating more than three (3) minutes in any sixty (60) minute period as required by IDAPA 58.01.01.625 (Rules for the Control of Air Pollution in Idaho). Opacity shall be determined by the procedures contained in IDAPA 58.01.01.625.

Emissions from the Mill and Cabinet Shop Cyclone stack shall not exceed twenty percent (20%) opacity for a period or periods aggregating more than three (3) minutes in any sixty (60) minute period as required by IDAPA 58.01.01.625 (Rules for the Control of Air Pollution in Idaho). Opacity shall be determined by the procedures contained in IDAPA 58.01.01.625.

Emissions from the Manufacturing Plant's ceiling vents shall not exceed twenty percent (20%) opacity for a period or periods aggregating more than three (3) minutes in any sixty (60) minute period as required by IDAPA 58.01.01.625 (Rules for the Control of Air Pollution in Idaho). Opacity shall be determined by the procedures contained in IDAPA 58.01.01.625.

Emissions from the Frame Shop ceiling vents shall not exceed twenty percent (20%) opacity for a period or periods aggregating more than three (3) minutes in any sixty (60) minute period as required by IDAPA 58.01.01.625 (Rules for the Control of Air Pollution in Idaho). Opacity shall be determined by the procedures contained in IDAPA 58.01.01.625.

Emissions from the Mill's RDS Dust Collection System stack or other functionally equivalent opening shall not exceed twenty percent (20%) opacity for a period or periods aggregating more than three (3) minutes in any sixty (60) minute period as required by IDAPA 58.01.01.625 (Rules for the Control of Air Pollution in Idaho). Opacity shall be determined by the procedures contained in IDAPA 58.01.01.625.

Emissions from the Manufacturing Plant's ceiling vents shall not exceed twenty percent (20%) opacity for a period or periods aggregating more than three (3) minutes in any sixty (60) minute period as required by IDAPA 58.01.01.625 (Rules for the Control of Air Pollution in Idaho). Opacity shall be determined by the procedures contained in IDAPA 58.01.01.625.

These facility-wide conditions replace emission-unit-specific conditions from the T2 permit. These conditions incorporate facility-wide opacity limits for sawing, sanding, painting, gluing, caulking, and welding operations in accordance with IDAPA 58.01.01.625.

Permit Conditions 2.10 through 2.11

These permit conditions incorporate the fuel-burning equipment standard for the space heaters in accordance with IDAPA 58.01.01.677.

Permit Conditions 2.12 and 2.13

These permit conditions incorporate production limits to ensure synthetic minor classification for criteria and HAP emissions, and to limit TAP emissions in accordance with IDAPA 58.01.01.210.08 as described in the Emission Inventories section.

Permit Conditions 2.14 and 2.15 (Permit Condition B.2.1 of T2-000072A; and C.2.2 and D.1.2 of T2-000072)

In accordance with General Provision B of this permit, the Permittee shall at all times maintain and operate the Mill and Cabinet Shop Cyclone in good working order to achieve compliance with the terms and conditions of this permit and other applicable laws for the control of air pollution.

Within sixty (60) days after issuance of this permit, the Permittee shall have developed an Operations and Maintenance (O&M) Manual for the air pollution control device which describes the procedures that will be followed to comply with General Provision B of this permit and the air pollution control device manufacturer's operating specifications and requirements. The manual shall remain on site at all times and shall be available to DEQ representatives upon request.

These facility-wide conditions replace control equipment-specific conditions from the T2 permit. These permit conditions require monitoring and recordkeeping of O&M manuals to ensure proper maintenance and operation of control equipment.

Permit Conditions 3.1 and 3.2

These permit conditions describe wood sawing and sanding operations and the control devices associated with these processes.

Permit Conditions 3.3 through 3.6 (Permit Condition C.2.1, C.2.3, C.3.1, D.1.1, D.1.3, and D.2.1 of T2-000072)

The Permittee shall install, calibrate, maintain, and operate, in accordance with manufacturer's specifications, equipment to continuously measure the pressure drop across the RDS Dust Control System or equivalent air pollution control device.

The pressure drop across the air pollution control device shall be maintained within the manufacturer's and O&M Manual's specifications. Documentation of both the manufacturer's and O&M Manual's pressure drop specifications shall remain on site at all times and shall be available to DEQ representatives upon request.

The Permittee shall monitor and record the pressure drop across the air pollution control device weekly. The pressure drop recorded shall be consistent with the manufacturer's and O&M Manual's units of measure. The pressure drop shall be recorded and kept at the facility for the most recent two (2) year period. The records shall be available to DEQ representatives upon request.

The Permittee shall install, calibrate, maintain, and operate, in accordance with manufacturer's specifications, equipment to continuously measure the pressure drop across the Dustek Dust Control System or equivalent air pollution control device.

These facility-wide conditions replace control equipment-specific conditions from the T2 permit. These permit conditions require operation of control devices at all times any sawing and/or sanding operation is conducted. Emission estimates used in development of the emission inventories are limited below regulatory concern or published modeling thresholds by assuming that each control device captures all emissions and achieves the PM₁₀ control efficiency listed in Table 1.1 of the permit (Table 1 above). Inspection and proper maintenance and operation of control equipment is ensure by complying with O&M manual requirements and monitoring and recordkeeping of pressure drop for the baghouse and the dust filter system.

Permit Conditions 4.1 and 4.2

These permit conditions describe painting, gluing, caulking, and welding operations and the control equipment associated with these processes.

Permit Condition 4.3

This permit condition establishes emission limits for PM_{2.5}, VOC, HAP, and TAP from painting, gluing, caulking, and welding operations, based on monitoring of materials usage and calculated emission rates. These limits were relied upon to demonstrate preconstruction compliance with all TAP EL; to limit HAP and criteria pollutants to below major source thresholds, and to demonstrate preconstruction compliance with published modeling thresholds, BRC levels, TAP EL levels, and TAP AAC and AACC increments.

The applicant has requested operational flexibility to use reformulated painting, gluing, caulking, and welding materials. To allow for the potential scenario in which coatings containing a greater HAP or TAP content are substituted, HAP limits have been established at above estimated emissions, but below major source thresholds.

Compliance is assured by daily and monthly monitoring of material usage rates and calculating of emission rates, and maintaining material purchase records based on usage rates.

Permit Condition 4.4

This permit condition prohibits spray application of coatings that contain target HAP as defined in 40 CFR 63.11180 to avoid the applicability of federal NESHAP Subpart HHHHHH—National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources requirements.

The applicant has requested operational flexibility to use reformulated painting, gluing, caulking, and welding materials. This requirement ensures NESHAP applicability should not change for the potential scenario in which HAP-containing coatings are substituted.

Permit Condition 4.5

This permit condition prohibits usage of paint strippers containing methylene chloride to avoid the applicability of federal NESHAP Subpart HHHHHH—National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources requirements.

Permit Conditions 4.6 and 4.7

These permit conditions require use of an enclosure when conducting spray-application of coatings, and require the use of spray guns with the minimum specified transfer efficiency in order to reduce overspray and fugitive emissions during painting operations as described in the application and to ensure reasonable control of fugitive emissions (Permit Conditions 2.1–2.4) and to ensure consistency with emission inventories developed for these operations.

Permit Condition 4.8 and 4.9 (Permit Condition C.2.1 and C.2.2 of T2-000072A; and B.2.1 B.2.2, B.3.1, B.3.2, E.2.1, E.2.2, E.3.1, and E.3.2 of T2-000072)

Paint products used to paint each manufactured home shall not contain volatile organic compounds (VOC) or hazardous air pollutants (HAP) in excess of the amounts indicated on the Material Safety Data Sheets (MSDS) submitted by the Permittee for this Operating Permit.

Adhesive products used in the manufacturing process shall not contain volatile organic compounds (VOC) or hazardous air pollutants (HAP) in excess of the amounts indicated on the Material Safety Data Sheets (MSDS) submitted by the Permittee for this Operating Permit.

The Permittee shall maintain MSDS for all paint products used to paint each manufactured home. The MSDS shall be maintained in such a fashion so that compliance with the terms and conditions of this permit can be easily demonstrated. The MSDS shall remain on-site at all times and be made available to DEQ representatives upon request.

The Permittee shall maintain MSDS for all adhesive products used in the manufacturing process. The MSDS shall be maintained in such a fashion so that compliance with the terms and conditions of this permit can be easily demonstrated. The MSDS shall remain on-site at all times and be made available to DEQ representatives upon request.

The welding electrode type shall be E70S or equivalent.

Frame paint shall not contain volatile organic compounds (VOC), non-volatile solids (NVS), or hazardous air pollutants (HAP) in excess of the amounts indicated on the Material Safety Data Sheets (MSDS) submitted by the Permittee for this Operating Permit.

Upon receipt of any welding electrode to be used in the Frame Shop, the Permittee shall monitor the electrode type to demonstrate compliance with Section A.2.1 of this permit. The electrode type shall be recorded and kept at the facility for the most recent two (2) year period. The records shall be available to DEQ representatives upon request. When a different welding electrode is purchased for use other than electrode type E70S as allowed by this permit, the permittee shall retain documentation clearly showing equivalence. All documentation of equivalence shall be maintained with the same records for the same two (2) year period.

The Permittee shall maintain MSDS for all frame paints used. The MSDS shall be maintained in such a fashion so that compliance with the terms and conditions of this permit can be easily demonstrated. The MSDS shall remain on-site at all times and be made available to DEQ representatives upon request.

These requirements and compliance with emission limits replace paint- and adhesive-specific limits from the T2 permit. The applicant has requested operational flexibility to use reformulated painting, gluing, caulking, and welding materials, and the ability to monitor emissions from these activities rather than other types of limitations (e.g., on quantities used for these types of materials). These permit conditions require monitoring and recordkeeping of daily, monthly, and annual usage rates and calculating and determining emission rates from these operations to demonstrate compliance with facility-wide emission limits (Permit Condition 4.3).

This permit condition requires daily and monthly recordkeeping of material usage amounts, emission calculations, and modeling analyses when TAP EL are exceeded, and annual reporting of modeling analyses, to demonstrate compliance with Emission Limits (Permit Condition 4.3). For emissions of acetaldehyde, formaldehyde, benzene, acrylamide, vinyl chloride, and quartz, the modeling analysis provided in the application submitted on August 3, 2016 may be relied upon to demonstrate compliance with corresponding AAC/AACC when emissions of these substances remain below modeled emission rates summarized in Table 5.

Table 5 TAP Modeled Emission Rates

TAP	Modeled Emission Rate (lb/hr) ^(a)
Formaldehyde	1.24E-02 ^(b)
Acetaldehyde	7.50E-03 ^(b)
Acrylamide	2.44E-05 ^(b)
Benzene	7.50E-03 ^(b)
Quartz	7.46E-03 ^(a)
Vinyl Chloride	4.87E-03 ^(b)

(a) Facility-wide average emission rate in average pounds-per-hour over the 24 hour averaging period (lb/hr) for non-carcinogenic TAP regulated by Section 585.

(b) Facility-wide average emission rate in average pounds-per-hour over the rolling 12 calendar-month averaging period for carcinogenic TAP regulated by Section 586.

The applicant has requested operational flexibility to use reformulated painting, gluing, caulking, and welding materials. To allow for the potential scenario in which coatings containing a greater or TAP content are substituted, TAP limits have been established at allowable screening emission levels (EL) and acceptable ambient concentrations for non-carcinogens and for carcinogens (AAC and AACC) defined in IDAPA 58.01.01.585–586.

General Provision 5.1

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.

General Provision 5.2

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.

General Provision 5.3

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.

General Provision 5.4

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

General Provision 5.5

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.

General Provision 5.6

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.

General Provision 5.7

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.

General Provision 5.8

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.

General Provision 5.9

The performance test report provision requires that the permittee report any performance test results to DEQ within 60 days of completion, in accordance with IDAPA 58.01.01.157.04-05.

General Provision 5.10

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.

General Provision 5.11

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. Any periods during which sawing, sanding, painting, gluing, caulking, and welding operations are conducted while the corresponding control device is not operated (e.g., including during periods of shutdown, scheduled maintenance, upset, or breakdown) are considered excess emissions events for which these procedures shall be followed.

General Provision 5.12

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

General Provision 5.13

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

General Provision 5.14

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

General Provision 5.15

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

General Provision 5.16

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 Application Chronology section for public comment opportunity dates.

APPENDIX A – EMISSIONS INVENTORIES



Facility Wide Potential to Emit Emission Inventory Application Template and Instructions

For new stationary sources provide the facility’s potential to emit for all NSR Regulated Air Pollutants. The potential to emit provided here must match the emissions rates which are requested to be permitted.

For modifications to existing facilities (including the addition of new emissions units), if the existing facility classification is in question an existing facility wide potential to emit emission inventory will be required to be submitted¹. Contact DEQ to determine if a facility wide emission inventory for the existing facility is required.

All emissions inventories must be submitted with thorough documentation. The emission inventories will be subjected to technical review. Therefore, prepare your application with sufficient documentation so that the public and DEQ can verify the validity of the emission estimates. **Applications submitted without sufficient documentation are incomplete. Follow the instructions provided on page 2; do not proceed until you have read the instructions.**

Applicants must use the Potential to Emit Summary table provided below.

