

Statement of Basis

**Permit to Construct No. P-2011.0135
Project ID 61623**

**IFG Lewiston, LLC
Lewiston, Idaho**

Facility ID 069-00003

Final


**September 15, 2016
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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

CFR	Code of Federal Regulations
CO	carbon monoxide
CO ₂	carbon dioxide
CO ₂ e	CO ₂ equivalent emissions
DEQ	Department of Environmental Quality
EPA	U.S. Environmental Protection Agency
GHG	greenhouse gases
HAP	hazardous air pollutants
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
lb/hr	pounds per hour
MACT	Maximum Achievable Control Technology
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO ₂	nitrogen dioxide
NO _x	nitrogen oxides
NSPS	New Source Performance Standards
PM	particulate matter
PM _{2.5}	particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers
PM ₁₀	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
PSD	Prevention of Significant Deterioration
PTC	permit to construct
PTE	potential to emit
<i>Rules</i>	<i>Rules for the Control of Air Pollution in Idaho</i>
SM	synthetic minor
SM80	synthetic minor facility with emissions greater than or equal to 80% of a major source threshold
SO ₂	sulfur dioxide
SO _x	sulfur oxides
T/yr	tons per consecutive 12 calendar month period
TAP	toxic air pollutants
U.S.C.	United States Code
VOC	volatile organic compounds

FACILITY INFORMATION

Description

Debarker

Raw logs are debarked and cut to desired length before entering the main sawmill or small log line.

Bark is conveyed to the bark hog to be hogged, and then the hogged fuel is conveyed to off-site fuel pile.

Sawmill

Chips and sawdust from the large log sawmill are transported via conveyor to an offsite location. Negative air systems above the machine centers are used whenever the equipment is operated to collect entrained sawdust and transport it to the sawmill cyclones (CY1, CY2A and CY2B). The materials collected in the three sawmill cyclones are collected within the chip vault and transported to an offsite location.

The small log line allow processing of smaller logs and is housed in a new building or an addition to the existing main sawmill building, which is under negative pressure from the cyclones and/or small log line baghouse (BH3). The small log line baghouse system transports sawdust and wood residuals from the small log line and is located on the south side of the sawmill building(s).

Chips from the main sawmill and small log line drop to the Chip Conveyor and are conveyed to an off-site wood pile.

Drying kilns

The rough cut green lumber is stacked before being dried in the kilns. IFG currently has four double track kilns that are heated via indirect steam heating coils. IFG has proposed to install two additional kilns of similar design to increase production and to improve lumber quality. All kilns operate on steam obtained from the adjacent Clearwater Pulp and Paper facility. The emissions from the kilns are uncontrolled.

Planer mill

Dried lumber is removed from the kilns and either stored temporarily or sent to the planer mill building where the lumber is trimmed by saws, planed, sorted, stacked, strapped, and stored before shipment.

A new planer shavings material handling cyclone (CY4) will be near the truck bins at the new location. Emissions from the planer shavings cyclone will be routed to an emissions control baghouse (BH-1.)

Planer chips are transported through Bruks chipper cyclone that vents to the chips baghouse (BH-2). Chips collected by Bruks chipper cyclone (CY3) drop onto chip conveyor and are conveyed to an off-site wood pile.

Fuel Hog

The Fuel Hog is used to chop waste materials (e.g., wood waste) into smaller pieces for use as boiler fuel. The Fuel Hog emission point is a cyclone (CY5) which is used to pneumatically transfer the hogged fuel to an off-site fuel pile.

Permitting History

This PTC replaces Permit to Construct No. P-2011.0135 project 61240 issued on March 18, 2014.

For a detailed listing of the entire permit history see the March 26, 2014 Statement of Basis which supports the issuance of the most recent Tier I operating permit issued to the facility (project No. 61338).

Application Scope

This PTC is for a minor modification at an existing Tier I facility.

