

September 18, 2012

Bill Rogers, P.E.
Idaho Department of Environmental Quality
Air Quality Division
Stationary Source Program Office
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Boise, ID 83706-1255
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RECEIVED

SEP 21 2012

DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE A Q PROGRAM

**RE: Idaho Forest Group – Grangeville
Facility ID No. 049-00003**

Dear Bill,

Idaho Forest Group (IFG) is submitting the enclosed Tier I Permit Renewal application for the lumber producing facility at Grangeville, Idaho. The IFG- Grangeville facility is regulated under Tier I Operating Permit No. TI-2008.0203 issued March 20, 2008 and amended by DEQ February 17, 2009. The Tier I permit expires on March 20, 2013 and the renewal application is due by September 20, 2012.

Application Materials

This application includes Idaho Form CSTI and a signed Form GI. Other forms included are EU0, EU1, EU5, BCE, CYS, CAM and FRA are included as well.

The application includes an updated facility-wide emissions inventory. Additional information can be provided to the DEQ permitting engineer upon request.

Please contact Eric Hansen with Environ at (425) 412-1811 or Kevin Dahler with Idaho Forest Group at (208) 983-0012 if you have any questions about the application materials.

171 Highway 95 N Grangeville, ID 83530 • Phone: 208 983-0012 • Fax: 208 983-1962

Signature by Responsible Official

Based on the information and belief formed after reasonable inquiry, the statements and information contained herein are true, accurate and complete, to the best of my knowledge.

Sincerely,

Shannon Fuchs for Scott Atkison

Scott Atkison
President

Attachment
Enclosures

CC Shannon Fuchs, Idaho Forest Group
Eric Hansen, Environ
Chris Johnson, CJ Environmental

**IDAHO FOREST GROUP
TIER 1 OPERATING PERMIT RENEWAL APPLICATION
TI -2008.0203**

**SUBMITTED TO:
IDAHO DEPARTMENT OF ENVIRONMENTAL QUALITY**

SEPTEMBER 18, 2012

IDAHO FOREST GROUP

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1.0 INTRODUCTION AND OVERVIEW

Idaho Forest Group LLC (formerly Bennett Forest Industries) produces dimensional lumber products at its facility outside Grangeville consistent with its current Tier I Operating Permit No. T1-2008.0203 which expires March 20, 2013.

The Idaho Forest Group Grangeville facility remains a synthetic minor source not subject to PSD, but with criteria of potential pollutant emissions over 100 tons per year, making it subject to Title V Operating Permit requirements. This application is intended to meet those requirements by providing a Title V Permit Renewal application. Cumulative HAP emissions remain under the 25 tons per year major source threshold and no individual HAP emissions exceeds 10 tons per year.

The facility's emission units, as defined in IDAP 58.01.01.006.35 and Permit TI-2008.0203, are the wood-fired boiler, 5 lumber dry kilns, six cyclones, and two baghouses. Facility wide emissions are documented in Section 5 and in more detail in Appendix B. The emission calculations are very conservative, since they include maximum throughput from the boilers and maximum throughput in the dry kilns for all pollutants except HAPs.

Appendix A includes a completed IDEQ Completeness Checklist which identifies the location of all information required with this application.

2.0 FACILITY CLASSIFICATION

The Idaho Forest Group Grangeville facility is not a designated facility, as defined at IDAPA 58.01.01.006.27. It is not a PSD major source, nor a major source for Hazardous Air Pollutants (HAPs). This application does not change any permitting category from those documented in the original Tier I Operating Permit. It only provides the information required for a Tier 1 Operating Permit Renewal. See Appendix C for IDEQ General Facility Information Form.

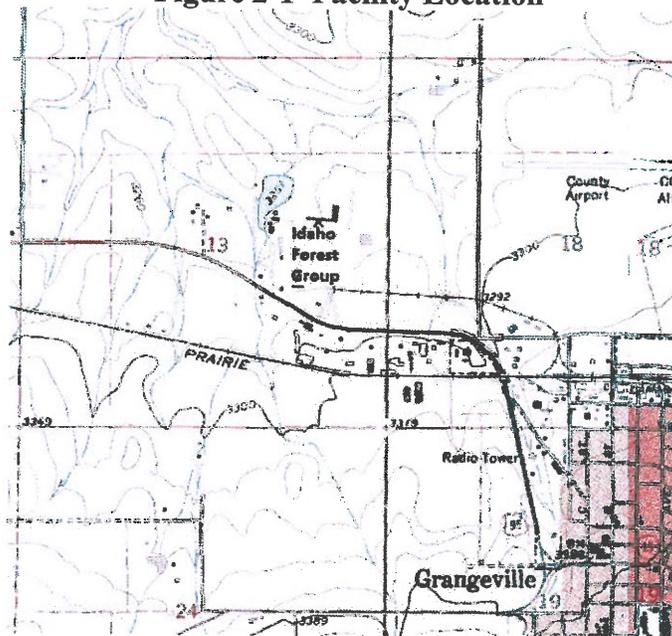
2.1 DESCRIPTION OF FACILITY, PERMITTING STATUS, AND PROPOSED ACTION

The Idaho Forest Group Grangeville facility is a lumber processing saw and planer mill with a state of the art sawmill, minimizing wood waste. Except for the log deck, the entire sawmill process is enclosed in a large building and annex. The sawmill includes conveyor systems that bring incoming timber through preliminary processes into the mill. All wood by-products are contained where generated, and transported with minimal loss to processes to separate out saleable products including bark, wood chips, sawdust, hog fuel, and fines. Material is also transported, with minimal loss, and processed as necessary to efficiently fuel the onsite hog-fuel boiler. The cut lumber is dried and planed onsite then prepared for final delivery and trucked offsite.

2.2 FACILITY LOCATION

The facility is located in a rural area approximately one mile northwest of Grangeville, Idaho, in Idaho County. The exact location of the facility and proposed emission sources in relation to the surrounding area is shown in Figure 2-1 and Figure 2-2 and Appendix F.

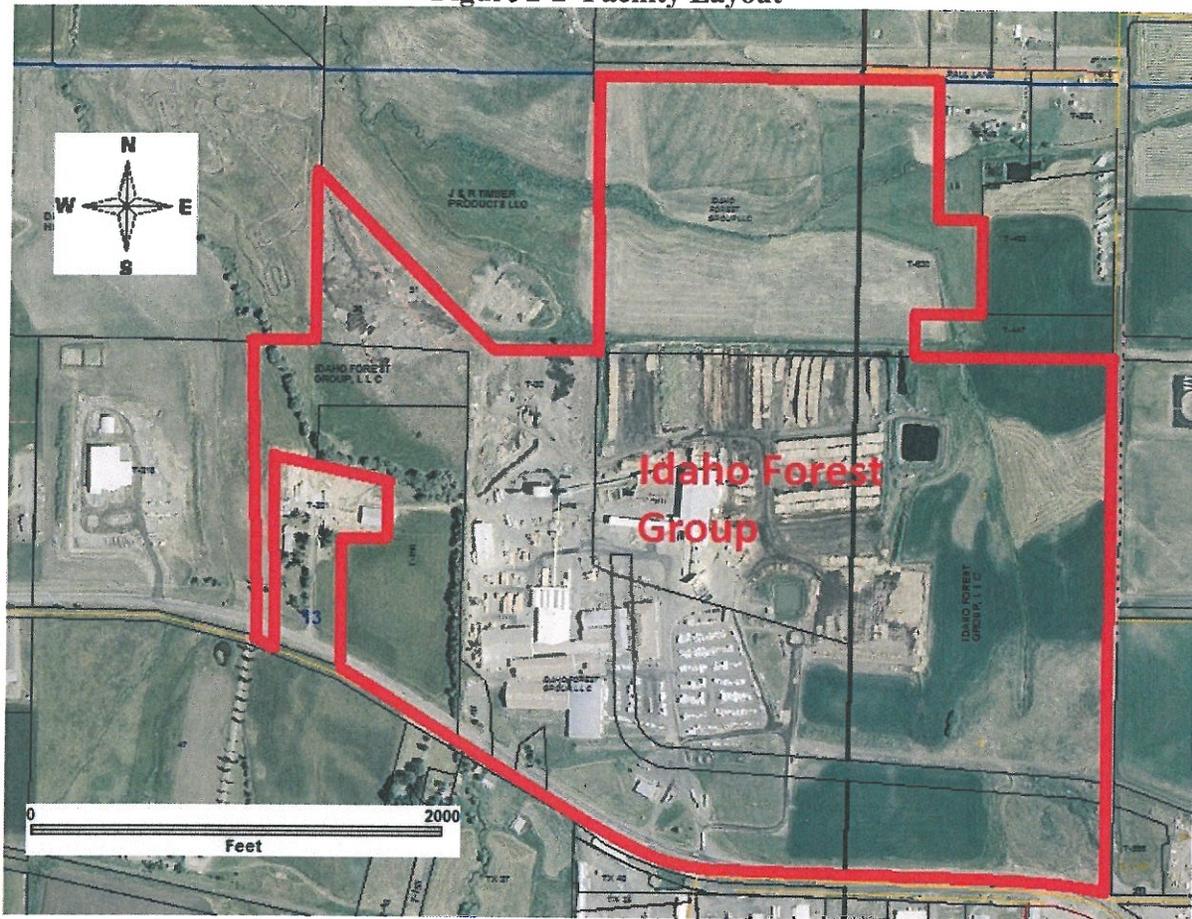
Figure 2-1 Facility Location



The facility is bordered on the south by Highway 95. The bordering properties in all directions are generally open or grain growing agricultural land. There is an independent small pellet fuel plant operating on a parcel off our west property boundary.

The facility property boundary, and layout, is shown in Figure 2-2.

Figure 2-2 Facility Layout



The ambient boundary is the property boundary outline. Locations of the point sources and labeling of the facility buildings is shown in Appendix F. Currently the site is approximately 260 acres.

Since the initial Tier I operating permit was issued, Idaho Forest Group has paved several more acres onsite. Idaho Forest Group plans to pave more acres over the course of the next 5 years, in the vicinity of the facility boiler, logyard and sawmill. That effort will result in a decrease in fugitive emissions from onsite vehicular traffic.

3.0 PROCESS DESCRIPTION

A summary description of the overall facility processes and operations is presented in this section, and a process flow diagram is provided in Section 3.2.

3.1 PROCESS DESCRIPTION

Log trucks deliver approximately 120 MMbf (log scale) of logs per year to the facility, where they are unloaded from the trucks and stored in the log yard. Rolling stock equipment is used to move the logs from the log yard to the an elevated conveyor system at the sawmill annex, where they are run through a debarker and merchandizer saws, which cut the logs to desired lengths. The bark and sawdust from the debarker and the merchandizer saws, referred to as “residual wood products,” fall onto the residual line conveyor and are removed from the sawmill annex and transported to the Hog, while the sized logs are sent to the sawmill.

Inside the sawmill, logs are sawed into dimensional lumber. Residual wood products from sawing operations fall onto a conveyor system that connects to the residual line conveyor. Dust collection systems in the sawmill use cyclones and a baghouse to separate fines from chips and send them to truck bins, from which they are shipped offsite as a saleable product.

The residual line conveyors transports residual wood products from the sawmill and the sawmill annex to boiler fuel system, where it is combined with a small volume of residual wood -products from the log yard. Other lesser-value residual wood products are routed directly to the boiler fuel silo by conveyors, and a hog is used to reduce the size of the larger residual wood products. The output of the hog conveys material to the boiler fuel silo. Fuel is moved by conveyor from the fuel silo to the boiler. If not needed for boiler operation, the boiler fuel can be routed to hog fuel storage for sale.

Cut lumber from the sawmill is stacked and sent to the kilns for drying. The chips, shavings, and sawdust from planing operations are collected and routed through the air system through cyclones and baghouses, which separates the material into chips, shavings, and fines. The chips are routed pneumatically to the chip truck bin, the shavings are taken pneumatically to the Rosebud Building, and the fines are pneumatically transported to the fines truck bin. The shavings in the Rosebud Building are processed into a trademarked product, Rosebud Horse Bedding. The exhaust from the planer cyclone is routed through a baghouse.

Ash and a small amount of yard or process residual wood product not suitable as boiler fuel are transported to the Wood Debris Management Area, where they are covered with soil. The ash is covered by a larger volume of soil material containing gravel and wood by-products generated by management of the log yard.

The Wood Fired Boiler on site burns only wood products, very near 100% is hog fuel. During startup operations or critical maintenance operations, sometimes other residual products such as wood chips or sawdust may be used. The Boiler produces steam that is piped to the dry kilns to dry the green lumber, and a small percentage of steam is used to heat the sawmill during the colder months of the year. The Boiler is equipped with a Multiclone and ESP to separate out particulate matter.

Waste oil from the facility’s vehicle fleet is collected and used in a 500,000 Btu/hr space heater designed to combust that fuel to heat the facility truck shop.

Rosebud is a facility on Idaho Forest Group's plant site. They are a company operated separately from Idaho Forest Group, however their cyclone CY 74 is tied to our pneumatic conveyor system, and the cyclone accounted for in Idaho Forest Group's Emission Inventory.

In preparing this permit application, we find that cyclone CY 75, the planer chipping room cyclone, was overlooked in our initial Tier I permit application. The cyclone has been in existence since the mill was built in 1995, but was previously thought to vent into the building. Only recently did we realize that this cyclone vents to atmosphere. CY75 has been added to our Emission Inventory.

IFG believes CY75 qualifies for a Category I exemption per IDAPA 58.01.01.221 because its maximum annual emissions are less than ten percent (10%) of the significant emission rates set out in the definition of significant at Section 006. The following table compares annual emissions from CY75 with the "Below Regulatory Concern" thresholds of Section 221.

Table 3-1 Cyclone 75 Exemption Assessment

	PM	PM10	PM2.5
CY 75 PTE	0.5	0.4	0.2
BRC Threshold	2.5	1.5	1

Annual Emissions in tons

We also acknowledge installation and periodic use of a log "flare end reducer." Powered by electric motors, this equipment grinds the larger diameter (flared) stump end of a log if it is slightly too large in diameter to fit through our mill. Idaho's emission factors for the wood products industry do not offer an emission factor for a flare end reducer, but the process is similar to debarking. We estimate emissions by applying the debarking emission factor (0.024 and 0.011 lb PM and PM10, respectively, per ton of log) to the roughly 10 percent of a log that is reduced by this machine.

The level of activity depends on the taper and diameter of the logs that are delivered, so it is difficult to predict an annual throughput. In 2011, which IFG anticipates to be a typical year, 31,509 tons of logs were routed to the log end reducer. Given an average log length of 16 feet and the typical need to grind the bottom three feet, the machine only grinds 3/16ths of the total delivered, or 5,900 tons.

IFG believes log end reducer also qualifies for a Category I exemption per IDAPA 58.01.01.221 because its maximum annual emissions are less than ten percent (10%) of the significant emission rates set out in the definition of significant at Section 006. The following table compares estimated annual log end reducer emissions with the "Below Regulatory Concern" thresholds of Section 221.

Table 3-2 Log End Reducer Exemption Assessment

	PM	PM10	PM2.5
Log end reducer	0.7	0.3	0.3
BRC Threshold	2.5	1.5	1

Annual Emissions in tons

3.2 PROCESS FLOW DIAGRAM

The facility's process flow, previously discussed in Section 3.1, has been combined into a more cohesive single process flow diagram. The flow diagram tracks processing of raw materials coming in through the facility, developing products, and ultimately leaving the plant site.

FLOW DIAGRAM and MAP DESIGNATIONS

- "T or TR" will indicate TRANSFER from Point A to Point B
- "P" will indicate PROCESS
- "CY" will indicate CYCLONE
- "ST" will indicate STORAGE
- "V" will indicate VOLITILES
- "B" will indicate COMBUSTION SOURCE (Boiler).
- "BH" will indicate BAGHOUSE
- "RE" will indicate Reciprocating Internal Combustion Engine
- "H" will indicate SPACE HEATER

Idaho Forest Group
Grangeville, ID

Master Air
Process Flow Schematic

August 2012

Key

Process Equipment

Transfers (can be listed as TR)

Fuel Burner Section 2

V-1 Volatiles

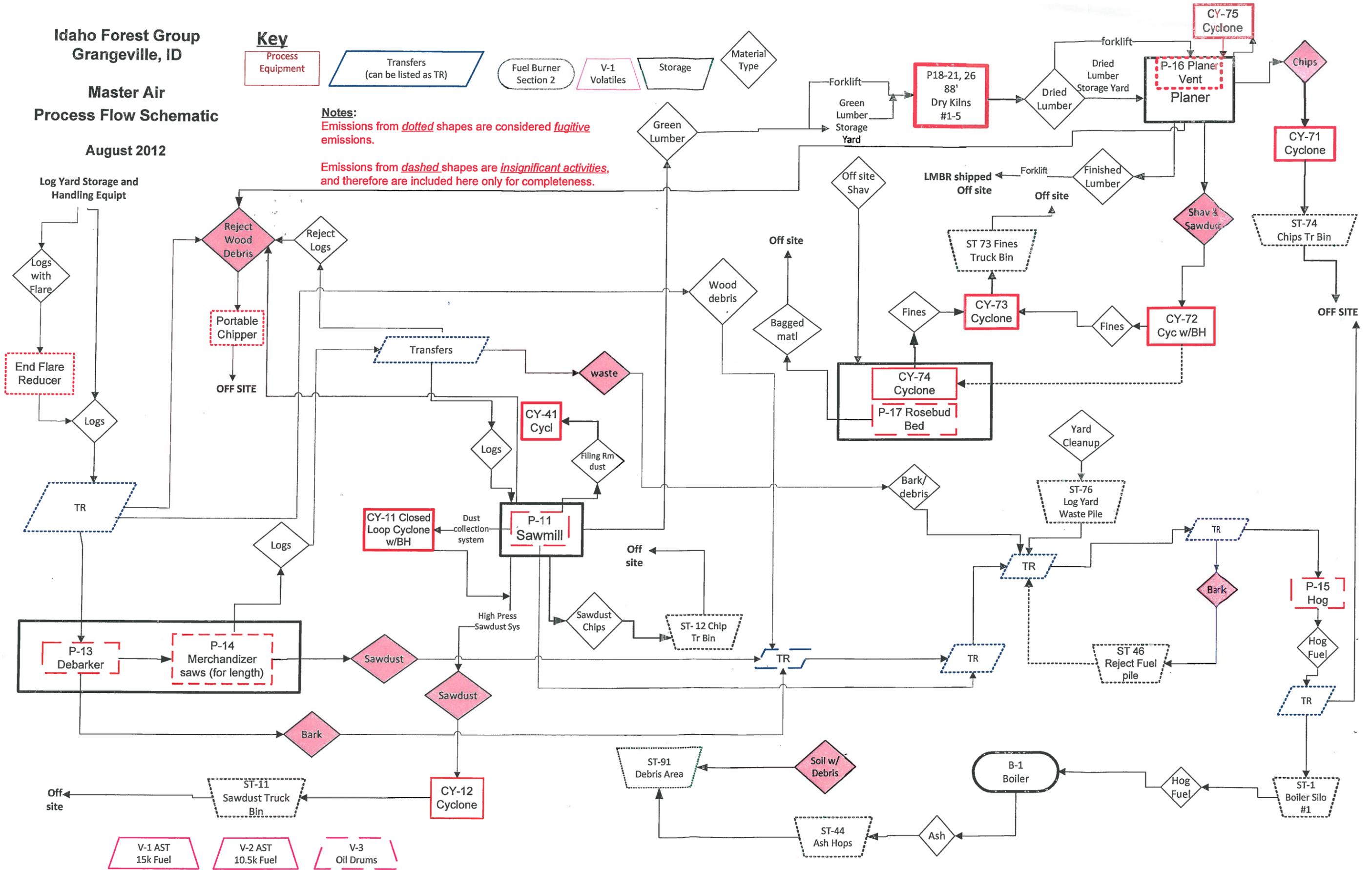
Storage

Material Type

Notes:

Emissions from dotted shapes are considered *fugitive emissions*.

Emissions from dashed shapes are *insignificant activities*, and therefore are included here only for completeness.



V-1 AST 15k Fuel
V-2 AST 10.5k Fuel
V-3 Oil Drums

4.0 REGULATORY APPLICABILITY ANALYSIS

In preparing and submitting this application, Idaho Forest Group has evaluated the applicability of state and Federal regulations to the facility. The facility's Compliance Certification for this application and Compliance Plan are in Appendix E.

4.1 GREENHOUSE GAS TAILORING RULE

Since the initial Tier I permit was issued, EPA promulgated new regulations related to greenhouse gas emissions. In addition to requirements to monitor and report annual greenhouse gas emissions, EPA established thresholds that determine whether greenhouse gas emissions trigger applicability of the major source status under Title V or EPA's preconstruction permitting program. In both cases, EPA established that greenhouse gas emissions of 100,000 tons or more would make a facility "major" for Title V and for new source review.

Although IFG's wood-fired boiler generates greenhouse gases, those emissions are considered biogenic and are ignored when evaluating applicability of the PSD or Title V permit programs.¹ Consequently, the Grangeville facility is not a major source with respect to New Source Review even though its greenhouse gas emissions exceed 100,000 tons per year.

EPA also has established that greenhouse gas monitoring and reporting requirements are not applicable requirements with respect to the Title V air operating permit program.

4.2 FIRE PUMP ENGINE

The EPA has established two rules that regulate exhaust gases from compression ignition internal combustion engines: National Emission Standards for Hazardous Air Pollutants: Stationary Reciprocating Internal Combustion Engine Requirements Subpart ZZZZ ("NESHAP Subpart ZZZZ") and New Source Performance Standards: Stationary Compression Ignition Internal Combustion Engine Requirements Subpart IIII ("NSPS Subpart IIII") in 40 CFR 63 and 40 CFR 60, respectively. These rules were developed to limit previously unregulated engines to the same standards established for comparable non-road and marine engines. NSPS Subpart IIII limits emissions of criteria pollutants from new stationary diesel internal combustion engines. IFG's operates a Cummins N-855-F diesel-fired fire pump engine, manufactured in 1974 with a maximum power capacity of 218 horsepower (hp). Due to its age, the fire pump engine is not subject to NSPS Subpart IIII.

NESHAP ZZZZ applies to new and existing, spark and compression ignition engines located at major and area sources of hazardous air pollutants (HAP). Engines located at major sources of HAP are subject to standards determined by maximum achievable control technology, whereas engines located at area sources are subject to generally achievable control technology (GACT). The IFG facility is a synthetic area source with respect to HAP because it is limited to less than 10 tons per year (tpy) of a single HAP and less than 25 tpy of total HAP. Consequently, the fire pump engine is classified as an existing stationary engine under 300 hp located at an area source of HAP and must comply with the following requirements:

¹ In a January 12, 2011 letter to Senator Jeff Merkley, EPA Administrator Lisa Jackson announced her decision to defer applicability of carbon dioxide emissions attributable to biomass and other biogenic sources from preconstruction permit requirements. The three year deferral was promulgated on July 20, 2011 (76 FR 43490). Due to the biogenic exemption, the CO₂ emissions from combusting biomass in a boiler are not counted toward PSD or Title V applicability.

- ❖ The engine identified above must comply with the applicable requirements of NESHAP ZZZZ before May 3rd, 2013. [40 CFR 63.6595(a)]
- ❖ The permittee shall change the oil and filter every 500 hours of operation or annually, whichever comes first or at a frequency determined by an oil sample and analysis program as follows:
 - Sample and analyze the oil annually or every 500 hours of operation, whichever comes first to determine total base number, viscosity and water content by volume.
 - If one or more of the following condemning limits for these parameters is exceeded then the permittee is required to change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation then the permittee must change the oil within 2 days of receiving the results or before commencing operation, whichever is later.
 - Total Base Number is less than 30% of the Total Base Number when the oil is new.
 - Viscosity of the oil has changed by more than 20% from the viscosity of the oil when new.
 - Percent Water Content (by volume) is greater than 0.5.
 - The permittee must keep records of the oil analysis results and the oil and filter changes for the engine. [40 CFR 63.6603 Table 2d, 63.6625(i)]
- ❖ The permittee shall inspect air cleaners every 1,000 hours of operation or annually, whichever comes first. [40 CFR 63.6603 Table 2d]
- ❖ The permittee shall inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. [40 CFR 63.6603 Table 2d]
- ❖ The permittee must operate and maintain the stationary RICE according to the manufacturer's emission-related written instructions or develop their own maintenance plan which must ensure, to the extent practicable, the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. [40 CFR 63.6625(e)]
- ❖ The permittee must minimize the engine's time spent at idle and at startup to a period needed for appropriate and safe loading, not to exceed 30 minutes, after which time the non-startup emission limitations apply. [40 CFR 63.6625(h)]
- ❖ The permittee must be in compliance with the preceding management practice standards at all times as well as maintaining and operating any affected source in a manner consistent with safety and good air pollution control. [40 CFR 63.6605(a-b)]
- ❖ The permittee must demonstrate compliance with the preceding management practice standards by operating and maintaining the stationary RICE according to the manufacturer's emission-related instructions or by developing and following their own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice. [40 CFR 63.6640(a), Table 6]
- ❖ The permittee must report each instance of deviation from the management practice standards. [40 CFR 63.6640(b)]

- ❖ Each instance in which the unit did not meet the requirements of the applicable general provisions listed in Table 8 of this subpart must be recorded. [40 CFR 63.6640(e)]
- ❖ If the permittee follows their own maintenance plan rather than the manufacturer's written instructions they must keep records of maintenance conducted on the stationary RICE. [40 CFR 63.6655(e)]
- ❖ The permittee is subject to the General Requirements provided in Table 8 except for the notification requirements of 63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), and 63.9(b)-(e), (g) and (h). [40 CFR 63.6665, 63.6645(a)(5)]

4.3 BOILER

Table 4-1 contains a summary of the requirements that apply to the Wellons Hog Fuel Boiler, Boiler1.