Table 1. POTENTIAL TO EMIT FOR NSR REGULATED POLLUTANTS

Emissions Unit	PM ₁₀ ^a	PM _{2.5} ^a	CO ^a	NO _x ^a	SO ₂ ^a	VOC ^a	GHG ^a
	T/yr	T/yr	T/yr	T/yr	T/yr	T/yr	mT/yr
Point Sources							
Frame Shop - Welding	0.195	0.195	--	--	--	--	--
Frame Shop - Painting	2.69	2.69	--	--	--	--	--
Mill Shop	6.24E-02	6.24E-02	--	--	--	--	--
Cabinet Shop	0.496	0.496	--	--	--	--	--
Paint Products	34.6	34.6	--	--	--	13.44	--
Adhesives	0	0	--	--	--	4.36	--
Mill & Cabinet Cyclone	1.01	1.01	--	--	--	--	--
Totals	39.02	39.02	0	0	0	17.80	0

a) NSR Regulated air Pollutants are defined² as: Particulate Matter (PM, PM-10, PM-2.5), Carbon Monoxide, Lead, Nitrogen Dioxide, Ozone (VOC), Sulfur Dioxide, CO₂³, Green House Gases (GHG) mass, all pollutants regulated by NSPS (40 CFR 60)(i.e. TRS, fluoride, sulfuric acid mist) & Class I & Class II Ozone Depleting Substances (40 CFR 82)(i.e. CFC, HCFC, Halon, etc.)

Applicants are encouraged to call DEQ’s Air Quality Permit Hotline (1-877-573-7648) to ask questions as they prepare the application. **Emission Inventory Instructions:**

¹ The applicant must determine if the existing facility is a major facility. If the facility is an existing PSD major facility and changes are being made to the facility the major modification test must be conducted.

² 40 CFR 52.21(b)(50), as incorporated by reference at IDAPA 58.01.01.107.03.d

³ Multiply each greenhouse gas (GHG) by the global warming potential (GWP) listed at 40 CFR 98, Table A- 1 of Subpart A then sum all values to determine CO₂e (GHGs are carbon dioxide, nitrous oxide, methane, hydrofluorcarbons, perfluorcarbons, sulfur hexafluoride). Be sure to show all calculations as described in the instructions.



Toxic Air Pollutant Emissions Inventory Application Template and Instructions

Applicants must demonstrate preconstruction compliance with toxic air pollutant (TAP) standards contained in IDAPA 58.01.01.210 (*Rules for the Control of Air Pollution in Idaho*). DEQ has developed a TAP completeness checklist in order to assist applicants. DEQ strongly recommends that applicants complete and submit this checklist as part of the application. **Applications which do not follow one of the available methods for demonstrating compliance described in the checklist will be determined incomplete or denied.** Follow this link to the checklist: [Toxic Air Pollutant Application Completeness Checklist](#). Be sure to calculate emissions correctly for the averaging periods as described in the checklist and in the instructions on page 3.

The type of TAP emissions inventory required depends upon which method is used to demonstrate compliance (see the [Toxic Air Pollutant Application Completeness Checklist](#)). **All TAP emissions inventories must be summarized using the emissions inventory summary tables provided below (Table 1 and Table 2).**

The applicant must **document all emission calculations as described in the instructions provided on the following page. Applications without sufficient documentation are incomplete; do not proceed until you have read the instructions.**

Applicants are encouraged to call DEQ's Air Quality Permit Hotline (1-877-573-7648) to ask questions as they prepare the application.

**Table 1. PRE- AND POST PROJECT NON-CARCINOGENIC TAP EMISSIONS SUMMARY
POTENTIAL TO EMIT**

Non-Carcinogenic Toxic Air Pollutants (sum of all emissions)	Pre-Project 24-hour Average Emissions Rates for Units at the Facility (lb/hr)	Post Project 24-hour Average Emissions Rates for Units at the Facility (lb/hr)	Change in 24-hour Average Emissions Rates for Units at the Facility (lb/hr)	Non-Carcinogenic Screening Emission Level (lb/hr)	Exceeds Screening Level? (Y/N)
Chromium	9.20E-06	1.00E-05	8.00E-07	3.30E-02	No
Cobalt	9.20E-06	1.00E-05	8.00E-07	3.30E-03	No
Manganese	2.90E-03	3.18E-03	2.80E-04	6.70E-02	No
Cristobalite	1.24E-01	0	-1.24E-01	3.30E-03	No
Kaolin	1.87	5.92E-02	-1.81	0.133	No
Mica	0.63	0	-0.63	0.2	No
Zinc Oxide	0.68	0	-0.68	0.667	No
MDI	1.62E-05	5.83E-06	-1.04E-05	3.00E-03	No
Methyl Ethyl Ketone	0	0.58	0.58	39.3	No

Acetone	0	0.403	0.403	119	No
Cyclohexanone	0	0.212	0.212	6.67	No
Limestone	0	0.447	0.447	0.667	No
Quartz	0	7.46E-03	7.46E-03	6.70E-03	Yes
Carbon Black	0	0.152	0.152	0.23	No
Portland Cement	0	3.00E-04	3.00E-04	0.667	No
Ethylene Glycol	0	0.264	0.264	0.846	No
Gypsum	0	3.75E-05	3.75E-05	0.667	No
Methanol	0	5.25E-02	5.25E-02	17.3	No
Tetrahydrofuran (THF)	0	0.693	0.693	39.3	No
Nonane	0	4.39E-04	4.39E-04	7.00	No
Diatomaceous Earth	0	4.19E-05	4.19E-05	0.667	No

Table 2. PRE- AND POST PROJECT CARCINOGENIC TAP EMISSIONS SUMMARY POTENTIAL TO EMIT

Carcinogenic Toxic Air Pollutants (sum of all emissions)	Pre-Project Annual Average Emissions Rates for Units at the Facility (lb/hr)	Post Project Annual Average Emissions Rates for Units at the Facility (lb/hr)	Change in Annual Average Emissions Rates for Units at the Facility (lb/hr)	Carcinogenic Screening Emission Level (lb/hr)	Exceeds Screening Level? (Y/N)
Benzene	0	7.50E-03	7.50E-03	8.00E-04	Yes
Formaldehyde	0	1.24E-02	1.24E-02	5.10E-04	Yes
Acetaldehyde	0	7.50E-03	7.50E-03	3.00E-03	Yes
Acrylamide	0	2.44E-05	2.44E-05	2.80E-05	Yes
Vinyl Chloride	0	4.87E-03	4.87E-03	3.70E-06	Yes
Nickel	9.20E-06	2.29E-05	8.58E-06	-6.25E-07	No

Material	Manufacturer	Type	Process/Area Where Product Used	How Product is Applied	SG	Density (lb/gal)	Usage (inches/ft)	Unit Size	Usage (lb/yd)	Safety Data Sheet	Comment
8 9-3000 PURE PERFORMANCE INTERIOR EGGSHELL - PURE WHITE	PPG Industries, Inc.	Paint	interior	Spray - max throughput per nozzle	1.34	11.18	0.06	25	25	tds48_champion_ppg_9-3000_pure_performance_interior_eggsHELL-pure white_08-18-2015	
9 UH 150 FL WH 1210-0100V	PPG Industries, Inc.	Paint	interior	Spray - max throughput per nozzle	1.44	12.02	10	4,220	4,220	tds19_champion_ppg_uh_150_fl_wh_1210-0100v_ultraHIDE_150_08-18-2015	
11 UH 150 HB PWB 1472-0200	PPG Industries, Inc.	Paint	exterior	Spray - max throughput per nozzle	1.50	10.01	0.07	30	30	tds11_champion_ppg_uh_150_hb_pwb_1472-0200_high_build_1472_08-30-2015	
12 UH 150 HB FL HSWH 1200-1000V	PPG Industries, Inc.	Paint	interior	Spray - max throughput per nozzle	1.44	12.02	0.07	30	30	tds12_champion_ppg_uh_150_hb_fl_hswH_1200-1000v_high_build_latex_1200_08-14-2015	usage
27 LH 120 SAT WH 2412-0100V	PPG Industries, Inc.	Paint	exterior	Spray - max throughput per nozzle	1.22	10.18	10	4,220	4,220	tds27_champion_ppg_uh_150_sat_wh_2412-0100v_09-14-2015	exterior paint - sprayed on
30 Chassis Black Paint	Technical Industrial Sales	Paint	exterior/frame	Spray - max throughput per nozzle	1.09	9.08	8	3,376	3,376	tds30_champion_IDS_Chassis_black_paint.pdf	FRAME PAINT IS-25 SSCG
35 GPMHC GEL-TAIN 350 VOC CWI-DVS Cedar 350 VOC FLD466	PPG Industries, Inc.	Paint	exterior	sprayed/brushed	1.01	8.43	0.095	40	40	tds35_champion_ppg_gel-tain_350_voc_cwi-dvs_cedar REPLACEMENT with tds_12-09-2015	
37 7799	Specialty Adhesives Inc.	Paint	interior	Spray - max throughput per nozzle	2.00	16.68	1.5	2,110	2,110	tds37_champion_specialty_adhesives & coating_7799_vapor_barrier_106_2014_tds-tds REPLACEMENT	
22 Green Solutions Floor Seal and Finish	Spartan Chemical Company, Inc.	Lacquers/Finishes	interior	brush	1.02	8.51	1	425	425	tds22_champion_spartan_green_solutions_floor_seal_and_finish_07-30-2015	
2 PVC Medium Clear Cement	Oxley Co.	Glue/Adhesive	interior	brush	0.92	7.70	0.08	35	35	tds12_champion_oxley_PVC_Medium_Clear_Cement/ PVC_Cement/ 05-27-2015	
6 High-Dens MAX-Hill Flextop Filter Mattic CFS-FL	Hill, Inc.	Glue/Adhesive	interior	caulk tube	7	7	0.3276	10.5 oz /tube	3,974	tds7_champion_hill_Hill_Flextop_Filter_Mattic_CFS-FL_75_0ne_Flextop_05-18-2015	used only on projects with 2 stories or spec'd in
7 WED-DN 773 low VOC Pipe Cement for ABS Plastic Pipe	IPS Corporation	Glue/Adhesive	interior	brush	0.89	7.42	0.1	42.75	42.75	tds13_champion_weld-on_773_low_voc_pipe_cement_for_abs_plastic_pipe_04-07-2015	usage down on abs glue
15 Regular Clear Cement	Oxley Company	Glue/Adhesive	interior	brush	0.92	7.71	0.11	42.75	42.75	tds15_champion_oxley_regular_clear_cement_05-28-2015	
16 Lactite P, 510 Wood Construction Adhesive	Henkel Corporation	Glue/Adhesive	interior	caulk tube	1.22	10.21	0.0442683	10.5 oz tube	1,956	tds16_champion_henkel_lactite_pi_510_wood_construction_adhesive_10-10-2014	
17 Palmer Ultra-Mastic	Palmer Products Corporation	Glue/Adhesive	interior	caulk tube	1.20	10.01	0.045502	10.5 oz /tube	2,865	tds17_champion_palmer_palmer_ultra-mastic_06-22-2015	
23 Modular Water Based Bonding Adhesive WBA 3781	Plestone Building Products Company	Glue/Adhesive	exterior	brush	1.00	8.34	0.35	154	154	tds23_champion_plestone_modular_water_based_bonding_adhesive_wba_3781_02-20-2013	
24 Solvent Free EPDM Bonding Adhesive	Callite Syntec	Glue/Adhesive	exterior	brush	0.97	8.09	7	3 pt	40	tds24_champion_callite_solvent_free_epdm_bonding_adhesive_03-17-2015	project only if spec'd in
24 Polyblend Sanded Grout	Custom Building Products	Glue/Adhesive	interior	trowel	2.70	22.0	3.6	18 lb bag	1,350	tds29_champion_custom_building_products_polyblend_sanded_grout_03-15-2013	project only if spec'd in
28 Coral Tan Rolling Patch	Kozypal Inc.	Glue/Adhesive	exterior	trowel/brush	1.30	10.84	1.5	633	633	tds28_champion_kozypal_coral_tan_rolling_patch_03-03-2015	
29 CACA 3400-CP	CASA Adhesives, Inc.	Glue/Adhesive	interior	Spray - max throughput per nozzle	1.20	10.01	2.25	38lb canister	912	tds29_champion_casa_adhesives_inc_casa_3400-CP_12-20-2015	
36 1038/1038V5	Specialty Adhesives Inc.	Glue/Adhesive	both	brush	1.09	9.99	21	10 lb	24500	tds36_champion_specialty_adhesives & coating_1038_1038v5_wood_adhesive_2016_tds-tds REPLACEMENT	
40 I70 Adhesive	Wilsonart LLC	Glue/Adhesive	exterior	Spray - max throughput per nozzle	1.09	9.99	1	425	425	tds40_champion_wilsonart_i70_adhesive_replaces_01-30-2013_03-02_12-11-2015	
41 VORAMER ME 3044 Isocyanate (Part A - adhesive)	Dow Chemical Company	Glue/Adhesive	exterior	Spray - max throughput per nozzle	1.74	10.34	40	10 lb	25000	tds41_champion_dow_chemical_co_voramer_me_3044_isocyanate_part_a_me_10_06-11-2015	
42 VORAMER MB 3099 Polyol (Part B - catalyst)	Dow Chemical Company	Glue/Adhesive	exterior	Spray - max throughput per nozzle	1.02	8.51	55	10 lb	23000	tds42_champion_dow_chemical_co_voramer_mb_3099_polyol_part_b_03-31-2015	
5 Hill Flextop Acrylic Sealant CFS-S ACR	Hill, Inc.	Caulking	exterior	caulk tube	1.55	12.94	0.0975	10 oz tube	41,184	tds15_champion_hill_hill_flextop_acrylic_sealant_cfs-s_acr_cp_405_flextop_latex_sealant_05-18-2015	used only on projects with 2 stories or spec'd in
6 Hill Flextop Polyurethane Sealant CFS-P BA	Hill, Inc.	Caulking	interior	putty pad	1.55	12.94	1.75	ea	750	tds16_champion_hill_hill_flextop_polyurethane_sealant_cfs-p_ba_flextop_polyurethane_06-30-2015	used only on projects with 2 stories or spec'd in
18 Alex Painters Acrylic Latex Caulk	DAP Products Inc.	Caulking	exterior	caulk tube	1.56	13.01	0.9555	10 oz tube	403,416	tds18_champion_dap_alex_painters_acrylic_latex_caulk_05-14-2015	
19 OSI H2U High Performance Acrylic Urethane Sealant Window, Door & S	Henkel Corporation	Caulking	exterior	caulk tube	1.27	10.57	0.35822	10.2 oz tube	148,9332	tds19_champion_henkel_osi_h2u_high_performance_acrylic_urethane_sealant_window_door_and_siding_white_101_10-28-2014	
20 LOCITE P55 ACV5 WH 100z29SM	Henkel Corporation	Caulking	exterior	caulk tube	1.60	14.06	0.04448	10 oz tube	1,872	tds20_champion_henkel_lactite_pi_55_acv5_wh_100z29sm_lactite_pi_55_caulk_12-01-2014	
21 IVE Stone Sealant - Clear (pre-mixed)	CRC Industries, Inc.	Caulking	exterior	caulk tube	1.91	8.42	0.4485	10 oz tube	163,208	tds21_champion_crc_ive_stone_sealant_clear_pre-mixed_piscene_caulk_0240_12-24-2013	
24 Polyblend Ceramic Tile Caulk Non Sanded	Custom Building Products	Caulking	interior	trowel	1.60	13.34	0.0278	10 oz tube	3,354	tds25_champion_custom_building_products_polyblend_ceramic_tile_caulk_non_sanded_11-13-2013	
38 OSI 9.5QI GDMAX001SLWH1 12CC (OSI Quad Maxi)	Henkel Corporation	Caulking	exterior	caulk tube	1.45	12.09	0.02764	9.5 oz tube	11,5596	tds38_champion_henkel_osi_9.5_qi_gdmx001slwh1_12cc_osi_quad_maxi_10-20-2015	
45 Acoustical Sealant SUC1G	Temco Canadian Sealants	Caulking	exterior	caulk tube	1.62	13.51	0.0039	10 oz tube	1,774	tds45_champion_temco_acoustical_sealant_suc1g_10_oz_tube_10-20-2014_Combined with new	