The permittee has proposed to:

- install a new shavings area vacuum cleanup system equipped with a baghouse,
- add a baghouse to control emissions from shaving bin vent,
- allow operation of the Planer Chip conveyance system with either just a baghouse or a baghouse that is integrated with a cyclone, and
- only require operation of the sawmill cyclones when the associated equipment is operating.

This permit action serves to allow these proposed changes.

Application Chronology

August 24, 2015	DEQ received an application fee.
November 6, 2015	DEQ received an application.
December 3, 2015	DEQ determined that the application was incomplete.
February 1, 2016	DEQ received updated application materials.
March 16, 2016	DEQ determined that the application was incomplete.
April 27, 2016	DEQ received updated application materials.
May 24, 2016	DEQ determined that the application was complete.
July 5, 2016	DEQ made available the draft permit and statement of basis for peer and regional office review.
July 6, 2016	DEQ made available the draft permit and statement of basis for applicant review.
July 20, 2016–August 19, 2016	DEQ provided for a comment period for affected states and public review.

TECHNICAL ANALYSIS

Emissions Units and Control Equipment

Table 1 lists equipment affected by this permit action.

Table 1 EMISSIONS UNIT AND CONTROL EQUIPMENT INFORMATION

Sources	Control Equipment	Emission Point ID No.
Planer Mill	Chips baghouse or a cyclone integrated with a baghouse	BH-2 stack
Shavings Bin Vent	Baghouse	BH1A
Shavings Area Cleanup	Baghouse	BH1B

Emissions Inventories

Pre-Project Potential to Emit

Pre-project Potential to Emit is used to establish the change in emissions at a facility as a result of this project. Table 2 provides a pre-project potential to emit for those emissions units that are affected by this permitting action. A summary of the emissions inventory provided by the applicant, and reviewed by DEQ is provided in Appendix A.

Table 2 PRE-PROJECT POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

	Current Emissions			
	PM ₁₀ (ton/yr)	PM ₁₀ (lb/hr)	PM _{2.5} (ton/yr)	PM _{2.5} (lb/hr)
Point Sources				
Lumber Drying				
Dry Kilns	8.93	2.28	7.76	1.98
Cyclones				
CY1, Sawmill Machine Center Cyclone	0.033	0.011	0.016	0.005
CY2A&B, Sawmill Machine Center Cyclones	0.196	0.065	0.098	0.033
CY3 is integrated with Planer Chip Baghouse	0.000	0.000	0.000	0.000
CY4 vents to the Planer Shavings Baghouse	0.000	0.000	0.000	0.000
CY5, Fuel Hog Cyclone	0.850	0.283	0.425	0.142
Baghouses				
BH1, Shavings Baghouse	1.025	0.418	0.686	0.280
BH1A, Bin Vent Baghouse	0.000	0.000	0.000	0.000
BH1B, Bin Cleanup System Baghouse (optional)	0.000	0.000	0.000	0.000
BH2, Planer Chip Baghouse	1.41E-02	5.75E-03	9.45E-03	3.85E-03
BH3, Hew Saw Baghouse 1	1.988	0.454	1.332	0.304
Point Source Totals	13.036	3.522	10.323	2.752

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

Post Project Potential to Emit

Post project Potential to Emit is used to establish the change in emissions at a facility and to determine the facility's classification as a result of this project. Post project Potential to Emit is included in Table 3 and includes all post project potential emissions for those emissions units associated with this project. A summary of the emissions inventory provided by the applicant, and reviewed by DEQ is provided in Appendix A.