Table 4-1 Boiler Applicable Regulations Summary

Citation	Requirement	Monitoring and Recordkeeping Requirements	Reporting Requirement
PTC P-050214 3.3	PM ₁₀ emissions do not exceed 6.6 lbs/hr	PTC P-050214 2.11, 2.12, 3.3, 3.8, 3.9, 3.11 3.12, 3.13, 3.14	PTC P-050214 2.11, 2.13, 3.15, 3.16, 5.6, 40CFR64.9
PTC P-050214 3.4 NSPS Subpart Db: 40CFR60.43b(c)(1)	PM emissions do not exceed 0.1 lbs/MMbtu heat input	PTC P-050214 2.11, 3.4, 3.8, 3.9, 3.12, 3.13, 3.14	PTC P-050214 2.11, 2.13, 3.15, 3.16, 5.6, IDAPA 5801.01.389.04, 40CFR64.9
PTC P-050214 2.14 IDAPA 58.01.01.676 NSPS Subpart Db: 40CFR60.43b	PM emissions do not exceed 0.08 gr/dscf	PTC P-050214 2.12, 2.14, 3.8, 3.9, 3.11, 3.12, 3.13, 3.14, 4.9	PTC P-050214 2.11, 2.13, 3.15, 3.16, 5.6, 40CFR64.9
PTC P-050214 2.7, 3.5 IDAPA 58.01.01.625 NSPS Subpart Db 40CFR60.43b(f)	20% opacity for any 6-minute period, or any aggregated 3 minutes in an hour	PTC P-050214 2.8, 2.12, 3.8, 3.9, 3.14	PTC P-050214 2.9, 2.13
PTC P-050214 3.7	1.92 million pounds steam per hour	PTC P-050214 2.12, 3.10	
40CFR64	Compliance Assurance Monitoring (CAM)	IDAPA 58.01.01.107.03.j	IDAPA 58.01.01.107.03.j

(For NSPS Subpart Db of 40CFR60 reference SOB TI-2007.0061 for clarification)

Boiler NESHAPs Requirements

EPA promulgated NESHAP for Area Sources: Industrial, Commercial, and Institutional Boilers (NESHAP Subpart JJJJJ) on March 21, 2011 and subsequently signed a notice of reconsideration of the rule on December 2, 2011. IFG's hog fuel-fired boiler is classified as an existing boiler designed to burn biomass/bio-based solid located at an area source of HAP and is therefore subject to work practice standards that include performing initial and subsequent tune-ups Due to the reconsideration of the rule, which will affect certain deadlines, and the lack of

qualified technicians to perform tune-ups, EPA has issued two No Action Assurance letters² saying that they will use their enforcement discretion to not enforce violations of conducting the annual tune up and submitting a notice of compliance (due March and July 2012 respectively). IFG has performed its initial tune-up and has submitted a notice of compliance for the boiler.

IFG's boiler is subject to the following NESHAP JJJJJ requirements:

- ❖ The permittee must conduct the initial tune-up no later than March 21, 2012 (EPA will not enforce violation of this deadline). [40 CFR 63.11196(a)]
- ❖ The permittee must conduct the energy assessment no later than March 21, 2014. [40 CFR 63.11196(a)]
- ❖ The permittee must conduct a tune-up of the boiler biennially. Each biennial tune-up specified must be conducted no more than 25 months after the previous tune-up. The management practices in Table 2 apply at all times. [40 CFR 63 Subpart JJJJJ Table 2, 63.11201(b),(d), 63.11223(a)]
- ❖ The permittee must conduct a one-time energy assessment performed by a qualified energy assessor. Must have a one-time energy assessment performed on the major source facility by a qualified energy assessor. The energy assessment must include:
 - A visual inspection of the boiler or process heater system.
 - An evaluation of operating characteristics of the facility, specifications of energy using systems, operating and maintenance procedures, and unusual operating constraints,
 - An inventory of major energy consuming systems,
 - A review of available architectural and engineering plans, facility operation and maintenance procedures and logs, and fuel usage,
 - A review of the facility's energy management practices and provide recommendations for improvements consistent with the definition of energy management practices,
 - A list of major energy conservation measures,
 - A list of the energy savings potential of the energy conservation measures identified, and
 - A comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments. [40 CFR 63 Subpart JJJJJ, Table 2]
- ❖ The permittee must operate and maintain the unit in a manner consistent with safety and good air pollution control practices for minimizing emissions. [40 CFR 63.11205(a)]
- ❖ The permittee must demonstrate initial compliance with the work practice standard and management practice above by the dates listed above. [40 CFR 63.11210(c)]
- ❖ The permittee must conduct a tune-up and submit a signed statement in the Notification of Compliance Status report that indicates that the tune-up has been completed. [40 CFR 63.11214(b)]
- ❖ The permittee must submit a signed certification in the Notification of Compliance Status report that indicates that an energy assessment of the boiler and energy use system has been completed and submit, upon request, the energy assessment report. [40 CFR 63.11214(c)]

² The EPA issued a No Action Assurance Letter on March 31, 2012 to establish that they will exercise our enforcement discretion to not pursue enforcement action for violations of the initial tune-up deadlines in the final Area Source Boiler rule. On July 18, 2012, EPA extended the March 13, 2012 No Action Assurance to apply to the deadline for submitting the Notification of Compliance Status regarding initial tune-ups in the final Area Source Boiler rule. The EPA also amended the expiration date of the No Action Assurance so that it will run until either the final reconsideration rule is issued and becomes effective or to December 31, 2012.

- ❖ The permittee must conduct a tune-up of the boiler or process heater biennially to demonstrate continuous compliance as follows:
 - As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may delay the burner inspection until the next scheduled unit shutdown, but you must inspect each burner at least once every 36 months);
 - Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available;
 - Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly;
 - Optimize total emissions of carbon monoxide. This optimization should be consistent with the manufacturer's specifications, if available;
 - Measure the concentrations in the effluent stream of carbon monoxide in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made); and
 - Maintain on-site and submit, if requested by the Administrator, a biennial report containing the following information:
 - The concentrations of carbon monoxide in the effluent stream in parts per million by volume, and oxygen in volume percent, measured before and after the adjustments of the boiler;
 - A description of any corrective actions taken as a part of the combustion adjustment; and
 - The type and amount of fuel used over the 12 months prior to the biennial tune-up.
 - If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within one week of startup. [40 CFR 63.11223(b)]
- ❖ The permittee must submit an initial notification as specified in §63.9(b)(2) not later than 120 days after May 20, 2011. [40 CFR 63.11225(a)(1)-(2)]
- ❖ The permittee must submit a Notification of Compliance Status in accordance with 40 CFR 63.9(h) no later than 120 days after the applicable compliance dates for tune-ups and energy assessment listed above (EPA will not enforce violation of this deadline). In addition to the information required in 40 CFR 63.9(h)(2) the notification must include the following statements, as applicable:
 - “This facility complies with the requirements in §63.11214 to conduct an initial tune-up of the boiler.”
 - “This facility has had an energy assessment performed according to §63.11214(c).” [40 CFR 63.11225(a)(4)]
- ❖ The permittee must prepare by March 1 of every other year, and submit to the delegated authority upon request, a biennial compliance certification report. If there are any instances of deviations from applicable requirements during the reporting period, the permittee must submit the report by March 15. The report must include the following:
 - Company name and address.
 - Statement by a responsible official, with the official's name, title, phone number, e-mail address, and signature, certifying the truth, accuracy and completeness of the notification and a statement of whether the source has complied with all the relevant standards and other requirements of this subpart.

- If the source experiences any deviations from the applicable requirements during the reporting period, include a description of deviations, the time periods during which the deviations occurred, and the corrective actions taken. [40 CFR 63.11225(b)]
- ❖ The permittee must keep the following records:
 - Copies of each notification and report submitted to comply with this subpart and all documentation supporting any Initial Notification or Notification of Compliance Status.
 - Records of the date of each tune-up, the procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned.
 - Records documenting the fuel type used monthly, including, but not limited to, a description of the fuel, including whether the fuel has received a non-waste determination by you or EPA, and the total fuel usage amount with units of measure.
 - Records of the occurrence and duration of each malfunction of the boiler, or of the associated air pollution control and monitoring equipment.
 - Records of actions taken during periods of malfunction to minimize emissions in accordance with the general duty to minimize emissions in §63.11205(a), including corrective actions to restore the malfunctioning boiler, air pollution control, or monitoring equipment to its normal or usual manner of operation. [40 CFR 63.11225(c)]
- ❖ Records must be in a form suitable and readily available for expeditious review. Records must be kept for 5 years, two of which must be on-site. Records may be kept off-site for the remaining three years. [40 CFR 63.11225(d)]
- ❖ If the permittee intends to commence or recommence combustion of solid waste, you must provide 30 days prior notice of the date upon which you will commence or recommence combustion of solid waste. The notification must identify:
 - The name of the owner or operator of the affected source, the location of the source, the boiler(s) or process heater(s) that will commence burning solid waste, and the date of the notice.
 - The currently applicable subcategory under this subpart.
 - The date on which you became subject to the currently applicable emission limits.
 - The date upon which you will commence combusting solid waste. [40 CFR 63.11225(f)]
- ❖ If you intend to switch fuels, and this fuel switch may result in the applicability of a different subcategory, you must provide 30 days prior notice of the date upon which you will switch fuels. The notification must identify:
 - The name of the owner or operator of the affected source, the location of the source, the boiler(s) that will switch fuels, and the date of the notice.
 - The currently applicable subcategory under this subpart.
 - The date on which you became subject to the currently applicable standards.
 - The date upon which you will commence the fuel switch. [40 CFR 63.11225(g)]
- ❖ The permittee may assert affirmative defense to a claim for civil penalties for exceeding the emission and operating standards listed above, according to the procedures listed in § 63.11226
- ❖ The permittee must comply with the General Provisions provided in Table 8 of Subpart JJJJJJ. [40 CFR 63.11235]

4.4 DRY KILNS 1-5

Table 4-2 summarizes requirements that apply to the five dry kilns cumulatively.

Table 4-2 Dry Kiln Applicable Regulations Summary

Citation	Requirement	Monitoring and Recordkeeping Requirements	Reporting requirement
PTC P-050214 4.4	Kiln formaldehyde emissions remain below 714 lbs/yr	PTC P-050214 2.12, 4.10	
PTC P-050214 4.5	Kiln throughput shall not exceed 250MMbf per any rolling 12-month period	PTC P-050214 2.12, 4.11	

4.5 FACILITY MATERIALS HANDLING EQUIPMENT (CYCLONES & BAGHOUSES)

Table 4-3 summarizes requirements that apply to cyclones CY-11 and CY-72.

Table 4-3 Cyclone and Baghouse Applicable Regulations Summary

Citation	Requirement	Monitoring and Recordkeeping Requirements	Reporting requirement
PTC P-050214 4.6, 4.7, 5.2	Install and operate baghouse to effectively control emissions from CY-11 and CY-72	PTC P-050214 2.12, 4.6.1, 4.12, 4.13	PTC P-050214 2.9, 2.13

4.6 FACILITY-WIDE EMISSION LIMITS

Table 4-7 contains a summary of the requirements that apply facility-wide.

Table 4-7 Facility-wide Applicable Regulations Summary

Citation	Requirement	Monitoring and Recordkeeping Requirements	Reporting requirement
PTC P-050214 4.3.1	Methanol emissions remain below 10 tons/yr	PTC P-050214 2.12, 4.8	
PTC P-050214 4.3.2	Facility-wide HAP emissions remain below 25 tons/yr	PTC P-050214 2.12, 4.9	
PTC P-050214 2.1 IDAPA 58.01.01.650-651	Reasonably control fugitive dust	PTC P-050214 2.2, 2.3, 2.4	PTC P-050214 2.9, 2.13
PTC P-050214 2.5	Do not allow or cause odors in quantity to represent air pollution	PTC P-050214 2.6, 2.12	
PTC P-050214 2.7 IDAPA 58.01.01.625	20% opacity for any 6-minute period, or any aggregated 3 minutes in an hour	PTC P-050214 2.8, 2.12	PTC P-050214 2.9, 2.13
PTC P-050214 2.9 IDAPA 58.01.01.130 - 136	Comply with IDAPA Excess Emissions rules and regulations	PTC P-050214 IDAPA 58.01.01.133-136	PTC P-050214 2.12, 2.13 IDAPA 58.01.01.133-136
PTC P-050214 2.10 IDAPA 58.01.01.600 - 616	No Open Burning		

4.7 INSIGNIFICANT ACTIVITIES

Activities and mission units insignificant under IDAPA 58.01.01.317.01, to be listed in the Tier 1 Operating Permit to qualify for a permit shield are included in Table 4-8.

We request to add a chipping operation that historically we have performed on a semi-annual basis. Throughout the year we generate wood debris that we store in a pile to the north of our Boiler. Annually, we have a contractor come onsite with a mobile chipper, chip the wood debris pile, and haul it off as hog fuel. This process lasts between one and three weeks historically. In the future we may perform this with Idaho Forest Group equipment and employees but currently we bring a contractor in to perform the work.

Table 4-8 Insignificant Activities

Description	IDAPA 58.01.01.317.01 Citation
Boiler relief valve(s)	a.1.77
Boiler blowdown	a.i.80
All facility fuel and volatile storage and transfer operations	b.i.1, 2
Any onsite welding	b.i.9
Painting or coating applications	b.i.17, 25
Kerosene, natural gas, or propane space heaters under 5MMBtu	b.i.18
Parts cleaning	b.i.26
All other facility fugitives emission sources, including: facility vehicle traffic, sawing, conveyors, transfer sources, storage sources, debarking, screening, hog, log watering system, and associated sources	b.i.30

5.0 EMISSIONS INFORMATION AND DOCUMENTATION

Facility-wide emission inventory summary is presented in Table 5-1 and presented in more detail in Appendix B.

Discussions with IDEQ permitting engineers and permitting managers during PTC application preparation and IDEQ's Statement of Basis (SOB) for current the facility PTC(s) verified that IDEQ concurs that as long as transfers from conveyors are quantified as transfer emissions, no emissions will occur or need to be quantified from the conveyors themselves, except those whose sides are insufficient to keep all transported material well away from wind. The emissions from those few conveyors with sides insufficient to eliminate wind erosion of materials being transported are quantified in the emission inventory and included in the summary tables in this section. Storage emissions quantified are limited to the ash hopper, the log yard waste pile and the Wood Debris Management Area. The latter two have no enclosures, but contain mostly large, moist material. All other storage bins are sealed, and have no emissions other than the transfers into and out of them. All drops onto and from conveyors are identified as transfer points. Emission calculations are provided for the more than 40 transfer points, some of which have little or no emissions because any potential emissions are physically contained.

All facility cyclones are considered process equipment rather than pollution control equipment because they all separate out materials that are directly used as boiler fuel or saleable products, or are subsequently processed into boiler fuel or saleable products.

All emission rates and documentation of the derivation of emission factors, emission calculations, and emission control efficiencies are included in the detailed emission inventory in Appendix B. Manufacturer's specifications for the boiler, including HAP emissions per MMBtu/hr, are also in the Emission Inventory in Appendix B.

PTE emission calculations are based upon a material balance of wood products incorporating mass conservation at full permitted facility capacity (maximum facility input and maximum output volumes balance, with throughput at intermittent processes consistent with the facility-wide balance). As noted that material balance was refined slightly since operations have begun to reflect actual throughputs while maintaining conservation of mass. As noted, all changes from PTC PTE calculations result only in a small net decrease in fugitive emissions. PTC permit limits on HAP emissions from the dry kiln and boiler and tracking to verify emissions stay below the HAP major source threshold ensure that the Potential to Emit (PTE) and actual emissions do not exceed the major source threshold for HAPs.

Table 5-1 Potential Emissions Under the Tier 1 Operating Permit

	Source	PM (ton/yr)	PM 10 (tons/yr)	PM 2.5 (tons/yr)	VOC's (tons/yr)	SO 2 (tons/yr)	CO (tons/yr)	NOx (tons/yr)	Lead (tons/yr)	HAPs (tons/yr)
Point	Boiler	59	29	26	25	13	101	127	0.02	19
Point	CY11 (BAGHOUSE)	0.040	0.040	0.022	NA	NA	NA	NA	NA	NA
Point	CY12	2.63	2.10	1.17	NA	NA	NA	NA	NA	NA
Point	CY41	0.003	0.002	0.001	NA	NA	NA	NA	NA	NA
Point	CY71	1.15	0.58	0.32	NA	NA	NA	NA	NA	NA
Point	CY72 (BAGHOUSE)	0.04	0.04	0.02	NA	NA	NA	NA	NA	NA
Point	CY73	2.68	1.34	0.75	NA	NA	NA	NA	NA	NA
Point	CY74	0.37	0.30	0.17	NA	NA	NA	NA	NA	NA
Point	CY75	0.47	0.37	0.21	NA	NA	NA	NA	NA	NA
Point	Kilns	6	6	6	175.00	NA	NA	NA	NA	17.4
Point	Fire Water Pump	0.00	0.00	0.00	0.00	0.00	0.02	0.58	0.00	0.24
Point	Exempt Waste Oil Heater	1.19	1.52	1.11	0.01	16.01	0.03	0.24	0.41	0.00
	SUBTOTALS	75	41	36	200	29	101	128	0.4	37
Fugitive	Other Processes (sawing, ...)	2.6	1.36	0.76	NA	NA	NA	NA	NA	NA
Fugitive	Transfer - Drops, Conveyors	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA
Fugitive	Storage	0.08	0.00	0.00	0.004	NA	NA	NA	NA	NA
Fugitive	Vehicle Traffic	48.59	8.21	1.65	NA	NA	NA	NA	NA	NA
	TOTALS	126	51	39	200	29	101	128	0.4	37

Greenhouse Gas Emissions

The Wellons hog fuel boiler combusts exclusively solid biomass fuel, and has a maximum heat input of approximately 116 million British thermal units per hour (MMBtu/hr), based on a maximum steam rate of 80,000 pounds per hour (lb/hr), a steam energy content of 995 Btu/lb, and an assumed boiler efficiency of 68.8 percent. GHG emission factors for carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O) were obtained from Tables C-1 and C-2 of the Federal Mandatory GHG Reporting Rule (40 CFR Part 98). All greenhouse gas emissions are converted to carbon dioxide equivalents (CO₂e) based on global warming potentials (GWP) for each greenhouse gas: CO₂ = 1; CH₄ = 21; and N₂O = 310.

Table 1 summarizes the calculations and shows that the boiler has the potential to generate a maximum of approximately 107,000 tons of carbon dioxide equivalent (CO₂e) per year.

Table 5-2 Greenhouse Gas Energy Output Emission Rate Calculations

Pollutant	Emission Factor (Heat Input) ¹		Global Warming Potential ²	Emission Rate ³	
	(kg/MMBtu)	(lb/MMBtu)		(lb/hr)	(tpy)
CO ₂	93.8	207	1	23,925	104,793
CH ₄	3.20E-02	0.0705	21	8.16	35.8
N ₂ O	4.20E-03	0.00926	310	1.07	4.69
CO ₂ e	--	--	--	24,429	106,998

1 The kg/MMBtu emission factors for combustion of wood and wood residual solid biomass fuel are from 40 CFR Part 98, Tables C-1 and C-2; the lb/MMBtu emission factors are calculated by converting the kg/MMBtu emission factors using 2.2046 lb/kg.

2 100-year time horizon global warming potential (GWP – from 40 CFR Part 98, Table A-1).

3 Calculated by multiplying the emission factor by the maximum heat input (116 MMBtu/hr). CO₂e was calculated by multiplying each individual emission rate by the applicable GWP factor, and summing.

6.0 COMPLIANCE ASSURANCE MONITORING (CAM) PLAN

The facility Compliance Assurance Monitoring (CAM) plan is shown starting on the next page. The CAM Plan has been review and accepted by IDEQ's Lewiston Field Office, whose territory includes the area the facility is located in.

Idaho Forest Group, Grangeville facility Compliance Assurance Monitoring (CAM) Plan

Applicability:

IDAPA 58.01.01 and US Environmental Protection Agency (EPA) 40 CFR 64 regulations require a pollutant specific Compliance Assurance Plan for each emission unit with emission controls at any Title V facility that has the potential to exceed the major source emissions threshold without emission controls. There are only two emission sources at the Idaho Forest Group – Grangeville facility that have the potential to emit any pollutant at the major source threshold: the emissions from the hog-fuel Boiler, and dry kiln emissions from the facility's five dry kilns. All other facility emission controls are on processes that do not have the potential to emit 100 tons per year of any pollutant, or any HAP at major source threshold levels, without controls.

The facility kilns are very conservatively estimated to have the potential to emit one pollutant, VOCs, at greater than the 100 ton per year major source threshold. CAM does not apply to the facility kilns because they do not have emission controls (as defined in 40CFR64.1) for VOCs.

The waste oil space heater's uncontrolled emissions do not approach 100 tons per year. Of the facility's eight cyclones, two have emission controls. The potential emissions for those two, cyclone 11 and cyclone 72 without their baghouses, does not approach 100 tons per year. CAM does not apply to these emission sources because the two that have emission controls do not have the potential to emit 100 tons per year of any pollutant without controls (see appendix B, materials handling).

The uncontrolled potential to emit for the facility's boiler exceeds 100 tons per year for Title V pollutants NO_x, CO, and PM-10. The boiler's emission control equipment, a multi-clone and Wellons electrostatic precipitator (ESP), control only PM-10.

Therefore, consistent with 40CFR64.2, CAM's pollutant specific emission unit requirements apply to the boiler system's PM-10 emissions, but to no other boiler pollutant emissions, nor at any other emission unit at the facility.

Measures to ensure 40CFR64 CAM Plan requirements are met:

The facility meets 40CFR64 CAM requirements for particulate emissions from the facility's boiler in the following manner:

The primary method Idaho Forest Group uses to demonstrate compliance with particulate emission limits is operating the facility's continuous opacity monitoring system (COMS) consistent with the requirements our current Permit TI-2008.0203, documenting compliance with federal and state opacity limits (and the federal and state citations included there). As per 40CFR64.3(d), the use of a COMS that satisfies the NSR and NSPS requirements listed in 40CFR64.3(d)(2), which states a facility can use such system to satisfy the CAM requirements of 40CFR64.

The opacity standards in our current Permit Ti-2008.0203 will be used to satisfy 40CFR64.3d. Specifically, opacity readings of over 20% for a six-minute average (except for an isolated six minute period in an hour of up to 27% opacity) or an aggregated maximum three minutes in an hour over 20% opacity will serve as an indicator of excess particulate emissions.

Three other monitoring methods will serve as indicators to avoid the potential for excess particulate emissions and/or verify their existence:

- Idaho Forest Group will perform source tests at intervals specified in the current Permit TI-2008.0203
- The ESP emission control device will be operated consistent with the O&M manual IDEQ reviewed and approved, manufacturer's specifications, and IDEQ permit requirements from current Permit TI-2008.0203
- Documentation will be maintained consistent with IDEQ permit requirements from current Permit TI-2008.0203

The Statement of Basis for PTC P-050214 documents that these methods will ensure compliance with the pollutant specific particulate emissions from the facility's boiler.

Control equipment operational data during the facility's June 8, 2011 source test was reported to IDEQ in the source test report, meeting 40CFR64.4(c)(1).

No changes in pollutant specific monitoring methodologies or operational data reported during that source test have occurred, nor are any anticipated. Any such changes will be reported to IDEQ as per 40CFR64.4(c)(2) in the form of a renewed facility CAM plan.

Idaho Forest Group will submit semi-annual and annual CAM Monitoring reports on IDEQ AQ-C forms to meet 40CFR64.9 reporting requirements.

Idaho Forest Group is requesting the removal of sparking rate tracking from the Boiler ESP. The sparking rate data does not help in determining the effectiveness of the ESP.

Appendix A

Operating Permit Application Completeness Checklist



Tier I Operating Permit Application Completeness Checklist

This checklist identifies the majority of the information required for a Tier I operating permit application. DEQ's completeness determination will be made upon its review of the submitted application materials.

1. **General Facility Information**

Complete and sign the Tier I Application and General Information Cover Sheet (Form T1GI/CS)

2. **Applicable Equipment-Specific Application Forms**

Complete all applicable equipment-specific applications forms. The application forms listed below are available on DEQ's website at http://www.deq.idaho.gov/air/permits_forms/forms/forms.cfm#forms

Control Devices

- Form AO (Afterburner/Oxidizer)
- Form CA (Carbon Absorber)
- Form CYS (Cyclone Separator)
- Form ESP (Electrostatic Precipitator)
- Form BCE (Baghouse Control Equipment)
- Form SCE (Scrubber Control Equipment)
- Form VSCE (Venturi Scrubber Control Equipment)

Industrial Category Specific

- Form EU2 (Nonmetallic Mineral Processing Plant – fugitive dust only)
- Form HMAP (Hot-mix Asphalt Plant)
- Form CPB (Concrete Batch Plant)

Emissions Unit Specific

- Form EU0 (General Emissions Unit)
- Form EU1 (Industrial Engine)
- Form EU3 (Spray Paint Booth)
- Form EU4 (Cooling Towers)
- Form EU5 (Boilers)

Compliance Assurance Monitoring

- Form CAM (Compliance Assurance Monitoring). Refer to 40 CFR 64

Emissions Inventory

- Forms EI-CP (1 – 4) (Emissions Inventory Workbook)

Other Applicability Forms

- Form T1GI/CS (Tier I Operating Permit Application General Information Cover Sheet)
- Form FRA (Federal Requirements Applicability)

3. **Additional Required Information not Cover by Equipment-Specific Forms**

For equipment that is not covered by any of the above equipment-specific forms, the following applicable data are required.

- Plot Plan - Equipment Location Drawing - Equipment Description - Fuel and Burners Used
- Operating Schedule - Process Description - Process Flow Diagram - Process Rate
- Material Safety Data Sheets (MSDS) - Other data needed to process application

4. **Applicable Requirements**

Cite and describe all applicable requirements affecting each emissions unit. Describe or reference all methods required by each applicable requirement for determining the compliance status of the emissions unit with the applicable requirement, including any applicable monitoring, recordkeeping and reporting requirements or test methods.

5. **Proposed Determination of Non-applicability**

Identify requirements for which the applicant seeks a determination of non-applicability and provide an explanation of why the requirement is not applicable to the Tier I source.

6. **Alternative Operating Scenarios**

Identify all requested alternative operating scenarios. Provide a detailed description of all requested alternative operating scenarios. Include all the information required by Section 314 that is relevant to the alternative operating scenario.

N/A



Tier I Operating Permit Application Completeness Checklist

7. Compliance Certifications



Provide a compliance certification regarding the compliance status of each emissions unit at the time the application is submitted to the DEQ that:

- Identifies all applicable requirements affecting each emissions unit.
- Certifies the compliance status of each emissions unit with each of the applicable requirements.
- Provides a detailed description of the method(s) used for determining the compliance status of each emissions unit with each applicable requirement, including a description of any monitoring, recordkeeping, reporting and test methods that were used. Also provide a detailed description of the method(s) required for determining compliance.
- Certifies the compliance status of the emissions unit with any applicable enhanced monitoring requirements.
- Certifies the compliance status of the emissions unit with any applicable enhanced compliance certification requirements.
- Provides all other information necessary to determining the compliance status of the emissions unit.
- Provide a schedule for submission of compliance certifications during the term of the Tier I operating permit. The schedule shall require compliance certifications to be submitted no less frequently than annually or more frequently if specified by the underlying applicable requirement or by the DEQ.

8. Compliance Plans



Provide a compliance description as follows:

- For each applicable requirement with which the emissions unit is in compliance, state that the emissions unit will continue to comply with the applicable requirement.
- For each applicable requirement that will become effective during the term of the Tier I operating permit that does not contain a more detailed schedule, state that the emissions unit will meet the applicable requirement on a timely basis.
- For each applicable requirement that will become effective during the term of the Tier I operating permit that contains a more detailed schedule, state that the emissions unit will comply with the applicable requirement on the schedule provided in the applicable requirement.
- For each applicable requirement with which the emission unit is not in compliance, state that the emissions unit will be in compliance with the applicable requirement by the time the Tier I operating permit is issued or provide a compliance schedule in accordance with Subsection 314.10.b.



All compliance schedules shall:

- Include a schedule of remedial measures leading to compliance, including an enforceable sequence of actions and specific dates for achieving milestones and achieving compliance.
- Incorporate the terms and conditions of any applicable consent order, judicial order, judicial consent decree, administrative order, settlement agreement or judgment.
- Be supplemental to, and shall not sanction noncompliance with, the applicable requirements on which it is based.
- Provide a schedule for submission to the DEQ of periodic progress reports no less frequently than every six (6) months or at a more frequent period if one (1) is specified in the underlying applicable requirement or by the DEQ.

N/A

9. Trading Scenarios



Identify all requested trading scenarios, including alternative emissions limits (bubbles) authorized by Section 440.



Provide a detailed description of all requested trading scenarios. Include all the information required by Section 314 that is relevant to the trading scenario and all the information required by Section 440, if applicable. Emissions trades must comply with all applicable requirements.



Provide proposed replicable procedures and permit terms that ensure the emissions trades are quantifiable and enforceable. Emissions trades involving emissions units for which the emissions are not quantifiable or for which there are no replicable procedures to enforce the emissions trade shall not be approved.



Tier I Operating Permit Application Completeness Checklist

10. Insignificant Activities Based on Size or Production Rate

Provide a list of units or activities that are insignificant on the basis of size or production rate. Refer to IDAPA 58.01.01.317.01.b and 40 CFR 70.5(c).

11. Acid Rain Program Requirements

N/A

For any affected units subject to the Acid Rain Program pursuant to 40 CFR 72.6, submit an Acid Rain Permit Application in accordance with 40 CFR 72, Subpart C.

12. Permit Shield Request

A Tier I operating permit with a permit shield will identify rules that do not apply, and state that compliance with all conditions of the permit will be considered as compliance with all regulatory requirements in effect as of the date of permit issuance. A requirement identified in the permit as non-applicable is not enforceable by EPA, DEQ, or citizens. If a permit shield is being sought, describe the regulatory requirement that the facility is requesting a shield for and cite the rule reference and date of the rule version (e.g. IDAPA 58.01.01.860, 04/05/2000); explain the reason(s) for requesting a permit shield for each regulatory requirement; and indicate the length of time over which the permit shield should last.

13. Certification of Documents

All documents, including but not limited to, application forms for permits to construct, application forms for operating permits, progress reports, records, monitoring data, supporting information, requests for confidential treatment, testing reports or compliance certifications submitted to the DEQ shall contain a certification by a responsible official. The certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. Refer to IDAPA 58.01.01.123.

14. DEQ Mailing Address

Submit the certified Tier I operating permit application to the following address:

Department of Environmental Quality
Air Quality Division
Stationary Source Program Office
1410 North Hilton
Boise, ID 83706-1255

APPENDIX B

Facility-Wide Emissions Inventory

**Each worksheet on the spreadsheet includes:
the emission inventory for potential emissions under the Operating Permit**

INTRODUCTION

The thru-put quantities for the sawmill in original PTC applications are those quantities developed by a sawmill simulation computer program developed by Halco Software Systems of Vancouver, British Columbia, Canada. This program has industry wide acceptance for reliability in simulation of actual sawmill thru-puts.

MOISTURE CONTENT CONVERSION FORMULA'S

Green ton = Bone dry ton divided by (1- Moisture content).

Bone Dry ton = Green ton times (1-Moisture content).

LOG – PRODUCTION ASSUMPTIONS

- Log consumption each year will be 120,000,000 Bd Ft, **LOGSCALE**
- 24,000 loads/year (5000 Bd Ft Log Scale/load). Average loads per day = 96 on 250 day/year operating schedule.
- Log yard will operate, 5 days/week, 18 hours/day. Will receive log trucks 8 – 16 hours/day depending on time of year and weather.

LOGYARD

Water truck will be used anytime dust is visible.

Incoming log trucks will average 5000 bf/load, 58,000 lbs payload with 28,000 lb empty weight, running on an average of 22 wheels.

Unloading and handling of each load will require an average of 800' of machine travel each way per load (1600' round trip), multiplied by the number of "bites" or trips required for a given machine to pack the 58,000 lb load.

LOG WATERING

Storage decks are watered during summer and fall.

EMISSION CONTROL ON PAVED SURFACES

-A sweeper unit or water spray is utilized after snow melt and during the dry season whenever dirt or dust is visible on paved surfaces.

SAWMILL – LUMBER PRODUCTION

- Sawmill will produce up to 250,000,000 BdFt of lumber each year, LUMBER SCALE (This is rough, green lumber before trim losses at the planer.)

- Average unit of lumber out of the sawmill will be 12' long and will contain 4800 Bd' and will weigh 14,000 pounds. Unit will be 22 courses high.

- Forklifts will carry one unit/trip from the sawmill to the kiln/storage yard.

- Moisture content of incoming logs/lumber 47%

DRY KILN ASSUMPTIONS

- Dry Kilns are 88' long and all are double track units. Each kiln charge will average 82 feet long and will contain up to 196,800 Bd Ft of lumber per charge. 1271 Charges/year.

- Forklifts will carry 1 ½ units per trip from the kilns to the planer infeed or storage area, on paved surfaces.

- Moisture content of lumber leaving the kilns – 19%

- Vents on Kiln #1 (kiln on west side) are 22' - 6" above the ground and have 74 Sq Ft of vent area.

- Vents on Kiln #2 and #3 are 22' – 9" above ground and have 67.3 Sq Ft of vent area on each kiln.

- Vents on Kilns #4 and #5 are 22' above ground and have 98 SqFt of vent area.

BOILER

- Moisture content of boiler fuel/hog fuel – 47%

- Fuel consumed/year – $24/7/50 = 8400$ hours/year = 57,943 Bone Dry Tons/year, calculated from equipment capacity / max permitted steaming rate MMBtu production.

- Ash generated is approx. 1.05% of fuel weight = 609 BDT

PLANER

- Planer production calculated from material balance will be about 232,000,000 Bd. Ft. of lumber. (250 MMbf of rough, green lumber at sawmill yields 232 MMbf out of the planer.) Planer lift truck taking from packager will average 1 ½ units/trip on paved surfaces.

SHIPPING

- Shipping will handle 109,840 units of lumber per year. Average wt. per unit is 3600 lbs, based on a species weighted average of 1.65 lbs/bf. Lift trucks will average 1 ½ units per trip.

-3 forklifts will load units on trucks. Two truck loading zones are located in middle of storage yards. Forklifts will take all units to storage areas.

- Lumber truck will have about 35,000 Bd Ft of lumber on each load. This is 6,857 truck loads of lumber/year, or 27/10hr shift, hauling on an average of 22 wheels.

SOLID MATERIAL TRANSPORT, HANDLING, AND STORAGE

Note – 1 unit = 200 cu.ft.

- Truck Shavings bin – 32 units
- Truck Sawmill Chip bins – 207 units
- Truck sawdust bin - 47 units
- - Boiler fuel bins – 150 units
- Planer chips truck bin – 10 units

ROSEBUD

- Forklift travels 10' outside the building on loading dock to van body semi-trailers.

- Operation loads and ships an average of 2 (two) semi-trailer loads/day.

Rosebud receives shavings through pneumatic conveyor from Idaho Forest Group Planer. Very seldom Rosebud will purchase shavings from off-site sources. Off site shavings are trucked to site with live bottom, and unloaded in the storage building. 18 wheel trucks, 265 loads/year. Average net weight of the loads is 22,000#.

Caterpillar bucket loader is used inside enclosed bldg to move material. Storage building is enclosed.

STORAGE & HANDLING OF LIQUID SOLVENTS AND OTHER VOLATILES

- Diesel storage tanks – 2 diesel tanks, one 15,000 gallon capacity, and one 10,500 gallon capacity.

- Parts washer(s), using solvents stored onsite, 80 gallons throughput per year each.

- Lubricants and heavy oils, stored in drums in sawmill, planer, boiler and truck repair shop, supplied by vendor. Estimated onsite storage capacity 4690 gallons hydraulic fluid, 1064 gallons Saw Guide 150 lubricant, 1200 gallons used oil.

SPACE HEATING

That heater is in use from fall through spring, with a maximum fuel usage rate of 3.4 gallons per hour, and is vented consistent with the manufacturer's specifications from an external stack on the truck shop.

FACILITY-WIDE ANNUAL EMISSIONS (tons)

	Emission Unit	Particulate (ton/year)	PM 10 (ton/year)	PM 2.5 (ton/year)	VOC's (ton/year)	SO 2 (ton/year)	CO (ton/year)	NOx (ton/year)	Lead (ton/year)	HAPs (ton/year)
Point	Boiler	59	29	26	25	13	101	127	0.02	19
Point	CY11BH	0.0400	0.0400	0.0223	NA	NA	NA	NA	NA	NA
Point	CY12	2.63	2.10	1.17	NA	NA	NA	NA	NA	NA
Point	CY41	0.003	0.002	0.001	NA	NA	NA	NA	NA	NA
Point	CY71	1.15	0.58	0.32	NA	NA	NA	NA	NA	NA
Point	CY72BH	0.04	0.04	0.02	NA	NA	NA	NA	NA	NA
Point	CY73	2.68	1.34	0.75	NA	NA	NA	NA	NA	NA
Point	CY74	0.37	0.30	0.17	NA	NA	NA	NA	NA	NA
Point	CY75	0.47	0.37	0.21	NA	NA	NA	NA	NA	NA
Point	Kilns	6	6	6	175	NA	NA	NA	NA	17.4
Point	Fire Water Pump	0.00	0.00	0.00	0.00	0.00	0.02	0.58	0.00	0.08
Point	Exempt Waste Oil Heater	1.91	1.52	1.11	0.01	16.01	0.03	0.24	0.41	0.00
	Total Point Sources	75	41	36	200	29	101	128	0.4	37
Fugitive	Other Processes (sawing)	2.6	1.36	0.76	NA	NA	NA	NA	NA	NA
Fugitive	Transfer - Drops, Convey	0.0215	0.0075	0.0011	NA	NA	NA	NA	NA	NA
Fugitive	Storage	0.08	0.00	0.00	0.004	NA	NA	NA	NA	NA
Fugitive	Vehicle Traffic	48.59	8.21	1.65	NA	NA	NA	NA	NA	NA
	Facility Total	126	51	39	200	29	101	128	0.43	37

HAPS

	Boiler (ton/year)	Kiln (ton/year)	Firewater Pump (ton/year)	Waste Oil Heater (ton/year)
Acenaphthene	--	--	--	--
Acenaphthylene	--	--	--	--
Acetaldehyde	4.21E-01	9.75E-01	1.37E-03	--
Acetophenone	1.62E-06	--	--	--
Acrolein	2.03E+00	--	4.29E-04	--
Anthracene	--	--	--	--
Benzene	2.13E+00	--	4.23E-02	--
Bis-phthalate	2.38E-05	--	--	--
Carbon Tetrachloride	2.28E-02	--	--	--
Chlorine	4.01E-01	--	--	--
Chlorobenzene	1.67E-02	--	--	--
Chloroform	1.42E-02	--	--	--
2-Chlorophenol	--	--	--	--
Chrysene	--	--	--	--
2,4-Dinitrophenol	9.13E-05	--	--	--
Ethylbenzene	1.57E-02	--	--	--
Fluoranthene	--	--	--	--
Fluorene	--	--	--	--
Formaldehyde	2.23E+00	5.00E-01	4.30E-03	--
Hydrogen Chloride	9.63E+00	--	--	0.00E+00
Methanol	--	1.53E+01	--	--
Methyl Ethyl Ketone	--	1.63E-01	--	--
4-Nitrophenol	1.22E-04	--	--	--
Pentachlorobiphenol	2.59E-05	--	--	--
Napthalene	4.92E-02	--	7.09E-03	1.37E-06
Phenanthrene	--	--	--	--
Phenol	2.59E-02	5.00E-01	--	4.17E-07
Propanol	--	--	--	--
Propionaldehyde	3.09E-02	--	--	--
Propylene	--	--	--	--
Pyrene	--	--	--	--
Styrene	9.63E-01	--	--	--
2,3,7,8-Tetrachlorodibenzo p	4.36E-09	--	--	--
Toluene	4.66E-01	--	1.53E-02	--
2,4,6-Trichlorophenol	1.12E-05	--	--	--
Vinyl Chloride	9.13E-03	--	--	--
o-Xylene	1.27E-02	--	1.05E-02	--
Antimony	4.01E-03	--	--	6.70E-05
Arsenic	1.12E-02	--	--	8.94E-04
Beryllium	5.58E-04	--	--	2.68E-05
Cadmium	2.08E-03	--	--	1.79E-04
Chromium, total	1.06E-02	--	--	--
Cobalt	3.30E-03	--	--	7.74E-05
Lead	2.43E-02	--	--	--
Manganese	8.11E-01	--	--	7.45E-04
Mercury	1.77E-03	--	--	--
Nickel	1.67E-02	--	--	2.38E-03
Selenium	1.42E-03	--	--	0.00E+00
Total:	19.357	17.388	0.081	0.004

Assumptions in this Emission Inventory:

Assumptions and emission factors documented in the P-050214 10/05 PTC application emission inventory remain applicable (unless documented otherwise)

Boiler operating rates will remain unchanged at 80,000 lbs/hr max 24-hour and annual average

Sawmill, woodworking processes, and kiln throughput will remain consistent with a maximum of 250 MMbf/yr

Retain 250 MMbf kiln throughput assumption.

Retain requirement to track HAP emissions and show they remain below major source threshold of 25 tons/yr

Reduction in fugitive emissions from increase in mill paved road area

BOILER EMISSIONS

80,000 pph Boiler, Operated at
 final stack height is 71.5 ft

80000 lb steam/hr
 1,014,001 MMBtu/year

PTE here conservatively assumes full capacity boiler operations except for HAPs. HAPs will be controlled by annual facility limit which will actually reduce emissions of all pollutants

Pollutant	EF	EF Units	QTY	Units	tons/yr
CO	0.200	lb/MMBtu	1,014,001	MMBTU input	101
PM	0.100	lb/MMBtu	1,014,001	MMBTU input	51
PM10	0.040	lb/MMBtu	1,014,001	MMBTU input	20
PM2.5	0.035	lb/MMBtu	1,014,001	MMBTU input	18
Condensibles	0.017	lb/MMBtu	1,014,001	MMBTU input	9
VOC	0.050	lb/MMBtu	1,014,001	MMBTU input	25
NOx	0.250	lb/MMBtu	1,014,001	MMBTU input	127
SOx	0.025	lb/MMBtu	1,014,001	MMBTU input	13
Pb	0.000	lb/MMBtu	1,014,001	MMBTU input	0.02

EF References:

PARAMETER	EF	EF Units	REFERENCE
CO	0.200	lb/MMBTU input	Manufacturer predicted Emission levels
PM	0.100	lb/MMBTU input	Manufacturer predicted Emission levels
PM 10	0.040	lb/MMBTU input	AP-42 Table 1.6-1 Updated Sept 2003
PM2.5	0.035	lb/MMBTU input	AP-42 Table 1.6-1 Updated Sept 2003
Condensibles	0.017	lb/MMBTU input	AP-42 Table 1.6-1 Updated Sept 2003
VOC	0.05	lb/MMBTU input	Manufacturer predicted Emission levels
NOx	0.25	lb/MMBTU input	Manufacturer predicted Emission levels
SOx	0.025	lb/MMBTU input	AP-42 Table 1.6-2 Updated Sept 2003
Pb	0.000048	lb/MMBTU input	AP-42 Table 1.6-4 Dated 9/2003

the SO2 emission factor represents a correction from an inaccurate EF presented as manufacturer's specifications in PTC P-050214 application

Pollutant	Emission Factor * (lbs/unit)	Throughput	Units	All HAP Emissions (tons/yr)	EPA HAP Emissions (tons/yr)	Regs EL (lb/hr)	Regs EL (lb/hr)
Acenaphthylene	9.1E-07	1,014,001	mm BTU	4.6E-04		NA	NA
Acenaphthylene	5.0E-06	1,014,001	mm BTU	2.5E-03		NA	NA
Acetaldehyde	8.3E-04	1,014,001	mm BTU	4.2E-01	4.2E-01	NA	3.00E-03
Acetone	1.9E-04	1,014,001	mm BTU	9.6E-02		NA	NA
Acetophenone	3.2E-09	1,014,001	mm BTU	1.6E-06	1.6E-06	NA	NA
Acrolein	4.0E-03	1,014,001	mm BTU	2.0E+00	2.0E+00	1.70E-02	NA
Anthracene	3.0E-06	1,014,001	mm BTU	1.5E-03		NA	NA
Benzaldehyde	8.5E-07	1,014,001	mm BTU	4.3E-04		NA	NA
Benzene	4.2E-03	1,014,001	mm BTU	2.1E+00	2.1E+00	NA	8.40E-04
Benzo anthracene	6.5E-08	1,014,001	mm BTU	3.3E-05		NA	NA
Benzo a pyrene	2.6E-06	1,014,001	mm BTU	1.3E-03		NA	2.60E-06
Benzo b fluoranthene	1.7E-07	1,014,001	mm BTU	8.6E-05		NA	NA
Benzo e pyrene	2.6E-09	1,014,001	mm BTU	1.3E-06		NA	NA
Benzo g,h,i pyrene	9.3E-08	1,014,001	mm BTU	4.7E-05		NA	NA
Benzo j,k fluoranthene	1.6E-07	1,014,001	mm BTU	8.1E-05		NA	NA
Benzo k fluoranthene	3.6E-08	1,014,001	mm BTU	1.8E-05		NA	NA
Benzoic acid	4.7E-08	1,014,001	mm BTU	2.4E-05		NA	NA
Bis phthalate	4.7E-08	1,014,001	mm BTU	2.4E-05	2.4E-05	NA	2.80E-02
Bromomethane	1.5E-05	1,014,001	mm BTU	7.6E-03		NA	NA
2-Butanone (MEK)	5.4E-06	1,014,001	mm BTU	2.7E-03		39.3	NA
Carbazole	1.8E-06	1,014,001	mm BTU	9.1E-04		NA	NA
Carbon Tetrachloride	4.5E-05	1,014,001	mm BTU	2.3E-02	2.3E-02	NA	4.40E-04
Chlorine	7.9E-04	1,014,001	mm BTU	4.0E-01	4.0E-01	0.2	NA
Chlorobenzene	3.3E-05	1,014,001	mm BTU	1.7E-02	1.7E-02	23.3	NA
Chloroform	2.8E-05	1,014,001	mm BTU	1.4E-02	1.4E-02	NA	2.80E-04
Chloromethane	2.3E-05	1,014,001	mm BTU	1.2E-02		NA	NA
2-Chloronaphthalene	2.4E-09	1,014,001	mm BTU	1.2E-06		NA	NA
2-Chlorophenol	2.4E-08	1,014,001	mm BTU	1.2E-05		0.033	NA
Chlorophenol	3.8E-08	1,014,001	mm BTU	1.9E-05		NA	NA
Crotonaldehyde	9.9E-06	1,014,001	mm BTU	5.0E-03		0.38	NA
Decachlorobiphenyl	2.7E-10	1,014,001	mm BTU	1.4E-07		NA	NA
Dibenzo a,h anthracene	9.1E-09	1,014,001	mm BTU	4.6E-06		NA	NA
1,2-Dibromoethane	5.5E-05	1,014,001	mm BTU	2.8E-02		NA	NA
Dichlorobiphenyl	7.4E-10	1,014,001	mm BTU	3.8E-07		NA	NA
1,2 Dichloroethane	2.9E-05	1,014,001	mm BTU	1.5E-02		NA	2.50E-04
Dichloromethane	2.9E-04	1,014,001	mm BTU	1.5E-01		NA	1.60E-03
1,2- Dichloropropane	3.3E-05	1,014,001	mm BTU	1.7E-02		23.133	NA
2,4 -Dinitrophenol	1.8E-07	1,014,001	mm BTU	9.1E-05	9.1E-05	NA	NA
Ethylbenzene	3.1E-05	1,014,001	mm BTU	1.6E-02	1.6E-02	29	NA
Fluoranthene	1.6E-06	1,014,001	mm BTU	8.1E-04		NA	NA
Fluorene	3.4E-06	1,014,001	mm BTU	1.7E-03		1.33E-01	NA
Formaldehyde	4.4E-03	1,014,001	mm BTU	2.2E+00	2.2E+00	NA	5.10E-04
Heptachlorobiphenyl	6.6E-11	1,014,001	mm BTU	3.3E-08		NA	NA
Hexachlorobiphenyl	5.5E-10	1,014,001	mm BTU	2.8E-07		NA	NA
Haxanaol	7.0E-06	1,014,001	mm BTU	3.5E-03		NA	NA
Heptachlorodibenzeno p dioxin	2.0E-09	1,014,001	mm BTU	1.0E-06		NA	NA
Heptachlorodibenzeno p furan	2.4E-10	1,014,001	mm BTU	1.2E-07		NA	NA
Hexachlorodibenzeno p dioxin	1.6E-06	1,014,001	mm BTU	8.1E-04		NA	NA
Hexachlorodibenzeno p furans	2.8E-10	1,014,001	mm BTU	1.4E-07		NA	NA
Hydrogen Chloride	1.9E-02	1,014,001	mm BTU	9.6E+00	9.6E+00	0.05	NA
Indeno 123cd pyrene	8.7E-08	1,014,001	mm BTU	4.4E-05		NA	NA
isobutyaldehyde	1.2E-05	1,014,001	mm BTU	6.1E-03		NA	NA
Methane	1.2E-02	1,014,001	mm BTU	6.1E+00		NA	NA
2-Methylnapthalene	1.6E-07	1,014,001	mm BTU	8.1E-05		NA	NA
Monochlorobuphenyl	2.2E-10	1,014,001	mm BTU	1.1E-07		NA	NA
Napthalene	9.7E-05	1,014,001	mm BTU	4.9E-02	4.9E-02	3.33	NA
2-Nitrophenol	2.4E-07	1,014,001	mm BTU	1.2E-04		NA	NA
4-Nitrophenol	2.4E-07	1,014,001	mm BTU	1.2E-04	1.2E-04	NA	NA
Octachlorodibenzeno p dioxins	6.6E-08	1,014,001	mm BTU	3.3E-05		NA	NA
Octachlorodibenzeno p furans	8.8E-11	1,014,001	mm BTU	4.5E-08		NA	NA

Pentachlorodibenzeno p dioxin	1.5E-09	1,014,001	mm BTU	7.6E-07		NA	NA
Pentachlorodibenzeno p furan	4.2E-10	1,014,001	mm BTU	2.1E-07		NA	NA
1,2-Dichlorobiphenyl	1.2E-09	1,014,001	mm BTU	6.1E-07		NA	NA
1,2,4-Trichlorobiphenol	5.1E-08	1,014,001	mm BTU	2.6E-05	2.6E-05	NA	NA
Perylene	5.2E-10	1,014,001	mm BTU	2.6E-07		NA	NA
Napthalene	3.4E-07	1,014,001	mm BTU	1.7E-04		NA	NA
Phenanthrene	7.0E-06	1,014,001	mm BTU	3.5E-03		NA	NA
Phenol	5.1E-05	1,014,001	mm BTU	2.6E-02	2.6E-02	1.27E+00	NA
Propanol	3.2E-06	1,014,001	mm BTU	1.6E-03		NA	NA
Propionaldehyde	6.1E-05	1,014,001	mm BTU	3.1E-02	3.1E-02	0.0287	NA
Pyrene	3.7E-06	1,014,001	mm BTU	1.9E-03		NA	NA
Styrene	1.9E-03	1,014,001	mm BTU	9.6E-01	9.6E-01	6.67	NA
2,3,7,8 Tetrachlorodibenzo p d	8.6E-12	1,014,001	mm BTU	4.4E-09	4.4E-09	NA	1.50E-10
Tetrachlorodibenzo p dioxins	4.7E-10	1,014,001	mm BTU	2.4E-07		NA	NA
2,3,7,8 Tetrachlorodibenzo p f	9.0E-11	1,014,001	mm BTU	4.6E-08		NA	NA
Tetrachlorodibenzo p furans	7.5E-10	1,014,001	mm BTU	3.8E-07		NA	NA
Tetrachlorobiphenyl	2.5E-09	1,014,001	mm BTU	1.3E-06		NA	NA
Tetrachloroethane	3.8E-05	1,014,001	mm BTU	1.9E-02		NA	1.10E-05
o-Tolualdehyde	7.2E-06	1,014,001	mm BTU	3.7E-03		NA	NA
p-Tolualdehyde	1.1E-05	1,014,001	mm BTU	5.6E-03		NA	NA
Toluene	9.2E-04	1,014,001	mm BTU	4.7E-01	4.7E-01	25	NA
Trichlorobiphenyl	2.6E-09	1,014,001	mm BTU	1.3E-06		NA	NA
1,1,1 Trichlorethane	3.1E-05	1,014,001	mm BTU	1.6E-02		NA	NA
Trichloroethane	3.0E-05	1,014,001	mm BTU	1.5E-02		NA	NA
Trichlorofluoromethane	4.1E-05	1,014,001	mm BTU	2.1E-02		NA	NA
2,4,6 Trichlorophenol	2.2E-08	1,014,001	mm BTU	1.1E-05	1.1E-05	NA	NA
Vinyl Chloride	1.8E-05	1,014,001	mm BTU	9.1E-03	9.1E-03	NA	9.40E-04
o-Xylene	2.5E-05	1,014,001	mm BTU	1.3E-02	1.3E-02	29	NA
Antimony	7.9E-06	1,014,001	mm BTU	4.0E-03	4.0E-03	0.033	NA
Arsenic	2.2E-05	1,014,001	mm BTU	1.1E-02	1.1E-02	NA	1.50E-06
Barium	1.1E-06	1,014,001	mm BTU	5.6E-04	5.6E-04	NA	2.80E-05
Bismuth	4.1E-06	1,014,001	mm BTU	2.1E-03	2.1E-03	NA	3.70E-06
Chromium, total	2.1E-05	1,014,001	mm BTU	1.1E-02	1.1E-02	0.033	NA
Cobalt	6.5E-06	1,014,001	mm BTU	3.3E-03	3.3E-03	0.0033	NA
Lead	4.8E-05	1,014,001	mm BTU	2.4E-02	2.4E-02	NA	NA
Manganese	1.6E-03	1,014,001	mm BTU	8.1E-01	8.1E-01	NA	NA
Mercury	3.5E-06	1,014,001	mm BTU	1.8E-03	1.8E-03	0.007	NA
Nickel	3.3E-05	1,014,001	mm BTU	1.7E-02	1.7E-02	NA	2.70E-05
Selenium	2.8E-06	1,014,001	mm BTU	1.4E-03	1.4E-03	0.013	NA

All TAPs 0.05104 lbs/hr Total 25.879 19.357
EPA Regulated HAPs 0.03818 lbs/hr

PROCESS EMISSIONS

PARTICULATE

Emission controls: None for dry kilns, building for debarker and merchandizer, surrounding equipment, sheeted drop to residual conv in sawmill infeed line. Residual volume calcs assume 100% capture
 Building throughputs from facility material balance, which accounts for the entire volume of wood coming in as logs and where it goes

Process Name	Modeling Code	PM E F	PM 10 E F	PM 2.5 E F	EF Units	Thruput (annual)	Units	Control Efficiency %	PM Emiss (tons/yr)	PM10 Emiss (tons/yr)	PM2.5 Emiss (tons/yr)	Description of materials, controls	
Dry Kilns #1-5	P 18-21,26	KILNnl	0.05	0.05	0.05	lb/mbf	250,000	mbf/year	0%	6.25	6.25	6.25	None
Log End Reducer	P12	Reducer	0.024	0.011	0.01	lb/ton	5,908	ton/year	0%	0.0709	0.0325	0.02	logs, surrounding equipment and building
Debarker	P13	DEBARKER	0.024	0.011	0.01	lb/ton	367,974	ton/year	98%	0.09	0.04	0.02	logs, enclosing screening, walled and building
Merchandizer	P14	MERCHDZR	0.35	0.2	0.11	lb/ton	345,039	ton/year	98%	1.21	0.69	0.38	logs, enclosing screening, walled and building
Disc Screen	P22	DISCSCR	0.1	0.05	0.028	lb/ton	55,067	ton/year	75%	0.69	0.34	0.19	refuse wood, 18" walls, inside covered bldg
Target Box	P24	TARGETBX	0.1	0.05	0.028	lb/ton	40,178	ton/year	75%	0.50	0.25	0.14	sawdust, completely shrouded drop in
									Total all processes	PM (ton/year)	PM10 (ton/year)	PM2.5 (ton/year)	
Emission factors from IDEQ EFs for Wood products Industry debarking (debarker and hammer mill), sawing (merchandizer, defect saw), target box (disc screen, target box, pellet screen)									Total processes excl kilns	8.8	7.6	7.0	
										2.6	1.4	0.8	

Emission Points not included in above calculations

Sawmill vent / outload	P11	negligible; material balance accounts for all materials generated in sawmill elsewhere
Hog	P15	fully enclosed, including infeed and outfeed, all emissions end up on outfeed conveyor, transfers to and from accounted for under TR 57, 66
Planer vent / outload	P16	negligible; material balance accounts for all materials generated in planer elsewhere
Rosebud bldg venting	P17	emissions are quantified elsewhere

VOC's

Process Name	ODEQ E F	EF Units	Annual Oper (hours)	Thruput (annual)	Units	VOC Emiss (tons/yr)		
Dry Kilns #1-5	P 18-21,26	white fir	0.25	lb/mbf	8,400	250,000	mbf/yr	31.25
Dry Kilns #1-5	P 18-21,26	doug fir	0.5	lb/mbf	8,400	250,000	mbf/yr	62.50
Dry Kilns #1-5	P 18-21,26	Pines, other	1.4	lb/mbf	8,400	250,000	mbf/yr	175.00

175.0 TOTAL PTE

Model kiln PM-10 arcs (each of 15)

Consistent with discussions 3/15 and 16/07 w/WR and KH (IDEQ), ODEQ referenced EFs showing 0.25 lbs VOC/Mbf for white fir, .5 for doug fir, and 1.4 for pines are substituted and conservatively interpreted for PTE

IDEQ PTC SOB, Appendices C and D and IDEQ documentation circulated by Shawnee Chen in 2007 show VOC emission rate much less than IDEQ required from all available research and other Oregon and Washington regulatory jurisdictions

A similar approach was taken for dry kiln PM-10 emission factors. The highest emission factor for any species from the recently referenced ODEQ emission factors is used here in place of the older, minimally referenced IDEQ emission factor

HAPs

Process Name	HAP	EF	EF Units	Annual Oper (hours)	Thruput (annual)	Units	HAP Emiss (tons/yr)	
Dry Kilns #1-5	P 18-21, 26	Methanol	122.0	lb/MMbf	8,400	250	MMbf/yr	15.25
Dry Kilns #1-5	P 18-21, 26	formaldehyde	4.0	lb/MMbf	8,400	250	MMbf/yr	0.500
Dry Kilns #1-5	P 18-21, 26	acetaldehyde	7.8	lb/MMbf	8,400	250	MMbf/yr	0.975
Dry Kilns #1-5	P 18-21, 26	ethyl Ethyl Ketol	1.3	lb/MMbf	8,400	250	MMbf/yr	0.163
Dry Kilns #1-5	P 18-21, 26	phenol	4	lb/MMbf	8,400	250	MMbf/yr	0.500

1000 vs 714 lb/yr limit

17.39 TOTAL

Note: Although potential methanol and formaldehyde emissions exceed permit limits, IFG monitors actual emissions of these contaminants to ensure compliance.

HAP EFs: From IDEQ P-050214 Statement of Basis, consistent with references provided by BFI (below) in the permit application

HAP EFs from "Small scale kiln study utilizing Ponderosa Pine, Lodgepole pine, white fir, and Douglas Fir report to IFA by Milots (U of Oregon), Sept 2000, as used in original permit application except Spruce, from white spruce in "A Comparison of Dry Kiln Emissions from Lodgepole Pine, Black Spruce, and White Spruce" by Barry et. Al., Forintek 2006

HAP EFs by species	White Fir	Doug Fir	P Pine	Lodgepole	Spruce	Larch
	122	23	65	60	29	
	lbs Methanol/MMbf					
	2.8	1.0	2.9	4.0	1.2	
	lbs Formaldehyde/MMbf					

TRANSFER AND CONVEYOR CALCULATIONS

Total Emissions	PM (tons/year)	PM10 (tons/year)	PM25 (tons/year)
Conveyers	0.0034	0.0012	0.0002
Transfers	0.0215	0.0075	0.0011
Total	0.0250	0.0088	0.0013

Emission Factor Calculations

* Use AP 42 13.2.4 Aggregate Handling

$$E = k(0.032)^{(u/5)^{1.3}} / ((M/2)^{1.4})$$

average wind speed = 9 mph

moisture content for incoming logs estimated at 47%, 43% used in fugitive calculations for conservatism

moisture content for lumber after dry kiln estimated at 19%, 11% used in fugitive calculations for conservatism

particulate matter multiplier

Species	k
PM	1
PM10	0.35
PM2.5	0.053

<<< No, 47% used in the calculations

<<< No, 19% used in the calculations

at 47% moisture content

at 25% moisture content (Debr Area soils)

at 22% moisture content

at 19% moisture content

at 3% moisture content

PM EF =	8.27E-05 lbs/ton
PM EF =	2.00E-04 lbs/ton
PM EF =	2.39E-04 lbs/ton
PM EF =	2.94E-04 lbs/ton
PM EF =	3.89E-03 lbs/ton

PM-10 EF =	2.89E-05 lbs/ton
PM-10 EF =	7.00E-05 lbs/ton
PM-10 EF =	8.38E-05 lbs/ton
PM-10 EF =	1.03E-04 lbs/ton
PM-10 EF =	1.36E-03 lbs/ton

PM-2.5 EF =	4.38E-06 lbs/ton
PM-2.5 EF =	1.06E-05 lbs/ton
PM-2.5 EF =	1.27E-05 lbs/ton
PM-2.5 EF =	1.56E-05 lbs/ton
PM-2.5 EF =	2.06E-04 lbs/ton

Conveyors

Name	Code	Conveyors included	# drops	Moisture Content %	PM Em. Factor (lb/ton)	PM-10 Em. Factor (lb/ton)	PM-2.5 Em. Factor (lb/ton)	Annual Throughput (BDT)	PM Emissions (tons/yr)	PM-10 Emissions (tons/yr)	PM-2.5 Emissions (tons/yr)	Moisture Content	Material Transferred	Emission Control Methodology	Emission Control %	Oper hours
Incoming log conveyors	Cinf	11, 12, 13, 14, 15, 17, 18 or 19, 20 or 21, 22	9	47%	0.0001	0.000029	0.000004	456,809	0.003	0.001	0.0002	47%	whole logs	building or surrounding equipment	98%	4,000
Refuge line under incoming log, canter lines	Cref	45	1	47%	0.0001	0.000083	0.000004	1,000	0.000	0.000	0.0000	47%	pieces off whole logs	building or surrounding equipment	50%	4,000
Total									0.003	0.001	0.0002					

Most facility conveyors have sides at least 2' high, many considerably higher, that are at least twice as high as the material being carried, eliminating the chance for wind erosion emissions. All drops are addressed below as transfer points.

The few listed below carry whole logs, with few fines, in areas partially or nearly enclosed (Ca), or two initial debris lines below initial log infeed lines (c41 or Cb).

Control efficiencies are % based upon protection of material on conveyor from open release or wind. Because EFs are based upon an aggregate mix of medium and fine size materials, emission control % were increased for transfers of very large materials (like whole logs)

Transfers

All transfers are to or from conveyors except the truck bin drops and the Rosebud bldg load in / out

All conveyors carrying anything other than whole logs (except for 2 in the sawmill infeed line) have at least 23" high sides for emission controls

Control efficiencies are %s based upon enclosures and protection from open release or wind. Because EFs are based upon an aggregate mix of medium and fine size materials, emission control % were increased for transfers of very large materials (like whole logs)

Throughput volumes are from material balance or very conservatively estimated for lower volume side lines

Name	Modeling Code	Transfer Point #s Included	# drops	Material Transferred	Moisture Content %	PM Em. Factor (lb/ton)	PM-10 Em. Factor (lb/ton)	PM-2.5 Em. Factor (lb/ton)	Emission Control Methodology	Emission Control %	Oper hours	Throughput (BDT)	PM Emissions (tons/yr)	PM-10 Emissions (tons/yr)	PM-2.5 Emissions (tons/yr)
LOG INFEED LINE															
<i>this line moves whole logs only from the log yard to the sawmill. Control efficiency accounts for low amt of fines and silt coming off whole logs</i>															
Log Infeed system outside	Tinf	11 or 12,13,14,16,17, 19 or 21, 20 or 22, 23 or 24, 25	9	whole logs	47%	0.0001	0.0000	0.0000	building and surrounding equipment	98%	4,000	388,000	0.00	0.00	0.00
drop to reject log bunk	Tinf	15, 18, 26	2	whole logs	47%	0.0001	0.0000	0.0000	building and surrounding equipment	98%	2,000	26	0.00	0.00	0.00
Log infeed line (incoming log wood waste)	Trefin	41,42	2	pieces off whole logs	47%	0.0001	0.0000	0.0000	surrounding equipment	50%	4,000	26	0.00	0.00	0.00
Main refuge volume (saw waste)	Trefine	43,46, 48	3	bark, sawdust, woodwaste	47%	0.0001	0.0000	0.0000	2' high conv sides, taller sheeted sides	50%	4,000	43,067	0.00	0.00	0.00
Canter, DLI Line (mill waste wood)	Trefin	44, 45	2	sawdust, chips, wood waste	47%	0.0001	0.0000	0.0000	2' high conv sides, taller sheeted sides	50%	4,000	1000	0.00	0.00	0.00
Yard waste (log yard wood waste manually)	Trefyard	47	1	wood waste	47%	0.0001	0.0000	0.0000	none	0%	4,000	2000	0.00	0.00	0.00
Hog reject line	Trefrej	49, 50	2	wood waste, metal contam.	47%	0.0001	0.0000	0.0000	none	0%	4,000	50	0.00	0.00	0.00
Sawmill cyclone to dust bin	Trefrej	62	1	sawdust, fines	47%	0.0001	0.0000	0.0000	booted (enclosed) drop	90%	4,000	13	0.00	0.00	0.00
SAWMILL PRODUCT OUTFLOW															
<i>These lines take sawdust to truck bins and chips to chip bins. Emission controls applied for chips only due to high sided conveyors and controlled drops to trucks with walled sides</i>															
Dust coil cycl				<i>inside building, emissions quantified elsewhere as part of material balance</i>											
Dust coil cycl to sawdust trucks	Toutsawd	30, 31	2	sawdust	47%	0.0001	0.0000	0.0000	shielded drops to bin, 2 sheeted sides, tight enclosure at bin	50%	4,000	40178	0.00	0.00	0.00
Sawmill sawdust - Cycl	Trefrej	32	1	sawdust	47%	0.0001	0.0000	0.0000	booted (enclosed) drop	90%	4,000	12876	0.00	0.00	0.00
Chip system to chip trucks	Toutchip	33,34,35	3	chips	47%	0.0001	0.0000	0.0000	shielded drops to bin, 2 full sheeted sides tight enclosure elsewhere at bin	50%	4,000	83386	0.01	0.00	0.00
FUEL TO BOILER (from Disc Screen)															
<i>this line transfers bark to a bin for shipping, takes fine fuel to the boiler on conveyors with 2' high side walls, and hogs (chops up) larger wood waste before sending it to the boiler in totally enclosed conveyors with covered drops</i>															
Fines to Hog Outfeed	Tboihog	65, 54	2	fines	47%	0.0001	0.0000	0.0000	tall sheeted sides onto walled conv	75%	4,000	3000	0.00	0.00	0.00
Hogged Wood to Hog Outfeed	Tboihog	53, 57, 66	3	chopped wood waste	47%	0.0001	0.0000	0.0000	tall sheeted sides onto walled conv	75%	4,000	42087	0.00	0.00	0.00
Hog Outfeed to Boiler	Tboifeed	56, 58 or 59	2	fines, chopped wood waste	47%	0.0001	0.0000	0.0000	sheeted sides, drop into conv inside pipe	90%	4,000	57943	0.00	0.00	0.00
Enclosed lines to fuel silo		60, 61							fully enclosed	100%					
Filing rm dust, defect sawfeed	Tboihog	62, 63	2	fines, sawdust	47%	0.0001	0.0000	0.0000	sheeted drop	80%	4,000	48	0.00	0.00	0.00
Ash into ash bins	Tboifeed	67	1	ash	3%	0.0039	0.0014	0.0002	mostly enclosed transfer area into ash bin	90%	4,000	609	0.00	0.00	0.00
Deco bark to bark trucks	Tboibrk	64, 51, 52	3	bark	22%	0.0002	0.0001	0.0000	semi covered drops to bin, 2 full sheeted sides tight enclosure elsewhere at bin	75%	4,000	10000	0.00	0.00	0.00
PLANER OUTFLOW															
<i>shavings, chips, and fines from planed, dried lumber, all to be processed as saleable material to trucks. Most of the material is pneumatically transferred in enclosed tubes, drops to trucks walled on 2 sides, tightly fit on the other 2. 50% control efficiency conservatively applied</i>															
Chips to Chip trucks	Tpinchip	71, 72	2	chips	19%	0.0003	0.0001	0.0000	semi covered drops to bin, 2 full sheeted sides tight enclosure elsewhere at bin	50%	4,000	4600	0.00	0.00	0.00
Rosebud Shavings	Trosebud	75	1	planer shavings	19%	0.0003	0.0001	0.0000	building around shavings pile	75%	500	2909	0.00	0.00	0.00
Fines to fines truck	Tpinfin	73, 74	2	fines	19%	0.0003	0.0001	0.0000	semi covered drops to bin, 2 full sheeted sides tight enclosure elsewhere at bin	50%	4,000	13487	0.00	0.00	0.00
WOOD DEBRIS MANAGEMENT															
<i>management of wood waste</i>															
Load yard waste materials to go to Debris Management Area	Tdebrld	91	1	soils	25%	0.0002	0.0001	0.0000	none	0%	4,000	9750	0.00	0.00	0.00
Ash removal (ash bins to truck for transport to WDMA)	Tboifeed	89	1	ash	3%	0.0039	0.0014	0.0002	none	0%	1,000	609	0.00	0.00	0.00
Drop ash in Debris Management Area	Tashdrp	92	1	ash	3%	0.0039	0.0014	0.0002	none	0%	2,000	609	0.00	0.00	0.00
Drop waste materials in Debris Management Area	Tdebrdrp	93	1	soils	25%	0.0002	0.0001	0.0000	none	0%	4,000	9750	0.00	0.00	0.00
TRANSFER TOTALS												0.02	0.01	0.00	

STORAGE SOURCE EMISSIONS

all emissions from all storage bins, all truck bins and fuel silos are quantified under transfers, which include transfers into and out of all those storage units. The storage units themselves are covered and sealed. Therefore, no new storage bins (except the ash bin) future will have emissions in this category

Reference: yard waste storage Use AP 42 13.2.4 Aggregate Handling and Storage Piles

$$E = k(.0032)^{(L/5)^{1.3}} / (M/2)^{1.4}$$

particulate matter multiplier (k) = .35 for pm 10 and (k) = 0.053 for PM2.5
average wind speed = 9 mph

at 47% moisture content	PM EF =	0.0001 lbs/ton	PM-10 EF =	0.00003 lbs/ton	PM-2.5 EF =	0.000004 lbs/ton
at 25% moisture content	PM EF =	0.0002 lbs/ton	PM-10 EF =	0.0001 lbs/ton	PM-2.5 EF =	0.000011 lbs/ton

STORAGE BINS AND STORAGE

Name	ST #	Modeling Code	Thrput (tons/yr)	PM EF (lb/ton)	PM 10 EF (lb/ton)	PM 2.5 EF (lb/ton)	% control	Operat. Hrs/yr	PM (tons/yr)	PM10 (tons/yr)	PM2.5 (tons/yr)
Enclosed ash hopper	S 44	STash	609	1	0.58	0.32344045	75%	2,000	0.076	0.044	0.025
Yard waste pile	S 76	STyard	2,000	0.0001	0.000029	0.000004	90%	4,000	0.0000083	0.0000029	0.0000004
Debris Management Area	S 91	STDMA	13,609	0.0001	0.00003	0.000004	50%	4,000	0.0003	0.0001	0.00001
Total									0.1	0.0	0.00

VOC emissions from the two diesel tanks (calculated using EPA TANKS 4.09)

diesel tank	V1	combined breathing and working loss		3.47	lbs/yr
diesel tank	V2	combined breathing and working loss		5.10	lbs/yr
Oil drums	V3	air emissions negligible			
TOTAL VOC emissions from diesel tanks				8.57	lbs/yr
				0.004	tons/yr

STORAGE BINS WITH NO EMISSIONS

Fuel Silo #1	S 1	Enclosed container with no emissions, transfer emissions in and out accounted for under Transfers
Sawmill Sawdust Truck Bin	S 11	Enclosed container with no emissions, transfer emissions in and out accounted for under Transfers
Sawmill Chip Truck Bin	S 12	Enclosed container with no emissions, transfer emissions in and out accounted for under Transfers
Bark Truck Bin	S 43	Enclosed container with no emissions, transfer emissions in and out accounted for under Transfers
Green Lumer Storage Area	S 71	Negligible emissions from cut dimensional lumber, transfer and transporting vehicle emissions accounted for elsewhere
Dry Lumer Storage Area	S 72	Negligible emissions from dried dimensional lumber, transfer and transporting vehicle emissions accounted for elsewhere
Fines Truck Bin	S 73	Enclosed container with no emissions, transfer emissions in and out accounted for under Transfers
Planer Chip Truck Bin	S 74	Enclosed container with no emissions, transfer emissions in and out accounted for under Transfers
Finished Lumer Storage Area	S 75	Negligible emissions from dried dimensional lumber, transfer and transporting vehicle emissions accounted for elsewhere
Log Storage Area	S 77	Negligible emissions from watered log piles, transfer and transporting vehicle emissions and yard waste pile accounted for elsewhere

Ref for Ash Storage emissions: IDEQ EF's for the Wood Industry, sawdust pile
Ref: IDEQ EF's for the Wood Industry

Fire Water Pump Emissions

218 horsepower 500 hours of operation
 Emission factors from Manufacturer's specifications

Criteria Pollutants

Pollutant	EF	Units	Convert EF to lbs/hp-hr	lb/yr	tons/yr @ 500 hrs/yr	exemption test
						Fulltime operation Tons/year (a)
CO	0.15	g/hp-hr	0.000330693	36	0.02	0.3
PM	0.021	g/hp-hr	4.62971E-05	5	0.00	0.0
PM10	0.021	g/hp-hr	4.58341E-05	5	0.00	0.0
PM2.5	0.021	g/hp-hr	4.53758E-05	5	0.00	0.0
VOC *	0.04	g/hp-hr	8.81849E-05	10	0.00	0.1
NOx	4.83	g/hp-hr	0.010648327	1,161	0.58	10.2
SOx	0.004	lb/hp-hr	8.9177E-06	1	0.000	0.0

SOx emissions from AP-42 Section 3, Table 3.4-1 given as 0.00809 * S1, where S1 is the sulfur % in fuel. 0.5% used conservatively here

VOC emission rate listed is for "HC" on manufacturer's specs

(a) Exemption limits operation to 500 hrs/yr, which is reflected in PTE calcs above, if uncontrolled emissions assuming 8760 hrs/yr are under 100 tons/yr, as shown in the exemption test

Hazardous Air Pollutants

Pollutant	EF	Units	lb/yr	EPA regulated HAPs	
				tons/yr	tons/yr
Benzene	7.76E-04	lbs/hp-hr	85	0.042	0.042
Toluene	2.81E-04	lbs/hp-hr	31	0.015	0.015
o-Xylene	1.93E-04	lbs/hp-hr	21	0.011	0.011
Propylene	2.79E-03	lbs/hp-hr	304	0.152	
Formaldehyde	7.89E-05	lbs/hp-hr	9	0.004	0.004
Acetaldehyde	2.52E-05	lbs/hp-hr	3	0.001	0.001
Acrolein	7.88E-06	lbs/hp-hr	1	0.000	0.000
Naphthalene	1.30E-04	lbs/hp-hr	14	0.007	0.007
Acenaphthylene	9.23E-06	lbs/hp-hr	1	0.001	
Acenaphthene	4.68E-06	lbs/hp-hr	1	0.000	
Fluorene	1.28E-05	lbs/hp-hr	1	0.001	
Phenanthrene	4.08E-05	lbs/hp-hr	4	0.002	
Anthracene	1.23E-06	lbs/hp-hr	0	0.000	
Fluoranthene	4.03E-06	lbs/hp-hr	0	0.000	
Pyrene	3.71E-06	lbs/hp-hr	0	0.000	
Benz(a)anthracene	6.22E-07	lbs/hp-hr	0	0.000	
Chrysene	1.53E-06	lbs/hp-hr	0	0.000	
Benzo(b)fluoranthene	1.11E-06	lbs/hp-hr	0	0.000	
Benzo(k)fluoranthene	2.18E-07	lbs/hp-hr	0	0.000	
Benzo(a)pyrene	2.57E-07	lbs/hp-hr	0	0.000	
Indeno(1,2,3-cd)pyrene	4.14E-07	lbs/hp-hr	0	0.000	
Dibenz(a,h)anthracene	3.46E-07	lbs/hp-hr	0	0.000	
Benzo(g,h,i)perylene	5.56E-07	lbs/hp-hr	0	0.000	
Total PAH	2.12E-04	lbs/hp-hr	23	0.012	
			Total EPA Regulated HAPS	0.081	

Emission factors from AP-42 Section 3.4, Table 3.4-3 and 4
 Emissions in AP-42 are < values listed

IFG Grangeville

Emission Calculations Supporting Level II Exemption for Waste Oil Burner

Atomizing Waste Oil Heater
fuel usage rate 3.4 gallons /hr

Required info for calculations:

A= % ash by weight in fuel
L = % Lead by weight in fuel
L= 0.5

Two PTEs are calculated
Permit Limit PTE

gal fuel/hr hrs/yr A= 2 gal fuel/yr
3.4 8760 29784

Tons/yr emissions from Waste Oil Heater
Criteria Pollutant Emission factors AP-42 section 1-11, in lbs/1000 gallons

	AP-42 table 1.11-1 (lbs/1000 gal)				AP-42 table 1.11-2			AP-42 Table 1.11-3	tons/yr
	PM 64A	PM-10 51A	Lead 55L	Lead 55L	NOx	SOx	CO	TOC	
	128.00	102.00	74.70	27.5	16	1075	2.1	1	
Exemption PTE	1.91	1.52	1.11	0.41	0.24	16.01	0.03	0.01	
Significant Emissions Level	25	15	10	0.6	40	40	100	100	
Equipment emissions below significant emission level?	yes	yes	yes	yes	yes	yes	yes	yes	

Ash and lead content references

Vermont Used Oil Analysis and Waste oil Furnace Emission Study
1995

showed mean ash % by wt of 0.54% for gas engines, 0.46% for diesel engines, and 0.55% for No. 2 fuel
mean lead content was 47.23 ppm for gas engines, 57.00 for diesel engines, and ,10.00 ppm for No. 2 fuel

initial values used here of 2% ash content and 0.5% lead content are used as conservative estimates

HAP Emission factors AP-42 section 1-11, in lbs/1000 gallons for all listed EPA regulated HAPs

HAP	EF (lb/1000 gal)	Emission rate (ton/year)
AP-42 Table 1.11-3 Hydrogen Chloride		0.0E+00
AP-42 Table 1.11-4 Antimony	4.50E-03	6.7E-05
Arsenic	0.06	8.9E-04
Beryllium	0.0018	2.7E-05
Cadmium	0.012	1.8E-04
Chromium	0.18	2.7E-03
Cobalt	0.0052	7.7E-05
Manganese	0.05	7.4E-04
Nickel	0.16	2.4E-03
Selenium	0	0.0E+00
Phosphorus		0.0E+00
AP-42 Table 1.11-5 Phenol	2.80E-05	4.2E-07
Napthalene	9.20E-05	1.4E-06
Dibutylphthalate	3.40E-05	5.1E-07
Bis(2-ethylhexyl)phthalate		0.0E+00
Trichloroethylene		0.0E+00

Material Handling Emissions

UNCONTROLLED

		PM Em. Factor	PM-10 Em. Factor	PM-2.5 Em. Factor	EF Units	Throughput (annual) Units		PM (tons/yr)	PM-10 (tons/yr)	PM-2.5 (tons/yr)
Sawmill		0.35	0.2	0.112	lbs/ton	250,000	MBF Log S/yr			
Saw Dust Collection cyclone uncontrolled	CY11	2	2	1.115	lbs/BDT	26,270	BDT/yr	26.270	26.270	14.650
Mill sawdust Cyclone	CY12	0.2	0.16	0.089	lbs/BDT	26,270	BDT/yr	2.63	2.10	1.17
Filing Rm Dust System discharge	CY41	2	1.6	0.892	lbs/BDT	3	Tons/yr	0.003	0.002	0.001
Planer Chip Truck bin cyclone	CY71	0.5	0.25	0.139	lbs/BDT	4,600	BDT/yr	1.2	0.6	0.3
Planer cyclone uncontrolled	CY72	2	2	1.115	lbs/BDT	14,430	BDT/yr	14.4	14.4	8.0
Shaving Fines Truck bin cyclone	CY73	0.5	0.25	0.139	lbs/BDT	10,730	BDT/yr	2.7	1.3	0.7
Shavings cyclone atop rosebud bldg	CY74	0.2	0.16	0.089	lbs/BDT	3,700	BDT/yr	0.37	0.30	0.17
Planner Chipping Room Cyclone	CY75	0.2	0.16	0.089	lbs/BDT	4,650	BDT/yr	0.47	0.37	0.21
Total, with baghouses								48.0	45.4	25.3

Emission factor references: From IDEQ Emission Factor Guide for the Wood Products Industry

CONTROLLED

		PM Em. Factor	PM-10 Em. Factor	PM-2.5 Em. Factor	EF Units	Throughput (annual) Units		PM (tons/yr)	PM-10 (tons/yr)	PM-2.5 (tons/yr)
Sawmill		0.35	0.2	0.112	lbs/ton	250,000	MBF Log S/yr			
Saw Dust Collection cyclone with BH	CY11BH	0.04	0.04	0.0223	lbs/BDT	26,270	BDT/yr	0.5254	0.5254	0.2930
Mill sawdust cyclone	CY12	0.2	0.16	0.089	lbs/BDT	26,270	BDT/yr	2.63	2.10	1.17
Filing Rm Dust System discharge	CY41	2	1.6	0.892	lbs/BDT	3	Tons/yr	0.003	0.002	0.001
Planer Chip Truck bin cyclone	CY71	0.5	0.25	0.139	lbs/BDT	4,600	BDT/yr	1.2	0.6	0.3
Planer cyclone with BH	CY72BH	0.04	0.04	0.022	lbs/BDT	14,430	BDT/yr	0.3	0.3	0.2
Shaving Fines Truck bin cyclone	CY73	0.5	0.25	0.139	lbs/BDT	10,730	BDT/yr	2.7	1.3	0.7
Shavings cyclone atop rosebud bldg	CY74	0.2	0.16	0.089	lbs/BDT	3,700	BDT/yr	0.37	0.30	0.17
Planner Chipping Room Cyclone	CY75	0.2	0.16	0.089	lbs/BDT	4,650	BDT/yr	0.47	0.37	0.21
Total, with baghouses								8.1	5.5	3.1

FUGITIVE ROAD EMISSIONS

Unpaved Travel

AP-42 13.2.2 equation (1a), updated 12/03, for unpaved road traffic on an industrial site

with precip reduction from AP-42 13.2.2.2 equ 2

PM E = $(4.9 \times (s/12)^{0.7} (W/3)^{0.45} \times (365-P)/365$

PM10 E = $(1.5 \times (s/12)^{0.9} (W/3)^{0.45} \times (365-P)/365$

PM2.5 E = $(0.15 \times (s/12)^{0.9} (W/3)^{0.45} \times (365-P)/365$

where P = # days with measurable precipitation per year 156 for Grangeville

Roads will be watered daily, whenever dust is visible.

50% control efficiency is applied

Assumed solid waste landfill SL mean factor of 7.4 g/m³ Table 13.2.1-4

Vehicle Type	Load	W Avg. Wt. (tons)	sL Sil Load	E PM (lb/VMT)	E PM 10 (lb/VMT)	E PM 2.5 (lb/VMT)	VMT (miles/day)	Days/yr	Uncontrolled PM Emissions (tons/yr)	Uncontrolled PM 10 Emissions (tons/yr)	Uncontrolled PM 2.5 Emissions (tons/yr)	Controlled PM Emissions (tons/yr)	Controlled PM 10 Emissions (tons/yr)	Controlled PM 2.5 Emissions (tons/yr)
LOG YARD														
980G Cat Fork Loader (2000)	empty	37.76	7.4	6.25	3.03	0.30	8.725	250	6.82	3.31	0.33	3.41	1.65	0.17
980G Cat Fork Loader (2000)	full	47.43	7.4	6.93	3.36	0.34	8.725	250	7.56	3.67	0.37	3.78	1.83	0.18
980G Cat Fork Loader (1999)	empty	37.76	7.4	6.25	3.03	0.30	8.725	250	6.82	3.31	0.33	3.41	1.65	0.17
980G Cat Fork Loader (1999)	full	47.43	7.4	6.93	3.36	0.34	8.725	250	7.56	3.67	0.37	3.78	1.83	0.18
Latoumeau (1989)	empty	52.5	7.4	7.25	3.52	0.35	4.00	250	3.63	1.76	0.18	1.81	0.88	0.09
Latoumeau (1989)	full	81.5	7.4	8.84	4.29	0.43	4.00	250	4.42	2.14	0.21	2.21	1.07	0.11
Latoumeau (1988)	empty	52.5	7.4	7.25	3.52	0.35	4.00	250	3.63	1.76	0.18	1.81	0.88	0.09
Latoumeau (1988)	full	81.5	7.4	8.84	4.29	0.43	4.00	250	4.42	2.14	0.21	2.21	1.07	0.11
270 LC JDeere Log Ldr (01)	empty	42.0	7.4	6.56	3.18	0.32	0.30	250	0.25	0.12	0.01	0.12	0.06	0.01
270 LC JDeere Log Ldr (01)	full	43.0	7.4	6.63	3.22	0.32	0.00	250	0.00	0.00	0.00	0.00	0.00	0.00
2554 JDeere Log Loader (04)	empty	43.0	7.4	6.63	3.22	0.32	0.30	250	0.25	0.12	0.01	0.13	0.06	0.01
2554 JDeere Log Loader (04)	full	44.0	7.4	6.70	3.25	0.33	0.00	250	0.00	0.00	0.00	0.00	0.00	0.00
980C Cat Fork Loader (1983)	empty	39.5	7.4	6.38	3.10	0.31	2.91	250	2.32	1.13	0.11	1.16	0.56	0.06
980C Cat Fork Loader (1983)	full	46.75	7.4	6.88	3.34	0.33	2.91	250	2.50	1.22	0.12	1.25	0.61	0.06
GMC Water Tank Tk (1979)	empty	12.0	7.4	3.73	1.81	0.18	2.50	75	0.35	0.17	0.02	0.17	0.08	0.01
GMC Water Tank Tk (1979)	full	22.0	7.4	4.90	2.38	0.24	2.50	75	0.46	0.22	0.02	0.23	0.11	0.01
Departing log trucks	empty	14.0	7.4	4.00	1.94	0.19	5.46	250	2.73	1.33	0.13	1.37	0.66	0.07
Incoming log trucks	full	43.0	7.4	6.63	3.22	0.32	5.46	250	4.52	2.20	0.22	2.26	1.10	0.11
SAWMILL														
Debris tks to temp storage	full	21.5	7.4	4.85	2.36	0.24	3.03	250	1.84	0.89	0.09	0.92	0.45	0.04
Debris tks from temp storage	empty	9.0	7.4	3.28	1.59	0.16	3.03	250	1.24	0.60	0.06	0.62	0.30	0.03
DEBRIS MANAGEMENT														
Dump Tk w/raw	empty	10.00	7.4	3.44	1.67	0.17	0.714	260	0.32	0.15	0.02	0.16	0.08	0.01
Dump Tk w/raw	full	19.30	7.4	4.62	2.24	0.22	0.714	260	0.43	0.21	0.02	0.21	0.10	0.01
Dump Tk w/ash	empty	10.00	7.4	3.44	1.67	0.17	0.071	260	0.03	0.02	0.00	0.02	0.01	0.00
Dump Tk w/ash	full	16.00	7.4	4.25	2.06	0.21	0.071	260	0.04	0.02	0.00	0.02	0.01	0.00
Total tons/yr									62.06	30.12	31.03	15.06	1.51	0.00

Paved Travel

* AP42 13.2.1.3 equ 1 (updated 12/03) with precip reduction from AP-42 13.2.1.3 equ 2

<<< Modified equation for update on 1/11

as per previous IDEQ approved permit emission inventory

$$PM E = (.011 \times (sL)^{0.91}) \times ((W)^{1.02}) \times (1-P/(4*365))$$

$$PM10 E = (.0022 \times (sL)^{0.91}) \times ((W)^{1.02}) \times (1-P/(4*365))$$

$$PM2.5 E = (.00054 \times (sL)^{0.91}) \times ((W)^{1.02}) \times (1-P/(4*365))$$

where P = # days with measurable precipitation per year

156 for Grangeville

Assumed solid waste landfill SL mean factor of 7.4 g/m² Table 13.2.1-4

This equation will overpredict paved road emissions because it assumes vehicle speeds of 10 - 55 mph while actual speeds will average 5 mph or less

Paved drainage system on watered roads at entrance and on log truck route cuts down soil materials on paved roads.

BFI will sweep after snowmelt and whenever dust of dirt on road is visible during the dry season

50% controls applied on paved road particulate emissions

Vehicle Type	Load	Control Eff. (%)	W Avg. Wt. (tons)	sL Sil Load	E PM (lb/VMT)	E PM 10 (lb/VMT)	E PM 2.5 (lb/VMT)	Days/yr	VMT per day	Emissions PM (tons/yr)	Emissions PM 10 (tons/yr)	Emissions PM 2.5 (tons/yr)
LOG YARD												
Incoming Log Truck	full	50	43.0	7.4	2.81	0.56	0.14	250	25.46	8.9583	1.7917	0.4398
Departing Log Truck	empty	50	14.0	7.4	0.90	0.18	0.04	250	25.46	2.8519	0.5704	0.1400
SAWMILL												
Hyster 360 XL forklift	empty	50	21.0	7.4	1.36	0.27	0.07	250	9.87	1.6719	0.3344	0.0821
Hyster 360 XL forklift	full	50	28.0	7.4	1.82	0.36	0.09	250	9.87	2.2421	0.4484	0.1101
Outbound chip trucks	empty	50	18.0	7.4	1.16	0.23	0.06	250	4.22	0.6108	0.1222	0.0300
Outbound chip trucks	full	50	49.0	7.4	3.22	0.64	0.16	250	4.22	1.6964	0.3393	0.0833
Outbound hog fuel	empty	50	18.0	7.4	1.16	0.23	0.06	250	1.61	0.2330	0.0466	0.0114
Outbound hog fuel	full	50	49.0	7.4	3.22	0.64	0.16	250	1.61	0.6472	0.1294	0.0318
Outbound Sawdust	empty	50	18.0	7.4	1.16	0.23	0.06	250	0.78	0.1129	0.0226	0.0055
Outbound Sawdust	full	50	49.0	7.4	3.22	0.64	0.16	250	0.78	0.3136	0.0627	0.0154
Millwright Pickup	empty	50	3.0	7.4	0.19	0.04	0.01	250	1.00	0.0233	0.0047	0.0011
Millwright Pickup	full	50	3.0	7.4	0.19	0.04	0.01	250	1.00	0.0233	0.0047	0.0011
Mechanic Pickup	empty	50	4.0	7.4	0.25	0.05	0.01	250	1.00	0.0312	0.0062	0.0015
Mechanic Pickup	full	50	4.0	7.4	0.25	0.05	0.01	250	1.00	0.0312	0.0062	0.0015
Fuel Delivery Truck	full	50	42.0	7.4	2.75	0.55	0.13	250	0.05	0.0156	0.0031	0.0008
Fuel delivery truck	empty	50	16.0	7.4	1.03	0.21	0.05	250	0.05	0.0058	0.0012	0.0003
KILNS												
Hyster H360XL forklift	empty	50	21.0	7.4	1.36	0.27	0.07	250	2.96	0.5014	0.1003	0.0246
Hyster H360XL forklift	full	50	27.3	7.4	1.77	0.35	0.09	250	2.96	0.6552	0.1310	0.0322
BOILER												
PLANER												
Hyster H360XL forklift	empty	50	21.0	7.4	1.36	0.27	0.07	250	1.32	0.2236	0.0447	0.0110
Hyster H360XL forklift	full	50	27.3	7.4	1.77	0.35	0.09	250	1.32	0.2922	0.0584	0.0143
Hyster H190XL forklift	empty	50	14.63	7.4	0.94	0.19	0.05	250	27.74	3.2500	0.6500	0.1595
Hyster H190XL forklift	full	50	17.33	7.4	1.11	0.22	0.05	250	27.74	3.8629	0.7726	0.1896
Chip Tk to offsite	full	50	49.00	7.4	3.22	0.64	0.16	250	0.48	0.1930	0.0386	0.0095
Chip tk from offsite	empty	50	18.00	7.4	1.16	0.23	0.06	250	0.48	0.0695	0.0139	0.0034
SHIPPING												
Outbound Trucks	full	50	45.0	7.4	2.95	0.59	0.14	250	2.60	0.9582	0.1916	0.0470
Inbound Trucks	empty	50	16.0	7.4	1.03	0.21	0.05	250	2.60	0.3337	0.0667	0.0164
3 Hyster 190 XL forklifts	empty	50	14.63	7.4	0.94	0.19	0.05	250	11.10	1.3005	0.2601	0.0638
3 Hyster 190 XL forklifts	full	50	17.33	7.4	1.11	0.22	0.05	250	11.10	1.5457	0.3091	0.0759
ROSEBUD												
Forklifts	empty	50	5.0	7.4	0.31	0.06	0.02	250	0.12	0.0047	0.0009	0.0002
Forklifts	full	50	6.5	7.4	0.41	0.08	0.02	250	0.12	0.0061	0.0012	0.0003
Outb Tks (baled shavings)	full	50	16.0	7.4	1.03	0.21	0.05	250	0.79	0.1014	0.0203	0.0050
Inb Tks (baled shavings)	empty	50	40.0	7.4	2.61	0.52	0.13	250	0.79	0.2582	0.0516	0.0127
Outb Tks (bulk)	full	50	18.0	7.4	1.16	0.23	0.06	250	0.92	0.1332	0.0266	0.0065
Inb Tks (bulk)	empty	50	49.0	7.4	3.22	0.64	0.16	250	0.92	0.3698	0.0740	0.0182

Paved Road	tons/yr	33.53	6.71	1.65
All roads Total	tons/yr	48.6	8.2	1.6

BENNETT FOREST INDUSTRIES**80,000PPH Wood-Fired Steam Generation System****A. GUARANTEED EMISSIONS LEVELS**

Provided that the boiler plant is operated and properly maintained, within operating instructions and recommendations, and fuel is supplied within the specifications, emissions will not exceed the following:

- Visible emissions will not exceed twenty percent (20%) opacity except during brief cleaning periods.
- Particulate emissions for fuel-burning equipment will not exceed 0.042 grains per scf corrected to twelve percent (12%) CO₂ and dry air conditions, except during brief cleaning periods.
- Gaseous emissions for fuel burning equipment will not exceed the following limits except during brief cleaning periods.
 - CO 0.20 pound per million Btu of heat input.
 - VOC 0.05 pound per million Btu of heat input.
 - NOX 0.25 pound per million Btu of heat input.

B. FUEL SPECIFICATIONS

Boiler system performance is based upon fuel delivered to the metering surge bins as follows:

- Particle Size - Three inches maximum with average of 3/4 inch or less.
- Type - Any combination of hogged bark, hogged wood, sawdust, shavings, or wood chips, not containing materials foreign to natural composition.
- Moisture Content - Fifty percent (50%) as received [wet basis] maximum or one hundred percent (100%) [dry basis] maximum.
- Ash and Dirt Content - Not to exceed 2.0% dry weight.

Wellons MACT HAP emissions calculations

MM BTU/HR HEAT INPUT		50	75	100	110	115	120	125	Grangeville Unit
	mmBTU	219.0	328.5	438.0	481.8	503.7	525.6	547.5	115.8 MMBtu/hr
AP-42 FACTORS	lb/mmBtu								
Acetaldehyde	8.30E-04	0.1818	0.2727	0.3635	0.3999	0.4181	0.4362	0.4544	0.4208
Acetophenone	3.20E-09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Acrolein	4.00E-03	0.8760	1.3140	1.7520	1.9272	2.0148	2.1024	2.1900	2.0280
Benzene	4.20E-03	0.9198	1.3797	1.8396	2.0236	2.1155	2.2075	2.2995	2.1294
bis(2-Ethylhexyl)phthalate	4.70E-08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Carbon tetrachloride	4.50E-05	0.0099	0.0148	0.0197	0.0217	0.0227	0.0237	0.0246	0.0228
Chlorine	7.90E-04	0.1730	0.2595	0.3460	0.3806	0.3979	0.4152	0.4325	0.4005
Chlorobenzene	3.30E-05	0.0072	0.0108	0.0145	0.0159	0.0166	0.0173	0.0181	0.0167
Chloroform	2.80E-05	0.0061	0.0092	0.0123	0.0135	0.0141	0.0147	0.0153	0.0142
2,4-Dinitrophenol	1.80E-07	0.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
Ethylbenzene	3.10E-05	0.0068	0.0102	0.0136	0.0149	0.0156	0.0163	0.0170	0.0157
Formaldehyde	4.40E-03	0.9636	1.4454	1.9272	2.1199	2.2163	2.3126	2.4090	2.2308
Hydrogen chloride	1.90E-02	4.1610	6.2415	8.3220	9.1542	9.5703	9.9864	10.4025	9.6330
Naphthalene	9.70E-05	0.0212	0.0319	0.0425	0.0467	0.0489	0.0510	0.0531	0.0492
4-Nitrophenol	2.40E-07	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
Pentachlorophenol	5.10E-08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Phenol	5.10E-05	0.0112	0.0168	0.0223	0.0246	0.0257	0.0268	0.0279	0.0259
Propionaldehyde	6.10E-05	0.0134	0.0200	0.0267	0.0294	0.0307	0.0321	0.0334	0.0309
Styrene	1.90E-03	0.4161	0.6242	0.8322	0.9154	0.9570	0.9986	1.0403	0.9633
2,3,7,8-Tetrachlorodibenzo-p-dioxins	8.60E-12	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Toluene	9.20E-04	0.2015	0.3022	0.4030	0.4433	0.4634	0.4836	0.5037	0.0466
2,4,6-Trichlorophenol	2.20E-08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vinyl Chloride	1.80E-05	0.0039	0.0059	0.0079	0.0087	0.0091	0.0095	0.0099	0.0091
o-Xylene	2.50E-05	0.0055	0.0082	0.0110	0.0120	0.0126	0.0131	0.0137	0.0127
Antimony	7.90E-06	0.0017	0.0026	0.0035	0.0038	0.0040	0.0042	0.0043	0.0040
Arsenic	2.20E-05	0.0048	0.0072	0.0096	0.0106	0.0111	0.0116	0.0120	0.0112
Beryllium	1.10E-06	0.0002	0.0004	0.0005	0.0005	0.0006	0.0006	0.0006	0.0006
Cadmium	4.10E-06	0.0009	0.0013	0.0018	0.0020	0.0021	0.0022	0.0022	0.0021
Chromium, total	2.10E-05	0.0046	0.0069	0.0092	0.0101	0.0106	0.0110	0.0115	0.0106
Cobalt	6.50E-06	0.0014	0.0021	0.0028	0.0031	0.0033	0.0034	0.0036	0.0033
Lead	4.80E-05	0.0105	0.0158	0.0210	0.0231	0.0242	0.0252	0.0263	0.0243
Manganese	1.60E-03	0.3504	0.5256	0.7008	0.7709	0.8059	0.8410	0.8760	0.8112
Mercury	3.50E-06	0.0008	0.0011	0.0015	0.0017	0.0018	0.0018	0.0019	0.0018
Nickel	3.30E-05	0.0072	0.0108	0.0145	0.0159	0.0166	0.0173	0.0181	0.0167
Selenium	2.80E-06	0.0006	0.0009	0.0012	0.0013	0.0014	0.0015	0.0015	0.0014
TOTAL EPA HAPS (tons/yr)	3.82E-02	8.3613	12.5419	16.7226	18.3949	19.2310	20.0671	20.9032	18.9372



**The #1 Waste Oil Furnace
In Customer Satisfaction***

VERSATILE WASTE OIL HEATING TECHNOLOGY

- Furnace system includes:**
- Oil supply pump
 - In-line washable oil filter
 - Vacuum gauge for filter
 - Check valve
 - Tank filter
 - Oil line fittings package
 - Wall thermostat
 - Barometric damper



6 ft. figure shown for scale



	CB-1750	CB-2500	CB-3250	CB-3500	CB-5000
*Maximum BTU/hour	175,000 (51.25 kW)	250,000 (73 kW)	325,000 (95.3 kW)	350,000 (102 kW)	500,000 (146 kW)
*Maximum oil consumption	1.2 GPH (4.54 L/h)	1.7 GPH (6.4 L/h)	2.1 GPH (7.91 L/h)	2.5 GPH (9.5 L/h)	3.6 GPH (13.6 L/h)
Fuels	← Used oils: Crankcase, ATF, hydraulic Fuel oils: #2, #4, and #5 fuel oil →				
Air flow output (CFM)	Unit heater 1700 Central furnace (ducted) 0.25 SPWC (in.) 1500 0.30 SPWC (in.) 1400	Unit heater 2700 Central furnace (ducted) 0.25 SPWC (in.) 2500 0.40 SPWC (in.) 2400	Unit heater 3300 Central furnace (ducted) 0.25 SPWC (in.) 3150 0.40 SPWC (in.) 2900	Unit heater 4200 Central furnace (ducted) 0.25 SPWC (in.) 4000 0.40 SPWC (in.) 3800	Unit heater 5500 Central furnace (ducted) 0.25 SPWC (in.) 5200 0.40 SPWC (in.) 5100
*Air compressor req'd	2.0 CFM @ 20 PSI (3.4 m ³ /h @ 1.4 bar)	2.0 CFM @ 20 PSI (3.4 m ³ /h @ 1.4 bar)	2.0 CFM @ 20 PSI (3.4 m ³ /h @ 1.4 bar)	2.0 CFM @ 25 PSI (3.4 m ³ /h @ 1.7 bar)	2.5 CFM @ 25 PSI (4.25 m ³ /h @ 1.7 bar)
Stack size	8 inch dia. (203mm dia.)	8 inch dia. (203mm dia.)	8 inch dia. (203mm dia.)	8 inch dia. (203mm dia.)	10 inch dia. (254mm dia.)
Furnace dimensions, assembled L x W x H (inches) (millimeters)	83 x 29.25 x 31.5 (2100 x 743 x 787)	103.25 x 29.25 x 31.5 (2623 x 743 x 787)	12' L x 31.25 W x 35 H (3073 x 794 x 889)	74 x 35 x 61 (1880 x 889 x 1549)	76 x 38 x 73 (1901 x 965 x 1845)
Approx. weight (Uncrated furnace system)	406 pounds (182.7 kg)	509 pounds (229.1 kg)	641 pounds (288.7 kg)	836 pounds (376.2 kg)	1036 pounds (466.2 kg)
Electrical requirements	115 VAC 60 Hz, single phase 20A circuit breaker	115 VAC 60 Hz, single phase 30A circuit breaker	115 VAC 60 Hz, single phase 30 A circuit breaker 230 VAC 60 Hz, single phase 20 A circuit breaker	230 VAC 60 Hz, single phase 30 A circuit breaker	230 VAC 60 Hz, single phase 30 A circuit breaker

*Values indicated above are nominal. Actual values will vary depending on fuel and installation.

Appendix C

IDEQ Forms



DEQ AIR QUALITY PROGRAM
 1410 N. Hilton, Boise, ID 83706
 For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Cover Sheet for Air Permit Application – Tier I **Form CSTI**

Revision 5
 08/28/08

Please see instructions on page 2 before filling out the form.

COMPANY NAME, FACILITY NAME, AND FACILITY ID NUMBER			
1. Company Name	Idaho Forest Group		
2. Facility Name	Idaho Forest Group - Grangeville	3. Facility ID No.	049-00003
4. Brief Project Description - One sentence or less	Tier I Renewal Permit Application for Idaho Forest Group - Grangeville.		

PERMIT APPLICATION TYPE	
5. <input type="checkbox"/> Initial Tier I	<input type="checkbox"/> Tier I Administrative Amendment
<input checked="" type="checkbox"/> Tier I Renewal: Permit No.: <u>TI-2008.0203</u>	Date Issued: <u>March 20, 2008</u>

FORMS INCLUDED			
Include d	N/A	Forms	DEQ Verify
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Form CSTI – Cover Sheet	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Form GI – Facility Information	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Form EU0 – Emissions Units General	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Form EU1– Industrial Engine Information	Please specify number of EU1s attached: <u>1</u>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form EU2– Nonmetallic Mineral Processing Plants	Please specify number of EU2s attached: <u>0</u>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form EU3– Spray Paint Booth Information	Please specify number of EU3s attached: <u>0</u>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form EU4– Cooling Tower Information	Please specify number of EU4s attached: <u>0</u>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Form EU5 – Boiler Information	Please specify number of EU5s attached: <u>1</u>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form CBP– Concrete Batch Plant	Please Specify number of CBPs attached: <u>0</u>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form HMAP – Hot Mix Asphalt Plant	Please specify number of HMAPs attached: <u>0</u>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	PERF – Portable Equipment Relocation Form	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Form BCE– Baghouses Control Equipment	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form SCE– Scrubbers Control Equipment	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form VSCE – Venturi Scrubber Control Equipment	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Form ESP – Electrostatic Precipitator	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form AO – Afterburner/Oxidizer	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Form CYS – Cyclone Separator	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form CA – Carbon Adsorber	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Forms EI-CP1 - EI-CP4– Emissions Inventory– criteria pollutants (Excel workbook, all 4 worksheets)	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Form CAM – Compliance Assurance Monitoring	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Form FRA – Federal Regulation Applicability	<input type="checkbox"/>



Please see instructions on back page before filling out the form. All information is required. If information is missing, the application will not be processed.

Identification

1. Facility name: Idaho Forest Group - Grangeville
 2. Existing facility identification number: 049-00003
 Check if new facility (not yet operating)
 3. Brief project description: Tier I Renewal Permit Application for Idaho Forest Group - Grangeville

Facility Information

4. Primary facility permitting contact name: Kevin Dahler
 Contact type: Facility permitting contact
 Telephone number: 208-983-0012
 E-mail: kdahler@idfg.com
 5. Alternate facility permitting contact name: Shannon Fuchs
 Alternate contact type: Facility permitting contact
 Telephone number: 208-983-0012
 E-mail: sfuchs@idfg.com
 6. Mailing address where permit will be sent (street/city/county/state/zip code): 171 Highway 95 North / Grangeville / Idaho County / Idaho / 83530
 7. Physical address of permitted facility (if different than mailing address) (street/city/county/state/zip code): same as above
 8. Is the equipment portable? Yes* No *If yes, complete and attach PERF; see instructions.
 9. NAICS codes: Primary NAICS: 321113 Secondary NAICS:
 10. Brief business description and principal product produced: Lumber Mill that produces dimensional lumber as its principal product.
 11. Identify any adjacent or contiguous facility this company owns and/or operates: None

12. Specify type of application Permit to construct (PTC); application fee of \$1,000 required. See instructions.
 Tier I permit Tier II permit Tier II/Permit to construct
 For Tier I permitted facilities only: If you are applying for a PTC then you must also specify how the PTC will be incorporated into the Tier I permit.
 Co-process Tier I modification and PTC Incorporate PTC at the time of Tier I renewal Administratively amend the Tier I permit to incorporate the PTC upon applicant's request (IDAPA 58.01.01.209.05.a, b, or c)

Certification

In accordance with IDAPA 58.01.01.123 (Rules for the Control of Air Pollution in Idaho), I certify based on information and belief formed after reasonable inquiry, the statements and information in the document(s) are true, accurate, and complete.

13. Responsible official's name: Scott Atkison
 Official's title: President
 Official's address: 171 Highway 95 North
 Telephone number: 208-983-0012
 E-mail: scotta@idfg.com
 Official's signature: *Shannon Fuchs for Scott Atkison*
 Date: 9/19/12

14. Check here to indicate that you want to review the draft permit before final issuance.



Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name: Idaho Forest Goup	2. Facility Name: Idaho Forest Group - Grangeville	3. Facility ID No: 049-00003
4. Brief Project Description: Tier I Renewal Permit Application for Idaho Forest Group - Grangeville		

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5. Emissions Unit (EU) Name:	DRY KILN 1		
6. EU ID Number:	KILN 1		
7. EU Type:	<input type="checkbox"/> New Source	<input type="checkbox"/> Unpermitted Existing Source	Date Issued: March 20, 2008
	<input type="checkbox"/> Modification to a Permitted Source -- Previous Permit #: TI-2008.0203		
8. Manufacturer:	MOORE		
9. Model:	88'		
10. Maximum Capacity:	DEPENDS ON SPECIES AND MOISTURE, ABOUT 50,000 MMBF		
11. Date of Construction:	1972		
12. Date of Modification (if any):	2005		
13. Is this a Controlled Emission Unit?	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If Yes, complete the following section. If No, go to line 22.		

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID:	None		
15. Date of Installation:	16. Date of Modification (if any):		
17. Manufacturer and Model Number:			
18. ID(s) of Emission Unit Controlled:			
19. Is operating schedule different than emission units(s) involved?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
20. Does the manufacturer guarantee the control efficiency of the control equipment?	<input type="checkbox"/> Yes	<input type="checkbox"/> No (If Yes, attach and label manufacturer guarantee)	

Control Efficiency	Pollutant Controlled					
	PM	PM10	SO ₂	NO _x	VOC	CO

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22. Actual Operation:	24 HOURS/DAY 7 DAYS/WEEK APPROX 51 TO 52 WEEKS/YR
23. Maximum Operation:	24 HOURS/DAY 7 DAYS/WEEK 52 WEEKS/YEAR

REQUESTED LIMITS

24. Are you requesting any permit limits?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No (If Yes, indicate all that apply below)
<input type="checkbox"/> Operation Hour Limit(s):		
<input checked="" type="checkbox"/> Production Limit(s):	250 MMBF LUMBER DRIED THROUGH ALL KILNS COMBINED.	
<input type="checkbox"/> Material Usage Limit(s):		
<input type="checkbox"/> Limits Based on Stack Testing:	Please attach all relevant stack testing summary reports	
<input type="checkbox"/> Other:		

25. Rationale for Requesting the Limit(s): By limiting our Throughput, it will limit the emissions and keep our facility from becoming a major source.

STATE OF IDAHO

APPLICATION TO CONSTRUCT AN AIR POLLUTION EMITTING FACILITY

SECTION 3: PROCESS AND MANUFACTURING EQUIPMENT (complete a separate page for each distinct process or manufacturing operation)

1. APPLICANT'S REFERENCE NUMBER Dry Kiln 1		2. PROCESS OR OPERATION NAME Lumber drying																										
3. MAXIMUM RATED INPUT CAPACITY Unknown	4. NORMAL MAXIMUM FEED INPUT 7.0 BDT/hr	12. NORMAL MAXIMUM PRODUCT OUTPUT 50 MMbf/yr																										
6. PROCESS EQUIPMENT Type <u>Steam</u> Manufacturer <u>Moore</u> Model Number <u>88'</u> Feed Material <u>Green lumber</u>		10. POLLUTION CONTROL EQUIPMENT <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td></td> <td style="text-align: center;">Primary</td> <td style="text-align: center;">Secondary</td> </tr> <tr> <td>Type</td> <td style="text-align: center;">None</td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Manufacturer</td> <td style="text-align: center;">None</td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Model Number</td> <td style="text-align: center;">None</td> <td style="text-align: center;">_____</td> </tr> <tr> <td>% Efficiency</td> <td style="text-align: center;">None</td> <td style="text-align: center;">_____</td> </tr> </table>			Primary	Secondary	Type	None	_____	Manufacturer	None	_____	Model Number	None	_____	% Efficiency	None	_____										
	Primary	Secondary																										
Type	None	_____																										
Manufacturer	None	_____																										
Model Number	None	_____																										
% Efficiency	None	_____																										
7. OPERATING SCHEDULE Hours per day <u>24</u> Days per week <u>7</u> Weeks per year <u>52</u>		MANUFACTURER GUARANTEED Yes no (Include guarantee) For wet scrubbers: water flow _____ gpm pressure drop _____ inches of water For baghouses: air/cloth ratio _____ pressure drop _____ inches of water																										
8. STACK OR EXHAUST DATA <table style="width:100%;"> <tr> <td style="text-align: right;">Stack ID</td> <td><u>KILN1</u></td> </tr> <tr> <td style="text-align: right;">Height</td> <td><u>23</u> ft</td> </tr> <tr> <td style="text-align: right;">Exit diameter</td> <td><u>3.5</u> ft</td> </tr> <tr> <td style="text-align: right;">Exit gas volume</td> <td><u>1521.3</u> acfm</td> </tr> <tr> <td style="text-align: right;">Exit gas temperature</td> <td><u>160</u> F</td> </tr> </table> <p>(Include a separate page for each stack if multiple stacks or vents are used)</p> <p>Pseudo stack data, as per IDEQ recommendation, and Modeling protocol.</p>		Stack ID	<u>KILN1</u>	Height	<u>23</u> ft	Exit diameter	<u>3.5</u> ft	Exit gas volume	<u>1521.3</u> acfm	Exit gas temperature	<u>160</u> F	11. CRITERIA POLLUTANT ESTIMATED EMISSIONS <table style="width:100%;"> <tr> <td>Particulates as PM₁₀</td> <td style="text-align: right;"><u>0.298 lb/hr</u></td> <td style="text-align: right;"><u>1.25</u> tons/yr</td> </tr> <tr> <td>sulfur dioxide</td> <td style="text-align: right;">_____ lb/hr</td> <td style="text-align: right;">_____ tons/yr</td> </tr> <tr> <td>carbon monoxide</td> <td style="text-align: right;">_____ lb/hr</td> <td style="text-align: right;">_____ tons/yr</td> </tr> <tr> <td>nitrogen oxides</td> <td style="text-align: right;">_____ lb/hr</td> <td style="text-align: right;">_____ tons/yr</td> </tr> <tr> <td>Volatile organic compounds</td> <td style="text-align: right;"><u>8.34 lb/hr</u></td> <td style="text-align: right;"><u>35.0</u> tons/yr</td> </tr> </table> <p>(Include calculations and assumptions)</p>		Particulates as PM ₁₀	<u>0.298 lb/hr</u>	<u>1.25</u> tons/yr	sulfur dioxide	_____ lb/hr	_____ tons/yr	carbon monoxide	_____ lb/hr	_____ tons/yr	nitrogen oxides	_____ lb/hr	_____ tons/yr	Volatile organic compounds	<u>8.34 lb/hr</u>	<u>35.0</u> tons/yr
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9. TOXIC AIR POLLUTANT ESTIMATED EMISSIONS (Include calculations and assumptions)																												
Pollutant	Uncontrolled Emissions		Controlled Emissions																									
Methanol	0.47 lb/hr	1.97 tons/yr	lb/hr	tons/yr																								
Formaldehyde	0.013 lb/hr	0.0546 tons/yr	lb/hr	tons/yr																								
	lb/hr	tons/yr	lb/hr	tons/yr																								
	lb/hr	tons/yr	lb/hr	tons/yr																								
	lb/hr	tons/yr	lb/hr	tons/yr																								
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Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name: Idaho Forest Goup	2. Facility Name: Idaho Forest Group - Grangeville	3. Facility ID No: 049-00003
4. Brief Project Description: Tier I Renewal Permit Application for Idaho Forest Group - Grangeville		

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5. Emissions Unit (EU) Name:	DRY KILN 2		
6. EU ID Number:	KILN 2		
7. EU Type:	<input type="checkbox"/> New Source <input type="checkbox"/> Unpermitted Existing Source <input type="checkbox"/> Modification to a Permitted Source -- Previous Permit #: TI-2008.0203 Date Issued: March 20, 2008		
8. Manufacturer:	MOORE		
9. Model:	88'		
10. Maximum Capacity:	DEPENDS ON SPECIES AND MOISTURE, ABOUT 50,000 MMBF		
11. Date of Construction:	1972		
12. Date of Modification (if any):	2005		
13. Is this a Controlled Emission Unit?	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If Yes, complete the following section. If No, go to line 22.		

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID:	None		
15. Date of Installation:	16. Date of Modification (if any):		
17. Manufacturer and Model Number:			
18. ID(s) of Emission Unit Controlled:			
19. Is operating schedule different than emission units(s) involved?	<input type="checkbox"/> Yes <input type="checkbox"/> No		
20. Does the manufacturer guarantee the control efficiency of the control equipment?	<input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, attach and label manufacturer guarantee)		

Control Efficiency	Pollutant Controlled					
	PM	PM10	SO ₂	NO _x	VOC	CO

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22. Actual Operation:	24 HOURS/DAY 7 DAYS/WEEK APPROX 51 TO 52 WEEKS/YR
23. Maximum Operation:	24 HOURS/DAY 7 DAYS/WEEK 52 WEEKS/YEAR

REQUESTED LIMITS

24. Are you requesting any permit limits?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, indicate all that apply below)		
<input type="checkbox"/> Operation Hour Limit(s):			
<input checked="" type="checkbox"/> Production Limit(s):	250 MMBF LUMBER DRIED THROUGH ALL KILNS COMBINED.		
<input type="checkbox"/> Material Usage Limit(s):			
<input type="checkbox"/> Limits Based on Stack Testing:	Please attach all relevant stack testing summary reports		
<input type="checkbox"/> Other:			

25. Rationale for Requesting the Limit(s): By limiting our Throughput, it will limit the emissions and keep our facility from becoming a major source.



Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name: Idaho Forest Goup	2. Facility Name: Idaho Forest Group - Grangeville	3. Facility ID No: 049-00003
4. Brief Project Description: Tier I Renewal Permit Application for Idaho Forest Group - Grangeville		

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5. Emissions Unit (EU) Name:	DRY KILN 3		
6. EU ID Number:	KILN 3		
7. EU Type:	<input type="checkbox"/> New Source	<input type="checkbox"/> Unpermitted Existing Source	Date Issued: March 20, 2008
	<input type="checkbox"/> Modification to a Permitted Source -- Previous Permit #: TI-2008.0203		
8. Manufacturer:	MOORE		
9. Model:	88'		
10. Maximum Capacity:	DEPENDS ON SPECIES AND MOISTURE, ABOUT 50,000 MMBF		
11. Date of Construction:	1972		
12. Date of Modification (if any):	2005		
13. Is this a Controlled Emission Unit?	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If Yes, complete the following section. If No, go to line 22.		

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID:	None					
15. Date of Installation:	16. Date of Modification (if any):					
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STATE OF IDAHO

APPLICATION TO CONSTRUCT AN AIR POLLUTION EMITTING FACILITY

SECTION 3: PROCESS AND MANUFACTURING EQUIPMENT (complete a separate page for each distinct process or manufacturing operation)

1. APPLICANT'S REFERENCE NUMBER Dry Kiln 3		2. PROCESS OR OPERATION NAME Lumber drying																															
3. MAXIMUM RATED INPUT CAPACITY Unknown	4. NORMAL MAXIMUM FEED INPUT 7.0 BDT/hr	14. NORMAL MAXIMUM PRODUCT OUTPUT 50 MMbf/yr																															
6. PROCESS EQUIPMENT Type <u>Steam</u> Manufacturer <u>Moore</u> Model Number <u>88'</u> Feed Material <u>Green lumber</u>		10. POLLUTION CONTROL EQUIPMENT <table style="width:100%; border-collapse: collapse;"> <tr> <td></td> <td style="text-align: center;">Primary</td> <td style="text-align: center;">Secondary</td> </tr> <tr> <td>Type</td> <td style="text-align: center;"><u>None</u></td> <td style="text-align: center;"><u></u></td> </tr> <tr> <td>Manufacturer</td> <td style="text-align: center;"><u>None</u></td> <td style="text-align: center;"><u></u></td> </tr> <tr> <td>Model Number</td> <td style="text-align: center;"><u>None</u></td> <td style="text-align: center;"><u></u></td> </tr> <tr> <td>% Efficiency</td> <td style="text-align: center;"><u>None</u></td> <td style="text-align: center;"><u></u></td> </tr> </table>			Primary	Secondary	Type	<u>None</u>	<u></u>	Manufacturer	<u>None</u>	<u></u>	Model Number	<u>None</u>	<u></u>	% Efficiency	<u>None</u>	<u></u>															
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Manufacturer	<u>None</u>	<u></u>																															
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% Efficiency	<u>None</u>	<u></u>																															
7. OPERATING SCHEDULE Hours per day <u>24</u> Days per week <u>7</u> Weeks per year <u>52</u>		MANUFACTURER GUARANTEED Yes no (Include guarantee) For wet scrubbers: water flow _____ gpm pressure drop _____ inches of water For baghouses: air/cloth ratio _____ pressure drop _____ inches of water																															
8. STACK OR EXHAUST DATA <table style="width:100%; border-collapse: collapse;"> <tr> <td style="text-align: right;">Stack ID</td> <td style="text-align: center;"><u>KILN3</u></td> <td></td> </tr> <tr> <td style="text-align: right;">Height</td> <td style="text-align: center;"><u>23</u></td> <td style="text-align: right;">ft</td> </tr> <tr> <td style="text-align: right;">Exit diameter</td> <td style="text-align: center;"><u>3.5</u></td> <td style="text-align: right;">ft</td> </tr> <tr> <td style="text-align: right;">Exit gas volume</td> <td style="text-align: center;"><u>1521.3</u></td> <td style="text-align: right;">acfm</td> </tr> <tr> <td style="text-align: right;">Exit gas temperature</td> <td style="text-align: center;"><u>160</u></td> <td style="text-align: right;">F</td> </tr> </table> <p>(Include a separate page for each stack if multiple stacks or vents are used)</p> <p>Pseudo stack data, as per IDEQ recommendation, and Modeling protocol.</p>		Stack ID	<u>KILN3</u>		Height	<u>23</u>	ft	Exit diameter	<u>3.5</u>	ft	Exit gas volume	<u>1521.3</u>	acfm	Exit gas temperature	<u>160</u>	F	11. CRITERIA POLLUTANT ESTIMATED EMISSIONS <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:60%;">Particulates as PM₁₀</td> <td style="width:20%; text-align: center;"><u>0.298 lb/hr</u></td> <td style="width:20%; text-align: center;"><u>1.25 tons/yr</u></td> </tr> <tr> <td>sulfur dioxide</td> <td style="text-align: center;"><u>lb/hr</u></td> <td></td> </tr> <tr> <td>carbon monoxide</td> <td style="text-align: center;"><u>lb/hr</u></td> <td></td> </tr> <tr> <td>nitrogen oxides</td> <td style="text-align: center;"><u>lb/hr</u></td> <td></td> </tr> <tr> <td>Volatile organic compounds</td> <td style="text-align: center;"><u>8.34 lb/hr</u></td> <td style="text-align: center;"><u>35.0 tons/yr</u></td> </tr> </table> <p>(Include calculations and assumptions)</p>		Particulates as PM ₁₀	<u>0.298 lb/hr</u>	<u>1.25 tons/yr</u>	sulfur dioxide	<u>lb/hr</u>		carbon monoxide	<u>lb/hr</u>		nitrogen oxides	<u>lb/hr</u>		Volatile organic compounds	<u>8.34 lb/hr</u>	<u>35.0 tons/yr</u>
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9. TOXIC AIR POLLUTANT ESTIMATED EMISSIONS (Include calculations and assumptions)																																	
Pollutant	Uncontrolled Emissions		Controlled Emissions																														
Methanol	0.47 lb/hr	1.97 tons/yr	lb/hr	tons/yr																													
Formaldehyde	0.013 lb/hr	0.0546 tons/yr	lb/hr	tons/yr																													
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1. Company Name: Idaho Forest Goup	2. Facility Name: Idaho Forest Group - Grangeville	3. Facility ID No: 049-00003
4. Brief Project Description: Tier I Renewal Permit Application for Idaho Forest Group - Grangeville		

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5. Emissions Unit (EU) Name:	DRY KILN 4		
6. EU ID Number:	KILN 4		
7. EU Type:	<input type="checkbox"/> New Source <input type="checkbox"/> Unpermitted Existing Source <input type="checkbox"/> Modification to a Permitted Source -- Previous Permit #: TI-2008.0203 Date Issued: March 20, 2008		
8. Manufacturer:	WELLONS		
9. Model:	88'		
10. Maximum Capacity:	DEPENDS ON SPECIES AND MOISTURE, ABOUT 50,000 MMBF		
11. Date of Construction:	2005		
12. Date of Modification (if any):			
13. Is this a Controlled Emission Unit?	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If Yes, complete the following section. If No, go to line 22.		

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID:	None					
15. Date of Installation:	16. Date of Modification (if any):					
17. Manufacturer and Model Number:						
18. ID(s) of Emission Unit Controlled:						
19. Is operating schedule different than emission units(s) involved?	<input type="checkbox"/> Yes <input type="checkbox"/> No					
20. Does the manufacturer guarantee the control efficiency of the control equipment?	<input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, attach and label manufacturer guarantee)					
Control Efficiency	Pollutant Controlled					
	PM	PM10	SO ₂	NO _x	VOC	CO

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22. Actual Operation:	24 HOURS/DAY 7 DAYS/WEEK APPROX 51 TO 52 WEEKS/YR
23. Maximum Operation:	24 HOURS/DAY 7 DAYS/WEEK 52 WEEKS/YEAR

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24. Are you requesting any permit limits?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, indicate all that apply below)	
<input type="checkbox"/> Operation Hour Limit(s):		
<input checked="" type="checkbox"/> Production Limit(s):	250 MMBF LUMBER DRIED THROUGH ALL KILNS COMBINED.	
<input type="checkbox"/> Material Usage Limit(s):		
<input type="checkbox"/> Limits Based on Stack Testing:	Please attach all relevant stack testing summary reports	
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STATE OF IDAHO

APPLICATION TO CONSTRUCT AN AIR POLLUTION EMITTING FACILITY

SECTION 3: PROCESS AND MANUFACTURING EQUIPMENT (complete a separate page for each distinct process or manufacturing operation)

1. APPLICANT'S REFERENCE NUMBER Dry Kiln 4		2. PROCESS OR OPERATION NAME Lumber Drying																																				
3. MAXIMUM RATED INPUT CAPACITY Unknown	4. NORMAL MAXIMUM FEED INPUT 7.0 BDT/hr	15. NORMAL MAXIMUM PRODUCT OUTPUT 50 MMbf/yr																																				
6. PROCESS EQUIPMENT Type <u>Steam</u> Manufacturer <u>Wellons</u> Model Number <u>88'</u> Feed Material <u>Green lumber</u>		10. POLLUTION CONTROL EQUIPMENT <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;"></td> <td style="width:25%; text-align: center;">Primary</td> <td style="width:25%; text-align: center;">Secondary</td> </tr> <tr> <td>Type</td> <td style="text-align: center;">None</td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Manufacturer</td> <td style="text-align: center;">None</td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Model Number</td> <td style="text-align: center;">None</td> <td style="text-align: center;">_____</td> </tr> <tr> <td>% Efficiency</td> <td style="text-align: center;">None</td> <td style="text-align: center;">_____</td> </tr> </table>			Primary	Secondary	Type	None	_____	Manufacturer	None	_____	Model Number	None	_____	% Efficiency	None	_____																				
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% Efficiency	None	_____																																				
7. OPERATING SCHEDULE Hours per day <u>24</u> Days per week <u>7</u> Weeks per year <u>52</u>		MANUFACTURER GUARANTEED Yes no (Include guarantee) For wet scrubbers: water flow _____ gpm pressure drop _____ inches of water For baghouses: air/cloth ratio _____ pressure drop _____ inches of water																																				
8. STACK OR EXHAUST DATA <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:20%;">Stack ID</td> <td style="width:30%;">KILN4</td> <td style="width:10%;"></td> <td style="width:40%;"></td> </tr> <tr> <td>Height</td> <td style="text-align: center;">23</td> <td style="text-align: center;">ft</td> <td></td> </tr> <tr> <td>Exit diameter</td> <td style="text-align: center;">3.5</td> <td style="text-align: center;">ft</td> <td></td> </tr> <tr> <td>Exit gas volume</td> <td style="text-align: center;">1521.3</td> <td style="text-align: center;">acfm</td> <td></td> </tr> <tr> <td>Exit gas temperature</td> <td style="text-align: center;">160</td> <td style="text-align: center;">F</td> <td></td> </tr> </table> <p>(Include a separate page for each stack if multiple stacks or vents are used)</p> <p>Pseudo stack data, as per IDEQ recommendation, and Modeling protocol.</p>		Stack ID	KILN4			Height	23	ft		Exit diameter	3.5	ft		Exit gas volume	1521.3	acfm		Exit gas temperature	160	F		11. CRITERIA POLLUTANT ESTIMATED EMISSIONS <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;">Particulates as PM₁₀</td> <td style="width:25%; text-align: center;">0.298 lb/hr</td> <td style="width:25%; text-align: center;">1.25 tons/yr</td> </tr> <tr> <td>sulfur dioxide</td> <td style="text-align: center;">_____ lb/hr</td> <td style="text-align: center;">_____ tons/yr</td> </tr> <tr> <td>carbon monoxide</td> <td style="text-align: center;">_____ lb/hr</td> <td style="text-align: center;">_____ tons/yr</td> </tr> <tr> <td>nitrogen oxides</td> <td style="text-align: center;">_____ lb/hr</td> <td style="text-align: center;">_____ tons/yr</td> </tr> <tr> <td>Volatile compounds organic</td> <td style="text-align: center;">8.34 lb/hr</td> <td style="text-align: center;">35.0 tons/yr</td> </tr> </table> <p>(Include calculations and assumptions)</p>		Particulates as PM ₁₀	0.298 lb/hr	1.25 tons/yr	sulfur dioxide	_____ lb/hr	_____ tons/yr	carbon monoxide	_____ lb/hr	_____ tons/yr	nitrogen oxides	_____ lb/hr	_____ tons/yr	Volatile compounds organic	8.34 lb/hr	35.0 tons/yr
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Pollutant	Uncontrolled Emissions		Controlled Emissions																																			
Methanol	0.47 lb/hr	1.97 tons/yr	lb/hr	tons/yr																																		
Formaldehyde	0.013 lb/hr	0.0546 tons/yr	lb/hr	tons/yr																																		
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Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name: Idaho Forest Goup	2. Facility Name: Idaho Forest Group - Grangeville	3. Facility ID No: 049-00003
4. Brief Project Description: Tier I Renewal Permit Application for Idaho Forest Group - Grangeville		

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5. Emissions Unit (EU) Name:	DRY KILN 5		
6. EU ID Number:	KILN 5		
7. EU Type:	<input type="checkbox"/> New Source <input type="checkbox"/> Unpermitted Existing Source <input type="checkbox"/> Modification to a Permitted Source -- Previous Permit #: TI-2008.0203		Date Issued: March 20, 2008
8. Manufacturer:	WELLONS		
9. Model:	88'		
10. Maximum Capacity:	DEPENDS ON SPECIES AND MOISTURE, ABOUT 50,000 MMBF		
11. Date of Construction:	2005		
12. Date of Modification (if any):			
13. Is this a Controlled Emission Unit?	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If Yes, complete the following section. If No, go to line 22.		

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID:	None					
15. Date of Installation:	16. Date of Modification (if any):					
17. Manufacturer and Model Number:						
18. ID(s) of Emission Unit Controlled:						
19. Is operating schedule different than emission units(s) involved?	<input type="checkbox"/> Yes <input type="checkbox"/> No					
20. Does the manufacturer guarantee the control efficiency of the control equipment?	<input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, attach and label manufacturer guarantee)					
Control Efficiency	Pollutant Controlled					
	PM	PM10	SO ₂	NO _x	VOC	CO

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22. Actual Operation:	24 HOURS/DAY 7 DAYS/WEEK APPROX 51 TO 52 WEEKS/YR
23. Maximum Operation:	24 HOURS/DAY 7 DAYS/WEEK 52 WEEKS/YEAR

REQUESTED LIMITS

24. Are you requesting any permit limits?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, indicate all that apply below)	
<input type="checkbox"/> Operation Hour Limit(s):		
<input checked="" type="checkbox"/> Production Limit(s):	250 MMBF LUMBER DRIED THROUGH ALL KILNS COMBINED.	
<input type="checkbox"/> Material Usage Limit(s):		
<input type="checkbox"/> Limits Based on Stack Testing:	Please attach all relevant stack testing summary reports	
<input type="checkbox"/> Other:		

25. Rationale for Requesting the Limit(s): By limiting our Throughput, it will limit the emissions and keep our facility from becoming a major source.

STATE OF IDAHO

APPLICATION TO CONSTRUCT AN AIR POLLUTION EMITTING FACILITY

SECTION 3: PROCESS AND MANUFACTURING EQUIPMENT (complete a separate page for each distinct process or manufacturing operation)

1. APPLICANT'S REFERENCE NUMBER Dry Kiln 5		2. PROCESS OR OPERATION NAME Lumber Drying																
3. MAXIMUM RATED INPUT CAPACITY Unknown	4. NORMAL MAXIMUM FEED INPUT 7.0 BDT/hr	16. NORMAL MAXIMUM PRODUCT OUTPUT 50 MMbf/yr																
6. PROCESS EQUIPMENT Type <u>Steam</u> Manufacturer <u>Wellons</u> Model Number <u>88'</u> Feed Material <u>Green lumber</u>		10. POLLUTION CONTROL EQUIPMENT <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;"></td> <td style="width:25%; text-align: center;">Primary</td> <td style="width:25%; text-align: center;">Secondary</td> </tr> <tr> <td>Type</td> <td style="text-align: center;"><u>None</u></td> <td style="text-align: center;"><u></u></td> </tr> <tr> <td>Manufacturer</td> <td style="text-align: center;"><u>None</u></td> <td style="text-align: center;"><u></u></td> </tr> <tr> <td>Model Number</td> <td style="text-align: center;"><u>None</u></td> <td style="text-align: center;"><u></u></td> </tr> <tr> <td>% Efficiency</td> <td style="text-align: center;"><u>None</u></td> <td style="text-align: center;"><u></u></td> </tr> </table>			Primary	Secondary	Type	<u>None</u>	<u></u>	Manufacturer	<u>None</u>	<u></u>	Model Number	<u>None</u>	<u></u>	% Efficiency	<u>None</u>	<u></u>
	Primary	Secondary																
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7. OPERATING SCHEDULE Hours per day <u>24</u> Days per week <u>7</u> Weeks per year <u>52</u>		MANUFACTURER GUARANTEED Yes no (Include guarantee) For wet scrubbers: water flow _____ gpm pressure drop _____ inches of water For baghouses: air/cloth ratio _____ pressure drop _____ inches of water																
8. STACK OR EXHAUST DATA Stack ID <u>KILN5</u> Height <u>23</u> ft Exit diameter <u>3.5</u> ft Exit gas volume <u>1521.3</u> acfm Exit gas temperature <u>160</u> F (Include a separate page for each stack if multiple stacks or vents are used) Pseudo stack data, as per IDEQ recommendation, and Modeling protocol.		11. CRITERIA POLLUTANT ESTIMATED EMISSIONS <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:60%;">Particulates as PM₁₀</td> <td style="width:20%; text-align: center;"><u>0.298 lb/hr</u></td> <td style="width:20%; text-align: center;"><u>1.25 tons/yr</u></td> </tr> <tr> <td>sulfur dioxide</td> <td style="text-align: center;"><u>lb/hr</u></td> <td style="text-align: center;"><u>tons/yr</u></td> </tr> <tr> <td>carbon monoxide</td> <td style="text-align: center;"><u>lb/hr</u></td> <td style="text-align: center;"><u>tons/yr</u></td> </tr> <tr> <td>nitrogen oxides</td> <td style="text-align: center;"><u>lb/hr</u></td> <td style="text-align: center;"><u>tons/yr</u></td> </tr> <tr> <td>Volatile organic compounds</td> <td style="text-align: center;"><u>8.34 lb/hr</u></td> <td style="text-align: center;"><u>35.0 tons/yr</u></td> </tr> </table> (Include calculations and assumptions)		Particulates as PM ₁₀	<u>0.298 lb/hr</u>	<u>1.25 tons/yr</u>	sulfur dioxide	<u>lb/hr</u>	<u>tons/yr</u>	carbon monoxide	<u>lb/hr</u>	<u>tons/yr</u>	nitrogen oxides	<u>lb/hr</u>	<u>tons/yr</u>	Volatile organic compounds	<u>8.34 lb/hr</u>	<u>35.0 tons/yr</u>
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9. TOXIC AIR POLLUTANT ESTIMATED EMISSIONS (Include calculations and assumptions)																		
	Uncontrolled Emissions		Controlled Emissions															
Methanol	0.47 lb/hr	1.97 tons/yr	lb/hr	tons/yr														
Formaldehyde	0.013 lb/hr	0.0546 tons/yr	lb/hr	tons/yr														
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	lb/hr	tons/yr	lb/hr	tons/yr														



Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name: Idaho Forest Group	2. Facility Name: Idaho Forest Group - Grangeville	Emission Unit RE-1 Fire Pump Eng.
3. Brief Project Description: Tier I Permit Application for Idaho Forest Group - Grangeville		

ENGINE (EMISSION UNIT) DESCRIPTION AND SPECIFICATIONS

4. Type of Unit: <input type="checkbox"/> New Unit <input type="checkbox"/> Unpermitted Existing Unit <input checked="" type="checkbox"/> Modification to a Unit with Permit #: TI-2008.0203 Date Issued: March 20,2008			
5. Engine Displacement: Emission Unit RE-1... 14 Liters total, 2.33 (liters per cylinder)	6. Ignition Type: <input checked="" type="checkbox"/> Compression <input type="checkbox"/> Spark		
7. Use <input type="checkbox"/> Emergency <input checked="" type="checkbox"/> Non-Emergency			
8. Engine ID Number: Fire System Engine 218Horse Power-->	9. Maximum Rated Engine Power: _____ Brake Horsepower (bhp)		
10. Construction Date: Year 1974	11. Manufacturer: Cummins	12. Model: N-855-F	13. Model Year: 1974
14. Date of Modification (if applicable): N/A	15. Serial Number (if available): Not Available	16. Control Device (if any): none	

FUEL DESCRIPTION AND SPECIFICATIONS

17. Fuel Type	<input checked="" type="checkbox"/> Diesel Fuel (#2) (gal/hr)	<input type="checkbox"/> Gasoline Fuel (gal/hr)	<input type="checkbox"/> Natural Gas (cf/hr)	<input type="checkbox"/> Other Fuels (unit:)
18. Full Load Consumption Rate	11.7			
19. Actual Consumption Rate	N/A			
20. Sulfur Content wt%	maximum 15ppm	N/A	N/A	

OPERATING LIMITS & SCHEDULE

21. Imposed Operating Limits (hours/year, or gallons fuel/year, etc.): None
22. Operating Schedule (hours/day, months/year, etc.): For Maintenance Checks and Testing: approximately 2 hours /month. Used for fire system if electrical pumps fail.



Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name: Idaho Forest Group	2. Facility Name: Idaho Forest Group - Grangeville	3 Facility ID No: 049-00003
4. Brief Project Description: Tier I Renewal Permit Application for Idaho Forest Group - Grangeville.		

EXEMPTION

Please see IDAPA 58.01.01.222 for a list of industrial boilers that are exempt from Permit to Construct requirements.

BOILER (EMISSION UNIT) DESCRIPTION AND SPECIFICATIONS

5. Type of Request: <input type="checkbox"/> New Unit <input type="checkbox"/> Unpermitted Existing Unit <input type="checkbox"/> Modification to a Unit with Permit #:TI-2008.0203 issued March 20,2008		
6. Use of Boiler: <input type="checkbox"/> % Used For Process <input type="checkbox"/> % Used For Space Heat <input type="checkbox"/> % Used For Generating Electricity <input checked="" type="checkbox"/> Other: Estimated over 95% used for Process, less than 5% used for Space Heat		
7. Boiler ID Number: B-1	8. Rated Capacity: <input type="checkbox"/> Million British Thermal Units Per Hour (MMBtu/hr) <input checked="" type="checkbox"/> 80 1,000 Pounds Steam Per Hour (1,000 lb steam/hr)	
9. Construction Date: June 2005	10. Manufacturer: Wellons	11. Model: 2D2C8.0A
12. Date of Modification (if applicable): N/A	13. Serial Number (if available): B-2421-501	14. Control Device (if any): Multiclone & ESP Note: Attach applicable control equipment form(s)

FUEL DESCRIPTION AND SPECIFICATIONS

15. Fuel Type	<input type="checkbox"/> Diesel Fuel (#) (gal/hr)	<input type="checkbox"/> Natural Gas (cf/hr)	<input type="checkbox"/> Coal (unit: /hr)	<input checked="" type="checkbox"/> Other Fuels (unit:BDT /hr)
16. Full Load Consumption Rate				13.6 BDT/hr
17. Actual Consumption Rate				varies
18. Fuel Heat Content (Btu/unit, LHV)				8750 BTU/BD#
19. Sulfur Content wt%				<0.1%
20. Ash Content wt%		N/A		1.0%

STEAM DESCRIPTION AND SPECIFICATIONS

21. Steam Heat Content	NA	NA	NA	1194 btu/lb
22. Steam Temperature (°F)	N/A	N/A	N/A	358 deg F
23. Steam Pressure (psi)	N/A	N/A	N/A	135 psi
24 Steam Type	N/A	N/A	<input type="checkbox"/> Saturated <input type="checkbox"/> Superheated	<input checked="" type="checkbox"/> Saturated <input type="checkbox"/> Superheated

OPERATING LIMITS & SCHEDULE

25. Imposed Operating Limits (hours/year, or gallons fuel/year, etc.):	1.92 million pounds per day steam limit
26. Operating Schedule (hours/day, months/year, etc.):	24 hours/day, approx 365 days / year
27. NSPS Applicability: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If Yes, which subpart: Db but see SOB for TI-2007.0061 section 7.2



DEQ AIR QUALITY PROGRAM
 1410 N. Hilton, Boise, ID 83706
 For assistance, call the
 Air Permit Hotline – 1-877-5PERMIT

Baghouse Control Equipment **Form BCE**

Revision 6
 2/18/10

Complete this form for each baghouse. Please see instructions on page 2 before filling out the form.

IDENTIFICATION		
1. Company Name	2. Facility Name:	
Idaho Forest Group	Idaho Forest Group - Grangeville	
3. Brief Project Description: Tier I Renewal Permit Application for Idaho Forest Group - Grangeville		
BAGHOUSE INFORMATION		
4. Baghouse Manufacturer: Clarke's	5. Baghouse Model: 100-20G1	6. Baghouse Equipment ID: CY72 BH
7 (a). Baghouse particulate matter emission concentration.	<u>0.01</u> gr/dscf	Manufacturers typically provide guarantees in grains per dry standard cubic foot (gr/dscf). Provide a copy of the guarantee, or other documentation, with the application along with a description of the types of bags that must be used to achieve the emission concentration. Emission concentrations less than 0.01 gr/dscf will receive additional scrutiny by DEQ and a source test of the baghouse may be required. If a guarantee is not provided then you must document how you obtained the emission concentration. Without documentation the application is not complete.
Note: Provide information in 7(a)-(c) or answer question #8 below.		
7 (b). Percentage PM ₁₀	_____ %	What percentage of the PM concentration listed in question #7(a) is PM ₁₀ . You must provide documentation as to how the percentage was determined (i.e. per the baghouse manufacturer). Without documentation the application is not complete.
Or Provide PM ₁₀ Emission Concentration	<u>0.00088</u> gr/dscf	
(c). Baghouse flow rate	<u>47,531</u> (ACFM) dscfm	Provide the baghouse flow rate in dry standard cubic feet per minute. Actual cubic feet per minute may be given in lieu of dscfm if it is documented that moisture content is insignificant. You must provide documentation as to how this flow rate was determined (i.e. per the exhaust fan manufacturer, combustion evaluation, etc.). Without documentation the application is not complete.
8. Baghouse particulate matter control efficiency.	_____ % PM control <u>99.9</u> % PM ₁₀ control	Applicant's providing the control efficiency of the baghouse must provide control efficiency for both PM and PM ₁₀ . Provide a copy of the control efficiency documentation with the application. Documentation must include a description of the types of bags that must be used to achieve the control efficiency. Without documentation the application is not complete.
Note: Not needed if section #7 is completed.		
9. Is the baghouse equipped with a bag leak detector?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If a bag leak detector is installed provide documentation on the leak detector, including; how the leak detector functions and what level of the output signal indicates that a bag is leaking. Without documentation the application is not complete.



DEQ AIR QUALITY PROGRAM
 1410 N. Hilton, Boise, ID 83706
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 Air Permit Hotline – 1-877-5PERMIT

Baghouse Control Equipment Form BCE
 Revision 6
 2/18/10

Complete this form for each baghouse. Please see instructions on page 2 before filling out the form.

IDENTIFICATION		
1. Company Name Idaho Forest Group	2. Facility Name: Idaho Forest Group - Grangeville	
3. Brief Project Description: Tier I Renewal Permit Application for Idaho Forest Group - Grangeville		
BAGHOUSE INFORMATION		
4. Baghouse Manufacturer: Clarke's	5. Baghouse Model: 60-20 PNEU-AIRE FILTER	6. Baghouse Equipment ID: CY11 BH
7 (a). Baghouse particulate matter emission concentration. Note: Provide information in 7(a)-(c) or answer question #8 below.	<u>0.01</u> gr/dscf	<i>Manufacturers typically provide guarantees in grains per dry standard cubic foot (gr/dscf). Provide a copy of the guarantee, or other documentation, with the application along with a description of the types of bags that must be used to achieve the emission concentration. Emission concentrations less than 0.01 gr/dscf will receive additional scrutiny by DEQ and a source test of the baghouse may be required. If a guarantee is not provided then you must document how you obtained the emission concentration. Without documentation the application is not complete.</i>
7 (b). Percentage PM ₁₀ Or Provide PM ₁₀ Emission Concentration	____ % <u>0.00088</u> gr/dscf	<i>What percentage of the PM concentration listed in question #7(a) is PM₁₀. You must provide documentation as to how the percentage was determined (i.e. per the baghouse manufacturer). Without documentation the application is not complete.</i>
7 (c). Baghouse flow rate	<u>38000</u> (ACFM) dscfm	<i>Provide the baghouse flow rate in dry standard cubic feet per minute. Actual cubic feet per minute may be given in lieu of dscfm if it is documented that moisture content is insignificant. You must provide documentation as to how this flow rate was determined (i.e. per the exhaust fan manufacturer, combustion evaluation, etc.). Without documentation the application is not complete.</i>
8. Baghouse particulate matter control efficiency. Note: Not needed if section #7 is completed.	____ % PM control <u>99.9</u> % PM ₁₀ control	<i>Applicant's providing the control efficiency of the baghouse must provide control efficiency for both PM and PM₁₀. Provide a copy of the control efficiency documentation with the application. Documentation must include a description of the types of bags that must be used to achieve the control efficiency. Without documentation the application is not complete.</i>
9. Is the baghouse equipped with a bag leak detector?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<i>If a bag leak detector is installed provide documentation on the leak detector, including; how the leak detector functions and what level of the output signal indicates that a bag is leaking. Without documentation the application is not complete.</i>

PNEU-AIRE® FILTER TEST RESULTS

by
Richard W. Boubel, Ph.D.
Consulting Environmental Engineer
Corvallis, Oregon

Particulate Emissions from Clarke's Pneu-Aire Filters at Northwest Hardwoods, Inc., Centralia, Washington, September 4, 1974.

The results of the tests on the two separate Pneu-Aire filters were analyzed statistically. No significant difference, determined by the "t" test, was found between the two filters. The results were therefore averaged and reported for the total system.

The results of the emission tests are shown in Table I. For the six individual tests the average particulate concentration was 0.00088 grains per dry standard cubic foot. The standard deviation of the concentration was 0.00038 grains per dry standard cubic foot.

TABLE I

Filter & Bay	Air Flow, Dry SCFM	Emissions	
		Grains/SCF	Lb/Hr
East 1	4416	0.00102	0.0386
East 2	4310	0.00055	0.0203
East 3	4620	0.00097	0.0384
West 1	4183	0.00052	0.0247
West 2	4429	0.00069	0.0262
West 3	4337	0.00154	0.0572
Total	26,295		0.2054
Average		0.00088	

Notes: Overall removal efficiency of system 99.9964%.

Total air volume 26,295 dry SCFM.



Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name	2. Facility Name:
Idaho Forest Group	Idaho Forest Group – Grangeville
3. Brief Project Description:	Tier I Renewal Permit Application for Idaho Forest Group - Grangeville

ELECTROSTATIC PRECIPITATOR (ESP) INFORMATION

Equipment Description

4. Manufacturer:	Wellons	5. Model Number:	Size No. 6
6. Precipitator Characteristics:	Number of fields: <u>2</u> Number of chambers: <u>1</u> Potential applied: <u>10 kV/in</u> Type of ESP: <input type="checkbox"/> Wet <input checked="" type="checkbox"/> Dry Inlet flow rate: <u>57,796</u> acfm Plate cleaning system: <input checked="" type="checkbox"/> Rapping <input type="checkbox"/> Other: _____		Number of plates: <u>30</u> Residence time: <u>6.44</u> sec Can isolate chambers? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Not Applic – 1 Chamb Design Cross sectional area of precipitator: <u>12,410 sq ft (Collecting Area)</u> Type of collecting plate: <input type="checkbox"/> Tubular <input checked="" type="checkbox"/> Plate
7. Operating Parameters: (Note: You must fill in all fields in this section)	Secondary amperage: <u>10 - 625 mA/Field</u> Secondary voltage: <u>10 - 80 KV</u> Spark rate: <u>0 - 45 Sparks per Minute</u> Manufacturer's specifications? <input type="checkbox"/> Yes Tubular <input checked="" type="checkbox"/> No Note: If yes, attach a copy; if no, provide basis for operating parameters provided. Basis: System O & M Manual and ESP Manufacturer Discussions		Amperage averaging period (minute, hour, etc): <u>1 sec</u> Voltage averaging period (minute, hour, etc): <u>1 sec</u> Spark rate averaging period (minute, hour, etc): <u>1 minute</u>
8. Pre-treatment device:	<input checked="" type="checkbox"/> Cyclone <input type="checkbox"/> Pre-cooler <input type="checkbox"/> Pre-heater <input type="checkbox"/> Knock-out chamber <input type="checkbox"/> None Note, Multiple Cyclone Ash Collector		
9. Blower:	Blower rating: <u>350</u> hp Design flow rate: <u>41,000</u> scfm or 64,000 ACFM Draft: <input type="checkbox"/> Forced <input checked="" type="checkbox"/> Induced		
10. Method of removal of particulate from ESP:	<input checked="" type="checkbox"/> Closed container <input type="checkbox"/> Enclosed screw conveyor <input type="checkbox"/> Other method: _____		



Please see instructions on page 3 before filling out the form.

IDENTIFICATION

1. Company Name: Idaho Forest Group	2. Facility Name: Idaho Forest Group - Grangeville	3. Facility ID No.: 049-00003
4. Brief Project Description: Tier I Renewal Permit Application for Idaho Forest Group - Grangeville		

CYCLONE SEPARATOR INFORMATION

Equipment Description

5. Manufacturer: Unknown	6. Model Number: Unknown.... CY12 Sawmill Truck Bin Cylone
--------------------------	--

7. Dimensions

Give dimensions of cyclone. (See sample diagram above.)

1. B: 14 in.	5. Z: 102 in.
2. H: 14.5 in.	6. D: 72 in.
3. S: 29 in.	7. A: 32 in.
4. L: 42 in.	8. J: Unknown in.

8. Particulate Size Distribution Data

Micron range	Particle size distribution weight %	Manufacturer's guaranteed removal efficiency for each micron range
0.5-1.0	<1%	N/A
1.0-5.0	<1%	N/A
5-10	<1%	N/A
10-20	<1%	N/A
Over 20	approx 99%	N/A

9. Type of Cyclone Wet Dry

10. Type of Cyclone Unit Single Quadruple
 Dual Multiclone

11. Blower Blower horsepower: 300 hp
 Design flow rate: Unknown scfm
 Draft: Forced Induced

12. Design Criteria	Cyclone configuration: <input type="checkbox"/> Positive pressure <input type="checkbox"/> Negative pressure
13. Pre-Treatment Device	<input checked="" type="checkbox"/> Cyclone <input type="checkbox"/> Knock-out chamber <input type="checkbox"/> Precooler <input type="checkbox"/> None <input type="checkbox"/> Preheater
14. Post-Treatment Device	<input type="checkbox"/> Baghouse/Cartridge <input type="checkbox"/> HEPA <input type="checkbox"/> Other:

Process Stream Characteristics

15. Brief Description of Process	.Cyclone CY12 is located on top of the Sawmill Truck Sawdust Bin, materail is sent to it and it drops out the particulate mater into the truck bin.								
16. Flow Data	<p>Gas stream temperature: Ambient degrees F</p> <p>Moisture content: N/A grams of water/cubic feet (ft³) of dry air</p> <p><u>Pressure drop range</u> High: N/A in. H₂O Low: N/A in. H₂O</p> <p>Dew point temperature of process stream: N/A degrees F</p> <p>Inlet flow rate: 5790 ACFM</p>								
17. Dust Collection Device	<p><input type="checkbox"/> Pneumatic conveyor <input type="checkbox"/> Rotary airlock values <input type="checkbox"/> Screw conveyors <input checked="" type="checkbox"/> Closed container</p> <p><input type="checkbox"/> Double dump <input type="checkbox"/> Drag conveyor</p> <p><input type="checkbox"/> Manual discharge device: <input type="checkbox"/> Slide gate OR <input type="checkbox"/> Hinged doors or drawers</p>								
18. Operating Schedule	<table style="width: 100%; border: none;"> <tr> <td style="width: 15%;">Normal:</td> <td style="width: 25%;">20 hours/day</td> <td style="width: 25%;">5 days/week</td> <td style="width: 35%;">52 weeks/year</td> </tr> <tr> <td>Maximum:</td> <td>24 hours/day</td> <td>7 days/week</td> <td>52 weeks/year</td> </tr> </table>	Normal:	20 hours/day	5 days/week	52 weeks/year	Maximum:	24 hours/day	7 days/week	52 weeks/year
Normal:	20 hours/day	5 days/week	52 weeks/year						
Maximum:	24 hours/day	7 days/week	52 weeks/year						



Please see instructions on page 3 before filling out the form.

IDENTIFICATION

1. Company Name: Idaho Forest Group	2. Facility Name: Idaho Forest Group - Grangeville	3. Facility ID No.: 049-00003
4. Brief Project Description: Tier I Renewal Permit Application for Idaho Forest Group - Grangeville		

CYCLONE SEPARATOR INFORMATION

Equipment Description

5. Manufacturer: Unknown	6. Model Number: Unknown.... CY41 Sawmill Filing Room Cyclone
--------------------------	---

7. Dimensions

Give dimensions of cyclone. (See sample diagram above.)

1. B: 7 in.	5. Z: 65 in.
2. H: 21 in.	6. D: 54 in.
3. S: Unknown in.	7. A: 27 in.
4. L: 43 in.	8. J: Unknown in.

8. Particulate Size Distribution Data		
Micron range	Particle size distribution weight %	Manufacturer's guaranteed removal efficiency for each micron range
0.5-1.0	<1%	N/A
1.0-5.0	<1%	N/A
5-10	<1%	N/A
10-20	<1%	N/A
Over 20	approx 99%	N/A
9. Type of Cyclone	<input type="checkbox"/> Wet <input checked="" type="checkbox"/> Dry	
10. Type of Cyclone Unit	<input checked="" type="checkbox"/> Single <input type="checkbox"/> Quadruple <input type="checkbox"/> Dual <input type="checkbox"/> Multiclone	
11. Blower	Blower horsepower: 300 hp Design flow rate: unknown scfm Draft: <input checked="" type="checkbox"/> Forced <input type="checkbox"/> Induced	

12. Design Criteria	Cyclone configuration: <input type="checkbox"/> Positive pressure <input type="checkbox"/> Negative pressure	
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13. Pre-Treatment Device	<input type="checkbox"/> Cyclone <input type="checkbox"/> Knock-out chamber <input type="checkbox"/> Precooler <input type="checkbox"/> None <input type="checkbox"/> Preheater	14. Post-Treatment Device	<input type="checkbox"/> Baghouse/Cartridge <input type="checkbox"/> HEPA <input type="checkbox"/> Other:
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Process Stream Characteristics

<p>15. Brief Description of Process</p>	<p>.Cyclone CY41 is on East Side of Sawmill near Filing Room. CY 41 deposits metal particles from the filing room suction system to a storage bin outside the filing room.</p>								
<p>16. Flow Data</p>	<p>Gas stream temperature: Ambient degrees F</p> <p>Moisture content: N/A grams of water/cubic feet (ft³) of dry air</p> <p><u>Pressure drop range</u> High: N/A in. H₂O Low: N/A in. H₂O</p> <p>Dew point temperature of process stream: N/A degrees F</p> <p>Inlet flow rate: 4320 ACFM</p>								
<p>17. Dust Collection Device</p>	<p><input type="checkbox"/> Pneumatic conveyor <input type="checkbox"/> Rotary airlock valves <input type="checkbox"/> Screw conveyors <input checked="" type="checkbox"/> Closed container</p> <p><input type="checkbox"/> Double dump <input type="checkbox"/> Drag conveyor</p> <p><input type="checkbox"/> Manual discharge device: <input type="checkbox"/> Slide gate OR <input type="checkbox"/> Hinged doors or drawers</p>								
<p>18. Operating Schedule</p>	<table border="0"> <tr> <td>Normal:</td> <td>20 hours/day</td> <td>5 days/week</td> <td>52 weeks/year</td> </tr> <tr> <td>Maximum:</td> <td>24 hours/day</td> <td>7 days/week</td> <td>52 weeks/year</td> </tr> </table>	Normal:	20 hours/day	5 days/week	52 weeks/year	Maximum:	24 hours/day	7 days/week	52 weeks/year
Normal:	20 hours/day	5 days/week	52 weeks/year						
Maximum:	24 hours/day	7 days/week	52 weeks/year						



Please see instructions on page 3 before filling out the form.

IDENTIFICATION

1. Company Name: Idaho Forest Group	2. Facility Name: Idaho Forest Group - Grangeville	3. Facility ID No.: 049-00003
4. Brief Project Description: Tier I Renewal Permit Application for Idaho Forest Group - Grangeville		

CYCLONE SEPARATOR INFORMATION

Equipment Description

5. Manufacturer: Unknown	6. Model Number: Unknown - CY 71 Planer Chip Bin Cyclone
--------------------------	--

7. Dimensions

Give dimensions of cyclone. (See sample diagram above.)

1. B: 10 in.	5. Z: 52 in.
2. H: 10 in.	6. D: 48 in.
3. S: 17 in.	7. A: 29 in.
4. L: 30 in.	8. J: 31 in.

8. Particulate Size Distribution Data

Micron range	Particle size distribution weight %	Manufacturer's guaranteed removal efficiency for each micron range
0.5-1.0	< 1%	N/A
1.0-5.0	< 1%	N/A
5-10	< 1%	N/A
10-20	< 1%	N/A
Over 20	approx 99%	N/A

9. Type of Cyclone Wet Dry

10. Type of Cyclone Unit Single Quadruple
 Dual Multiclone

11. Blower Blower horsepower: 300 hp
 Design flow rate: Unkown scfm
 Draft: Forced Induced

12. Design Criteria	Cyclone configuration: <input type="checkbox"/> Positive pressure <input checked="" type="checkbox"/> Negative pressure
13. Pre-Treatment Device	<input type="checkbox"/> Cyclone <input type="checkbox"/> Knock-out chamber <input type="checkbox"/> Precooler <input checked="" type="checkbox"/> None <input type="checkbox"/> Preheater
14. Post-Treatment Device	<input type="checkbox"/> Baghouse/Cartridge <input type="checkbox"/> HEPA <input checked="" type="checkbox"/> Other: None

Process Stream Characteristics

<p>15. Brief Description of Process</p>	<p>.Cyclone CY71 is located on top of the Planer Chip Truck Bin. The cyclone filters out particle matter (chips) out of the planer chipper air suction system and drops them into the Planer Chip Truck Bin.</p>
<p>16. Flow Data</p>	<p>Gas stream temperature: ambient degrees F</p> <p>Moisture content: n/a grams of water/cubic feet (ft³) of dry air</p> <p><u>Pressure drop range</u> High: n/a in. H₂O Low: n/a in. H₂O</p> <p>Dew point temperature of process stream: n/a degrees F</p> <p>Inlet flow rate: 1638 ACFM</p>
<p>17. Dust Collection Device</p>	<p><input type="checkbox"/> Pneumatic conveyor <input type="checkbox"/> Rotary airlock values <input type="checkbox"/> Screw conveyors <input checked="" type="checkbox"/> Closed container</p> <p><input type="checkbox"/> Double dump <input type="checkbox"/> Drag conveyor</p> <p><input type="checkbox"/> Manual discharge device: <input type="checkbox"/> Slide gate OR <input type="checkbox"/> Hinged doors or drawers</p>
<p>18. Operating Schedule</p>	<p>Normal: 20 hours/day 6 days/week 52 weeks/year</p> <p>Maximum: 24 hours/day 7 days/week 52 weeks/year</p>



Please see instructions on page 3 before filling out the form.

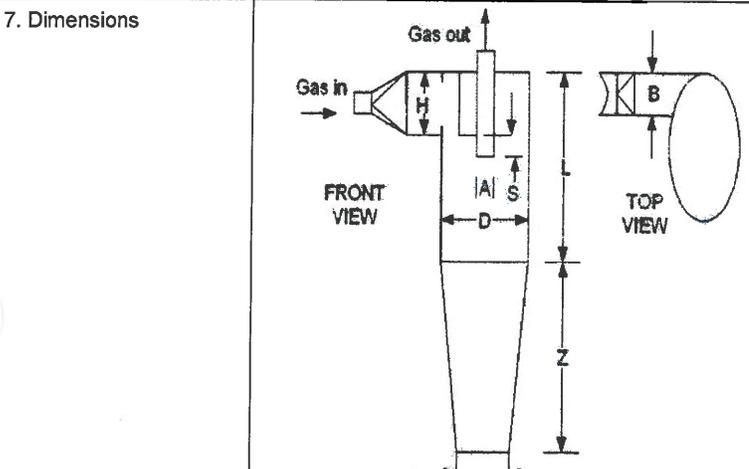
IDENTIFICATION

1. Company Name: Idaho Forest Group	2. Facility Name: Idaho Forest Group - Grangeville	3. Facility ID No.: 049-00003
4. Brief Project Description: Tier I Renewal Permit Application for Idaho Forest Group - Grangeville		

CYCLONE SEPARATOR INFORMATION

Equipment Description

5. Manufacturer: Unknown	6. Model Number: Unknown - CY 73 Planer Sawdust Truck Bin Cyclone
--------------------------	---



8. Particulate Size Distribution Data

Micron range	Particle size distribution weight %	Manufacturer's guaranteed removal efficiency for each micron range
0.5-1.0	<1	N/A
1.0-5.0	<1	N/A
5-10	<1	N/A
10-20	<1	N/A
Over 20	approx 99 %	N/A

Give dimensions of cyclone. (See sample diagram above.)

- 1. B: 18 in.
- 2. H: 42 in.
- 3. S: ? in.
- 4. L: 78 in.
- 5. Z: 192 in.
- 6. D: 120 in.
- 7. A: 54 in.
- 8. J: ? in.

9. Type of Cyclone	<input type="checkbox"/> Wet	<input checked="" type="checkbox"/> Dry
10. Type of Cyclone Unit	<input checked="" type="checkbox"/> Single	<input type="checkbox"/> Quadruple
	<input type="checkbox"/> Dual	<input type="checkbox"/> Multiclone
11. Blower	Blower horsepower: 350 hp Design flow rate: Unknown scfm Draft: <input checked="" type="checkbox"/> Forced <input type="checkbox"/> Induced	

12. Design Criteria	Cyclone configuration: <input type="checkbox"/> Positive pressure <input type="checkbox"/> Negative pressure
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13. Pre-Treatment Device	<input checked="" type="checkbox"/> Cyclone <input type="checkbox"/> Knock-out chamber <input type="checkbox"/> Precooler <input type="checkbox"/> None <input type="checkbox"/> Preheater	14. Post-Treatment Device	<input type="checkbox"/> Baghouse/Cartridge <input type="checkbox"/> HEPA <input type="checkbox"/> Other:
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Process Stream Characteristics

<p>15. Brief Description of Process</p>	<p>.Cyclone CY73 is located on the NW corner of the Planer on top of the Planer Sawdust Truck Bin. The cyclone filters out particulate matter dropping the material into a Sawdust Bin.</p>
<p>16. Flow Data</p>	<p>Gas stream temperature: ambient degrees F</p> <p>Moisture content: n/a grams of water/cubic feet (ft³) of dry air</p> <p><u>Pressure drop range</u> High: n/a in. H₂O Low: n/a in. H₂O</p> <p>Dew point temperature of process stream: n/a degrees F</p> <p>Inlet flow rate: 12,024 ACFM</p>
<p>17. Dust Collection Device</p>	<p><input type="checkbox"/> Pneumatic conveyor <input type="checkbox"/> Rotary airlock valves <input type="checkbox"/> Screw conveyors <input checked="" type="checkbox"/> Closed container</p> <p><input type="checkbox"/> Double dump <input type="checkbox"/> Drag conveyor</p> <p><input type="checkbox"/> Manual discharge device: <input type="checkbox"/> Slide gate OR <input type="checkbox"/> Hinged doors or drawers</p>
<p>18. Operating Schedule</p>	<p>Normal: 20 hours/day 6 days/week 52 weeks/year</p> <p>Maximum: 24 hours/day 7 days/week 52 weeks/year</p>



Please see instructions on page 3 before filling out the form.

IDENTIFICATION

1. Company Name: Idaho Forest Group	2. Facility Name: Idaho Forest Group - Grangeville	3. Facility ID No.: 049-00003
4. Brief Project Description: Tier I Renewal Permit Application for Idaho Forest Group - Grangeville		

CYCLONE SEPARATOR INFORMATION

Equipment Description

5. Manufacturer: Unknown	6. Model Number: Unknown - CY74 Rosebud Cyclone																	
7. Dimensions	8. Particulate Size Distribution Data																	
	<table border="1"> <thead> <tr> <th>Micron range</th> <th>Particle size distribution weight %</th> <th>Manufacturer's guaranteed removal efficiency for each micron range</th> </tr> </thead> <tbody> <tr> <td>0.5-1.0</td> <td>< 1%</td> <td>N/A</td> </tr> <tr> <td>1.0-5.0</td> <td>< 1%</td> <td>N/A</td> </tr> <tr> <td>5-10</td> <td>< 1%</td> <td>N/A</td> </tr> <tr> <td>10-20</td> <td>< 1%</td> <td>N/A</td> </tr> <tr> <td>Over 20</td> <td>approx 99%</td> <td>N/A</td> </tr> </tbody> </table>	Micron range	Particle size distribution weight %	Manufacturer's guaranteed removal efficiency for each micron range	0.5-1.0	< 1%	N/A	1.0-5.0	< 1%	N/A	5-10	< 1%	N/A	10-20	< 1%	N/A	Over 20	approx 99%
Micron range	Particle size distribution weight %	Manufacturer's guaranteed removal efficiency for each micron range																
0.5-1.0	< 1%	N/A																
1.0-5.0	< 1%	N/A																
5-10	< 1%	N/A																
10-20	< 1%	N/A																
Over 20	approx 99%	N/A																
<p>Give dimensions of cyclone. (See sample diagram above.)</p> <p>1. B: 10 in. 5. Z: 102 in. 2. H: 30 in. 6. D: 97 in. 3. S: unknown in. 7. A: 36 in. 4. L: 68 in. 8. J: unknown in.</p>	9. Type of Cyclone <input type="checkbox"/> Wet <input checked="" type="checkbox"/> Dry																	
	10. Type of Cyclone Unit <input checked="" type="checkbox"/> Single <input type="checkbox"/> Quadruple <input type="checkbox"/> Dual <input type="checkbox"/> Multiclone																	
11. Blower Blower horsepower: 300 hp Design flow rate: Unkown scfm Draft: <input checked="" type="checkbox"/> Forced <input type="checkbox"/> Induced																		
12. Design Criteria Cyclone configuration: <input type="checkbox"/> Positive pressure <input checked="" type="checkbox"/> Negative pressure																		
13. Pre-Treatment Device <input type="checkbox"/> Cyclone <input type="checkbox"/> Knock-out chamber <input type="checkbox"/> Precooler <input checked="" type="checkbox"/> None <input type="checkbox"/> Preheater	14. Post-Treatment Device <input type="checkbox"/> Baghouse/Cartridge <input type="checkbox"/> HEPA <input checked="" type="checkbox"/> Other: None																	

Process Stream Characteristics

<p>15. Brief Description of Process</p>	<p>.Cyclone CY74 is located on top of the Rosebud Building. Rosebud is a separate company, not Idaho Forest Group, however their cyclone is on the Idaho Forest Group Plant Site and accounted for within our emission calculations. The Cyclone drops particulate matter out of suction system.</p>								
<p>16. Flow Data</p>	<p>Gas stream temperature: ambient degrees F</p> <p>Moisture content: n/a grams of water/cubic feet (ft³) of dry air</p> <p><u>Pressure drop range</u> High: n/a in. H₂O Low: n/a in. H₂O</p> <p>Dew point temperature of process stream: n/a degrees F</p> <p>Inlet flow rate: 4536 ACFM</p>								
<p>17. Dust Collection Device</p>	<p><input type="checkbox"/> Pneumatic conveyor <input type="checkbox"/> Rotary airlock valves <input type="checkbox"/> Screw conveyors <input checked="" type="checkbox"/> Closed container</p> <p><input type="checkbox"/> Double dump <input type="checkbox"/> Drag conveyor</p> <p><input type="checkbox"/> Manual discharge device: <input type="checkbox"/> Slide gate OR <input type="checkbox"/> Hinged doors or drawers</p>								
<p>18. Operating Schedule</p>	<table border="0"> <tr> <td>Normal:</td> <td>20 hours/day</td> <td>6 days/week</td> <td>52 weeks/year</td> </tr> <tr> <td>Maximum:</td> <td>24 hours/day</td> <td>7 days/week</td> <td>52 weeks/year</td> </tr> </table>	Normal:	20 hours/day	6 days/week	52 weeks/year	Maximum:	24 hours/day	7 days/week	52 weeks/year
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Please see instructions on page 3 before filling out the form.

IDENTIFICATION

1. Company Name: Idaho Forest Group	2. Facility Name: Idaho Forest Group - Grangeville	3. Facility ID No.: 049-00003
4. Brief Project Description: Tier I Renewal Permit Application for Idaho Forest Group - Grangeville		

CYCLONE SEPARATOR INFORMATION

Equipment Description

5. Manufacturer: Unknown	6. Model Number: Unknown - CY75 Planer Chipping Room Cyclone																	
7. Dimensions	8. Particulate Size Distribution Data																	
	<table border="1"> <thead> <tr> <th>Micron range</th> <th>Particle size distribution weight %</th> <th>Manufacturer's guaranteed removal efficiency for each micron range</th> </tr> </thead> <tbody> <tr> <td>0.5-1.0</td> <td>< 1%</td> <td>N/A</td> </tr> <tr> <td>1.0-5.0</td> <td>< 1%</td> <td>N/A</td> </tr> <tr> <td>5-10</td> <td>< 1%</td> <td>N/A</td> </tr> <tr> <td>10-20</td> <td>< 1%</td> <td>N/A</td> </tr> <tr> <td>Over 20</td> <td>approx 99%</td> <td>N/A</td> </tr> </tbody> </table>	Micron range	Particle size distribution weight %	Manufacturer's guaranteed removal efficiency for each micron range	0.5-1.0	< 1%	N/A	1.0-5.0	< 1%	N/A	5-10	< 1%	N/A	10-20	< 1%	N/A	Over 20	approx 99%
Micron range	Particle size distribution weight %	Manufacturer's guaranteed removal efficiency for each micron range																
0.5-1.0	< 1%	N/A																
1.0-5.0	< 1%	N/A																
5-10	< 1%	N/A																
10-20	< 1%	N/A																
Over 20	approx 99%	N/A																
<p>Give dimensions of cyclone. (See sample diagram above.)</p> <p>1. B: 6 in. 5. Z: 90 in. 2. H: 20 in. 6. D: 59 in. 3. S: unknown in. 7. A: 30 in. 4. L: 40 in. 8. J: unknown in.</p>	9. Type of Cyclone <input type="checkbox"/> Wet <input checked="" type="checkbox"/> Dry																	
	10. Type of Cyclone Unit <input checked="" type="checkbox"/> Single <input type="checkbox"/> Quadruple <input type="checkbox"/> Dual <input type="checkbox"/> Multiclone																	
11. Blower	Blower horsepower: 300 hp Design flow rate: Unkown scfm Draft: <input checked="" type="checkbox"/> Forced <input type="checkbox"/> Induced																	
12. Design Criteria	Cyclone configuration: <input type="checkbox"/> Positive pressure <input checked="" type="checkbox"/> Negative pressure																	
13. Pre-Treatment Device	<input type="checkbox"/> Cyclone <input type="checkbox"/> Knock-out chamber <input type="checkbox"/> Precooler <input checked="" type="checkbox"/> None <input type="checkbox"/> Preheater																	
14. Post-Treatment Device	<input type="checkbox"/> Baghouse/Cartridge <input type="checkbox"/> HEPA <input checked="" type="checkbox"/> Other: None																	

Process Stream Characteristics

<p>15. Brief Description of Process</p>	<p>.Cyclone CY75 is located inside the planer chipping room building but vents out the Planer Roof. It filters out particulate matter from the chipping process inside the planer.</p>
<p>16. Flow Data</p>	<p>Gas stream temperature: ambient degrees F</p> <p>Moisture content: n/a grams of water/cubic feet (ft³) of dry air</p> <p><u>Pressure drop range</u> High: n/a in. H₂O Low: n/a in. H₂O</p> <p>Dew point temperature of process stream: n/a degrees F</p> <p>Inlet flow rate: unknown ACFM</p>
<p>17. Dust Collection Device</p>	<p><input checked="" type="checkbox"/> Pneumatic conveyor <input type="checkbox"/> Rotary airlock valves <input type="checkbox"/> Screw conveyors <input type="checkbox"/> Closed container</p> <p><input type="checkbox"/> Double dump <input type="checkbox"/> Drag conveyor</p> <p><input type="checkbox"/> Manual discharge device: <input type="checkbox"/> Slide gate OR <input type="checkbox"/> Hinged doors or drawers</p>
<p>18. Operating Schedule</p>	<p>Normal: 20 hours/day 6 days/week 52 weeks/year</p> <p>Maximum: 24 hours/day 7 days/week 52 weeks/year</p>



Please see instructions on pages 3-8 before filling out the form.

IDENTIFICATION			
1. Company Name:	Idaho Forest Group LLC	2. Facility Name:	Idaho Forest Group - Grangeville
3. Facility ID No.:		049-00003	
4. Brief Project Description: Tier I Permit Renewal Application for Idaho Forest Group - Grangeville			

MONITORING APPROACH SUBMITTAL

Background		
5. Emissions Unit	Description (type of emission point): Hogged Fuel Boiler	Identification (emission point number): EU-1: Wellon Boilers
6. Applicable Regulation, Emission Limits, and Monitoring Requirements	Applicable regulation citation: PTC P-050214	Pollutant: PM Emission limit: 6.6 lb/hr
	40 CFR 60.43br	Pollutant: PM Emission limit: 0.1 lb/MMBtu
	IDAPA 58.01.01.676.	Pollutant: PM Emission limit: 0.08 gr/dscf
Monitoring requirements: COMS, source test every 5 years		

7. Control Technology	Brief description: Multiclone followed by 2-field Wellons ESP
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Table 1. Monitoring Approach			
	Indicator No. 1	Indicator No. 2	Indicator No. 3
I. Indicator Description	Opacity	Voltage applied by each T/R set to the discharge electrodes	Current applied by each T/R set to the discharge electrodes.
Measurement Approach	COMS	Continuous secondary voltage monitor with operator readout for each T/R set.	Continuous secondary current monitor with operator readout for each T/R set.
II. Indicator Range (Quality improvement plan threshold optional)	<20% opacity (six minute average) except one six minute period per hour of not more than 27% opacity and 2) 20% opacity for no more than 3 minutes in any 60 minute period	10-80kV	10-625 mA/field
III. Performance Criteria	—	—	—
A. Data Representativeness	Opacity is a principal indicator of particulate matter emissions, as recognized by the NSPS requirement to install and operate a COMS	The voltage is measured using instrumentation provided with the ESP. Proper secondary voltage ensures effective ESP operation	Current is measured using instrumentation provided with the ESP. Proper current ensures effective ESP operation
B. Verification of Operational Status	Control room instrumentation	Verify that voltage meter is showing positive values	Verify that ammeter is displaying positive values
C. QA/QC Practices and Criteria	Follow manufacturer's recommended maintenance practices	Verify that voltage meter is properly calibrated following any repair or maintenance	Verify that ammeter is properly calibrated following any repair or maintenance
D. Monitoring Frequency	Continuous	Manually log secondary voltage once per shift when boiler is	Manually log secondary voltage once per shift when boiler is

		operating	operating
Data Collection Procedures	Data logging system records opacity	Recorded manually or electronically	Recorded manually or electronically
Averaging Period	3 minute and 6 minute average opacity	Instantaneous observation	Instantaneous observation

Justification	<p>Present justification for selection of monitoring approach(es) and indicator range(s):</p> <p>Justification for Indicator 1: 40CFR64.3(d)(2) states a facility can use COMS to satisfy the CAM requirements of 40CFR64</p> <p>Justification for Indicator 2: Secondary voltage below the manufacturer's recommended operating range indicates a malfunction, such as grounded electrodes</p> <p>Justification for Indicator 3: Current drop below the range could indicate collection plates are not clean or some other malfunction.</p>
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DEQ AIR QUALITY PROGRAM
 1410 N. Hilton, Boise, ID 83706
 For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

AIR PERMIT APPLICATION

Revision 6
 10/7/09

For each box in the table below, CTRL+click on the blue underlined text for instructions and information.

IDENTIFICATION	
1. Company Name: Idaho Forest Group	2. Facility Name: Idaho Forest Group - Grangeville
3. Brief Project Description: Tier I Renewal Permit Application for Idaho Forest Group - Grangeville	
APPLICABILITY DETERMINATION	
4. List applicable subparts of the New Source Performance Standards (NSPS) (40 CFR part 60). Examples of NSPS affected emissions units include internal combustion engines, boilers, turbines, etc. The applicant must thoroughly review the list of affected emissions units.	List of applicable subpart(s): A , General (details on pg 18 T1-2008.0203, current facility Tier I permit) Db only the pre - February 2006 amendment parts are applicable per T1-2007.0061 SOB section 7.2, Wood-fired boiler (details in the referenced Statement of Basis and Table 3.2 of that permit) <input type="checkbox"/> Not Applicable
5. List applicable subpart(s) of the National Emission Standards for Hazardous Air Pollutants (NESHAP) found in 40 CFR part 61 and 40 CFR part 63 . Examples of affected emission units include solvent cleaning operations, industrial cooling towers, paint stripping and miscellaneous surface coating. EPA has a web page dedicated to NESHAP that should be useful to applicants.	List of applicable subpart(s): ZZZZ , Compression ignition engines, fire water pump JJJJJJ , Boiler GACT, wood-fired boiler Detailed regulatory review in application Section 4 <input type="checkbox"/> Not Applicable
6. For each subpart identified above, conduct a complete a regulatory analysis using the instructions and referencing the example provided on the following pages. Note - Regulatory reviews must be submitted with sufficient detail so that DEQ can verify applicability and document in legal terms why the regulation applies. Regulatory reviews that are submitted with insufficient detail will be determined incomplete.	<input checked="" type="checkbox"/> A detailed regulatory review is provided (Follow instructions and example). <input type="checkbox"/> DEQ has already been provided a detailed regulatory review. Give a reference to the document including the date.

Appendix D

Source Test Results for the Wellons Wood-Fired Boiler

The results of the June 8, 2011 boiler source test, copied directly from the source test report, are provided in Appendix D. These results were reported to IDEQ consistent with permit requirements.

3.0 EMISSIONS TEST

3.1 Emissions Testing Results

The following table presents the results from the June 8, 2011, emissions tests on the Wellons boiler stack ESP.

Table 2: Wellons Boiler Stack ESP Test Data

Idaho Forest Group Wellons Boiler Stack ESP Emissions Compliance Test Data June 8, 2011					
	Run 1	Run 2	Run 3	Avg.	Limit
Particulate matter (corrected to 8% O ₂) gr/dscf	0.010	0.003	0.003	0.005	0.080
Particulate matter <10 μ , lbs/hr	3.95	1.80	1.46	2.4	6.6
Particulate matter, lbs/mmBtu	0.04	0.01	0.01	0.02	0.1
Opacity, % (6 min. avg.)	0	0	0	0	20
Testing Data					
Test start time	8:46	11:26	13:14	NA	NA
Test duration, minutes	60	60	60	NA	>60
Sample volume, dscf	47.53	43.82	43.11	NA	NA
Isokinetics, %	104	106	102	NA	100% \pm 10
Oxygen content, %	7.1	6.3	6.8	6.7	NA
Stack gas temp, °F	410	403	400	404	NA
Stack gas moisture, %	19.6	21.7	19.6	20.3	NA
Operational Conditions					
Steam flow, lbs/hr	64,200	63,300	62,100	63,200	NA
Steam pressure, psi	132	135	135	134	NA

Appendix E

Operating Permit Compliance Certification and Compliance Plan

Compliance Certification

The facility is currently in compliance with all applicable requirements. This appendix provides the current compliance status and an explanation of how the compliance determination was evaluated for each specific applicable requirement.

IDAPA 58.01.01.314.09.b requires that the applicant provide a schedule for submitting compliance certifications during the Tier 1 permit term. If the Tier 1 permit resulting from this application requires Idaho Forest Group to submit semi-annual monitoring reports and an annual compliance certification, Idaho Forest Group proposes that the reporting period be January 30th through June 30th, and July 1st through December 31st, and that DEQ allow Idaho Forest Group 60 days from the end of each reporting period to prepare and submit reports.

Compliance Plan and Schedule

The facility is currently in compliance with all applicable requirements, including all NSPS and NESHAPS rules potentially affecting facility processes.

Compliance Certification
as established in IDAPA 58.01.01.314.01 and 314.09

Based upon information and belief, formed after reasonable inquiry, I certify the following:

1. The statements and information provided in this Tier I Operating Permit Renewal Application are true, accurate, and complete;
2. For each applicable requirement with which an emission unit is in compliance, I certify that the emissions unit will continue to comply with the applicable requirement;
3. For each applicable requirement that will become effective during the term of the Tier I operating permit that does not contain a more detailed schedule, I certify that the emissions unit will meet the applicable requirement on a timely basis;
4. For each applicable requirement that will become effective during the term of the Tier I operating permit that contains a more detailed schedule, I certify that the emissions unit will comply with the applicable requirement on the schedule provided in the applicable requirement;
5. For each applicable requirement with which the emission unit is not in compliance, I certify that the emission unit will be in compliance with the applicable requirement by the time the Tier I operating permit is issued, or that Idaho Forest Group has provided a compliance plan in accordance with Section 314.10.

Idaho Forest Group will submit annual compliance certifications during the term of the Tier I operating permit, unless more frequent certification is specified by an underlying applicable requirement or by the Department.

Responsible Corporate Official

Shannon Fuchs for Scott Atkison

Scott Atkison, President
Idaho Forest Group

9/19/12

Date

Appendix F

Plot Plan Diagram with Emission Sources