SDS File Name: sds1_champion_octyl_PVC Medium Clear Cement_05-27-2013
 Product Manufacturer: Oatey Co.
 Product Name: PVC Medium Clear Cement
 Notes: For joining PVC pipes. Clear, translucent liquid with solvent odor.

Actual FIE
 Facility Operating Hours (hr/yr): 1,816 3756
 Annual Potential Applied (lb/yr): 270 1928.08
 Annual Potential Applied (gal/yr): 35 250.4
 Max Hourly lbs (lb/hr): 0 0.133333333
 Max Hourly lbs (gal/hr): 0 0.046666667

Product Density: 7.70 lb/gal
 Specific Gravity: 0.92
 VOC Content: 404 lb/gal 484 g/l

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)	F1E Emissions (lb/hr)	F1E Emissions (T/yr)	HAP	TAP
Toluene, Tetrahydro-	109-69-9	0.5	0.07161	0.03375	0.0356687	0.45302	0	X
Acetone	67-64-1	0.25	0.035805	0.0336875	0.1283333	0.24101	0	X
Methyl ethyl ketone	78-93-3	0.23	0.033605	0.0336875	0.1283333	0.24101	0	X
Polystyrene	9002-88-2	0.2	0.028644	0.02995	0.026667	0.192603	0	0
Cyclohexanone	108-94-1	0.2	0.028644	0.02995	0.026667	0.192603	0	X
Hexamethylenediamine	1129-45-52-3	0.03	0.007161	0.0047375	0.0036687	0.04302	0	0
VOC1		0.524564911	0.07512869	0.070655	0.2672763	0.303763	0	0

1. No longer considered a hazardous air pollutant

SDS File Name: sds1_champion_HR_FS-One Max-Hill Firestop Filter mastic_CFS-FL one Firestop_05-18-2013
 Product Manufacturer: HBE, Inc.
 Product Name: HBE FS-ONE MAX - HBE Firestop Filter Mastic CFS-FL
 Notes: Red, pasty material.

Actual FIE
 Facility Operating Hours (hr/yr): 1,816 3756
 Annual Potential Applied (lb/yr): 37 1153.615
 Annual Potential Applied (gal/yr): 3 1005.362
 Max Hourly lbs (lb/hr): 1 3.07123
 Max Hourly lbs (gal/hr): 0 0.273

Product Density: 11.25 lb/gal
 Specific Gravity: 1.35
 VOC Content: 0.08 lb/gal 1.00
 % Non-Volatile: 99.00

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)	F1E Emissions (lb/hr)	F1E Emissions (T/yr)	HAP	TAP
Propene-1, 2-diol	57-55-6	0.03	0.02	0.00	0.03	0.14	0.00	0.00
VOC1		0.00	0.00	0.00	0.00	0.00	0.00	0.00

1. Product density information not determined in ds.

2. The product is in a paste form with a boiling point greater than 212°F. The process does not reach these temperatures and thus does not volatilize. No associated VOC emissions.

SDS File Name: sds13_champion_weld-on_773 low voc pipe cement for abs plastic pipe_04-09-2013
 Product Manufacturer: PS Corporation
 Product Name: WELD-ON 773 Low VOC Pipe Cement for ABS Plastic Pipe
 Notes: Black, medium viscosity liquid that smells of ketones.

Actual FIE
 Facility Operating Hours (hr/yr): 1,816 3756
 Annual Potential Applied (lb/yr): 317 2323.2208
 Annual Potential Applied (gal/yr): 43 313
 Max Hourly lbs (lb/hr): 0 0.1843
 Max Hourly lbs (gal/hr): 0 0.083333333

Product Density: 7.42 lb/gal
 Specific Gravity: 0.86
 VOC Content: 2.71 lb/gal 323 g/l

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)	F1E Emissions (lb/hr)	F1E Emissions (T/yr)	HAP	TAP
Methyl ethyl ketone	78-93-3	0.55	0.09	0.09	0.34	0.44	0.00	X
Acetone	67-64-1	0.15	0.03	0.03	0.09	0.17	0.00	X
VOC1		0.5434933	0.03	0.03	0.23	0.42	0.00	0.00

SDS File Name: sds15_champion_oatey_regular_clear_cement_05-28-2013
 Product Manufacturer: Oatey Company
 Product Name: Regular Clear Cement
 Notes: For joining PVC pipes. Opaque, gray liquid with solvent odor.

Actual FIE
 Facility Operating Hours (hr/yr): 1,816 3756
 Annual Potential Applied (lb/yr): 347 2543.3158
 Annual Potential Applied (gal/yr): 45 344.3
 Max Hourly lbs (lb/hr): 0 0.6503
 Max Hourly lbs (gal/hr): 0 0.071666667

Product Density: 7.51 lb/gal
 Specific Gravity: 0.90
 VOC Content: 407 lb/gal 488 g/l

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)	F1E Emissions (lb/hr)	F1E Emissions (T/yr)	HAP	TAP
Toluene, Tetrahydro-	109-69-9	0.6	0.12	0.10	0.41	0.28	0.00	X
Acetone	67-64-1	0.2	0.03	0.04	0.17	0.33	0.00	X
Polystyrene	9002-88-2	0.2	0.04	0.03	0.14	0.26	0.00	0.00
Cyclohexanone	108-94-1	0.15	0.03	0.03	0.10	0.19	0.00	X
Methyl ethyl ketone	78-93-3	0.15	0.03	0.03	0.10	0.19	0.00	X
VOC1		0.54337978	0.10	0.09	0.37	0.20	0.00	0.00

1. No longer considered a hazardous air pollutant

Emissions	lb/hr	T/yr
VOC	1.24	2.42
HAPs	-	-

TAP	CAS No.	503/F504	Max lb/hr	1/yr	Aw lb/hr
Methyl ethyl ketone	78-93-3	503	0.38	1.68	0.289
Acetone	67-64-1	503	0.40	0.76	0.202
Cyclohexanone	108-94-1	503	0.21	0.40	0.105
Urethane	1317-65-3	503	8.55E-02	1.61E-05	4.30E-06
Quartz	14808-60-7	503	5.26E-04	9.66E-04	2.61E-04
Portland cement	65997-15-4	503	3.00E-04	5.63E-04	1.50E-04
Gypsum	13337-26-5	503	3.75E-05	7.04E-05	1.65E-05
Benzo(b)pyrene	50-32-8	506	0.00E+00	0.00E+00	0.00E+00
Naphthalene	91-20-3	503	0.00E+00	0.00E+00	0.00E+00
Dibenzyl	93-53-4	503	0.00E+00	0.00E+00	0.00E+00
Formaldehyde	50-00-0	506	0.02	0.03	0.008
Acetaldehyde	75-07-0	506	0.02	0.03	0.008
Benzene	71-43-2	506	0.02	0.03	0.008
Methanol	67-56-1	503	0.05	0.10	0.026
4,4'-Methylenediphenyl diisocyanate (MDI)	101-63-8	503	5.83E-06	2.56E-05	2.92E-06
Toluene, Tetrahydro-	109-99-9	503	0.69	1.30	0.347

SDS File Name: sds33_champion_koppern_coat_for_roofing_p3ch_03-03-2015
 Product Manufacturer: Koppern Inc.
 Product Name: Cool Tar Roofing FMCH[®]
 Notes: Black liquid, with aromatic odor, for building/roofing waterproofing. Applied with rollers.

Water to grout mix ratio: (1.89 L water : 25 lbs grout)
 1.89 L water
 25 lbs grout

Actual PFE
 Facility Operating Hours (hr/yr): 1,816 3756 Product Density: 10.81 lb/gal
 Annual Potential Applied (lb/yr): 6,863 50903.19 Specific Gravity: 1.30
 Annual Potential Applied (gal/yr): 633 4695 VOC Content: 0.00 lb/gal
 Max Hourly lbs (lb/hr): 4 13.5235 % Solids: 0.00 by wt.
 Max Hourly lbs (gal/hr): 0 1.25 Solids (kg/hr): 0.00 lb/gal
 Print transfer eff.: 0.00

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)	PFE Emissions (lb/hr)	PFE Emissions (T/yr)	RAP	TAP
ROOF-TERRAZZOAL TAR FMCH	6978-93-2	1.00	3.78	3.43	13.55	25.45	0.00	0.00
The above listed compounds comprise the following constituents:								
Benzene	70-30-9	0.035	0.13	0.12	0.47	0.89	0.00	0.00
Phenanthrene	85-01-8	0.032	0.12	0.11	0.43	0.81	0.00	0.00
Pyrene	129-00-0	0.025	0.10	0.09	0.35	0.68	0.00	0.00
1,2-Benzanthracene	56-53-3	0.014	0.05	0.05	0.19	0.38	0.00	0.00
1,2-Benzophenanthrene	218-01-9	0.014	0.05	0.05	0.19	0.38	0.00	0.00
Benzo[a]pyrene	50-32-8	0	0.00	0.00	0.00	0.00	0.00	X
Benzo[b]fluoranthene	191-24-2	0.012	0.05	0.04	0.16	0.31	0.00	0.00
Indeno[1,2,3-cd]pyrene	193-39-5	0.0099	0.04	0.03	0.13	0.25	0.00	0.00
Benzo[k]fluoranthene	205-99-2	0.0091	0.03	0.03	0.12	0.23	0.00	0.00
Dibenz[a,h]anthracene	194-44-9	0.0087	0.03	0.03	0.12	0.23	0.00	0.00
Benzo[e]fluoranthene	205-45-3	0.0084	0.02	0.02	0.09	0.16	0.00	0.00
Benzo[h]fluoranthene	207-08-9	0.0081	0.02	0.02	0.08	0.16	0.00	0.00
Acridine	86-74-8	0.0049	0.02	0.02	0.07	0.12	0.00	0.00
Acenaphthene	83-32-7	0.0047	0.02	0.02	0.06	0.12	0.00	0.00
Dibenz[ah]anthracene	192-65-4	0.0037	0.01	0.01	0.03	0.09	0.00	0.00
Dibenz[ghi]perylene	53-70-3	0.0025	0.01	0.01	0.03	0.06	0.00	0.00
Dibenz[def]acetylene	186-54-9	0.0025	0.01	0.01	0.03	0.06	0.00	0.00
Fluoranthene	91-20-3	0	0.00	0.00	0.00	0.00	0.00	X
Anthracene	847-24-3	0.0013	0.00	0.00	0.02	0.03	0.00	0.00
Acridone	81-23-1	0.0001	0.00	0.00	0.00	0.00	0.00	0.00
Diphenyl	62-52-4	0	0.00	0.00	0.00	0.00	0.00	X
VOCs		0	0.00	0.00	0.00	0.00	0.00	0.00

1. The product is in a liquid form with a boiling point > 243 °C (461 °F). The process does not reach these temperatures, thus volatilization does not occur. No associated VOC emissions.
 2. The liquid product is applied via a roller, it is not anticipated that the use of this product, in liquid form, will create a respirable dust. No associated PM emissions.

SDS File Name: sds32_champion_casa_adhesive_inc_casa_3600-pl_12-20-2015
 Product Manufacturer: CASA Adhesives, Inc.
 Product Name: CASA 3600-PI
 Notes: Industrial roofing felt adhesive, liquid, Non-Flammable, non-toxic, V VOC.