Table 3 POST PROJECT POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

	Proposed Emissions			
	PM ₁₀ (ton/yr)	PM ₁₀ (lb/hr)	PM _{2.5} (ton/yr)	PM _{2.5} (lb/hr)
Point Sources				
Lumber Drying				
Dry Kilns	8.93	2.28	7.76	1.98
Cyclones				
CY1, Sawmill Machine Center Cyclone	0.033	0.011	0.016	0.005
CY2A&B, Sawmill Machine Center Cyclones	0.196	0.065	0.098	0.033

	Proposed Emissions			
	PM ₁₀ (ton/yr)	PM ₁₀ (lb/hr)	PM _{2.5} (ton/yr)	PM _{2.5} (lb/hr)
CY3 is integrated with Planer Chip Baghouse	0.000	0.000	0.000	0.000
CY4 vents to the Planer Shavings Baghouse	0.000	0.000	0.000	0.000
CY5, Fuel Hog Cyclone	0.850	0.283	0.425	0.142
Baghouses				
BH1, Shavings Baghouse	1.025	0.418	0.686	0.280
BH1A, Bin Vent Baghouse	1.78E-03	7.28E-04	1.19E-03	4.88E-04
BH1B, Bin Cleanup System Baghouse (optional)	1.10E-02	3.60E-03	7.34E-03	2.41E-03
BH2, Planer Chip Baghouse	1.41E-02	5.75E-03	9.45E-03	3.85E-03
BH3, Hew Saw Baghouse 1	1.988	0.454	1.332	0.304
Point Source Totals	13.049	3.527	10.331	2.755

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

Change in Potential to Emit

The change in facility-wide potential to emit is used to determine if a public comment period may be required 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.

Table 4 CHANGES IN POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Source	PM ₁₀		PM _{2.5}	
	lb/hr	T/yr	lb/hr	T/yr
Pre-Project Potential to Emit	3.522	13.036	2.752	10.323
Post Project Potential to Emit	3.527	13.049	2.755	10.331
Changes in Potential to Emit	0.005	0.013	0.003	0.008

TAP & HAP Emissions

Toxic air pollutant (TAP) and hazardous air pollutant (HAP) emissions from the facility are unchanged as a result of the changes proposed at the facility.

Ambient Air Quality Impact Analyses

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 demonstrated that the emissions increases at the facility from the proposed changes are below DEQ's level one modeling thresholds as shown in Table 5.

Table 5 Point Source Emission Increases Compared to Modeling Thresholds

Pollutant	Proposed Emissions	Current PTE	Change in Emissions	Level I Modeling Threshold
PM ₁₀	3.527	3.522	0.005	0.22 lb/hr
PM _{2.5}	2.755	2.752	0.003	0.054 lb/hr

PM _{2.5}	10.331	10.323	0.008	0.35 Tyr
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REGULATORY ANALYSIS

Attainment Designation (40 CFR 81.313)

The facility is located in Nez Perce 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 THAPs (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 2 REGULATED AIR POLLUTANT FACILITY CLASSIFICATION

Pollutant	Uncontrolled PTE (T/yr)	Permitted PTE (T/yr)	Major Source Thresholds (T/yr)	AIRS/AFS Classification
PM _{2.5}	> 100	10.71	100	SM
PM ₁₀	> 100	13.61	100	SM
SO ₂	0	0	100	NA
NO _x	0	0	100	NA
CO	0	0	100	NA
VOC	>100	249	100	A
CO _{2e}	0	0	100,000	NA
HAP (single)	>10	>10	10	A
HAP (Total)	>25	100.53	25	A

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 changes at the facility. 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.

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

IDAPA 58.01.01.301 Requirement to Obtain Tier I Operating Permit

IFG is currently operating with a Tier I operating permit (T1-2012.0038 project 61338) issued March 26, 2014. The permit to construct changes will be incorporated into the Tier I operating permit in accordance with IDAPA 58.01.01.209.05.c.

PSD Classification (40 CFR 52.21)

40 CFR 52.21 Prevention of Significant Deterioration of Air Quality

On February 6, 1997, during a time when the sawmill was owned by the same company as the adjacent Pulp Mill/ Consumer Products Divisions, the Idaho Office of Attorney General determined¹ that the Lumber Products Division (sawmill) is a separate facility from the adjacent Pulp Mill/Consumer Products Divisions even though the steam used to dry lumber at the sawmill comes entirely from the pulp mill. The two facilities have different primary SIC codes, and the lumber mill does not serve as a support facility for the Pulp Mill or Consumer Products Divisions.

The location of the facilities remains the same, but the sawmill is now owned by IFG, a different entity than owns the adjacent Pulp Mill/ Consumer Products Divisions which further supports that the sawmill is not to be grouped with the adjacent Pulp Mill/ Consumer Products Divisions. Additional support for the sawmill being a separate facility from the Pulp Mill/Consumer Products Divisions is published in the Federal Register, August 7, 1980, page 52695, “Where a single unit is used to support two otherwise distinct sets of activities, the unit is to be included within the source which relies most heavily on its support. For example, a boiler might be used to generate process steam for both a commonly controlled and located kraft pulp mill and a plywood manufacturing plant. If the yearly boiler output is used primarily by the pulp mill, then the total emissions of the boiler should be attributed to the mill.” None of the boilers at the adjacent but separately owned Pulp Mill/Consumer Products Divisions sends 50% or more of the steam produced to the lumber drying kilns².

The IFG sawmill is not a designated facility, and IFG has requested to limit its potential to emit below 250 tons per year for VOC, therefore it is not a major facility for PSD purposes..

NSPS Applicability (40 CFR 60)

The proposed changes at the facility, which are for wood byproduct handling systems, do not affect any emissions units subject to NSPS.

1 IDEQ letter to Susan J. Flieder, Environmental Counsel for Potlatch Corporation, February 6, 1997 (IDEQ TRIM record reference # 2010AAG239)

2 Email from Susan Somers, Clearwater Paper Corporation, July 18, 2012 - No boiler at Clearwater Paper Corporation sends 50% or more of the steam produced to the IFG lumber drying kilns. (IDEQ TRIM record reference # 2012AAG2902)

NESHAP Applicability (40 CFR 61)

The proposed source is not an affected source subject to NESHAP in 40 CFR 61, and this permitting action does not alter the applicability status of existing affected sources at the facility.

MACT Applicability (40 CFR 63)

The proposed changes at the facility, which are for wood byproduct handling systems, do not affect any emissions units subject to 40 CFR 63.

Permit Conditions Review

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

Table 1.1

Table 1.1 was updated to allow emissions from the planer mill chip handling system to be controlled by a baghouse or by a baghouse that is integrated with a cyclone. The table was also updated to add two new emissions sources (Vacuum Cleanup System and Shavings Bin Vent).

Permit Condition 3.1

The process description for handling chips and sawdust was updated as requested by the applicant.

Table 3.1

Table 3.1 was updated to allow emissions from the planer mill chip handling system to be controlled by a baghouse or by a baghouse that is integrated with a cyclone. The table was also updated to add two new emissions sources (Vacuum Cleanup System and Shavings Bin Vent).

Permit Condition 3.2

Permit Condition 3.2 was updated as follows:

The permittee shall install and operate the cyclones (CY1 and CY2A and CY2B) at all times when ~~the main sawmill is operated to control emissions from the main sawmill as~~ associated sawmill equipment is operating to control emissions from sawmill equipment as described in Permit Condition 3.1.

This change allows the facility to only operate the cyclones whenever the equipment is operating that sends emissions to the cyclone.

Permit Condition 3.6

This permit condition specifies that a baghouse shall be used control emissions whenever the new vacuum cleanup system is used.

Permit Condition 3.7

This permit condition specifies that a baghouse shall be used control emissions whenever shavings are transferred to the shavings bin.

Permit Condition 3.9 Baghouse/Filter System Procedures

This permit condition was updated to add that a procedures document shall be developed for the new vacuum cleanup system baghouse (BH1B) and for the new Shavings Bin Vent baghouse (BH1B) along with all the other listed baghouses.

All other permit conditions remain unchanged.

PUBLIC REVIEW

Public Comment Period

A public comment and affected states review period was made available in accordance with IDAPA 58.01.01.209.05.c. During this time, comments were not submitted in response to DEQ's proposed action. Refer to the chronology for public comment period dates.

Public Hearing

In addition to the public comment period, DEQ also provided an opportunity for a public hearing though one was not requested.

EPA review

EPA was sent a proposed permit for review on August 22, 2016. On that same day EPA responded and stated DEQ is free to issue the permit.

APPENDIX A – EMISSIONS INVENTORIES

IDAHO FOREST GROUP, LEWISTON

Emission Inventory/Calculations

Production Information is based on permit limit and equipment capacity

Steam for this mill is provided from pulp mill, no boiler emissions

Lumber Production

Sawmill	470,000	mbdft/year	permit limit
	2,106	mbdft/day	equipment limit
Dry Kilns	470,000	mbdft/year	permit limit
	1,443	mbdft/day	equipment limit
Planer	470,000	mbdft/year	permit limit
	2,304	mbdft/day	equipment limit
Logs Used	1,692,000	tons/year	based on std. ratio
	7582	tons/day	based on std. ratio

Residuals Production

	tons/year	tons/day	Ratio from data	
Sawmill Chips to convey	353,000	1580	0.75	GT chips/mbdft sawmill
Sawdust to convey	155,000	695	0.33	GT sawdust/mbdft sawmill
Fines to cyclones	900	3.6	from cyclone data	
Bark to fuel hog	141,000	632	0.3	GT bark/mbdft sawmill
Planer Chips	28,200	138	0.06	BDT chips/mbdft planer
Shavings	51,230	251	0.11	GT shavings/mbdft planer
Wood to Fuel Hog	10,000	40	estimated from data	

LUMBER DRY KILN PARTICULATE EMISSIONS

Current and Future Emissions, no change at the dry kilns

Proposed Annual Production PTE 470,000 Mbf/yr
 Max Daily PTE Production 1,443 Mbf/day
 Daily compliance based on equipment potential, not limited by permit.

PM10 Emission Factor:	0.038 lbs/Mbf	As per DEQ email 10-29-13
Annual PM10 Emissions:	8.93 tons/year	PTE
Annual Emission Rate per Vent:	0.3435 tpy/vent	26 vents
Daily PM10 Emissions:	2.28 lb/hr	daily rate, 6 kilns
24-hour Emission Rate per Vent:	0.0879 lb/hr/vent	26 vents
PM25 Emission Factor:	0.033 lbs/Mbf	As per DEQ email 10-29-13
Annual Emission Rate per Vent:	7.76 tons/year	PTE
	0.2983 tpy/vent	26 vents
Daily PM25 Emissions:	1.98 lb/hr	daily rate, 6 kilns
24-hour Emission Rate per Vent:	0.0763 lb/hr/vent	26 vents

KILN VOLATILE ORGANIC COMPOUND (VOC) EMISSIONS

Factors from Table 4.2 of T1-2012.0038

VOC Emissions will be tracked to verify that emissions are below the permit limit of 249 tpy.
 Virtually entire production has been white fir in recent years, marketed as HemFir.

Annual Production Limit:	470,000 Mbf/yr	
Emission Factor:	1.060 lbs/Mbf	VOC Emissions based on
Emissions:	249 tons/year	mix shown below.

Wood Species:	% of Total	VOC (lb/Mbf)	Weighted (lb/Mbf)	Reference
Cedar	0%	1.15	0.000	Permit Table 4.2
Hem Fir (use white fir)	100%	1.06	1.060	Permit Table 4.2
Douglas Fir and larch	0%	1.70	0.000	Permit Table 4.2
Ponderosa Pine	0%	4.43	0.000	Permit Table 4.2
ESLP, use Lodgepole	0%	2.16	0.000	Permit Table 4.2
Other (use P Pine)	0%	4.43	0.000	Permit Table 4.2
Total	100%		1.060	

KILN HAZARDOUS AIR POLLUTANT (HAPS)

Total MBF processed	470,000	
% Douglas Fir	0%	0 MBF/yr by species
% Hem-Fir	100%	470,000
% Ponderosa Pine	0%	0
% ESLP	0%	0
% Cedar	0%	0
% Other (name speci	0%	0
	100%	470,000

EMISSION FACTORS:	EPA 12/12, except cedar					
	Total HAP	Methanol	Formal-dehyde	Acetal-dehyde	Propion-aldehyde	Acrolein
Douglas Fir	0.1913	0.1170	0.0043	0.0682	0.0007	0.0011
Hem Fir (HF, WW)	0.4956	0.4200	0.0163	0.0550	0.0018	0.0026
Ponderosa Pine	0.2029	0.1440	0.0092	0.0420	0.0032	0.0045
ESLP	0.1166	0.0628	0.0041	0.0420	0.0032	0.0045
Cedar	0.5784	0.0298	0.0016	0.0355	0.0003	0.0005

EMISSIONS	Emission lb/Yr					
	Total HAP	Methanol	Formal-dehyde	Acetal-dehyde	Propion-aldehyde	Acrolein
Douglas Fir	0	0	0	0	0	0
Western Hemlock	232932	197400	7661	25850	846	1222
Ponderosa Pine	0	0	0	0	0	0
White Fir (white wood	0	0	0	0	0	0
Cedar	0	0	0	0	0	0
TOTAL, lb/yr	232,932	197,400	7,661	25,850	846	1,222
TOTAL, ton/yr	116.47	98.70	3.83	12.93	0.42	0.61

BAGHOUSES

CURRENT PTE BAGHOUSE EMISSIONS

Process Equipment Baghouses Source	Emission (gr/cf)	Flow cfm	PM10 e.f. lb/hr	PM25 e.f. lb/hr
BH3, Hew Saw Baghouse	0.003	17655	0.454	0.304

Control Equipment Baghouses Source	PM10 ef (lb/ton)	reference	PM2.5 ef (lb/ton)	reference
BH1, Shavings Handling Baghouse	0.040	AQ-EF02, shavings	0.027	67% of PM10 ⁽¹⁾
BH2, Planer Chip Baghouse	0.001	AQ-EF02, chips	0.001	67% of PM10 ⁽¹⁾

(1) DEQ determined that baghouse PM2.5 should be calculated as 67% of PM10.

Source	Basis	Production Units	Current PTE			
			PM10 (ton/yr)	Daily PM10 (lb/hr)	PM2.5 (ton/yr)	PM2.5 (lb/hr)
BH1, Shavings Baghouse	51,230	tons/yr	1.025		0.686	
BH1, Shavings Baghouse	251	tons/day		0.418		0.280
BH2, Planer Chip Baghouse	28,200	tons/yr	0.014		0.009	
BH2, Planer Chip Baghouse	138	tons/day		0.006		0.004
BH3, Hew Saw Baghouse ⁽²⁾	8,760	hours/yr	1.988	0.454	1.332	0.304

(2) Hew Saw emissions are based on continual operation at full capacity. This results in annual and short-term emission rates being equal.

PROPOSED PTE BAGHOUSE EMISSIONS

Process Equipment Baghouses Source	rate (gr/cf)	Flow cfm	PM10 e.f. lb/hr	PM25 e.f. lb/hr
BH3, Hew Saw Baghouse	0.003	17655	0.454	0.304

Control Equipment Baghouses Source	PM10 ef (lb/ton)	reference	PM2.5 ef (lb/ton)	reference
BH1, Shavings Handling Baghouse	0.040	AQ-EF02, shavings	0.027	67% of PM10 ⁽¹⁾
BH2, Planer Chip Baghouse	0.001	AQ-EF02, chips	0.001	67% of PM10 ⁽¹⁾
BH1A, Shavings Bin Vent Baghouse	0.000070	Manufacturer Specifications	0.000047	67% of PM10 ⁽¹⁾
BH1B, Shavings Bin Housekeeping	0.0024	Baghouse Eff. 99.8%	0.0016	67% of PM10 ⁽¹⁾

(1) DEQ determined that baghouse PM2.5 should be calculated as 67% of PM10.

Source	Basis (hr/yr) or (tons/yr)	Production Units	Proposed Emissions			
			PM10 (ton/yr)	Daily PM10 (lb/hr)	PM2.5 (ton/yr)	PM2.5 (lb/hr)
BH1, Planer Shavings Baghouse	51,230	tons/yr	1.025		0.686	
BH1, Shavings Baghouse	251	tons/day		0.418		0.280
BH1A, Shavings Bin Vent Baghouse	51,230	tons/yr	1.78E-03		1.19E-03	
BH1A, Shavings Bin Vent Baghouse	251	tons/day		7.28E-04		4.88E-04
BH1B, Housekeeping Baghouse(3)	9,125	tons/yr	1.10E-02		7.34E-03	
BH1B, Housekeeping Baghouse	36	tons/day		3.60E-03		2.41E-03
BH2, Planer Chip Baghouse	28,200	tons/yr	0.014		0.009	
BH2, Planer Chip Baghouse	138	tons/day		0.006		0.004
BH3, Hew Saw Baghouse	8,760	hours/yr	1.988	0.454	1.332	0.304

Conversion of minutes to hours	60	min/hr
Conversion of grains to lbs	7000	gr/lb

(3) Annual worst-case shavings pickup: 25 tons per day, 365 days per year. Hourly, 1.5 tons/hr

CYCLONE EMISSION FACTORS

Potlatch developed cyclone emission factors for PM. IFG is using those emissions factors where possible, with corresponding factors for PM10 and PM2.5.

Source	PM10 e.f. (lb/ton)		PM2.5 e.f. (lb/ton)
CY1, Sawmill Machine Center Cyclone ⁽¹⁾⁽²⁾	0.165		0.082
CY2A&B, Sawmill Machine Center Cyclones ⁽¹⁾⁽²⁾	0.780		0.390
CY5, Fuel Hog Cyclone ⁽¹⁾⁽²⁾	0.170		0.085

Notes:

(1) Original note from Potlatch said: Calculated using cyclone and dust parameters per Rex. M. Robbins, Pollution Engineering, March, 1988 , with number of turns (Ne) calc. According to Wark and Warner, 1981

(2) PM_{2.5} is 67% of PM₁₀, as per IDEQ August 19, 2013 letter.

(3) Based on ODEQ AQ-EF02 and AQ-EF03. High efficiency cyclone. IFG plans to install a baghouse on this cyclone when a baghouse becomes available after the planer changes are complete. The baghouse will have lower emissions, so the modeling is conservative by using the cyclone.

CYCLONE EMISSIONS ARE UNCHANGED IN THIS ANALYSIS

Calculation methodology for short term emissions have been changed to make it more clear that the hour operation represents equipment capacity.

CYCLONE EMISSIONS INCLUDED IN CURRENT APPLICATION

HOURS OF OPERATION 5356 hours per year, consistent with operations
 ANNUAL SAWMILL PRODUCTION 470,000 MBDFT/YR

Source	Annual Throughput tons	Daily Throughput tons	Proposed Emissions			
			PM10 (ton/yr)	Daily PM10 (lb/hr)	PM2.5 (ton/yr)	PM2.5 (lb/hr)
CY1, Sawmill Machine Center Cyclone	396	1.584	0.033	0.011	0.016	0.005
CY2A&B, Sawmill Machine Center Cyclones	503	2.012	0.196	0.065	0.098	0.033
CY5, Fuel Hog Cyclone	10,000	40	0.850	0.283	0.425	0.142

APPENDIX B – 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: IFG Lewiston
Address: 280 Sycamore Drive
City: Lewiston
State: Idaho
Zip Code: 83501
Facility Contact: Jim Miller
Title: Permitting Contact
AIRS No.: 069-00003

- 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	0.013	0	0.013
VOC	0.0	0	0.0
TAPPS/HAPS	0.0	0	0.0
Total:	0.0	0	0.0
Fee Due	\$ 1,000.00		

Comments: