



Air Quality Permitting Statement of Basis

October 10, 2006

Permit to Construct No. P-060205

**Potlatch Forest Products Corporation
Lewiston Wood Products Division
Lewiston, ID**

Facility ID No. 069-00003

Prepared by:

**Ken Hanna, Permit Writer
AIR QUALITY DIVISION**

FINAL PERMIT

Table of Contents

ACRONYMS, UNITS, AND CHEMICAL NOMENCLATURES	3
1. PURPOSE	4
2. FACILITY DESCRIPTION / AREA CLASSIFICATION.....	4
3. APPLICATION SCOPE	4
4. PERMIT ANALYSIS.....	4
5. PERMIT FEES	5
6. PERMIT REVIEW	6
7. RECOMMENDATION.....	6
APPENDIX - EMISSION ESTIMATE INFORMATION.....	7

Acronyms, Units, and Chemical Nomenclatures

acfm	actual cubic feet per minute
AFS	AIRS Facility Subsystem
AIRS	Aerometric Information Retrieval System
AQCR	Air Quality Control Region
CAA	Clean Air Act
CFR	Code of Federal Regulations
CO	carbon monoxide
DEQ	Department of Environmental Quality
dscf	dry standard cubic feet
EPA	U.S. Environmental Protection Agency
gr	grain (1 lb = 7,000 grains)
HAPs	Hazardous Air Pollutants
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
km	kilometer
lb/hr	pound per hour
m	meter(s)
MACT	Maximum Achievable Control Technology
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO _x	nitrogen oxides
NSPS	New Source Performance Standards
PM	particulate matter
PM ₁₀	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
ppm	parts per million
PSD	Prevention of Significant Deterioration
PTC	permit to construct
PTE	potential to emit
Rules	Rules for the Control of Air Pollution in Idaho
scf	standard cubic feet
SIC	Standard Industrial Classification
SO ₂	sulfur dioxide
T/yr	tons per year
µg/m ³	micrograms per cubic meter
UTM	Universal Transverse Mercator
VOC	volatile organic compound

1. PURPOSE

The purpose for this memorandum is to satisfy the requirements of IDAPA 58.01.01.200, Rules for the Control of Air Pollution in Idaho, for issuing permits to construct.

2. FACILITY DESCRIPTION / AREA CLASSIFICATION

The facility description, facility classification, and area classification does not change from the description given in the December 10, 2002, and July 14, 2003, statement of basis for the Tier I operating permit.

3. APPLICATION SCOPE

Potlatch Corporation has requested to change the name of the permittee from Potlatch Corporation to Potlatch Forest Products Corporation (Potlatch). Also, Potlatch has requested to transfer ownership of the Fuel Hog from the Pulp and Paperboard Division (IPPD) to the Lewiston Wood Products Division. The Pulp and Paperboard Division no longer uses this equipment and the Lewiston Wood Products Division continues to use it to process wood waste into boiler fuel. No other changes have been proposed.

3.1 Application Chronology

June 28, 2006	Potlatch requested the Fuel Hog be transferred from IPPD to Lewiston Wood Products as part of the February 3, 2006 facility name change request.
June 28, 2006	The application for a transfer of ownership PTC revision was complete.
September 28, 2006	Potlatch requested the facility name be changed from Clearwater Wood Products to Lewiston Wood Products.

4. PERMIT ANALYSIS

This section of the Statement of Basis describes the regulatory requirements for this PTC action.

4.1 Emissions Unit Description and Emissions Inventory

The Fuel Hog and cyclone system are not changed and emissions will not change as a result of this transfer in ownership.

4.2 Modeling

The Fuel Hog and cyclone system are not changed and emissions will not change as a result of this transfer in ownership. Therefore, modeling is not required for this PTC.

4.3 Regulatory Review

This section describes the regulatory analysis of the applicable air quality rules with respect to this PTC.

IDAPA 58.01.01.201 Permit to Construct Required

A revised permit to construct is being issued as a "transfer by revision" per IDAPA 58.01.01.209.06.

IDAPA 58.01.01.209.06..... Transfer of Permits to Construct

On February 3, 2006, Potlatch requested that all permits issued to the Potlatch Corporation be transferred to the Potlatch Forest Products Corporation. This request was supplemented by another request received from Potlatch on June 28, 2006 to concurrently change ownership of the Fuel Hog from IPPD to Lewiston Wood Products.

IDAPA 58.01.01.224 and 225 Permit to Construct Application and Processing Fees

PTC application and processing fees are not required for name and ownership changes.

IDAPA 58.01.01.380, 381.....Changes to Tier I Operating Permits, Administrative Amendment

Potlatch has requested that the responsibility for the Fuel Hog be transferred from IPPD to Lewiston Wood Products. After issuance of this PTC, the Fuel Hog conditions may be added to the Lewiston Wood Products (Clearwater) Tier I either as an administrative amendment per IDAPA 58.01.01.381 or during the forthcoming Tier I renewal process. The name changes and increased visible emissions monitoring included in this permit meet the Tier I administrative amendment requirements under IDAPA 58.01.01.381.01.b, c, and d.

IDAPA 58.01.01.701 PM Process Weight Limitations

New information which demonstrates compliance with the PM process weight limitation was provided. The analysis is based on the production throughput limit of 11,000 lb/hr using the emission factors discussed with DEQ on August 16, 2006. A copy is provided in the Appendix.

4.4 Permit Conditions Review

This section describes only those permit conditions that have been revised, modified or deleted as a result of this permit action. All other permit conditions remain unchanged.

As noted above, the primary reason for issuing this PTC is to address the transfer of ownership of the Fuel Hog. As part of this revision, the existing permit conditions in the July 3, 1985, PTC and in the August 19, 1985, Operating Permit were changed to be consistent with currently issued permits. This includes the PTC General Provisions. Also, the method for showing compliance with the process weight rate requirement was changed, so it is clear that this is based on periodic opacity observations. Requirements for a potential source test were removed; this condition was found to be unnecessary since no source test has been found to be needed to measure the PM emission rate this source was constructed. None of the changes described above to the existing permit were substantive in nature.

5. PERMIT FEES

In accordance with IDAPA 58.01.01.224 and 225, PTC application and processing fees are not required for a name/ownership change.

Table 5.1 PTC PROCESSING FEE TABLE

Emissions Inventory			
Pollutant	Annual Emissions Increase (T/yr)	Annual Emissions Reduction (T/yr)	Annual Emissions Change (T/yr)
NO _x	0.0	0	0.0
SO ₂	0.0	0	0.0
CO	0.0	0	0.0
PM ₁₀	0.0	0	0.0
VOC	0.0	0	0.0
TAPS/HAPS	0.0	0	0.0
Total:	0.0	0	0.0
Fee Due	\$ 0.00		

6. PERMIT REVIEW

7.1 *Regional Review of Draft Permit*

The Regional Office was provided a facility draft for review on September 7, 2006, and no changes were made in response to this review.

7.2 *Facility Review of Draft Permit*

Potlatch was provided a facility draft for review on September 7, 2006, and only minor changes were made to the permit, including the name of the permittee and the permit number.

7.3 *Public Comment*

IDAPA 58.01.01.206.a states that “a permit to construct may be transferred to a new owner or operator in accordance with Subsection 209.04.” Per Subsection 209.04, the PTC public comment requirements do not apply to the PTC revision, since it will not result in an increase in emissions. Per Subsection 381.02.c, DEQ must “take final action on a Tier I administrative amendment without providing notice to the public or affected States provided that DEQ designates any such administrative permit amendment as having been made pursuant to Section 381.”

7. RECOMMENDATION

Based on review of application materials, and all applicable state and federal rules and regulations, staff recommend that Potlatch Forest Products Corporation, Lewiston Wood Products Division, be issued final PTC No. P-060205 for the Fuel Hog. No public comment period is recommended, no entity has requested a comment period, and the project does not involve PSD requirements.

KH/bf Permit No. P-060205

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APPENDIX

Emission Estimate Information

From: Eri Ottersburg [eottersburg@geomatrix.com]
Sent: Wednesday, August 16, 2006 5:22 PM
To: Kenneth Hanna
Cc: Jim.Miller@potlatchcorp.com; Eric Hansen
Subject: Trash Hog Emissions

Attachments: trash hog emissions compare.xls

I have attached a spreadsheet with emissions calculations from the trash hog cyclone. I have calculated emissions based on several emission factors that could be applied to this source and a throughput of 11,000 pounds per hour. The IDEQ emission factors you provided were the same as those used by Oregon so nothing has changes since our conversation earlier today. The calculations show that emissions will not exceed the process weight limit using any of the emission factors.

Eri Ottersburg
Project Environmental Scientist

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Calculation Method	Emission Factors	PM Emissions	Process Weight Limit	< Process Weight Limit?
		lb/hr	lb/hr	
1. Old emission factor used in modeling for the sawmill's permit application				
	0.001 lb/lb 2 lb/ton	11.00	11.27	Yes
2. Engineering Calculation				
Trash Hog Cyclone	99.991488 % 0.17024 lb/ton	0.94	11.27	Yes
CW-CY-27A, AND 27B	99.960984 % 0.78032 lb/ton	4.29	11.27	Yes
3. ODEQ Emission Factors - AQ-EF02 and AQ-EF03				
Medium Efficiency Cyclone * PM10 = 50% PM	0.5 lb/ton	2.75	11.27	Yes
High Efficiency Cyclone * PM10 = 80% PM	0.2 lb/ton	1.10	11.27	Yes
4. IDEQ Emission Factors - June 30, 1997 Memorandum				
Medium Efficiency Cyclone	0.5 lb/ton	2.75	11.27	Yes
High Efficiency Cyclone	0.2 lb/ton	1.10	11.27	Yes

Throughput*:

11,000 lb/hr

* The 1985 PTC and 2002 Tier I limits throughput to 11,000 lb/hr (5.5 ton/hr) and hours to 12 hr/day. The highest recorded actual throughput since May 2005 is 4,900 lb/hr.

1. Assuming a control efficiency of 99.9%, used for emissions estimate in the recent PTC application for the sawmill's kiln replacement project.
2. Engineering calculations used at the sawmill for other cyclones, Robbins, 1998, and Wark and Warner, 1987. See attached sheets. Cyclones 27A and 27B at the sawmill have the lowest calculated efficiency.
3. Generic emission factors published by ODEQ for wood products industry (Cyclone - Dry and Green chips, Shavings, Hogged Fuel/Bark, Green Sawdust).
4. Generic emission factors published by IDEQ for wood products industry. The IDEQ document references ODEQ emission factors.

**CYCLONE DESIGN - PRESSURE DROP AND EFFICIENCY
 PPD-782, Trash Hog Cyclone, Assumes Particle Size Distribution and Particle Density for Chips
 >30% Moisture**

*****INPUT DATA*****

Body Length, L1	12.81771		
Cone Length, L2	27.32292		
Inlet width, B	2.95409	ft	
Inlet height, H	2.95409	ft	
Outlet diameter, Do	2.50000	ft	
Eff. No. of Turns, Ne	8.96356		
Constant K	12.00000		
Absolute viscosity, u	0.00001	lb mass/sec-ft	
Gas flow rate, q	52500.0000	acfm	
Temperature, Ti	70.00000	deg. F	1.0000
Particle density, p	62.40000	lb/cf	
Gas density @STP	0.07500	lb/scf	

*****CALCULATED RESULTS*****

Inlet Velocity, Vi	100.26761	ft/sec
Inlet Velocity Head, Hv	2.25641	in. H2O
Pressure Drop, PD	37.80658	in. H2O
Cut Size, Dpc	9.32452	microns

*****REMOVAL EFFICIENCY*****

Size Range <u>microns</u>	Average Size (Dp) <u>microns</u>	Weight Distribution (percent)	<u>Dp/Dpc</u>	Removal Efficiency (percent)	Overall Efficiency (percent)
0-10	5	0.00054	0.5362	20	0.0001
10-45	27.5	0.05500	2.9492	90	0.0495
45-75	60	0.12900	6.4346	98	0.1264
75-106	90.5	0.00500	9.7056	100	0.0050
106-125	115.5	0.01500	12.3867	100	0.0150
125-150	137.5	0.11200	14.7461	100	0.1120
>150	150	99.68346	16.0866	100	99.6835
		100.00000			99.9915
				Emission factor =	0.1702 lb/ton

**CYCLONE DESIGN - PRESSURE DROP AND EFFICIENCY
 CW-CY-27A, AND 27B, SAWMILL, ALL MACHINE CENTERS, Assumes Particle Size Distribution for
 Cedar Sawdust, >30% Moisture**

*****INPUT DATA*****

Body Length, L1	8.00000		
Cone Length, L2	14.00000		
Inlet width, B	1.33000	ft	
Inlet height, H	5.00000	ft	
Outlet diameter, Do	3.00000	ft	
Eff. No. of Turns, Ne	3.00000		
Constant K	12.00000		
Absolute viscosity, u	1.24E-05	lb mass/sec-ft	
Gas flow rate, q	32500.0000	acfm	
Temperature, Ti	75.00000	deg. F	0.9907
Particle density, p	62.40000	lb/cf	
Gas density @STP	0.07500	lb/scf	

*****CALCULATED RESULTS*****

Inlet Velocity, Vi	81.45363	ft/sec
Inlet Velocity Head, Hv	1.47516	in. H2O
Pressure Drop, PD	13.07979	in. H2O
Cut Size, Dpc	11.99901	microns

*****REMOVAL EFFICIENCY*****

Size Range microns	Average Size (Dp) microns	Weight Distribution (percent)	Dp/Dpc	Removal Efficiency (percent)	Overall Efficiency (percent)
0-10	5	0.00076	0.4167	15	0.0001
10-45	27.5	0.07700	2.2919	85	0.0655
45-75	60	0.89100	5.0004	97	0.8643
75-106	90.5	0.00900	7.5423	99	0.0089
106-125	115.5	0.05800	9.6258	100	0.0580
125-150	137.5	0.77500	11.4593	100	0.7750
>150	150	98.18924	12.5010	100	98.1892
		100.00000			99.9610
				Emission factor =	0.7803 lb/ton