Actual PFE
 Facility Operating Hours (hr/yr): 1,816 3756 Product Density: 10.01 lb/gal
 Annual Potential Applied (lb/yr): 912 7042.5 Specific Gravity: 1.30
 Annual Potential Applied (gal/yr): 19 39.125 VOC Content: 0.00 lb/gal
 Max Hourly lbs (lb/hr): 1 1.895
 Max Hourly lbs (gal/hr): 0 0.02154454

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)	PFE Emissions (lb/hr)	PFE Emissions (T/yr)	RAP	TAP
Water	7732-18-5	0.5	0.25	0.23	0.94	1.79	0.00	0.00
Proprietary Mixture	NA	0.6	0.31	0.27	1.13	2.11	0.00	0.00
VOCs		0	0.00	0.00	0.00	0.00	0.00	0.00

1. No VOCs per 12-20-2015 SDS.

SDS File Name: sds33_champion_specially_adhesives_coating_1033_1033hv1_wood_adhesive_2014-stds-REPLACEMENT
 Product Manufacturer: Specially Adhesives Inc.
 Product Name: 1033/1033HV5
 Notes: A white or cream-colored water-borne poly(vinyl acetate) emulsion adhesive. Suggested for wood to wood, or wood to gypsumboard bonding. Roller/coater application.

Actual PFE
 Facility Operating Hours (hr/yr): 1,816 3756 Product Density: 9.09 lb/gal
 Annual Potential Applied (lb/yr): 24,500 65730 Specific Gravity: 1.09
 Annual Potential Applied (gal/yr): 19 39 VOC Content: 0.02 lb/gal
 Max Hourly lbs (lb/hr): 3 17.5
 Max Hourly lbs (gal/hr): 0.01 0.02

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)	PFE Emissions (lb/hr)	PFE Emissions (T/yr)	RAP	TAP
Formaldehyde	50-09-0	0.001	0.00	0.01	0.02	0.03	0.00	X
Acetaldehyde	75-07-0	0.001	0.00	0.01	0.02	0.03	0.00	X
Benzene	71-43-2	0.001	0.00	0.01	0.02	0.03	0.00	X
Methanol	67-58-1	0.003	0.01	0.04	0.05	0.10	0.00	X
Formic Acid	10044-35-3	0.01	0.05	0.12	0.18	0.33	0.00	0.00
VOCs		0.00010477	0.01	0.02	0.04	0.07	0.00	0.00

SDS File Name: sds_champion_hill_hill_frestop acrylic sealant CFS-5 ACR CP 604_frestop latex sealant_05-16-2015
 Product Manufacturer: HRS, Inc.
 Product Name: HRS Frestop Acrylic Sealant CFS-5 ACR
 Notes: Sealant in a paste form.

Actual PFE
 Facility Operating Hours (hr/yr): 1,816 3756
 Annual Potential Applied (lb/yr): 533 3747.433623
 Annual Potential Applied (gal/yr): 41 325.175
 Max Hourly lbs (lb/hr): 0 1.02094875
 Max Hourly lbs (gal/hr): 0 0.06125
 Product Density: 12.94 lb/gal
 Specific Gravity: 1.55
 VOC Content: 0.39 lb/gal 71 g/l

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)	PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
propane-1,2-diol	57-55-6	0.03	0.01	0.01	0.03	0.05	0.00	0.00
VOCs		0.05	0.01	0.01	0.05	0.09	0.00	0.00

SDS File Name: sds_champion_hill_hill_frestop putty bandage CFS-P BA_frestop putty pad_06-30-2015
 Product Manufacturer: HRS, Inc.
 Product Name: HRS Frestop Putty Bandage CFS-P BA
 Notes: Red, pasty material.

Actual PFE
 Facility Operating Hours (hr/yr): 1,816 3756
 Annual Potential Applied (lb/yr): 9,313 70851.4625
 Annual Potential Applied (gal/yr): 720 5477.5
 Max Hourly lbs (lb/hr): 5 18.86354167
 Max Hourly lbs (gal/hr): 0 1.45833333
 Product Density: 12.94 lb/gal
 Specific Gravity: 1.55
 VOC Content: 0.24 lb/gal 31.5 g/l

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)	PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
Di(2-ethylhexyl) phosphate	78-42-2	0.05	0.26	0.23	0.94	1.77	0.00	0.00
VOCs		0.02	0.11	0.09	0.38	0.72	0.00	0.00

1. The sds lists three different VOC contents for CP 617-619, the largest of which is 31.5 g/l (CP 618). Facility to determine if there is a certain product they know they'll be using, or if the worst case (31.5 g/l) should be assumed.

Emissions	lb/hr	T/yr
PM	-	-
VOC	1.03	1.94
HAPs	-	-

TAS	CAS No	MS/556	Max lb/hr	T/yr	Avg lb/hr
Limestone	1317-85-3	585	0.45	0.84	0.224
Quartz	14808-60-7	585	0.01	0.01	3.47E-03
Ethylene glycol	107-21-4	585	0.16	0.30	3.8E-01
Carbon black	1333-86-4	585	2.32E-05	4.21E-05	1.11E-05
Clay	1332-58-7	585	1.32E-03	2.47E-03	6.59E-04
Nonane	111-84-2	585	4.39E-04	8.25E-04	2.20E-04

SDS File Name: sd321_champion_cic_nv Silicone Sealant - Clear (presurized)_Silicone caul_0240_12-04-2013
 Product Manufacturer: CRC Industries, Inc.
 Product Name: RTV Silicone Sealant - Clear (presurized)
 Notes: Sealant and adhesive. Solid paste, translucent in color, with acetic acid odor.

Actual PFE
 Facility Operating Hours (hr/yr): 1,816 3756
 Annual Potential Applied (lb/yr): 1,541 1162481104
 Annual Potential Applied (gal/yr): 185 1403805
 Max Hourly lbs (lb/hr): 1 3.14824575
 Max Hourly lbs (gal/hr): 0 0.37375
 Product Density: 8.42 lb/gal
 Specific Gravity: 1.01
 VOC Content (wt): 0.25 lb/gal
 VOC Content (ft): 3.0%

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)	PFE Emissions (lb/hr)	PFE Emissions (T/yr)	HAP	TAP
Polydimethylsiloxane, hydroxyterminated	70131-67-8	0.7	0.41	0.55	2.20	4.14	0.00	0.00
Amorphous silica	7431-86-9	0.13	0.11	0.10	0.41	0.77	0.00	0.00
Dihfates (petroleum), hydrofated Middle	64742-46-7	0.1	0.09	0.08	0.31	0.59	0.00	0.00
Ethylhexylsiloxane	17689-77-9	0.03	0.04	0.04	0.16	0.30	0.00	0.00
Methylhexylsiloxane	4253-34-3	0.05	0.04	0.04	0.16	0.30	0.00	0.00
Polydimethylsiloxane	43148-42-9	0.05	0.04	0.04	0.16	0.30	0.00	0.00
Plutogen	7737-37-9	0.03	0.03	0.02	0.09	0.18	0.00	0.00
VOCs		0.03	0.03	0.02	0.09	0.18	0.00	0.00

SDS File Name: sd321_champion_custom building product_polyblend ceramic tile caul non sanded_11-13-2013
 Product Manufacturer: Custom Building Products
 Product Name: Polyblend Ceramic Tile Caul Non Sanded
 Notes: Sealant, smooth liquid/paste of various colors with a mild acrylic odor.

Actual PFE
 Facility Operating Hours (hr/yr): 1,816 8740
 Annual Potential Applied (lb/yr): 45 75929736
 Annual Potential Applied (gal/yr): 3 5894
 Max Hourly lbs (lb/hr): 0 0.06736
 Max Hourly lbs (gal/hr): 0 0.0065
 Product Density: 13.34 lb/gal
 Specific Gravity: 1.40
 VOC Content (wt): 0.13 lb/gal
 VOC Content (ft): 15 g/l

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)	PFE Emissions (lb/hr)	PFE Emissions (T/yr)	HAP	TAP
Calcium carbonate	1317-65-3	0.000175	0.00	0.00	0.00	0.00	0.00	X
1,2-Ethylene glycol	57-55-4	0.05	0.00	0.00	0.00	0.02	0.00	0.00
Titanium dioxide	13463-67-7	0.015	0.00	0.00	0.00	0.01	0.00	0.00
Hydrofated heavy naphtha (petroleum)	64742-48-9	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Carbon black	1333-86-4	0.0000325	0.00	0.00	0.00	0.00	0.00	X
Silica, crystalline, quartz	14809-69-7	0.0000325	0.00	0.00	0.00	0.00	0.00	X
VOCs		0.009381078	0.00	0.00	0.00	0.00	0.00	0.00

SDS File Name: sd338_champion_herke_Lot 9.5 oz qdmax001 shwhl 12cc_oil quad max_10-20-2015
 Product Manufacturer: Herkel Corporation
 Product Name: OS 9.501 ODM X000151 HMI 12CC (Oil Quad Max)
 Notes: Window, door and sining sealant (caulk), white paste with alcohol odor.

Actual PFE
 Facility Operating Hours (hr/yr): 1,816 3756
 Annual Potential Applied (lb/yr): 140 1121903308
 Annual Potential Applied (gal/yr): 12 927292
 Max Hourly lbs (lb/hr): 0 0.2698771
 Max Hourly lbs (gal/hr): 0 0.0247
 Product Density: 12.09 lb/gal
 Specific Gravity: 1.45
 VOC Content: 0.30 lb/gal
 VOC Content (ft): 35 g/l

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)	PFE Emissions (lb/hr)	PFE Emissions (T/yr)	HAP	TAP
limestone	1317-65-3	0.03	0.00	0.00	0.01	0.02	0.00	X
Phthalate ester	Proprietary	0.10	0.01	0.01	0.03	0.04	0.00	0.00
Slane derivative	Proprietary	0.05	0.00	0.00	0.01	0.03	0.00	0.00
Quartz SiO2	14809-69-7	0.00	0.00	0.00	0.00	0.00	0.00	X
VOCs		0.02	0.00	0.00	0.01	0.01	0.00	0.00

SDS File Name: sd343_champion_itemco_acoustical sealant 300ml 30 ctg_sun tek sh1000 caul_06-25-2014_Combined with new
 Product Manufacturer: Tremco Canadian Sealants
 Product Name: Acoustical Sealant 30CTG
 Notes: Sun Tek STS 1000 Caulk

Actual PFE
 Facility Operating Hours (hr/yr): 1,816 3756
 Annual Potential Applied (lb/yr): 24 1649283356
 Annual Potential Applied (gal/yr): 2 12207
 Max Hourly lbs (lb/hr): 0 0.0439101
 Max Hourly lbs (gal/hr): 0 0.00325
 Product Density: 13.31 lb/gal
 Specific Gravity: 1.62
 VOC Content: 1.25 lb/gal
 VOC Content (ft): 150 g/l

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)	PFE Emissions (lb/hr)	PFE Emissions (T/yr)	HAP	TAP
Clay	1332-38-7	0.03	0.00	0.00	0.00	0.00	0.00	X
Calcium Carbonate (limestone)	1317-65-3	0.02	0.00	0.00	0.00	0.00	0.00	X
Stoddard solvent (petroleum)	6052-41-3	0.13	0.00	0.00	0.01	0.01	0.00	0.00
Residual oil (petroleum)	64742-62-7	0.10	0.00	0.00	0.00	0.01	0.00	0.00
Petroleum distillates	64742-47-8	0.05	0.00	0.00	0.00	0.00	0.00	0.00
Crystalline silica (quartz) / silica sand	14809-69-7	0.00	0.00	0.00	0.00	0.00	0.00	X
Titanium dioxide	13463-67-7	0.01	0.00	0.00	0.00	0.00	0.00	0.00
1,2-dimethylbenzene	95-63-4	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Nonane	111-84-2	0.01	0.00	0.00	0.00	0.00	0.00	X
Carbon Black	1333-86-4	0.00	0.00	0.00	0.00	0.00	0.00	X
VOCs		0.09	0.00	0.00	0.00	0.01	0.00	0.00

SDS File Name: sds1_champ/on_ppg_9-2004 pure performance interior eggshell-pure white_08-18-2015
 Product Manufacturer: PPG Industries, Inc.
 Product Name: P-3003 PURE PERFORMANCE INTERIOR EGGSHELL - PURE WHITE
 Note: Liquid coating for industrial applications; used by spraying.

Actual PFE
 Facility Operating Hours (hr/yr): 1,816 3756
 Annual Potential Applied (lb/yr): 200 2099,604
 Annual Potential Applied (gal/yr): 25 187.8
 Max Hourly lbs (lb/hr): 0 0.559
 Max Hourly lbs (gal/hr): 0 0.05

Product Density: 11.18 lbs/gal
 Specific Gravity: 1.34
 VOC Content: 0.09 lbs/gal
 % Solids: 51.28 by wt.
 Solids (total): 5.74 lbs/gal
 Paint transfer effci.: 50.0%

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)	PFE Emissions (lb/hr)	PFE Emissions (T/yr)	HAP	TAP
Titanium dioxide	1344-47-7	0.25	0.04	0.03	0.14	0.26	0.00	0.00
Diatomaceous earth	81790-53-2	7.5E-05	0.00	0.00	0.00	0.00	0.00	X
Proprietary Ingredients	not listed	0.03	0.00	0.00	0.02	0.03	0.00	0.00
VOCs		0	0.00	0.00	0.00	0.00	0.00	0.00
PM ¹		0.00178243	0.00	0.00	0.00	0.00	0.00	0.00

1. PM emissions are the non-volatile solids in the paint. Assumes a conservative paint transfer efficiency of 50%.

SDS File Name: sds1_champ/on_ppg_uh 150 ll wh 1210-0100v_ultimate 150 satin 2412_04-30-2015
 Product Manufacturer: PPG Industries, Inc.
 Product Name: OH 150 LL WH 1210-0100V
 Note: Liquid coating for industrial applications; used by spraying.

Actual PFE
 Facility Operating Hours (hr/yr): 1,816 3756
 Annual Potential Applied (lb/yr): 50,724 376226
 Annual Potential Applied (gal/yr): 4,200 31300
 Max Hourly lbs (lb/hr): 28 100.17
 Max Hourly lbs (gal/hr): 2 8.33

Product Density: 12.00 lbs/gal
 Specific Gravity: 1.44
 VOC Content: 0.40 lbs/gal
 % Solids: 54.78 by wt.
 Solids (total): 6.57 lbs/gal
 Paint transfer effci.: 50.0%

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)	PFE Emissions (lb/hr)	PFE Emissions (T/yr)	HAP	TAP
Titanium dioxide	1344-47-7	0.25	6.59	6.34	25.04	47.03	0.00	0.00
VOCs		0.03327787	0.93	0.84	3.33	6.26	0.00	0.00
PM ¹		0.00135628	0.04	0.03	0.14	0.26	0.00	0.00

1. PM emissions are the non-volatile solids in the paint. Assumes a conservative paint transfer efficiency of 50%.

SDS File Name: sds11_champ/on_ppg_uh 150 hb pwrts 1472-0200_righ build 1472_04-30-2015
 Product Manufacturer: PPG Industries, Inc.
 Product Name: OH 150 HB PWRTS 1472-0200
 Note: Liquid coating for industrial applications; used by spraying.

Actual PFE
 Facility Operating Hours (hr/yr): 1,816 3756
 Annual Potential Applied (lb/yr): 300 2192,191
 Annual Potential Applied (gal/yr): 30 219.1
 Max Hourly lbs (lb/hr): 0 0.58391667
 Max Hourly lbs (gal/hr): 0 0.05833333

Product Density: 10.00 lbs/gal
 Specific Gravity: 1.20
 VOC Content: 0.42 lbs/gal
 % Solids: 45.4% by wt.
 Solids (total): 4.54 lbs/gal
 Paint transfer effci.: 50.0%

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)	PFE Emissions (lb/hr)	PFE Emissions (T/yr)	HAP	TAP
Titanium dioxide	1344-47-7	0.25	0.04	0.04	0.15	0.27	0.00	0.00
Zinc	1332-58-7	0.1	0.02	0.02	0.06	0.11	0.00	X
Sulfuric acid, aluminum sodium salt	1344-00-9	0.03	0.00	0.00	0.02	0.03	0.00	0.00
VOCs		0.04195804	0.01	0.01	0.02	0.03	0.00	0.00
PM ¹		0.02674	0.04	0.03	0.13	0.23	0.00	0.00

1. PM emissions are the non-volatile solids in the paint. Assumes a conservative paint transfer efficiency of 50%.

Emissions	lb/hr	T/yr
PM	18.41	34.57
VOC	7.16	13.44
HAPs	-	-

TAS	CAS No	585/786	Max lb/hr	T/yr	Avg lb/hr
Diatomaceous earth	81790-53-2	585	4.19E-05	7.87E-05	2.10E-05
Zinc	1332-58-7	585	5.94E-02	1.10E-01	2.92E-02
Ethanol	107-21-1	585	1.07E-01	2.03E-01	5.33E-02
Formaldehyde	50-00-0	586	1.14E-02	2.13E-02	4.87E-03
Acrylamide	79-06-1	586	5.63E-05	1.07E-04	2.44E-05
Vinyl Chloride	75-01-4	586	1.14E-02	2.13E-02	4.87E-03
Carbon Black	133-86-4	585	0.30	0.28	1.52E-01

SDS File Name: sds12_champion_ppg_uh 150 hb fl hwn 1290-1000v_high build to hwa flst 1290_05-14-2015
Product Manufacturer: PPG Industries, Inc.
Product Name: UH 150 HB FL HWAH 1210-1000V
Note: Liquid coating for industrial applications; used by spraying.
Actual PTE
Facility Operating Hours (hr/yr): 1,816 3,756 **Product Density:** 12.02 lb/gal
Annual Potential Applied (lb/yr): 361 2633.582 **Specific Gravity:** 1.44
Annual Potential Applied (gal/yr): 30 219.1 **VOC Content:** 0.42 lb/gal
Max Hourly lbs (lb/hr): 0 0.70116667 **% Solids:** 55.0% by wt.
Max Hourly lbs (gal/hr): 0 0.05833333 **Solids (total):** 4.61 lb/gal
Paint transfer effc.: 50.0%

Component	CAS No.	Max Wt. fraction	Emissions (lb/hr)	Emissions (t/yr)	PTE Emissions (lb/hr)	PTE Emissions (t/yr)	RAF	TAP
Titanium dioxide	13443-67-7	0.1	0.02	0.02	0.07	0.13	0.00	0.00
VOCs		0.03494176	0.01	0.01	0.02	0.03	0.00	0.00
PM ₁₀		0.00337403	0.00	0.00	0.00	0.00	0.00	0.00

1. PM emissions are the non-volatile solids in the paint. Assumes a conservative paint transfer efficiency of 50%.

SDS File Name: sds27_champion_ppg_uh 150 sat wh 2419-0100v_09-14-2015
Product Manufacturer: PPG Industries, Inc.
Product Name: US 150 SAT WH 2412-0100V
Note: Liquid coating for industrial applications; used by spraying.
Actual PTE
Facility Operating Hours (hr/yr): 1,816 3,756 **Product Density:** 10.18 lb/gal
Annual Potential Applied (lb/yr): 42,760 316,534 **Specific Gravity:** 1.22
Annual Potential Applied (gal/yr): 4,253 31,900 **VOC Content:** 0.42 lb/gal
Max Hourly lbs (lb/hr): 24 84.83333333 **% Solids:** 42.5% by wt.
Max Hourly lbs (gal/hr): 2 8.33333333 **Solids (total):** 4.33 lb/gal
Paint transfer effc.: 50.0%

Component	CAS No.	Max Wt. fraction	Emissions (lb/hr)	Emissions (t/yr)	PTE Emissions (lb/hr)	PTE Emissions (t/yr)	RAF	TAP
Titanium dioxide	13443-67-7	0.15	5.52	5.37	21.21	37.83	0.00	0.00
3-Hydroxypropyl butylcarbamate	58104-53-6	0.003	0.07	0.04	0.25	0.48	0.00	0.00
Trimethamine 3-chloroethylcarbamate	4050-31-3	0.003	0.07	0.04	0.25	0.48	0.00	0.00
VOCs		0.04125737	0.98	0.87	3.50	6.57	0.00	0.00
PM ₁₀		0.2125	5.03	4.56	18.03	33.85	0.00	0.00

1. PM emissions are the non-volatile solids in the paint. Assumes a conservative paint transfer efficiency of 50%.

SDS File Name: sds33_champion_henkel_darus fp 7719 formerly xb-7719_10-29-2014
Product Manufacturer: Henkel Corporation
Product Name: DORUS FP 7719 formerly XB-7719
Note: Frame Paint, protective coating for mg/d home metal frames. Applied using offset spray gun.
Actual PTE
Facility Operating Hours (hr/yr): 1,816 1,878 **Product Density:** 9.69 lb/gal
Annual Potential Applied (lb/yr): 30,690 1,3814.312 **Specific Gravity:** 1.69
Annual Potential Applied (gal/yr): 3,376 1,320 **VOC Content:** 0.54 lb/gal 45 g/l
Max Hourly lbs (lb/hr): 17 60.694 **% Solids:** 21.0% by wt.
Max Hourly lbs (gal/hr): 2 6.66666667 **Solids (total):** 1.91 lb/gal
Paint transfer effc.: 50.0%

Component	CAS No.	Max Wt. fraction	Emissions (lb/hr)	Emissions (t/yr)	PTE Emissions (lb/hr)	PTE Emissions (t/yr)	RAF	TAP
Carbon Black	13338-1	0.005	0.08	0.08	0.30	0.28	0.00	Y
VOCs		0.05967169	1.01	0.92	3.62	3.40	0.00	0.00
PM ₁₀		0.04725	0.80	0.73	2.86	2.49	0.00	0.00

1. PM emissions are the non-volatile solids in the paint. Assumes a conservative paint transfer efficiency of 50%.

In the frame shop, steel cross members are welded to steel I-beams to construct the base frames. Once complete, black frame paint is applied to the frame using airless spray guns. Emissions from this process include PM, VOCs and TAPs. The frame paint contained no VOC in the original Tier II permit/analysis. MSDS information from Forrest Paint Products shows a VOC content of 0.53 lb/gal VOC. A new SDS/EDS was requested from the manufacturer to get better information on the actual VOC content, % non-volatile solids, etc.

Emissions from this process are uncontrolled and are vented through four (4) ceiling vents.

Frame paint is applied with an airless gun.

1 Product Name:	Trailer Frame Paint - Black			
	Actual	PTE		
Facility Operating Hours (hr/yr):	1,816	1,878	Product Density:	9.09 lb/gal
Annual Potential Applied (lb/yr):	30,690	113,814	Specific Gravity:	1.09
Annual Potential Applied (gal/yr):	3,376	12,520	VOC Content	0.54 lb/gal
Max Hourly lbs (lb/hr):	17	61	Non-Volatile Solids	0.21 % (max)
Max Hourly lbs (gal/hr):	2	7		

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)	PTE Emissions (lb/hr)	PTE Emissions (T/yr)		HAP	TAP
VOCs		0.05967	1.01	0.92	3.62	3.40	0	0	
PM1		0.04725	0.80	0.73	2.86	2.69	0	0	

General Description:

Raw lumber used to construct each home is cut to size in the mill. Each saw includes an enclosed vacuum system that collects and conveys PM to a baghouse. A fan, located at the baghouse, induces the airflow for the vacuum system. Emissions from this process are controlled. Each saw is equipped with a vacuum system which sucks the sawdust from each work station to the RDS baghouse. Once the sawdust reaches the baghouse, it is pulled through the bags via a 6,500 CFM fan. The bags are shaken to remove the sawdust, where it falls into a collection hopper under the baghouse. The hopper is emptied, as needed. Baghouse control efficiency is stated as 99.8%, with an average weekly collection of 1,200 lbs.

Mill Emission Estimates: PM10 Only

RDS collection system (South)

Maximum Amount of Sawdust Collected 1200 lb/week
 RDS Baghouse Capture Efficiency 99.8 % (PM-10)

Conservative Est. (Going to Baghouse) = 16.66667 lb/hr PM-10 going to baghouse
 (1200 lb/week) * (1 week / 6 days) * (1 day / 12 hours)

From Baghouse to Atmosphere = 0.033333 lb/hr PM-10 going to atmosphere
 (10 lb/hr) * (1-(99.8/100))

((lb/hr emissions) * (3744 hr/yr) * (1 Ton / 2000 lbs))
 = 0.0624 Tons/yr PM-10

Cyclone collection system Mill & cabinet shop(North)

Controlled Amount of Sawdust emitted 0.54 lb/hr
 per T-200072 SOB

Based on 12 hr per day 6 days per week and 52 weeks/yr (3744 hr/yr) 1.01088 T/yr

Source	Potential to Emit		Predicted Ambient Impact		NAAQS	
	lb/hr	T/yr	24-hr	Annual	24-hr	Annual
Mill Shop (South)	0.033333	0.0624				
Mill Shop (North)	0.54	1.01088				

IDG PTC Form
Facility Wide Potential to Emit Emission Inventory

Table 1. PRE-PROJECT POTENTIAL TO EMIT FOR NSR REGULATED POLLUTANTS¹

Description	Criteria Pollutant Emission Summary											
	NO _x Emissions		CO Emissions		PM _{10/2.5} Emissions		SO ₂ Emissions		VOC Emissions		Lead Emissions	GRG Emissions
	lb/yr	T/yr	lb/yr	T/yr	lb/yr	T/yr	lb/yr	T/yr	lb/yr	T/yr		
Redman Home Builders, Wester Ter # Permit # 037-00007, 1425 Sunnyside Road (South Facility)												
Frame Shop - Welding	--	--	--	--	3.06E-02	2.10E-01	--	--	--	--	--	--
Frame Shop - Frame Painting	--	--	--	--	1.50E+00	6.55E+00	--	--	--	--	--	--
M/I	--	--	--	--	2.00E-02	3.00E-02	--	--	--	--	--	--
Cabinet Shop	--	--	--	--	3.06E-02	1.30E-01	--	--	--	--	--	--
Paint Products	--	--	--	--	1.35E-01	1.42E+01	--	--	6.88E+00	6.63E+00	--	--
Adhesives	--	--	--	--	--	--	--	--	--	--	--	--
Champion Home Builders, Wester Ter # Permit # 037-00008, 1412 Sunnyside Road (North Facility)												
M/I & Cabinet Shop Cyclone	--	--	--	--	3.40E-01	2.34E+00	--	--	--	--	--	--
Paint Products	--	--	--	--	6.60E+00	2.61E+01	--	--	3.06E+00	1.33E+01	--	--
Adhesives	--	--	--	--	--	--	--	--	--	--	--	--
Pre-Project PTE Total	0.000	0.000	0.000	0.000	22.192	32.250	0.000	0.000	9.455	20.130	0.000	0.000

¹ Pre-project emissions are based upon previously permitted emissions levels stated within the existing Tier II permits for each facility (Redman and Champion). The two existing Tier II permits will be consolidated under a single PTC and differentiated based upon geographic location (north and south).
NSR Regulated Air Pollutants are defined² as: Particulate Matter (PM-10, PM-2.5), Carbon Monoxide, Lead, Nitrogen Dioxide, Ozone (VOC), Sulfur Dioxide, all pollutants regulated by NSPS (40 CFR 60) (i.e. TRS, fluoride, sulfuric acid mist) & Class I & Class II Ozone Depleting Substances (40 CFR 82) (i.e. CFC, HCFC, Halon, etc.)

Table 2. POST PROJECT MAXIMUM POTENTIAL TO EMIT FOR NSR REGULATED POLLUTANTS

Description	Criteria Pollutant Emission Summary											
	NO _x Emissions		CO Emissions		PM _{10/2.5} Emissions		SO ₂ Emissions		VOC Emissions		Lead Emissions	GRG Emissions
	lb/yr	T/yr	lb/yr	T/yr	lb/yr	T/yr	lb/yr	T/yr	lb/yr	T/yr		
Champion Home Builders, South Facility												
Frame Shop - Welding	--	--	--	--	1.06E-01	1.92E-01	--	--	--	--	--	--
Frame Shop - Frame Painting	--	--	--	--	2.82E+00	2.61E+00	--	--	--	--	--	--
M/I	--	--	--	--	3.33E-02	6.24E-02	--	--	--	--	--	--
Cabinet Shop	--	--	--	--	2.45E-01	4.94E-01	--	--	--	--	--	--
Paint Products	--	--	--	--	9.20E+00	1.70E+01	--	--	3.58E+00	6.72E+00	--	--
Adhesives	--	--	--	--	--	--	--	--	1.13E+00	2.16E+00	--	--
Champion Home Builders, North Facility												
M/I & Cabinet Shop Cyclone	--	--	--	--	3.40E-01	1.01E+00	--	--	--	--	--	--
Paint Products	--	--	--	--	9.20E+00	1.73E+01	--	--	3.58E+00	6.72E+00	--	--
Adhesives	--	--	--	--	--	--	--	--	1.13E+00	2.16E+00	--	--
Proposed PTE Total	0.000	0.000	0.000	0.000	22.214	31.023	0.000	0.000	9.425	17.624	0.000	0.000

NSR Regulated Air Pollutants are defined² as: Particulate Matter (PM-10, PM-2.5), Carbon Monoxide, Lead, Nitrogen Dioxide, Ozone (VOC), Sulfur Dioxide, all pollutants regulated by NSPS (40 CFR 60) (i.e. TRS, fluoride, sulfuric acid mist) & Class I & Class II Ozone Depleting Substances (40 CFR 82) (i.e. CFC, HCFC, Halon, etc.)

Table 3. CHANGES IN POTENTIAL TO EMIT FOR NSR REGULATED POLLUTANTS

Description	Criteria Pollutant Emission Summary											
	NO _x Emissions		CO Emissions		PM _{10/2.5} Emissions		SO ₂ Emissions		VOC Emissions		Lead Emissions	GRG Emissions
	lb/yr	T/yr	lb/yr	T/yr	lb/yr	T/yr	lb/yr	T/yr	lb/yr	T/yr		
Champion Home Builders, South Facility												
Frame Shop - Welding	--	--	--	--	3.40E-02	-1.47E-02	--	--	--	--	--	--
Frame Shop - Frame Painting	--	--	--	--	1.33E+00	-3.61E+00	--	--	--	--	--	--
M/I	--	--	--	--	1.33E-02	-2.74E-02	--	--	--	--	--	--
Cabinet Shop	--	--	--	--	2.35E-01	3.64E-01	--	--	--	--	--	--
Paint Products	--	--	--	--	-4.25E+00	3.29E+00	--	--	-2.80E+00	9.08E-02	--	--
Adhesives	--	--	--	--	--	--	--	--	1.13E+00	2.16E+00	--	--
Champion Home Builders, North Facility												
M/I & Cabinet Shop Cyclone	--	--	--	--	0.00E+00	-1.35E+00	--	--	4.99E-01	-4.78E+00	--	--
Paint Products	--	--	--	--	2.60E+00	-1.14E+01	--	--	1.13E+00	2.16E+00	--	--
Adhesives	--	--	--	--	--	--	--	--	1.13E+00	2.16E+00	--	--
Changes in PTE Total	0.000	0.000	0.000	0.000	0.022	-13.227	0.000	0.000	-0.830	-2.324	0.000	0.000

NSR Regulated Air Pollutants are defined² as: Particulate Matter (PM-10, PM-2.5), Carbon Monoxide, Lead, Nitrogen Dioxide, Ozone (VOC), Sulfur Dioxide, all pollutants regulated by NSPS (40 CFR 60) (i.e. TRS, fluoride, sulfuric acid mist) & Class I & Class II Ozone Depleting Substances (40 CFR 82) (i.e. CFC, HCFC, Halon, etc.)

Table 4. PRE-PROJECT POTENTIAL TO EMIT FOR TOXIC AIR POLLUTANTS

Toxic Air Pollutant (TAP)	CAS #	Potential to Emit		Net Screening Emission Level (EL)	Modeling Completed?
		lb/yr	T/yr		
		Yes	No		
Redman Home Builders, Wester Ter # Permit # 037-00007, 1425 Sunnyside Road					
Chromium Metal	7440-17-3	9.20E-01	4.00E-03	3.30E-02	x
DAPA 35.01.01.355					
Cobalt	7440-48-4	9.20E-04	4.00E-05	3.30E-03	x
DAPA 35.01.01.355					
Manganese	7439-96-3	2.90E-03	1.27E-02	4.70E-02	x
DAPA 35.01.01.355					
Nickel	7440-02-0	9.20E-04	4.00E-05	2.70E-03	x
DAPA 35.01.01.355					
Chromium	14184-46-1	4.42E-01	1.93E-01	3.30E-03	x
DAPA 35.01.01.355					
Koehn	1332-58-7	3.81E-01	2.31E+00	1.33E-01	x
DAPA 35.01.01.355					
Mica	12001-26-2	1.65E-01	8.00E-01	2.00E-01	x
DAPA 35.01.01.355					
Tricresyl Ether	1314-13-2	3.70E-01	1.13E+00	4.47E-01	x
DAPA 35.01.01.355					
M/I	101-48-8	7.20E-01	3.03E-03	3.00E-03	x
DAPA 35.01.01.355					
Champion Home Builders, Wester Ter # Permit # 037-00008, 1412 Sunnyside Road					
Chromium Metal	7440-17-3	3.20E-01	3.30E-03	3.30E-03	x
DAPA 35.01.01.355					
Cobalt	7440-48-4	3.20E-04	3.30E-05	3.30E-03	x
DAPA 35.01.01.355					
Manganese	7439-96-3	1.29E-03	3.45E+00	1.33E-01	x
DAPA 35.01.01.355					
Mica	12001-26-2	4.43E-01	1.93E+00	2.00E-01	x
DAPA 35.01.01.355					
Tricresyl Ether	1314-13-2	4.10E-01	1.87E+00	4.47E-01	x
DAPA 35.01.01.355					
M/I	101-48-8	6.91E-01	3.94E-03	3.00E-03	x
DAPA 35.01.01.355					

Table 5. POST-PROJECT POTENTIAL TO EMIT FOR TOXIC AIR POLLUTANTS

Toxic Air Pollutant (TAP)	CAS #	Potential to Emit		Net Screening Emission Level (EL)	Modeling Required?
		lb/yr	T/yr		
		Yes	No		
Redman Home Builders, Wester Ter # Permit # 037-00007, 1425 Sunnyside Road					
Chromium Metal	7440-17-3	1.00E-05	8.00E-07	3.30E-02	No
DAPA 35.01.01.355					
Cobalt	7440-48-4	1.00E-05	8.00E-07	3.30E-03	No
DAPA 35.01.01.355					
Manganese	7439-96-3	3.16E-03	2.80E-04	6.70E-02	No
DAPA 35.01.01.355					
Nickel	7440-02-0	8.35E-05	-4.31E-07	2.70E-03	No
DAPA 35.01.01.355					
Chromium	14184-46-1	0.00E+00	-1.24E-01	3.30E-03	No
DAPA 35.01.01.355					
Koehn	1332-58-7	5.97E-01	-1.81E+00	1.33E-01	No
DAPA 35.01.01.355					
Mica	12001-26-2	0.00E+00	-4.77E-01	2.00E-01	No
DAPA 35.01.01.355					
Tricresyl Ether	1314-13-2	0.00E+00	-4.60E-01	4.47E-01	No
DAPA 35.01.01.355					
M/I	101-48-8	8.85E-01	-1.04E+03	3.00E-03	No
DAPA 35.01.01.355					
Methyl ethyl ketone	78-93-3	3.22E-01	3.21E-01	3.91E-01	No
Acetone	67-64-1	4.83E-01	4.01E-01	1.11E+02	No
Cyclohexanone	108-91-1	3.12E-01	2.12E-01	4.47E-01	No
Dioxane	1317-65-3	4.47E-01	4.47E-01	4.47E-01	No
Quartz	14808-80-7	7.41E-03	7.41E-03	6.70E-03	No
Portland cement	65997-15-1	3.00E-04	3.00E-04	4.47E-01	No
Gypsum	13277-14-2	3.70E-05	3.70E-05	4.47E-01	No
Benzo(a)pyrene	50-32-8	0.00E+00	0.00E+00	2.00E-04	No
Naphthalene	91-20-3	0.00E+00	0.00E+00	3.31E-02	No
Dibenz(a,h)anthracene	95-22-4	0.00E+00	0.00E+00	1.00E-01	No
Formaldehyde	50-00-0	1.24E-02	1.24E-02	5.10E-04	Yes
Acetaldehyde	75-07-0	7.50E-03	7.50E-03	3.00E-03	Yes
Benzene	71-43-2	7.50E-03	7.50E-03	6.00E-04	Yes
Methanol	67-58-1	3.15E-02	5.21E-01	1.71E-01	No
Tetrahydrofuran (THF)	109-99-8	4.93E-01	4.93E-01	3.91E-01	No
Ethylene glycol	107-13-1	2.44E-01	2.44E-01	4.46E-01	No
Carbon black	1333-86-4	1.52E-01	1.52E-01	2.30E-01	No
Norane	111-84-2	4.31E-04	4.31E-04	7.00E-01	No
Dibenzofuran (DBF)	41790-33-2	4.11E-03	4.11E-03	4.47E-01	No
Acrylonitrile	79-26-1	2.44E-03	2.44E-03	5.10E-04	Yes
Vinyl Chloride	75-01-4	4.87E-03	4.87E-03	9.40E-04	Yes

29 0.15 4.35
 3 0.3 0.9
 1 0.025 0.025
 1 0.04 0.04
 2 0.4 0.8
 7 0.3 2.1
 9 0.25 2.25
 1 0.1 0.1
 6 0.15 0.9
 2 0.4 0.8
12.265

	PM2.5/10	NOx	CO	SO2	VOC
	lb/MMscf*				
	7.6	100	84	0.6	5.5
lb/hr	0.09	1.20	1.01	0.01	0.07
Uncontrol tpy**	0.40	5.27	4.42	0.03	0.29
Control tpy***	0.10	1.25	1.05	0.01	0.07

* AP-42 Section 1.4, Tables 1.4-1 and 1.4-2

** Assumed continuous control or 8760 hr pr year

*** Assumed 2080 hr per year

APPENDIX B – AMBIENT AIR QUALITY IMPACT ANALYSES

MEMORANDUM

DATE: January 10, 2016
TO: Morrie Lewis, Permit Writer, Air Program
FROM: Kevin Schilling, Stationary Source Modeling Coordinator, Air Program
PROJECT: P-2016.0050 PROJ 61771, PTC for Champion Home Builders Modifications
SUBJECT: Demonstration of Compliance with IDAPA 58.01.01.203.02 (NAAQS) and 203.03 (TAPs) as it relates to air quality impact analyses.

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Acronyms, Units, and Chemical Nomenclature

AAC	Acceptable Ambient Concentration of a non-carcinogenic TAP
AACC	Acceptable Ambient Concentration of a Carcinogenic TAP
Champion	Champion Home Builders
Appendix W	40 CFR 51, Appendix W – Guideline on Air Quality Models
BPIP	Building Profile Input Program
BRC	Below Regulatory Concern
CFR	Code of Federal Regulations
CMAQ	Community Multi-Scale Air Quality modeling system
CO	Carbon Monoxide
DEQ	Idaho Department of Environmental Quality
EL	Emissions Screening Level of a TAP
EPA	United States Environmental Protection Agency
Idaho Air Rules	Rules for the Control of Air Pollution in Idaho, located in the Idaho Administrative Procedures Act 58.01.01
lb/hr	Pounds per hour
NAAQS	National Ambient Air Quality Standards
NO ₂	Nitrogen Dioxide
NO _x	Oxides of Nitrogen
O ₃	Ozone
Pb	Lead
PM ₁₀	Particulate matter with an aerodynamic particle diameter less than or equal to a nominal 10 micrometers
PM _{2.5}	Particulate matter with an aerodynamic particle diameter less than or equal to a nominal 2.5 micrometers
ppb	parts per billion
PTC	Permit to Construct
PTE	Potential to Emit
SIL	Significant Impact Level
SO ₂	Sulfur Dioxide
TAP	Toxic Air Pollutant
VOC	Volatile Organic Compounds
µg/m ³	Micrograms per cubic meter of air

1.0 Summary

Champion Home Builders (Champion) submitted a Permit to Construct (PTC) application to convert their expired Tier 2 Operating Permit to a PTC and to allow proposed modifications to the facility. Project-specific air quality analyses involving atmospheric dispersion modeling of estimated emissions associated with the proposed modification were submitted to DEQ to demonstrate that emissions increases associated with the modification would not cause or significantly contribute to a violation of any applicable ambient air quality standard as required by the Idaho Administrative Procedures Act 58.01.01.203.02 and 203.03 (Idaho Air Rules Section 203.02 and 203.03). This memorandum provides a summary of DEQ's review of the ambient air impact analyses submitted with the permit application.

Stantec Consulting Services (Stantec), on behalf of Champion, prepared the PTC application and performed the ambient air impact analyses for this project to demonstrate compliance with applicable National Ambient Air Quality Standards (NAAQS) and Toxic Air Pollutants (TAPs). The DEQ review of submitted data and analyses summarized by this memorandum addressed only the rules, policies, methods, and data pertaining to the air impact analyses used to demonstrate that estimated emissions associated with operation of the facility will not cause or significantly contribute to a violation of any applicable air quality standard. This review did not address/evaluate compliance with other rules or analyses not pertaining to the air impact analyses. Evaluation of emissions estimates was the responsibility of the DEQ permit writer and is addressed in the main body of the DEQ Statement of Basis, and emissions calculation methods were not evaluated in this modeling review memorandum.

The submitted information and analyses: 1) showed either a) that estimated potential/allowable emissions are at a level defined as below regulatory concern (BRC) and do not require a NAAQS compliance demonstration, or b) that criteria pollutant emissions increases resulting from the proposed project are below site-specific modeling applicability thresholds, developed to assure that emissions below such levels will not result in ambient air impacts exceeding Significant Impact Levels (SILs); 2) showed that TAP emissions increases associated with the project will not result in increased ambient air impacts exceeding allowable TAP increments.

Table 1 presents key assumptions and results to be considered in the development of the permit.

Idaho Air Rules require air impact analyses be conducted in accordance with methods outlined in 40 CFR 51, Appendix W *Guideline on Air Quality Models* (Appendix W). Appendix W requires that air quality impacts be assessed using atmospheric dispersion models with emissions and operations representative of design capacity or as limited by a federally enforceable permit condition. The submitted information and analyses demonstrated to the satisfaction of the Department that operation of the proposed project will not cause or significantly contribute to a violation of any ambient air quality standard, provided the key conditions in Table 1 are representative of facility design capacity or operations as limited by a federally enforceable permit condition. The DEQ permit writer should use Table 1 and other information presented in this memorandum to generate appropriate permit provisions/restrictions to assure the requirements of Appendix W are met regarding emissions representative of design capacity or permit allowable rates.

Table 1. KEY ASSUMPTIONS USED IN MODELING ANALYSES	
Criteria/Assumption/Result	Explanation/Consideration
General Emissions Rates. Emissions rates used in the air impact analyses, as listed in this memorandum, must represent maximum potential emissions as given by design capacity, inherently limited by the nature of the process or configuration of the facility, or as limited by the issued permit for the specific pollutant and averaging period.	Compliance has not been demonstrated for emissions rates greater than those used in the air impact analyses.
TAP Emissions Sources. TAP emissions sources, as constructed and operated, must be accurately represented by the analyses submitted with the PTC application.	Important parameters include release point locations, release height, stack flow rates, and stack release temperature.

Summary of Submittals and Actions

- August 8, 2016: Application received by DEQ.
- September 1, 2016: Application determined as incomplete by DEQ.
- September 26, 2016: Information addressing incompleteness issues received by DEQ.
- October 25, 2016: Application determined complete by DEQ.

2.0 Background Information

Background information on the project and the air impact analyses was provided in the Modeling Analysis Report submitted with the application.

2.1 Air Impact Analyses Required for All Permits to Construct

Idaho Air Rules Sections 203.02 and 203.03:

No permit to construct shall be granted for a new or modified stationary source unless the applicant shows to the satisfaction of the Department all of the following:

02. NAAQS. The stationary source or modification would not cause or significantly contribute to a violation of any ambient air quality standard.

03. Toxic Air Pollutants. Using the methods provided in Section 210, the emissions of toxic air pollutants from the stationary source or modification would not injure or unreasonably affect human or animal life or vegetation as required by Section 161. Compliance with all applicable toxic air pollutant carcinogenic increments and toxic air pollutant non-carcinogenic increments will also demonstrate preconstruction compliance with Section 161 with regards to the pollutants listed in Sections 585 and 586.

Atmospheric dispersion modeling, using computerized simulations, is used to demonstrate compliance with both NAAQS and TAPs. Idaho Air Rules Section 202.02 states:

02. Estimates of Ambient Concentrations. All estimates of ambient concentrations shall be based on the applicable air quality models, databases, and other requirements specified in 40 CFR 51 Appendix W (Guideline on Air Quality Models).

2.2 Significant Impact Level and Cumulative NAAQS Impact Analyses

The Significant Impact Level (SIL) analysis for a new facility or proposed modification to a facility involves modeling estimated criteria air pollutant emissions from the facility or modification to determine the potential impacts to ambient air. Air impact analyses are required by Idaho Air Rules to be conducted in accordance with methods outlined in 40 CFR 51, Appendix W (Guideline on Air Quality Models). Appendix W requires that facilities be modeled using emissions and operations representative of design capacity or as limited by a federally enforceable permit condition.

A facility or modification is considered to have a significant impact on air quality if maximum modeled impacts to ambient air exceed the established SIL listed in Idaho Air Rules Section 006 (referred to as a “significant contribution” in Idaho Air Rules) or as incorporated by reference as per Idaho Air Rules Section 107.03.b. Table 2 lists the applicable SILs.

If modeled maximum pollutant impacts to ambient air from the emissions sources associated with a new facility or modification exceed the SILs, then a cumulative NAAQS impact analysis is necessary to demonstrate compliance with NAAQS and Idaho Air Rules Section 203.02.

A cumulative NAAQS impact analysis for attainment area pollutants involves assessing ambient impacts (typically the design values consistent with the form of the standard) from facility-wide potential/allowable emissions, and emissions from any nearby co-contributing sources, and then adding a DEQ-approved background concentration value to the modeled result that is appropriate for the criteria pollutant/averaging-period at the facility location and the area of significant impact. The resulting pollutant concentrations in ambient air are then compared to the NAAQS listed in Table 2. Table 2 also lists SILs and specifies the modeled design value that must be used for comparison to the NAAQS. NAAQS compliance is evaluated on a receptor-by-receptor basis for the modeling domain.

If the cumulative NAAQS impact analysis indicates a violation of the standard, the permit may not be issued if the proposed project has a significant contribution (exceeding the SIL) to the modeled violation. If project-specific impacts are below the SIL, then the project does not have a significant contribution to the specific violations.

2.3 Toxic Air Pollutant Analyses

Emissions of toxic substances are generally addressed by Idaho Air Rules Section 161:

Any contaminant which is by its nature toxic to human or animal life or vegetation shall not be emitted in such quantities or concentrations as to alone, or in combination with other contaminants, injure or unreasonably affect human or animal life or vegetation.

Permitting requirements for toxic air pollutants (TAPs) from new or modified sources are specifically addressed by Idaho Air Rules Section 203.03 and require the applicant to demonstrate to the satisfaction of DEQ the following:

Using the methods provided in Section 210, the emissions of toxic air pollutants from the stationary source or modification would not injure or unreasonably affect human or animal life or vegetation as required by Section 161. Compliance with all applicable toxic air pollutant

carcinogenic increments and toxic air pollutant non-carcinogenic increments will also demonstrate preconstruction compliance with Section 161 with regards to the pollutants listed in Sections 585 and 586.

Table 2. APPLICABLE REGULATORY LIMITS

Pollutant	Averaging Period	Significant Impact Levels ^a (µg/m ³) ^b	Regulatory Limit ^c (µg/m ³)	Modeled Design Value Used ^d
PM ₁₀ ^e	24-hour	5.0	150 ^f	Maximum 6 th highest ^g
PM _{2.5} ^h	24-hour	1.2	35 ⁱ	Mean of maximum 8 th highest ^j
	Annual	0.3	12 ^k	Mean of maximum 1 st highest ^l
Carbon monoxide (CO)	1-hour	2,000	40,000 ^m	Maximum 2 nd highest ⁿ
	8-hour	500	10,000 ^m	Maximum 2 nd highest ⁿ
Sulfur Dioxide (SO ₂)	1-hour	3 ppb ^o (7.8 µg/m ³)	75 ppb ^p (196 µg/m ³)	Mean of maximum 4 th highest ^q
	3-hour	25	1,300 ^m	Maximum 2 nd highest ⁿ
	24-hour	5	365 ^m	Maximum 2 nd highest ⁿ
	Annual	1.0	80 ^r	Maximum 1 st highest ⁿ
Nitrogen Dioxide (NO ₂)	1-hour	4 ppb (7.5 µg/m ³)	100 ppb ^s (188 µg/m ³)	Mean of maximum 8 th highest ^t
	Annual	1.0	100 ^r	Maximum 1 st highest ⁿ
Lead (Pb)	3-month ^u	NA	0.15 ^r	Maximum 1 st highest ⁿ
	Quarterly	NA	1.5 ^r	Maximum 1 st highest ⁿ
Ozone (O ₃)	8-hour	40 TPY VOC ^v	75 ppb ^w	Not typically modeled

- ^a Idaho Air Rules Section 006 (definition for significant contribution) or as incorporated by reference as per Idaho Air Rules Section 107.03.b.
- ^b Micrograms per cubic meter.
- ^c Incorporated into Idaho Air Rules by reference, as per Idaho Air Rules Section 107.
- ^d The maximum 1st highest modeled value is always used for the significant impact analysis unless indicated otherwise. Modeled design values are calculated for each ambient air receptor.
- ^e Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers.
- ^f Not to be exceeded more than once per year on average over 3 years.
- ^g Concentration at any modeled receptor when using five years of meteorological data.
- ^h Particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers.
- ⁱ 3-year mean of the upper 98th percentile of the annual distribution of 24-hour concentrations.
- ^j 5-year mean of the 8th highest modeled 24-hour concentrations at the modeled receptor for each year of meteorological data modeled. For the SIL analysis, the 5-year mean of the 1st highest modeled 24-hour impacts at the modeled receptor for each year.
- ^k 3-year mean of annual concentration.
- ^l 5-year mean of annual averages at the modeled receptor.
- ^m Not to be exceeded more than once per year.
- ⁿ Concentration at any modeled receptor.
- ^o Interim SIL established by EPA policy memorandum.
- ^p 3-year mean of the upper 99th percentile of the annual distribution of maximum daily 1-hour concentrations.
- ^q 5-year mean of the 4th highest daily 1-hour maximum modeled concentrations for each year of meteorological data modeled. For the significant impact analysis, the 5-year mean of 1st highest modeled 1-hour impacts for each year is used.
- ^r Not to be exceeded in any calendar year.
- ^s 3-year mean of the upper 98th percentile of the annual distribution of maximum daily 1-hour concentrations.
- ^t 5-year mean of the 8th highest daily 1-hour maximum modeled concentrations for each year of meteorological data modeled. For the significant impact analysis, the 5-year mean of maximum modeled 1-hour impacts for each year is used.
- ^u 3-month rolling average.
- ^v An annual emissions rate of 40 ton/year of VOCs is considered significant for O₃.
- ^w Annual 4th highest daily maximum 8-hour concentration averaged over three years. The O₃ standard was revised (the notice was signed by the EPA Administrator on October 1, 2015) to 70 ppb. However, this standard will not be applicable for permitting purposes until it is incorporated by reference *sine die* into Idaho Air Rules.

Per Section 210, if the total project-wide emissions increase of any TAP associated with a new source or modification exceeds screening emission levels (ELs) of Idaho Air Rules Section 585 or 586, then the ambient impact of the emissions increase must be estimated. If ambient impacts are less than applicable Acceptable Ambient Concentrations (AACs) for non-carcinogens of Idaho Air Rules Section 585 and Acceptable Ambient Concentrations for Carcinogens (AACCs) of Idaho Air Rules Section 586, then compliance with TAP requirements has been demonstrated.

Idaho Air Rules Section 210.20 states that if TAP emissions from a specific source are regulated by the Department or EPA under 40 CFR 60, 61, or 63, then a TAP impact analysis under Section 210 is not required for that TAP.

3.0 Analytical Methods and Data

The submitted modeling report provides a detailed discussion of the methods and data used to demonstrate compliance with applicable standards.

3.1 Emission Source Data

Emissions increases of criteria pollutants and TAPs resulting from the proposed modification were estimated by Stantec for various applicable averaging periods.

Emissions rates used in the dispersion modeling analyses, as listed in this memorandum, should be reviewed by the DEQ permit writer and compared with those in the final emissions inventory. All modeled criteria air pollutant and TAP emissions rates must be equal to or greater than the modification's potential emissions increase calculated in the PTC emissions inventory or proposed permit allowable emissions rates.

3.1.1 Modeling Applicability and Modeled Criteria Pollutant Emissions Rates

If project-specific emission increases for criteria pollutants would qualify for a below regulatory concern (BRC) permit exemption as per Idaho Air Rules Section 221 if it were not for potential emissions of one or more pollutants exceeding the BRC threshold of 10 percent of emissions defined by Idaho Air Rules as significant, then a NAAQS compliance demonstration may not be required for those pollutants with emissions below BRC levels. DEQ's regulatory interpretation policy of exemption provisions of Idaho Air Rules is that: "A DEQ NAAQS compliance assertion will not be made by the DEQ modeling group for specific criteria pollutants having a project emissions increase below BRC levels, provided the proposed project would have qualified for a Category I Exemption for BRC emissions quantities except for the emissions of another criteria pollutant."¹ The interpretation policy also states that the exemption criteria of uncontrolled potential to emit (PTE) not to exceed 100 ton/year (Idaho Air Rules Section 220.01.a.i) is not applicable when evaluating whether a NAAQS impact analyses is required. A permit will be issued limiting PTE below 100 ton/year, thereby negating the need to maintain calculated uncontrolled PTE under 100 ton/year. The BRC exemption cannot be used to exempt a project from a pollutant-specific NAAQS compliance demonstration in cases where a PTC is required for the action regardless of emissions quantities, such as the modification of an existing emissions or throughput limit.

A NAAQS compliance demonstration must be performed for pollutant increases that would not qualify for the BRC exemption from the requirement to demonstrate compliance with NAAQS. NAAQS

compliance demonstrations were required for this proposed project since the submitted application did not demonstrate that the project qualified for the BRC NAAQS compliance demonstration exemption.

Site-specific air impact modeling analyses may not be necessary for some pollutants, even where such emissions do not qualify for the BRC exemption. DEQ has developed modeling applicability thresholds, below which a site-specific modeling analysis is not required. DEQ generic air impact modeling analyses that were used to develop the modeling thresholds provide a conservative SIL analysis for projects with emissions below identified threshold levels. Project-specific modeling applicability thresholds are provided in the *Idaho Air Modeling Guideline*². These thresholds were based on assuring an ambient impact of less than the established SIL for specific pollutants and averaging periods.

If project-specific total emissions rate increases of a pollutant are below Level I Modeling Thresholds, then project-specific air impact analyses are not necessary for permitting. Use of Level II Modeling Thresholds are conditional, requiring DEQ approval. DEQ approval is based on dispersion-affecting characteristics of the emissions sources such as stack height, stack gas exit velocity, stack gas temperature, distance from sources to ambient air, presence of elevated terrain, and potential exposure to sensitive public receptors.

Stantec used Level I Modeling Thresholds to satisfy the NAAQS compliance demonstration requirements. Table 3 provides a summary of the site-specific modeling applicability analysis. Project-related emissions increases are the difference between existing potential emissions (best estimate of emissions that would occur under maximum allowed throughput and processing rates) and potential emissions after the proposed modification (as allowed by the new permit)

Pollutant	Averaging Period	Emissions	Level I Modeling Thresholds	Level II Modeling Thresholds^a	Site-Specific Modeling Required
PM _{2.5}	24-hour	0.022 lb/hr	0.054	0.63	No
	Annual	-13.23 ton/yr	0.35	4.1	No
PM ₁₀	24-hour	0.022 lb/hr	0.22	2.6	No
NO _x	1-hour	0.0 lb/hr	0.20	2.4	No
	Annual	0.0 ton/yr	1.2	14	No
CO	1-hour, 8-hour	0.0 lb/hr	15	175	No
SO ₂	1-hour, 3-hour	0.0 lb/hr	0.21	2.5	No
	Annual	0.0 ton/yr	1.2	14	No
Pb	monthly	0.0 lb/month	14		No

^a Level II Modeling Thresholds were not approved by DEQ for this project.

Ozone (O₃) differs from other criteria pollutants in that it is not typically emitted directly into the atmosphere. O₃ is formed in the atmosphere through reactions of VOCs, NO_x, and sunlight. Atmospheric dispersion models used in stationary source air permitting analyses cannot be used to estimate O₃ impacts resulting from VOC and NO_x emissions from an industrial facility. O₃ concentrations resulting from area-wide emissions are predicted by using more complex airshed models such as the Community Multi-Scale Air Quality (CMAQ) modeling system. Use of the CMAQ model is very resource intensive and DEQ asserts that performing a CMAQ analysis for a particular permit application is not typically a reasonable or necessary requirement for air quality permitting. Addressing secondary formation of O₃ within the context of permitting a new stationary source has been

somewhat addressed in EPA regulation and policy. As stated in a letter from Gina McCarthy of EPA to Robert Ukeiley, acting on behalf of the Sierra Club (letter from Gina McCarthy, Assistant Administrator, United States Environmental Protection Agency, to Robert Ukeiley, January 4, 2012):

... footnote 1 to sections 51.166(I)(5)(I) of the EPA's regulations says the following: "No de minimis air quality level is provided for ozone. However, any net emission increase of 100 tons per year or more of volatile organic compounds or nitrogen oxides subject to PSD would be required to perform an ambient impact analysis, including the gathering of air quality data."

The EPA believes it unlikely a source emitting below these levels would contribute to such a violation of the 8-hour ozone NAAQS, but consultation with an EPA Regional Office should still be conducted in accordance with section 5.2.1.c. of Appendix W when reviewing an application for sources with emissions of these ozone precursors below 100 TPY."

DEQ determined it was not appropriate or necessary to require a quantitative source specific O₃ impact analysis because allowable emissions estimates of VOCs and NO_x are below the 100 tons/year threshold.

Secondary Particulate Formation

The impact from secondary particulate formation resulting from emissions of NO_x, SO₂, and/or VOCs was assumed by DEQ to be negligible based on the magnitude of emissions and the short distance from emissions sources to locations where maximum PM₁₀ and PM_{2.5} impacts are anticipated.

3.1.2 Toxic Air Pollutant Emissions Rates

TAP emissions regulations under Idaho Air Rules Section 210 are only applicable to new or modified sources constructed after July 1, 1995.

Table 4 provides a summary of TAP emissions increases for the project for those TAPs that had an increase exceeding the ELs of Idaho Air Rules Section 585 or 586. Table 5 lists source-specific emissions of TAPs used in the impact analyses.

Table 4. TAP EMISSIONS INCREASES THAT TRIGGER MODELING		
Toxic Air Pollutant	Emissions Increase (lb/hr)^a	Screening Emissions Level (lb/hr)
Formaldehyde ^b	1.24E-2	5.10E-4
Acetaldehyde ^b	7.50E-3	3.00E-3
Benzene ^b	7.50E-3	8.00E-4
Acrylamide ^b	2.44E-5	5.10E-6
Vinyl Chloride ^b	4.87E-3	9.40E-4
Quartz ^c	7.46E-3	6.70E-3

^a Pounds per hour.

^b Carcinogenic TAP. ELs are a maximum annual average expressed as pounds/hour. The emissions increase is the annual emissions divided by 8,760 hours/year.

^c Non-carcinogenic TAP. ELs are a daily maximum expressed as pounds/hour. The emissions increase is the daily emissions divided by 24 hours/day.

Source ID	Source Description	Emissions Rates (pounds/hour)					
		Formaldehyde ^a	Acetaldehyde ^a	Benzene ^a	Acrylamide ^a	Vinyl Chloride ^a	Quartz ^b
SB 1	South Building #1	7.73E-4	4.69E-4	4.69E-4	1.52E-6	3.05E-4	4.66E-4
SB 2	South Building #2	7.73E-4	4.69E-4	4.69E-4	1.52E-6	3.05E-4	4.66E-4
SB 3	South Building #3	7.73E-4	4.69E-4	4.69E-4	1.52E-6	3.05E-4	4.66E-4
SB 4	South Building #4	7.73E-4	4.69E-4	4.69E-4	1.52E-6	3.05E-4	4.66E-4
SB 5	South Building #5	7.73E-4	4.69E-4	4.69E-4	1.52E-6	3.05E-4	4.66E-4
SB 6	South Building #6	7.73E-4	4.69E-4	4.69E-4	1.52E-6	3.05E-4	4.66E-4
SB 7	South Building #7	7.73E-4	4.69E-4	4.69E-4	1.52E-6	3.05E-4	4.66E-4
SB 8	South Building #8	7.73E-4	4.69E-4	4.69E-4	1.52E-6	3.05E-4	4.66E-4
NORTH1	North Building #1	5.16E-4	3.13E-4	3.13E-4	1.02E-6	2.03E-4	3.11E-4
NORTH2	North Building #2	5.16E-4	3.13E-4	3.13E-4	1.02E-6	2.03E-4	3.11E-4
NORTH3	North Building #3	5.16E-4	3.13E-4	3.13E-4	1.02E-6	2.03E-4	3.11E-4
NORTH4	North Building #4	5.16E-4	3.13E-4	3.13E-4	1.02E-6	2.03E-4	3.11E-4
NORTH5	North Building #5	5.16E-4	3.13E-4	3.13E-4	1.02E-6	2.03E-4	3.11E-4
PASSIVE1	Passive vent North Building #1	5.16E-4	3.13E-4	3.13E-4	1.02E-6	2.03E-4	3.11E-4
PASSIVE2	Passive vent North Building #2	5.16E-4	3.13E-4	3.13E-4	1.02E-6	2.03E-4	3.11E-4
PASSIVE3	Passive vent North Building #3	5.16E-4	3.13E-4	3.13E-4	1.02E-6	2.03E-4	3.11E-4
PASSIVE4	Passive vent North Building #4	5.16E-4	3.13E-4	3.13E-4	1.02E-6	2.03E-4	3.11E-4
PASSIVE5	Passive vent North Building #5	5.16E-4	3.13E-4	3.13E-4	1.02E-6	2.03E-4	3.11E-4

^a Annual average emissions rate in pounds per hour.

^b 24-hour average emissions rate in pounds per hour.

3.1.3 DEQ Review

DEQ determined the following from review of the Air Modeling Analysis Report submitted with the application:

- The appropriate atmospheric dispersion model was used for the proposed project.
- The Champion facility was properly represented in the model, regarding geographical location, terrain, structures, emission point locations, and areas of potential exposure.
- Appropriate meteorological data were used with the dispersion model.
- Appropriate averaging periods were selected for model output, corresponding to the form of applicable standards.
- The modeling report indicates that all TAPs with project-wide emissions increases above the ELs of Idaho Air Rules Section 585 and 586 were modeled to evaluate compliance with applicable AACs and AACCs.
- Through review of the submitted Air Modeling Analysis Report, it appears that the TAPs air impact analyses were performed using recommended data and methods prescribed in the *Idaho Air Quality Modeling Guideline*².

DEQ determined the review of the air impact analyses, as described above, was adequate to provide assurance that the proposed project will not result in increases in ambient air TAP levels that exceeded the specific AACs or AACCs. This conclusion is based on the general type and magnitude of the facility, the types of methods and data used in the analyses, and the modeled results in comparison to applicable AACs/AACCs.

4.0 NAAQS and TAPs Air Impact Modeling Results

4.1 Results for NAAQS Analyses

A site-specific NAAQS analysis was not necessary for the proposed project because emissions increases were below DEQ pollutant-specific modeling thresholds, as described in Section 3.1.1 of this memorandum. This assures that the proposed project will not result in air quality impacts that exceed SILs.

4.2 Results for TAPs Impact Analyses

Table 6 lists the maximum modeled impacts for specific TAPs. All modeled impacts are well below applicable AACs and AACCs.

Table 6. TAP AIR IMPACT ANALYSIS RESULTS			
TAP	Maximum Modeled Impact ($\mu\text{g}/\text{m}^3$)^a	AAC or AACC ($\mu\text{g}/\text{m}^3$)	Percent of AAC/AACC
Formaldehyde ^b	7.38E-2	7.70E-2	96
Acetaldehyde ^b	4.48E-2	4.50E-1	10
Benzene ^b	4.48E-2	1.20E-1	37
Acrylamide ^b	1.90E-4	7.70E-4	25
Vinyl Chloride ^b	3.87E-2	1.40E-1	28
Quartz ^c	0.20	5	4

^a Micrograms per cubic meter.

^b Carcinogenic TAP. Modeled impact and AACC represent a 5-year period average concentration.

^c Non-carcinogenic TAP. Modeled impact and AAC represent a 24-hour averaged concentration.

5.0 Conclusions

The information submitted with the PTC application demonstrated to DEQ's satisfaction that applicable emissions resulting from the proposed modifications at the Champion facility will not cause or significantly contribute to a violation of any ambient air quality standard.

References

1. *Policy on NAAQS Compliance Demonstration Requirements*. Idaho Department of Environmental Quality Policy Memorandum. July 11, 2014.
2. *State of Idaho Guideline for Performing Air Quality Impact Analyses*. Idaho Department of Environmental Quality. September 2013. State of Idaho DEQ Air Doc. ID AQ-011. Available at <http://www.deq.idaho.gov/media/1029/modeling-guideline.pdf>.

APPENDIX C – PROCESSING FEE

PTC Processing Fee Calculation Worksheet

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: Champion Home Builders
Address: 1425 Sunnyside Road
City: Weiser
State: ID
Zip Code: 83672
Facility Contact: Ken Bouvia
Title: General Manager
AIRS No.: 087-00007

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

Y Did this permit require engineering analysis? Y/N

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

Emissions Inventory			
Pollutant	Annual Emissions Increase (T/yr)	Annual Emissions Reduction (T/yr)	Annual Emissions Change (T/yr)
NO _x	0.0	0	0.0
SO ₂	0.0	0	0.0
CO	0.0	0	0.0
PM10	8.7	13.2	-4.5
VOC	7.2	2.3	4.9
TAPS/HAPS	8.7	0	8.7
Total:	24.6	15.6	9.0
Fee Due	\$ 2,500.00		

Comments: