

TECHNICAL SUPPORT DOCUMENT
For
DRAFT/PROPOSED AIR EMISSION PERMIT NO. 03500002-005

This technical support document (TSD) is intended for all parties interested in the draft/proposed permit and to meet the requirements that have been set forth by the federal and state regulations (40 CFR § 70.7(a)(5) and Minn. R. 7007.0850, subp. 1). The purpose of this document is to provide the legal and factual justification for each applicable requirement or policy decision considered in the preliminary determination to issue the draft/proposed permit.

1.0 General Information

1.1 Applicant and Stationary Source Location:

Table 1. Applicant and Source Address

Applicant/Address	Stationary Source/Address (SIC Code: 2621)
Wausau Paper Mills LLC 100 Paper Pl Mosinee, WI 54455	Wausau Paper Mills LLC 1801 Mill Ave NE Brainerd, MN 56401 Crow Wing County
Contact: Jayme Klecker Phone: 218-822-6620	

1.2 Facility Description

Wausau Paper Mills, LLC is a non-integrated (i.e. no pulp is produced on-site) paper mill in Brainerd, Minnesota. The Facility purchases bleached kraft pulp and recycled pulp to produce fine un-coated printing paper.

The significant emission units include a natural gas fired boiler (EU001), a coal fired boiler (EU002), two natural gas and coal fired boilers (EU003 and EU004), and two paper machines (EU014 and EU015). When operating on natural gas, the emissions from EU003 and EU004 are vented through separate exhaust stacks. However, when burning coal, the emissions from EU002, EU003 and EU004 enter a common flue and pass through a dry electrostatic precipitator (ESP) before exhausting through the common coal combustion stack (SV005). A paper coater was dismantled and removed from the facility during a temporary shutdown in 2002. In addition, used oil and on-site generated petroleum-derived used oil/sorbent/filter media and kerosene soaked sorbents may be burned in the coal-fired boilers. The boilers are sources of criteria pollutants as well as hazardous air pollutants (HAPs). The paper machines are not significant sources of criteria pollutants except for volatile organic compounds (VOCs); they also emit some HAPs.

Minor amendments submitted in May, 2010 and January, 2012 were to rebuild paper machine #7 (EU015) to allow the Facility to make additional grades of paper and to upgrade an associated repulper. Emissions increases of criteria pollutants associated both projects were tallied and compared to the major modification thresholds. Based on the combined emissions totals a major modification under New Source Review (NSR) is not triggered.

Previously, Wausau Paper Mills, LLC went by the name Wausau Paper Printing & Writing, LLC before a restructuring which became effective January 2010. Wausau Paper Printing & Writing operated the Facility from January 2007 until January 2010. Wausau Paper Corporation purchased the mill from Missota Paper Company in October, 2004 and operated the mill beginning in November, 2004 until January, 2007 under the name Wausau Paper of Minnesota. Missota Paper Company purchased the mill from Potlatch Corporation in March, 2003 and operated the mill through October, 2003. Missota started to operate the mill in March, 2003, following a temporary shutdown. The Potlatch Corporation operated the mill up until May 2002. The mill was purchased from Northwest Paper Co. by the Potlatch Corporation in 1963.

1.3 Description of any Changes Allowed with this Permit Issuance

This permit action is the reissuance of the Part 70 operating permit. In addition, the permit action incorporates three amendments submitted by the Facility. This includes an administrative amendment to change the name of the facility to Wausau Paper Mills, LLC, and two minor amendments for upgrades to Paper Machine 7 (EU015). The minor amendments increase the VOC PTE emissions at the facility and also increase the actual emissions of criteria pollutants due to an increase in actual coal combustion for increased steam generation. However, the maximum capacity of the boilers has not changed, so there is no change in the PTE of the boilers (GP001).

Due to the promulgation of the NESHAP for reciprocating internal combustion engines, a number of units previously listed as insignificant activities are now listed as emission units. The Facility has four emergency generators that are affected. This includes a telephone and pager system back-up generator that burns propane (EU016), a hydroplant back-up generator that burns gasoline (EU017), and two compression ignition fire pump engines that burn diesel fuel (EU018 and EU019). The compliance date for EU018 and EU019 is May 3, 2013 and the compliance date for EU016 is October 19, 2013. EU017 is a portable generator and qualifies as a non-road engine, therefore no NESHAP requirements apply.

Another change at the Facility is the retiring of SV002. SV002 is still on site and is used to bring in outside air to maintenance workers when routine maintenance and repair work is being done on Boiler 2 (EU002). At no time are emissions vented through SV002.

The Facility no longer uses ozone depleting substances onsite; therefore the requirements regarding ozone depleting substances have been removed from the permit. Previously, the Facility manufactured, sold, distributed or used chlorodifluoromethane. The Facility did not substitute another chemical after the phase out of chlorodifluoromethane.

The impingement system associated with Paper Machine 7 (EU015) has been removed. Emissions from the impingement system are not included in the PTE calculations.

1.4 Description of All Amendments Issued Since the Issuance of the Last Total Facility Permit and to be Included in the Part 70 Permit

Permit Number and Issuance Date	Action Authorized
NA 1/12/2011	Notification that facility has a PTE for greenhouse gases equal to or greater than 100,000 tons per year as CO ₂ e
03500002-002 November 23, 2004	Administrative Amendment – change in ownership
03500002-003 August 28, 2006	Administrative Amendment – extend the performance testing deadline by 120 days
03500002-004 August 23, 2007	Administrative Amendment – facility name change and emission unit name change

1.5 Facility Emissions:

Table 2. Total Facility Potential to Emit Summary

	PM ^{**} tpy	PM ₁₀ tpy	PM _{2.5} tpy	SO ₂ tpy	NO _x tpy	CO tpy	CO ₂ e tpy	VOC tpy	Single HAP tpy	All HAPs tpy
Total Facility Limited Potential Emissions	724	48.6	32.6	4210	526	254	303,300	51.2	153	175
Total Facility Actual Emissions (2010)	42.8	95.8	No Data	609.6	220.3	99.8	*	22.1	*	

* Not reported in MN emission inventory.

** PM emissions are less than PM₁₀ and PM_{2.5} emissions because inorganic condensables are not included in the emission factor established through performance testing.

Table 3a. Facility Classification

Classification	Major/Affected Source	Synthetic Minor/Area	Minor/Area
PSD	PM, PM ₁₀ , SO _x , NO _x , CO, VOC, HAPs, CO ₂ e,		PM _{2.5} , Pb,
Part 70 Permit Program	PM, PM ₁₀ , SO _x , NO _x , CO, VOC, HAPs, CO ₂ e,		PM _{2.5} , Pb,
Part 63 NESHAP	X		

Table 3b. Modification Emissions Increase of Criteria Pollutants Summary

Project:	GP001: Coal Usage Increase	EU015: Paper Machine Modification	EU015: Paper Machine Modification	Total Increase (tpy)	NSR/112(g) Significant Thresholds for major sources (tpy)	NSR/112(g) Review Required? (Yes/No)
Pollutant	Emissions Increase (tpy)					
PM	0.25	0.19	0	0.44	25	No
PM ₁₀	0.98	0.19	0	1.17	15	No
PM _{2.5}	0.98	0.19	0	1.17	10	No
NO _x	1.50	2.56	0	2.56	40	No
SO ₂	4.31	0.02	0	4.33	40	No
CO	0.68	2.15	0	2.83	100	No
Ozone (VOC)	0.007	0.26	3.20	3.467	40	No
CO ₂	635.67	0	0	635.67	0	No
CH ₄	0.07	0	0	0.07	0	No
N ₂ O	0.01	0	0	0.01	0	No
CO ₂ e*	640.62	0	0	640.62	75,000	No

*Carbon dioxide equivalents as defined in Minn. R. 7007.0100.

1.6 Changes to Permit

The MPCA has a combined operating and construction permitting program under Minnesota Rules Chapter 7007, and under Minn. R. 7007.0800, the MPCA has authority to include additional requirements in a permit. Under that authority, the following changes to the permit are also made through this permit action:

- Changed status of the following emission units in Delta database: EU016, EU017, EU018 and EU019; they were designated as “insignificant activities” but cannot be insignificant activities because they are subject to requirements under NESHAP Subpart ZZZZ.
- Updated emissions data in Delta database to reflect most recent emission factors from performance tests and AP-42.
- Based on calculations submitted by the Permittee, the Trim Cyclone system does not qualify as an insignificant activity and is listed as EU007 in the permit. The Trim Cyclone was previously listed as an emission unit, but during the last permit issuance it was changed to an insignificant activity. However, the emission unit was not retired or removed from the Delta database. It is not clear why the Trim Cyclone was considered an insignificant activity.
- Updated the emissions calculations from coal handling and coal piles to reflect the most recent AP-42 methodology. For the purposes of this permit, emissions from coal handling and coal piles are considered one source and qualify as an insignificant activity.
- The Facility requested that the language regarding monitoring of the electrostatic precipitator (ESP) be modified (CE001). The language has been updated to require minimum secondary voltage and secondary current monitoring to demonstrate that the ESP is functioning properly. Compliance will be determined using a 3 hour block average.

- Permit language updated to reflect current MPCA templates and standard citation formatting.
- Completed requirements and the requirements for equipment that has been removed have been deleted.
- Some requirements have been reordered to help with clarity (i.e., similar requirements are grouped).

The MPCA has a combined operating and construction permitting program under Minnesota Rules Chapter 7007, and under Minn. R. 7007.0800, the MPCA has authority to include additional requirements in a permit. Under that authority, the following changes to the permit are also made through this permit action:

- Added requirement to test for PM_{2.5} from the common ESP stack (SV005).
- Added requirement for facility to resubmit modeling for PM₁₀. Based on previous modeling, the facility is required to remodel PM₁₀ emissions. PM₁₀ remodeling is also due 180 days after MPCA approval of modeling protocol.
- An initial round of modeling for the State Implementation Plan (SIP) has been completed for the Facility. The results indicate that the Facility is not in compliance with the new 1-hour SO₂ National Ambient Air Quality Standard (NAAQS). Therefore, a requirement has been added to the permit restricting the Facility from making any changes that affect SO₂ emissions until modeled compliance with the 1-hour SO₂ NAAQS has been demonstrated.

2.0 Regulatory and/or Statutory Basis

New Source Review

The facility is an existing major source under New Source Review regulations. The proposed change results in an increase in all criteria pollutant emissions. The increase in emissions is below the threshold for all criteria pollutants emissions; therefore the proposed modification is not subject to New Source Review.

Part 70 Permit Program

The facility is an existing major source under the Part 70 permit program.

New Source Performance Standards (NSPS)

The proposed modification does not affect applicability of NSPS. The Facility has stated that there are no applicable NSPS with which the Facility must comply.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

The Facility is an existing major source of HAP emissions. The proposed modification does not affect applicability of NESHAP. Portions of the existing facility are subject to the following NESHAPs:

- Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

- Subpart DDDDD – National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters. The facility is a major HAP source under 40 CFR Part 63 and therefore is subject to the requirements of Subpart DDDDD as promulgated and/or amended. At the time of permit issuance, the effective dates of that rule have been delayed by EPA (Federal Register Volume 76, No. 96, Page 28662. May 18, 2011), and the reconsidered rule proposed in the Federal Register on December 23, 2011. On January 9, 2012, the courts vacated EPA's delay of the rule, and ordered that the rule is effective as promulgated. For that reason, the details of the rule were not included in the permit – whenever the “reconsidered” rule is promulgated, the requirements of the rule will be different than those in effect as of the date of permit issuance. By the compliance date listed in the rule as promulgated (as of the date of permit issuance, this is March 2014 for existing sources) and amended, the permittee must be in compliance with the rule. Once the compliance options become clear, and the rule is finalized, if there are more than 3 years remaining in the permit term, the MPCA has 18 months after promulgation to reopen the permit and add the conditions (Minn. R. 7007.1600, subp. 1.A.)

Compliance Assurance Monitoring (CAM)

The table below lists the sources which are subject to CAM, whether the source is a large pollutant specific emission unit (PSEU), and the monitoring for the applicable pollutants.

Table 4. CAM Summary

Unit	Control	CAM Applicability	Pollutant	Monitoring
GP001 (EU002, EU003, EU004, CE001)	CE001 ESP (common stack – SV005)	Large	PM	3-hour block average of secondary voltage and secondary current

For large pollutant specific emission units, records of the monitored parameter must be made at a minimum of 4 times per hour, or once every 15 minutes.

Environmental Review & AERA

The emissions increase resulting from the proposed project is less than 100 tons per year for all pollutants, and no mandatory categories for an Environmental Assessment Worksheet (EAW) or Environmental Impact Statement (EIS) apply, therefore environmental review does not apply and the facility is not required to perform an Air Emissions Risk Analysis (AERA).

Minnesota State Rules

Portions of the facility are subject to the following Minnesota Standards of Performance:

- Minn. R. 7011.0510 Standards of Performance for Existing Indirect Heating Equipment
- Minn. R. 7011.0515 Standards of Performance for New Indirect Heating Equipment
- Minn. R. 7011.0710 Standards of Performance for Pre-1969 Industrial Process Equipment
- Minn. R. 7011.0715 Standards of Performance for Post-1969 Industrial Process Equipment
- Minn. R. 7011.2300 Standards of Performance for Stationary Internal Combustion Engines

Table 5. Regulatory Overview of Facility

Level*	Applicable Regulations	Comments:
GP 001 Coal Boilers	Minn. R. 7011.0510	Standards of Performance for Existing Indirect Heating Equipment. <ul style="list-style-type: none">• units were constructed before January 31, 1977• the facility is located outside the cities in Table I;• the unit capacity is less than 250 MMBtu/hr; and• the facility has greater than 250 MMBtu/hr of indirect heating equipment.
EU001 Natural Gas Boiler	Minn. R. 7011.0515	Standards of Performance for New Indirect Heating Equipment. <ul style="list-style-type: none">• units were constructed after January 31, 1977• the facility is located outside the cities in Table I;• the unit capacity is less than 250 MMBtu/hr; and• the facility has less than 250 MMBtu/hr of indirect heating equipment.
	40 CFR 52.21 and Minn. R. 7007.3000	Prevention of Significant Deterioration. Limits set on fuel usage to avoid classification as major modification.
EU007 Trim Cyclone	Minn. R. 7011.0715	Standards of Performance for Post-1969 Industrial Process Equipment. <ul style="list-style-type: none">• unit was constructed after July 9, 1969
GP002 Paper Machines	Minn. R. 7011.0710	Standards of Performance for Pre-1969 Industrial Process Equipment. <ul style="list-style-type: none">• units were constructed before July 9, 1969
FS001 Coal Handling and Piles	Minn. R. 7011.0715	Standards of Performance for Post-1969 Industrial Process Equipment. This applies to coal handling and the coal piles.
GP003 Fire Water Pumps	Minn. R. 7011.2300	Standards of Performance for Stationary Internal Combustion Engines.
	40 CFR pt. 63, subp. ZZZZ; Minn. R. 7011.8150	National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines. Operation and maintenance requirements for emergency generators.
EU016 Telephone/	Minn. R. 7011.2300	Standards of Performance for Stationary Internal Combustion Engines.

Pager Backup Generator	40 CFR pt. 63, subp. ZZZZ; Minn. R. 7011.8150	National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines. Operation and maintenance requirements for emergency generators.
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*Where the requirement appears in the permit (e.g., EU, SV, GP, etc.).

3. Technical Information

3.1 Calculations of Potential to Emit and Emissions Increase Analysis

Attachment 1 to this TSD contains spreadsheets showing the calculated facility-wide PTE of the Facility. Calculations were submitted by the Permittee, and edited where necessary by MPCA. In general, the facility potential emissions are based on existing emission limits contained in the permit. Where there are no applicable emission limits, the potential emissions are calculated using published emission factors from EPA's AP-42 or publications by the National Council for Air and Stream Improvement (NCASI), a non-profit research institute that focuses on environmental topics related to the forest products industry.

EU001 Boiler 1

Boiler 1 (EU001) is capable of burning natural gas only. Emission factors for natural gas combustion were taken from 40 CFR Section 98 for greenhouse gases and AP-42 Section 1.4 Natural Gas Combustion for all other pollutants.

GP001 Boilers

GP001 consists of the coal fired boilers (EU002, EU003 and EU004). EU003 and EU004 are capable of burning natural gas in addition to coal. Emission factors for coal combustion are based on a permit limit for PM, 40 CFR Section 98 for greenhouse gases, and AP-42 Section 1.1 Bituminous and Sub-bituminous Coal Combustion for all other pollutants. Emission factors for natural gas combustion were taken from 40 CFR Section 98 for greenhouse gases and AP-42 Section 1.4 Natural Gas Combustion for all other pollutants.

Trim Cyclone

EU007 consists of a Bielo Sheeter, a #3 cut size sheeter, a # 4 cut size sheeter, and a shredder. A cyclone and a baghouse are used to recover raw materials that are repulped to make new paper. The control equipment is an inherent part of the process; paper scraps trimmed from finished paper are recovered and reused in the paper making process. The primary purpose of the equipment is to collect loose paper fiber (a raw material) that has become entrained in the trim exhaust for reuse. The fabric filter was installed to recover a raw material from the process to include it for reuse. Emissions from the fabric filter are vented to the atmosphere. The recovered paper fiber is repulped and serves as a raw material for the production of additional paper. PTE calculations based off a previously permitted emission limit of 0.009 gr/dscf.

GP002 Paper Machines

GP002 consists of Paper Machine 8 (EU0014) and Paper Machine 7 (EU015). Due to minor modifications to EU015, the potential emissions from this unit have increased by 20% since the last reissuance. Emission factors for these units are based on NCASI Technical Bulletin 740 Volatile Organic Compound Emissions from Non-Chemical Pulp and Paper Mill Sources (7/97).

EU016 Telephone/Pager Backup Generator

The capacity of EU016 is less than 500 Hp. EU016 uses propane and has been onsite since 1988. Previously this unit was listed in the permit as an insignificant activity, however, due to the promulgation of the generator NESHAP (40 CFR § 63, subp. ZZZZ) this unit must now be listed as an emission unit. Emission factors for this unit were taken from 40 CFR § 98 for greenhouse gases and AP-42 Section 3.2 Natural Gas-fired Reciprocating Engines.

EU017 Hydroplant Backup Generator

EU017 uses gasoline and has been onsite since 1996; previously this unit was listed in the permit as an insignificant activity. This unit is a portable unit and qualifies as a nonroad engine. Requirements to maintain this unit as a nonroad engine have been incorporated into the permit.

GP003 Fire Water Pumps

GP003 consists of two diesel pumps, each less than 500 Hp. These units have been onsite since 1957 (EU018) and 1977 (EU019), but until now have been listed in the permit as insignificant activities. Due to the promulgation of the generator NESHAP (40 CFR pt. 63, subp. ZZZZ) these units must now be listed as emission units. Emission factors for these units are taken from 40 CFR Section 98 for greenhouse gases and AP-42 Section 3.3 Gasoline and Diesel Industrial Engines for all other pollutants.

3.2 Performance Test Results

All three boilers in GP001 exhaust through one common stack. The common stack was tested at two operating conditions. The first condition was with EU003 operating at maximum capacity and EU002 and EU004 shutdown. The second condition was with both EU002 and EU004 operating at maximum capacity with EU003 shutdown. It is not possible for the Facility to operate all three boilers at maximum capacity at the same time due to production constraints. The Facility requested approval to conduct two separate tests at the conditions described above. This test scenario was approved by the MPCA.

Table 6. Summary of Performance Test Results

Emission Unit Tested	Condition	Limitation Basis	Pollutant and Emission Limit	Test Result
GP001 Boilers and Common ESP Stack (SV005)	I	Minn. R. 7011.0510 Subp. 1	Particulate: 0.6 lb/MMBtu	0.049 lb/MMBtu
		Minn R. 7011.0510 Subp. 2	Opacity: 20%	0.0%
	II	Minn. R. 7011.0510 Subp. 1	Particulate: 0.6 lb/MMBtu	0.057 lb/MMBtu
		Minn R. 7011.0510 Subp. 2	Opacity: 20%	0.0%

3.3 EU015 Modification and Emissions Increase

The Permittee has provided written documentation to the MPCA that the modification to EU015 does not qualify as a reconstruction under the 40 CFR § 63.2 definition. The capital cost of the Paper Machine 7 (EU015) modification was 27 million dollars. The capital cost of a comparable new paper machine is approximately 250 million dollars. The modification to EU015 would be considered a reconstruction if the fixed capital cost of the modification exceeded 50 percent of the fixed capital cost that would have

been required to construct a comparable new paper machine. Since the capital cost of the new components did not exceed 50 percent, this project does not qualify as a reconstruction.

Attachment 2 to this TSD contains the Title I net emissions increase calculations for the minor modifications rolled into this permit action. This demonstrates that these modifications do not qualify as a major modification for PSD. The calculations show the potential emissions of the modifications to Paper Machine 7 (EU015), the projected actual emissions of existing units affected by the proposed modification (the projected actual emissions are essentially the potential emissions based on existing permit conditions), and the baseline actual emissions of the existing units affected by the proposed modification. The emissions increase is calculated as the sum of the potential and projected actual emissions from new and existing equipment, respectively, minus the actual emissions during a two-year period chosen by the applicant. A summary of the calculated emissions increase is shown in Tables 3b of this TSD. Calculations were submitted by the Permittee and reviewed by the MPCA.

3.4 Dispersion Modeling

Based on previous modeling results, the MPCA requested that modeling for PM₁₀ be re-conducted at the next permit action. The requirements for remodeling have been incorporated into this permit action and the Permittee is required to submit remodeling for PM₁₀ and SO₂ (for the SIP – see below) to the MPCA by September 28th, 2012. Tier 3 language for SO₂ modeling is used in permit because modeled concentrations are above 90% of the NAAQS for SO₂. Tier 1 language for PM₁₀ modeling is used in the permit because modeled concentrations (of PM) are below 75% of the NAAQS for PM₁₀. In addition, per MPCA practice, a table of the previously modeled parameters has been added to the permit as an appendix (Appendix B). The modeled emission rates from the GP002 boilers do not match PTE emission rates for PM₁₀ or SO₂. Modeled emission rates are lower than PTE emission rates when the facility is operating at maximum capacity (i.e. all boilers operating simultaneously at maximum capacity). Other than the specific operating restrictions and the discrepancy mentioned previously, the parameters listed in Appendix B of the permit describe the operation of the facility at maximum capacity. In other words, the flow rates and temperatures listed in Appendix B represent the minimum parameters at the maximum emission rates, and were used to model compliance with the standards in effect at the time modeling was completed. The MPCA does not require any specific compliance demonstration with these parameters because they are worse-case conditions. The purpose of listing the parameters in the permit appendix is to provide a benchmark for determining if and when additional modeling is required.

Table 7. NAAQS/MAAQS Modeling Results

Pollutant	Averaging Period	NAAQS (µg/m3)	MAAQS (µg/m3)	Total modeled concentration (includes background and nearby sources) (µg/m3)	Percent of Standard (%)	
					NAAQS	MAAQS
SO ₂	1-hr	196	1,300	NA ¹	--	--
	3-hr	NA	1,300	1282.49	NA	98.65%
	24-hr	365	NA	351.60	96.33%	NA
	Annual	80	60	24.13	30.17%	40.22%

NO ₂	1-hr	188	NA	NA ²	--	--
	Annual	100	100	23.26	23.26%	NA
PM ₁₀	24-hr	150	150	60.01	40.01%	NA
	Annual	NA	50	26.03	NA	52.07%

¹ 1-hr SO₂ modeling was performed in 2008 against the old NAAQS. Before any changes in SO₂ emissions at the Facility can be made, the Facility is required to submit re-modeling to demonstrate compliance with the new NAAQS. The attainment date for the new 1-hr SO₂ NAAQS is July 2017.

² Facilities are encouraged to conduct internal air dispersion modeling and engineering analyses to review and refine emission factors, stack information, and other air dispersion modeling inputs to facilitate future attainment demonstration and compliance. The attainment date for the new 1-hr NO_x NAAQS is February 2017.

Complete modeling results can be found in Attachment 5 of this TSD.

3.5 New and Revised 1-hour NAAQS

In 2010, the U. S .Environmental Protection Agency (EPA) promulgated the new National Ambient Air Quality Standards (NAAQS) for sulfur dioxide (SO₂) and nitrogen dioxide (NO₂) averaged over one hour. The attainment dates (the date by which the state must be able to demonstrate compliance with the applicable standard) are February 2017 and July 2017 for NO₂ and SO₂, respectively.

3.5.1 SO₂

In June 2010, the new one-hour NAAQS for SO₂ was set at 75 ppb. Minnesota has no monitored violations of the standard. However, in order to ensure attainment with this standard nationwide, EPA is requiring an “infrastructure” or 110(a) State Implementation Plan submittal from states that are in attainment or unclassifiable with respect to the standard. The 110(a) SIP specifically requires a hybrid modeling-monitoring approach for the state to demonstrate that the standard will be maintained.

EPA has indicated that states should model all sources that emit over 100 tons per year of SO₂, or other sources that could cause or contribute to an exceedance of the new standard. The Wausau Paper Mills facility falls in that category, and therefore its SO₂ impacts will be evaluated during the SO₂ SIP process. The MPCA envisions the SO₂ SIP process as follows:

- MPCA identified key sources – Spring 2011
MPCA requested modeling parameters from 65 sources that had a PTE over 100 tpy or otherwise were considered to potentially cause or contribute to a violation of the SO₂ standard.
- Key sources submit SO₂ modeling parameters – Summer 2011
All facilities submitted modeling parameters by the end of July 2011.
- MPCA completed initial round of modeling and identifies sources that model an exceedance of the standard – Fall 2011
MPCA is currently developing model input files based on the modeling parameters received from the facilities.

- EPA has announced on April 12, 2012 that they will not be requiring modeling for the infrastructure SIP.

From the initial round of modeling for the SO₂ SIP, Wausau Paper Mills, LLC was identified as the culpable source that led to a violation the new SO₂ 1-hour NAAQS standard. As a result, the MPCA will require that the Wausau Paper Mill, LLC demonstrate compliance through modeling with the SO₂ 1-hour NAAQS standard before making any changes to SO₂ emissions whether or not a permit amendment is required to make the proposed change.

3.5.2 NO₂

EPA has indicated that they intend to designate Minnesota as unclassifiable/attainment with the one-hour NO₂ standard. Monitoring data indicates that Minnesota meets the one-hour standard. EPA is not requiring a similar hybrid SIP approach for facilities for the one-hour NO₂ NAAQS. Facilities were provided with guidance from MPCA (memo dated May 26, 2011, available at <http://www.pca.state.mn.us/nwqh421> and now included as Attachment 6 of the Technical Support Document). Facilities are encouraged to conduct internal air dispersion modeling and engineering analyses to review and refine emission factors, stack information, and other air dispersion modeling inputs to facilitate future attainment demonstration and compliance. The results of these internal modeling exercises are not required to be reported on the Annual Compliance Certification prior to the attainment date or the effective date of facility-specific requirements, whichever occurs first.

3.6 Periodic Monitoring and CAM

In accordance with the Clean Air Act, it is the responsibility of the owner or operator of a facility to have sufficient knowledge of the facility to certify that the facility is in compliance with all applicable requirements.

For CAM, the Permittee submitted a CAM proposal as required by 40 CFR § 64.3. It can be found in Attachment 4 to this TSD.

In evaluating the monitoring included in the permit, the MPCA considered the following:

- The likelihood of the facility violating the applicable requirements;
- Whether add-on controls are necessary to meet the emission limits;
- The variability of emissions over time;
- The type of monitoring, process, maintenance, or control equipment data already available for the emission unit;
- The technical and economic feasibility of possible periodic monitoring methods; and
- The kind of monitoring found on similar units elsewhere.

Table 8 summarizes the periodic monitoring requirements for those emission units for which the monitoring required by the applicable requirement is nonexistent or inadequate or where CAM applies.

Table 8. Periodic Monitoring

Level*	Requirement (basis)	Additional Monitoring	Discussion
GP001 Coal Boilers (EU002, EU003, EU004 and CE001)	Total Particulate Matter: ≤ 0.6 lb/MMBtu; Opacity $\leq 20\%$; $SO_2 \leq 4$ lb/MMBtu (Minn. R. 7011.0510)	Performance Testing and Proper ESP Operation and Maintenance	Most recent test (2012) demonstrated PM emission rates of 0.049 lb/MMBtu for EU003 and 0.057 lb/MMBtu for EU004 and EU002; and an average opacity of 0%; Additionally, initial performance tests for PM_{10} and $PM_{2.5}$ are required by this permit action. Emission rates from performance tests are needed for modeling.
	Sulfur Content of Fuel: ≤ 2.5 percent by weight for coal. (Minn. R. 7007.0800); $SO_2 \leq 4.0$ lb/MMBtu (Minn. R. 7011.0510)	Recordkeeping	Fuel Supplier Certification: obtain and maintain certification from fuel supplier specifying the sulfur content of the coal, in weight percent. Compliance with the SO_2 emissions rate is demonstrated by the use of fuel with a sulfur content $\leq 2.5\%$ by weight; at 2.5% sulfur, SO_2 emissions are 3.6 MMBtu/hr, which is below the limit of 4.0 lb/MMBtu.
	Used Oil Fuel Usage: ≤ 8000 gallons/yr (Minn. R. 7007.0800)	Recordkeeping	Fuel use records shall be kept and fuel usage shall be calculated on a 12-month rolling sum basis by the 15 th day of each month for the previous 12-month period.
	Secondary voltage ≥ 155 volts using a 3-hour block average; secondary current limit to be set at next performance test (Minn. R. 7007.0800; Minn. R. 7017.2025, subp. 3)	Recordkeeping, Performance Testing, Monitoring, and Proper ESP Operation and Maintenance	During the most recent test (2012), total power was monitored and above level set in previous permit. Permittee requested that secondary voltage and secondary current be monitored instead. This permit and TSD incorporate this change. Continuous monitoring, or at a minimum once every 15 minutes of secondary voltage and secondary current.
	Fuel Usage: ≤ 13750 gallons/year of oil or kerosene soaked sorbent/filter media (Minn. R. 7007.0800)	Recordkeeping	Fuel use record shall be kept and fuel usage shall be calculated on a 12-month rolling sum basis by the 15 th day of each month for the previous 12-month period.
GP002 Paper Machines (EU014 and EU015)	Total Particulate Matter: ≤ 0.3 gr/dscf unless required to further reduce emissions Opacity $\leq 20\%$ (Minn. R. 7011.0710)	Proper operation and maintenance; Recordkeeping	With proper operation and maintenance, the paper machines would not be expected to emit particulate matter in quantities significant enough to violate the Minnesota Standard of Performance for Industrial Process Equipment.

Level*	Requirement (basis)	Additional Monitoring	Discussion
GP003 Fire Water Pumps (EU018 and EU019)	Opacity: $\leq 20\%$; SO ₂ : ≤ 0.50 lb/MMBtu (Minn. R. 7011.2300)	None	Engine combusts diesel fuel only. Particulate matter in amounts needed to create opacity is not expected. Potential SO ₂ emissions are approximately 60% of the limit based on maximum capacity, AP-42 factors, and allowed sulfur content. Engines are operated approximately 17.33 hr/yr.
	Sulfur Content of Fuel: $\leq 0.40\%$ by weight (Minn. R. 7007.0800, subp. 2)	Recordkeeping	Fuel Supplier Certification: obtain and maintain a fuel supplier certification for each shipment of diesel fuel, specifying that the sulfur content of the diesel, by weight.
	Change oil and filter every 500 hours of operation, or annually; inspect air cleaner every 1000 hours of operation or annually; inspect all hoses and belts every 500 hours of operation or annually (NESHAP Subpart ZZZZ)	Recordkeeping	Keep records of the maintenance conducted on the engines in order to demonstrate that the engines were operated and maintained in accordance with applicable regulations. Keep records of the hours of operation of the engines by use of a non-resettable hour meter. Keep records of how many hours are spent for emergency operation and how many hours are spent for non-emergency operation (e.g. testing).
EU016 Telephone/ Pager Backup Generator	Opacity: $\leq 20\%$; SO ₂ : ≤ 0.50 lb/MMBtu (Minn. R. 7011.2300)	None	Engines combust propane and gasoline fuel only. Particulate matter in amounts needed to create opacity is not expected. Potential SO ₂ emissions are approximately 0.12% of the limit based on maximum capacity, AP-42 factors, and allowed sulfur content. Engine is operated approximately 0.25 hr/yr.
	Change oil and filter every 500 hours of operation, or annually; inspect spark plugs every 1000 hours of operation or annually; inspect all hoses and belts every 500 hours of operation or annually (NESHAP Subpart ZZZZ)	Recordkeeping	Keep records of the maintenance conducted on the engines in order to demonstrate that the engines were operated and maintained in accordance with applicable regulations. Keep records of the hours of operation of the engines by use of a non-resettable hour meter. Keep records of how many hours are spent for emergency operation and how many hours are spent for non-emergency operation (e.g. testing).
EU001 Natural Gas Boiler	Total Particulate Matter: ≤ 0.4 lb/MMBtu heat input	None	Total Particulate Matter: The PTE of this emission unit, using AP-42 emission factors, is 0.0075 lb/MMBtu. The PTE is lower than that allowed by the applicable

Level*	Requirement (basis)	Additional Monitoring	Discussion
	Opacity: $\leq 20\%$ (Minn. R. 7011.0515)		performance standard.
	Fuel Usage: ≤ 760 million cubic feet/year	Recordkeeping	<p>Daily Recordkeeping: on each day of operation, the Permittee shall record and maintain the total quantity of natural gas burned in Boiler #1. This shall be based on a flowmeter.</p> <p>Monthly Recordkeeping: fuel use record shall be kept and fuel usage shall be calculated on a 12-month rolling sum basis by the 15th day of each month for the previous 12-month period.</p>
EU007 Trim Cyclone	Total Particulate Matter: less than or equal to 0.3 gr/dscf unless required to further reduce emissions Opacity $\leq 20\%$ (Minn. R. 7011.0715)	Daily visible emissions checks	<p>With proper operation and maintenance, the trim cyclone would not be expected to emit particulate matter in quantities significant enough to violate the Minnesota Standard of Performance for Industrial Process Equipment. Additionally, the cyclone and baghouse are inherent to the process; daily visible emission checks are for process monitoring.</p> <p>Keep records of visible emissions checks and any corrective actions taken.</p>

*Where the requirement appears in the permit (e.g., EU, SV, GP, etc.).

3.7 Insignificant Activities

Wausau Paper Mills, LLC has several operations which are classified as insignificant activities under the MPCA's permitting rules. These are listed in Appendix C to the permit.

The permit is required to include periodic monitoring for all emissions units, including insignificant activities, per EPA guidance. The insignificant activities at this Facility are only subject to general applicable requirements. Using the criteria outlined earlier in this TSD, the following table documents the justification why no additional periodic monitoring is necessary for the current insignificant activities. See Attachment 1 of this TSD for PTE information for the insignificant activities.

Table 9. Insignificant Activities

Insignificant Activity	General Applicable Emission limit	Discussion
Emissions from a laboratory, as defined in Minn. R. 7007.1300, subp. 3(G)	PM, variable depending on airflow, not to exceed 0.30 gr/ dscf; and Opacity \leq 20% (Minn. R. 7011.0710/715)	Technical Service Lab Hoods. These are very small, intermittent, bench-top operations that typically do not even have any emissions. It is highly unlikely that they could violate the applicable requirement.
Brazing, soldering or welding equipment	PM, variable depending on airflow, not to exceed 0.30 gr/dscf; and Opacity \leq 20% (Minn. R. 7011.0710/715)	For these units, based on EPA published emissions factors, it is highly unlikely that they could violate the applicable requirement. In addition, these units are typically operated and vented inside a building, so testing for PM or opacity is not feasible.
Individual units with potential emissions less than 4000 lb/yr of CO and 2000 lb/yr of certain pollutants	PM, variable depending on airflow, not to exceed 0.30 gr/dscf; and Opacity \leq 20% (Minn. R. 7011.0715)	Will Cut Size Sheeters. Emissions are exhausted into the building 100% of the time and will not require air filtering systems to control indoor air emissions.
	PM, variable depending on airflow, not to exceed 0.30 gr/dscf; and Opacity \leq 20% (with exceptions) (Minn. R. 7011.0715 and Minn. R. 7011.0610)	Waste Treatment Plant Space Heating Boiler. Boiler has a maximum heat input capacity of 0.50 MMBtu/hr.
	Apply reasonable measures to prevent particulate matter from becoming airborne. (Minn. R. 7011.0150)	Coal Handling/Coal Pile. Wasusau Paper has 2 coal piles, one is disturbed daily and the other is disturbed 3 times a week. PM and PM ₁₀ emissions are below 1 tpy based on AP-42 13.2.5 Industrial Wind Erosion emission factors and calculations.
Individual emissions units at a stationary source, each of which has:	PM, variable depending on airflow, not to exceed 0.30 gr/ dscf; and	Waste Treatment Facility. ENSR 1995 Application showed maximum uncontrolled emissions of 0.412 tpy of VOCs based on WATER7 software.

Insignificant Activity	General Applicable Emission limit	Discussion
<p>A. Potential emissions of 5.7 lb/hr or actual emissions of 2 tons/yr of carbon monoxide;</p> <p>B. Potential emissions of 2.28 lb/hr or actual emissions of 1 ton/yr for particulate matter, particulate matter < 10 microns, nitrogen oxide, sulfur dioxide, and VOCs;</p> <p>C. For hazardous air pollutants, emissions units with:</p> <p>(1) potential emissions of 25% or less of the hazardous air pollutant thresholds listed in subp. 5; or</p> <p>(2) combined HAP actual emissions of 1 ton/yr unless the emissions unit emits one or more of the HAPs listed in this subpart; AND</p> <p>D. Potential emissions up to 10,000 tons/yr or actual emissions up to 1,000 tons/yr of CO₂e.</p>	<p>Opacity \leq 20%</p> <p>(Minn. R. 7011.0710/715)</p>	
	<p>PM, variable depending on airflow, not to exceed 0.30 gr/ dscf; and</p> <p>Opacity \leq 20%</p> <p>(Minn. R. 7011.0710/715)</p>	Ash Handling. ENSR 1995 Application shows actual and PTE to be less than 1 tpy.
	<p>PM, variable depending on airflow, not to exceed 0.30 gr/ dscf; and</p> <p>Opacity \leq 20%</p> <p>(Minn. R. 7011.0710/715)</p>	Color Kitchen Dry Raw Materials Handling. The baghouses are integral to the process; they recover valuable raw material and deposit the raw materials in the user bins. They are necessary in order to pneumatically convey the raw materials.
	<p>PM, variable depending on airflow, not to exceed 0.30 gr/ dscf; and</p> <p>Opacity \leq 20%</p> <p>(Minn. R. 7011.0710/715)</p>	Color Kitchen Vacuum. The baghouses are integral to the process; they recover valuable raw material and deposit the raw materials in the user bins. They are necessary in order to pneumatically convey the raw materials.
	<p>PM \leq 0.10 gr/dscf</p> <p>Opacity \leq 20%</p> <p>(Minn. R. 7011.0710/0715)</p>	Roll Grinder. Emissions are filtered through an air cleaning system and exhaust into the building 100 percent of the time. PM and PM10 actual emissions are below 1 tpy.
<p>Emissions from equipment venting particulate matter (PM) or particulate matter less than 10 microns (PM₁₀) inside a building, provided that emissions from the equipment are:</p> <p>a). filtered through an air cleaning system; and</p> <p>b). vented inside of the</p>	<p>PM, variable depending on airflow, not to exceed 0.30 gr/dscf; and</p> <p>Opacity \leq 20%</p> <p>(Minn. R. 7011.0710/0715)</p>	Machine Shop Grinding. Emissions are filtered through an air cleaning system and exhausted into the building 100% of the time.

Insignificant Activity	General Applicable Emission limit	Discussion
building 100% of the time.		

3.8 Permit Organization

In general, the permit meets the MPCA Delta Guidance for ordering and grouping of requirements. One area where this permit deviates slightly from Delta guidance is in the use of appendices. While appendices are fully enforceable parts of the permit, in general, any requirement that the MPCA thinks should be electronically tracked (e.g., limits, submittals, etc.), should be in Table A or B of the permit. The main reason is that the appendices are word processing sections and are not part of the electronic tracking system. Violation of the appendices can be enforced, but the computer system will not automatically generate the necessary enforcement notices or documents. Staff must generate these.

3.9 Comments Received

This section will be completed after the referenced review periods are concluded.

Public Notice Period: <start date> - <end date>

EPA 45-day Review Period: <start date> - <end date>

4.0 Permit Fee Assessment

This permit action is the reissuance of an individual Part 70; therefore, no application fees apply under Minn. R. 7002.0016, subp. 1 to the changes that are covered by the reissuance application. Additionally, the permit action rolls in three additional permit applications to which additional fees do not apply. The changes covered by those permit applications include the incorporation of the facility name change, and two minor amendments to upgrade an existing emission unit (EU015). This permit action also includes the incorporation of an applicable NESHAP, however this was an existing standard that applied to the facility and is not a chargeable activity (i.e., the standard was not triggered by the modifications requested in the permit applications – it falls under a permit reopening being incorporated in the reissuance).

5.0 Conclusion

Based on the information provided by Wausau Paper Mills, LLC, the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 03500002-005 and this TSD, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Staff Members on Permit Team: Cindy Schafer (permit writer/engineer)
 Dave Crowell (enforcement)
 Andy Place (stack testing)
 Toni Volkmeier (peer reviewer)

AQ File No. 30B; DQ 2097, 2987, 3107, 3822

- Attachments:
1. PTE Summary Calculation Spreadsheets
 2. Net Emissions Increase Spreadsheet
 3. Facility Description and CD-01 Forms
 4. CAM plan
 5. NAAQS/MAAQS Results Table from Modeling (2008)
 6. MPCA Modeling Guidance Memo

ATTACHMENT 1
PTE SUMMARY CALCULATION SPREADSHEETS

Emission Unit Identification No.:

EU 001 Boiler 1

Stack/Vent Designation No.:

SV001

Maximum Capacity:

96.5 MMBtu/hr

Operating Hours:

8760 hr/yr

Limited Fuel Usage:

760 MMscf/yr

Fuel Data:

Fuel Type	Sulfur Content	Units	Heat Value	Units	Fuel	
					Consumption	Units
Natural Gas	0.0516	gr/scf	1020	Btu/scf	760	MMscf/yr

Pollutant	Natural Gas Emissions					
	Emission Factor ¹ (lb/10 ⁶ scf)	Hourly Potential Emission Rate (lb/hr)	Uncontrolled Potential Emissions (tons/yr)	Pollution Control Efficiency (%)	Controlled Potential Emissions (tons/yr)	Limited Potential Emissions (tons/yr)
PM	7.6E+00	7.19E-01	3.15E+00	0	3.15E+00	2.89E+00
PM ₁₀	7.6E+00	7.19E-01	3.15E+00	0	3.15E+00	2.89E+00
PM _{2.5}	7.6E+00	7.19E-01	3.15E+00	0	3.15E+00	2.89E+00
SO _x	6.0E-01	5.68E-02	2.49E-01	0	2.49E-01	2.28E-01
NO _x	1.0E+02	9.46E+00	4.14E+01	0	4.14E+01	3.80E+01
CO	8.4E+01	7.95E+00	3.48E+01	0	3.48E+01	3.19E+01
Lead	5.0E-04	4.73E-05	2.07E-04	0	2.07E-04	1.90E-04
VOC	5.5E+00	5.20E-01	2.28E+00	0	2.28E+00	2.09E+00
CO ₂ ⁶	1.19E+05	1.13E+04	4.94E+04	0	4.94E+04	4.53E+04
CH ₄ ⁶	2.25E+00	2.13E-01	9.32E-01	0	9.32E-01	8.55E-01
N ₂ O ⁶	2.25E-01	2.13E-02	9.32E-02	0	9.32E-02	8.55E-02
CO ₂ e ⁵	1.19E+05	1.13E+04	4.95E+04	0	4.95E+04	4.54E+04
Benzene	2.1E-03	1.99E-04	8.70E-04	0	8.70E-04	7.98E-04
Dichlorobenzene	1.2E-03	1.14E-04	4.97E-04	0	4.97E-04	4.56E-04
Formaldehyde	7.5E-02	7.10E-03	3.11E-02	0	3.11E-02	2.85E-02
Hexane	1.80E+00	1.70E-01	7.46E-01	0	7.46E-01	6.84E-01
Naphthalene	6.1E-04	5.77E-05	2.53E-04	0	2.53E-04	2.32E-04

POM ²	8.82E-05	8.34E-06	3.65E-05	0	3.65E-05	3.35E-05
Toluene	3.4E-03	3.22E-04	1.41E-03	0	1.41E-03	1.29E-03
Single HAP	1.80E+00	1.70E-01	7.46E-01	0	7.46E-01	6.84E-01
Total HAPs ³	1.89E+00	1.79E-01	7.82E-01	0	7.82E-01	7.17E-01
Arsenic	2.0E-04	1.89E-05	8.29E-05	0	8.29E-05	7.60E-05
Beryllium	1.2E-05	1.14E-06	4.97E-06	0	4.97E-06	4.56E-06
Cadmium	1.1E-03	1.04E-04	4.56E-04	0	4.56E-04	4.18E-04
Chromium	1.4E-03	1.32E-04	5.80E-04	0	5.80E-04	5.32E-04
Cobalt	8.4E-05	7.95E-06	3.48E-05	0	3.48E-05	3.19E-05
Manganese	3.8E-04	3.60E-05	1.57E-04	0	1.57E-04	1.44E-04
Mercury	2.6E-04	2.46E-05	1.08E-04	0	1.08E-04	9.88E-05
Nickel	2.1E-03	1.99E-04	8.70E-04	0	8.70E-04	7.98E-04
Selenium	2.4E-05	2.27E-06	9.95E-06	0	9.95E-06	9.12E-06

¹ Emissions Factors found in AP-42 Section 1.4 Natural Gas Combustion (7/98)

² The Emissions Factor for POM is the sum of the emissions factors for the following compounds as defined in AP-42 Table 1.4-3 (7/98):

Pollutant	Emission		Emission	
	Factor ¹ (lb/10 ⁶ scf)	Pollutant	Factor ¹ (lb/10 ⁶ scf)	
2-Methylnaphthalene	2.4E-05	Benzo(g,h,i)perylene	1.2E-06	
3-Methylchloranthrene	1.8E-06	Benzo(k)fluoranthene	1.8E-06	
7,12-Dimethylbenz(a)anthracene	1.6E-05	Chrysene	1.8E-06	
Acenaphthene	1.8E-06	Dibenzo(a,h)anthracene	1.2E-06	
Acenaphthylene	1.8E-06	Fluoranthene	3.0E-06	
Anthracene	2.4E-06	Fluorene	2.8E-06	
Benz(a)anthracene	1.8E-06	Indeno(1,2,3-cd)pyrene	1.8E-06	
Benzo(a)pyrene	1.2E-06	Phenanthrene	1.7E-05	
Benzo(b)fluoranthene	1.8E-06	Pyrene	5.0E-06	
		Total	8.82E-05	

³ Total HAPs include: Benzene, Dichlorobenzene, Formaldehyde, Hexane, Naphthalene, Toluene and POM⁴

⁴ POM is a HAP as defined by Section 112(b) of the Clean Air Act

⁵ Global warming potentials found in 40 CFR Part 98 Subp A Table A-1

⁶ Emissions Factors found in 40 CFR Section 98 Tables C-1 and C-2

Emission Unit Identification No.: **EU 002 Boiler 2**
Stack/Vent Designation No.: SV002 (bypass) SV005 (coal)
Associated Pollution Control Dev CE001 and CE007
Maximum Capacity: 54 MMBtu/hr
Operating Hours: 8760 hr/yr

Fuel Data: Coal

Sulfur Content (%)	Carbon Content (%)	% Ash	Heat Value	Units
2.5	80	10	26.5 MMBtu/ton	MMscf/hr

Pollutant	Coal Emissions: Boiler 2					
	Emission Factor ¹ (lb/ton) or (lb/MMBtu)	Hourly Potential Emission Rate (lb/hr)	Uncontrolled Potential Emissions (tons/yr)	Pollution Control Efficiency (%)	Controlled Potential Emissions (tons/yr)	Limited Potential Emissions (tons/yr)
PM	6.00E-01	6.48E+02	2.84E+03	95.0%	1.42E+02	1.42E+02
PM ₁₀	1.32E+01	2.69E+01	1.18E+02	95.0%	5.89E+00	5.89E+00
PM _{2.5}	6.00E+00	1.22E+01	5.36E+01	95.0%	2.68E+00	2.68E+00
SO _x	9.50E+01	1.94E+02	8.48E+02	0	8.48E+02	8.48E+02
NO _x	1.10E+01	2.24E+01	9.82E+01	0	9.82E+01	9.82E+01
CO	5.00E+00	1.02E+01	4.46E+01	0	4.46E+01	4.46E+01
VOC	5.00E-02	1.02E-01	4.46E-01	0	4.46E-01	4.46E-01
CO ₂ ³	5.81E+03	1.18E+04	5.18E+04	0	5.18E+04	5.18E+04
CH ₄ ³	6.00E-02	1.22E-01	5.36E-01	0	5.36E-01	5.36E-01
N ₂ O ³	4.00E-02	8.15E-02	3.57E-01	0	3.57E-01	3.57E-01
CO ₂ e ²	5.82E+03	1.19E+04	5.20E+04	0	5.20E+04	5.20E+04
PAH ² Controlled EF	2.1E-05	4.23E-05	1.85E-04	0	1.85E-04	1.85E-04
HCl ⁴	1.3E-01	7.02E+00	3.07E+01	0	3.07E+01	3.07E+01
HF	1.5E-01	3.06E-01	1.34E+00	0	1.34E+00	1.34E+00
Total PCDD (dioxins)	6.7E-10	1.36E-09	5.94E-09	0	5.94E-09	5.94E-09

Pollutant	Coal Emissions: Boiler 2					
	Emission Factor ¹ (lb/ton) or (lb/MMBtu)	Hourly Potential Emission Rate (lb/hr)	Uncontrolled Potential Emissions (tons/yr)	Pollution Control Efficiency (%)	Controlled Potential Emissions (tons/yr)	Limited Potential Emissions (tons/yr)
Total PCDF (furans)	1.1E-09	2.23E-09	9.75E-09	0	9.75E-09	9.75E-09
Single HAP-HCl		7.0E+00	3.07E+01	0	3.07E+01	3.07E+01
Total HAPs		7.35E+00	3.22E+01	0	3.22E+01	3.22E+01
Antimony	1.80E-05	3.67E-05	1.61E-04	0	1.61E-04	1.61E-04
Arsenic	4.1E-04	8.35E-04	3.66E-03	0	3.66E-03	3.66E-03
Beryllium	2.1E-05	4.28E-05	1.87E-04	0	1.87E-04	1.87E-04
Cadmium	5.1E-05	1.04E-04	4.55E-04	0	4.55E-04	4.55E-04
Chromium	2.6E-04	5.30E-04	2.32E-03	0	2.32E-03	2.32E-03
Chromium (VI)	7.9E-05	1.61E-04	7.05E-04	0	7.05E-04	7.05E-04
Cobalt	1.0E-04	2.04E-04	8.93E-04	0	8.93E-04	8.93E-04
Lead	4.2E-04	8.56E-04	3.75E-03	0	3.75E-03	3.75E-03
Magnesium	1.1E-02	2.24E-02	9.82E-02	0	9.82E-02	9.82E-02
Manganese	4.9E-04	9.98E-04	4.37E-03	0	4.37E-03	4.37E-03
Mercury	8.3E-05	1.69E-04	7.41E-04	0	7.41E-04	7.41E-04
Nickel	2.8E-04	5.71E-04	2.50E-03	0	2.50E-03	2.50E-03
Selenium	1.3E-03	2.65E-03	1.16E-02	0	1.16E-02	1.16E-02
Acetaldehyde	5.7E-04	1.16E-03	5.09E-03	0	5.09E-03	5.09E-03
Acetophenone	1.5E-05	3.06E-05	1.34E-04	0	1.34E-04	1.34E-04
Acrolein	2.9E-04	5.91E-04	2.59E-03	0	2.59E-03	2.59E-03
Benzene	1.3E-03	2.65E-03	1.16E-02	0	1.16E-02	1.16E-02
Benzyl chloride	7.0E-04	1.43E-03	6.25E-03	0	6.25E-03	6.25E-03
Bis(2-ethylhexyl)phthalate	7.3E-05	1.49E-04	6.52E-04	0	6.52E-04	6.52E-04
Bromoform	3.9E-05	7.95E-05	3.48E-04	0	3.48E-04	3.48E-04
Carbon disulfide	1.3E-04	2.65E-04	1.16E-03	0	1.16E-03	1.16E-03
2-Chloroacetophenone	7.0E-06	1.43E-05	6.25E-05	0	6.25E-05	6.25E-05
Chlorobenzene	2.2E-05	4.48E-05	1.96E-04	0	1.96E-04	1.96E-04
Chloroform	5.9E-05	1.20E-04	5.27E-04	0	5.27E-04	5.27E-04
Cumene	5.3E-06	1.08E-05	4.73E-05	0	4.73E-05	4.73E-05
Cyanide	2.5E-03	5.09E-03	2.23E-02	0	2.23E-02	2.23E-02

Pollutant	Coal Emissions: Boiler 2					
	Emission Factor ¹ (lb/ton) or (lb/MMBtu)	Hourly Potential Emission Rate (lb/hr)	Uncontrolled Potential Emissions (tons/yr)	Pollution Control Efficiency (%)	Controlled Potential Emissions (tons/yr)	Limited Potential Emissions (tons/yr)
2,4-Dinitrotoluene	2.8E-07	5.71E-07	2.50E-06	0	2.50E-06	2.50E-06
Dimethyl sulfate	4.8E-05	9.78E-05	4.28E-04	0	4.28E-04	4.28E-04
Ethyl benzene	9.4E-05	1.92E-04	8.39E-04	0	8.39E-04	8.39E-04
Ethyl chloride	4.2E-05	8.56E-05	3.75E-04	0	3.75E-04	3.75E-04
Ethylene dichloride	4.0E-05	8.15E-05	3.57E-04	0	3.57E-04	3.57E-04
Ethylene dibromide	1.2E-06	2.45E-06	1.07E-05	0	1.07E-05	1.07E-05
Formaldehyde	2.4E-04	4.89E-04	2.14E-03	0	2.14E-03	2.14E-03
Hexane	6.7E-05	1.37E-04	5.98E-04	0	5.98E-04	5.98E-04
Isophorone	5.8E-04	1.18E-03	5.18E-03	0	5.18E-03	5.18E-03
Methyl bromide	1.6E-04	3.26E-04	1.43E-03	0	1.43E-03	1.43E-03
Methyl chloride	5.3E-04	1.08E-03	4.73E-03	0	4.73E-03	4.73E-03
Methyl ethyl ketone	3.9E-04	7.95E-04	3.48E-03	0	3.48E-03	3.48E-03
Methyl hydrazine	1.7E-04	3.46E-04	1.52E-03	0	1.52E-03	1.52E-03
Methyl methacrylate	2.00E-05	4.08E-05	1.79E-04	0	1.79E-04	1.79E-04
Methyl tert butyl ether	3.50E-05	7.13E-05	3.12E-04	0	3.12E-04	3.12E-04
Methylene chloride	2.90E-04	5.91E-04	2.59E-03	0	2.59E-03	2.59E-03
Phenol	1.60E-05	3.26E-05	1.43E-04	0	1.43E-04	1.43E-04
Propionaldehyde	3.80E-04	7.74E-04	3.39E-03	0	3.39E-03	3.39E-03
Tetrachloroethylene	4.30E-05	8.76E-05	3.84E-04	0	3.84E-04	3.84E-04
Toluene	2.40E-04	4.89E-04	2.14E-03	0	2.14E-03	2.14E-03
1,1,1-Trichloroethane	2.00E-05	4.08E-05	1.79E-04	0	1.79E-04	1.79E-04
Styrene	2.50E-05	5.09E-05	2.23E-04	0	2.23E-04	2.23E-04
Xylenes	3.70E-05	7.54E-05	3.30E-04	0	3.30E-04	3.30E-04
Vinyl acetate	7.60E-06	1.55E-05	6.78E-05	0	6.78E-05	6.78E-05

Emission Unit Identification No.: **EU 003 Boiler 3**
Stack/Vent Designation No.: SV003 (natural gas) SV005 (coal)
Associated Pollution Control Device CE001 and CE008
Maximum Capacity: 107 MmBtu/hr
Operating Hours: 8760 hr/yr

Pollutant	Coal Emissions: Boiler 3					
	Emission Factor ¹ (lb/ton)	Hourly Potential Emission Rate (lb/hr)	Uncontrolled Potential Emissions (tons/yr)	Pollution Control Efficiency (%)	Controlled Potential Emissions (tons/yr)	Limited Potential Emissions (tons/yr)
PM ₋₀₁	6.0E-01	1.28E+03	5.62E+03	95.0%	2.81E+02	2.81E+02
PM ₁₀	1.3E+01	5.33E+01	2.33E+02	95.0%	1.17E+01	1.17E+01
PM _{2.5}	6.0E+00	2.42E+01	1.06E+02	95.0%	5.31E+00	5.31E+00
SO _x	9.5E+01	3.84E+02	1.68E+03	0	1.68E+03	1.68E+03
NO _x	1.1E+01	4.44E+01	1.95E+02	0	1.95E+02	1.95E+02
CO	5.0E+00	2.02E+01	8.84E+01	0	8.84E+01	8.84E+01
VOC	5.0E-02	2.02E-01	8.84E-01	0	8.84E-01	8.84E-01
CO ₂ ³	5.81E+03	2.35E+04	1.03E+05	0	1.03E+05	1.03E+05
CH ₄ ³	6.00E-02	2.42E-01	1.06E+00	0	1.06E+00	1.06E+00
N ₂ O ³	4.00E-02	1.62E-01	7.07E-01	0	7.07E-01	7.07E-01
CO ₂ e ²	5.82E+03	2.35E+04	1.03E+05	0	1.03E+05	1.03E+05
PAH ² Controlled EF	2.1E-05	8.38E-05	3.67E-04	0	3.67E-04	3.67E-04
HCl ⁴	1.3E-01	1.39E+01	6.09E+01	0	6.09E+01	6.09E+01
HF	1.5E-01	6.06E-01	2.65E+00	0	2.65E+00	2.65E+00
Total PCDD (dioxins)	6.7E-10	2.69E-09	1.18E-08	0	1.18E-08	1.18E-08

Pollutant	Coal Emissions: Boiler 3					
	Emission Factor ¹ (lb/ton)	Hourly Potential Emission Rate (lb/hr)	Uncontrolled Potential Emissions (tons/yr)	Pollution Control Efficiency (%)	Controlled Potential Emissions (tons/yr)	Limited Potential Emissions (tons/yr)
Total PCDF (furans)	1.1E-09	4.41E-09	1.93E-08	0	1.93E-08	1.93E-08
Single HAP-HCl		1.39E+01	6.09E+01	0	6.09E+01	6.09E+01
Total HAPs		1.46E+01	6.38E+01	0	6.38E+01	6.38E+01
Antimony	1.80E-05	7.27E-05	3.18E-04	0	3.18E-04	3.18E-04
Arsenic	4.1E-04	1.66E-03	7.25E-03	0	7.25E-03	7.25E-03
Beryllium	2.1E-05	8.48E-05	3.71E-04	0	3.71E-04	3.71E-04
Cadmium	5.1E-05	2.06E-04	9.02E-04	0	9.02E-04	9.02E-04
Chromium	2.6E-04	1.05E-03	4.60E-03	0	4.60E-03	4.60E-03
Chromium (VI)	7.9E-05	3.19E-04	1.40E-03	0	1.40E-03	1.40E-03
Cobalt	1.0E-04	4.04E-04	1.77E-03	0	1.77E-03	1.77E-03
Lead	4.2E-04	1.70E-03	7.43E-03	0	7.43E-03	7.43E-03
Magnesium	1.1E-02	4.44E-02	1.95E-01	0	1.95E-01	1.95E-01
Manganese	4.9E-04	1.98E-03	8.67E-03	0	8.67E-03	8.67E-03
Mercury	8.3E-05	3.35E-04	1.47E-03	0	1.47E-03	1.47E-03
Nickel	2.8E-04	1.13E-03	4.95E-03	0	4.95E-03	4.95E-03
Selenium	1.3E-03	5.25E-03	2.30E-02	0	2.30E-02	2.30E-02
Acetaldehyde	5.7E-04	2.30E-03	1.01E-02	0	1.01E-02	1.01E-02
Acetophenone	1.5E-05	6.06E-05	2.65E-04	0	2.65E-04	2.65E-04
Acrolein	2.9E-04	1.17E-03	5.13E-03	0	5.13E-03	5.13E-03
Benzene	1.3E-03	5.25E-03	2.30E-02	0	2.30E-02	2.30E-02
Benzyl chloride	7.0E-04	2.83E-03	1.24E-02	0	1.24E-02	1.24E-02
Bis(2-ethylhexyl)phthalate	7.3E-05	2.95E-04	1.29E-03	0	1.29E-03	1.29E-03
Bromoform	3.9E-05	1.57E-04	6.90E-04	0	6.90E-04	6.90E-04
Carbon disulfide	1.3E-04	5.25E-04	2.30E-03	0	2.30E-03	2.30E-03
2-Chloroacetophenone	7.0E-06	2.83E-05	1.24E-04	0	1.24E-04	1.24E-04
Chlorobenzene	2.2E-05	8.88E-05	3.89E-04	0	3.89E-04	3.89E-04
Chloroform	5.9E-05	2.38E-04	1.04E-03	0	1.04E-03	1.04E-03
Cumene	5.3E-06	2.14E-05	9.37E-05	0	9.37E-05	9.37E-05
Cyanide	2.5E-03	1.01E-02	4.42E-02	0	4.42E-02	4.42E-02

Pollutant	Coal Emissions: Boiler 3					
	Emission Factor ¹ (lb/ton)	Hourly Potential Emission Rate (lb/hr)	Uncontrolled Potential Emissions (tons/yr)	Pollution Control Efficiency (%)	Controlled Potential Emissions (tons/yr)	Limited Potential Emissions (tons/yr)
2,4-Dinitrotoluene	2.8E-07	1.13E-06	4.95E-06	0	4.95E-06	4.95E-06
Dimethyl sulfate	4.8E-05	1.94E-04	8.49E-04	0	8.49E-04	8.49E-04
Ethyl benzene	9.4E-05	3.80E-04	1.66E-03	0	1.66E-03	1.66E-03
Ethyl chloride	4.2E-05	1.70E-04	7.43E-04	0	7.43E-04	7.43E-04
Ethylene dichloride	4.0E-05	1.62E-04	7.07E-04	0	7.07E-04	7.07E-04
Ethylene dibromide	1.2E-06	4.85E-06	2.12E-05	0	2.12E-05	2.12E-05
Formaldehyde	2.4E-04	9.69E-04	4.24E-03	0	4.24E-03	4.24E-03
Hexane	6.7E-05	2.71E-04	1.18E-03	0	1.18E-03	1.18E-03
Isophorone	5.8E-04	2.34E-03	1.03E-02	0	1.03E-02	1.03E-02
Methyl bromide	1.6E-04	6.46E-04	2.83E-03	0	2.83E-03	2.83E-03
Methyl chloride	5.3E-04	2.14E-03	9.37E-03	0	9.37E-03	9.37E-03
Methyl ethyl ketone	3.9E-04	1.57E-03	6.90E-03	0	6.90E-03	6.90E-03
Methyl hydrazine	1.7E-04	6.86E-04	3.01E-03	0	3.01E-03	3.01E-03
Methyl methacrylate	2.00E-05	8.08E-05	3.54E-04	0	3.54E-04	3.54E-04
Methyl tert butyl ether	3.50E-05	1.41E-04	6.19E-04	0	6.19E-04	6.19E-04
Methylene chloride	2.90E-04	1.17E-03	5.13E-03	0	5.13E-03	5.13E-03
Phenol	1.60E-05	6.46E-05	2.83E-04	0	2.83E-04	2.83E-04
Propionaldehyde	3.80E-04	1.53E-03	6.72E-03	0	6.72E-03	6.72E-03
Tetrachloroethylene	4.30E-05	1.74E-04	7.60E-04	0	7.60E-04	7.60E-04
Toluene	2.40E-04	9.69E-04	4.24E-03	0	4.24E-03	4.24E-03
1,1,1-Trichloroethane	2.00E-05	8.08E-05	3.54E-04	0	3.54E-04	3.54E-04
Styrene	2.50E-05	1.01E-04	4.42E-04	0	4.42E-04	4.42E-04
Xylenes	3.70E-05	1.49E-04	6.54E-04	0	6.54E-04	6.54E-04
Vinyl acetate	7.60E-06	3.07E-05	1.34E-04	0	1.34E-04	1.34E-04

Emission Unit Identification No. **EU 004 Boiler 4**

Stack/Vent Designation No.: SV004 (natural gas) SV005 (coal)

Associated Pollution Control De CE001 and CE009

Maximum Capacity:

107 MmBtu/hr

Operating Hours:

8760 hr/yr

Pollutant	Coal Emissions: Boiler 4					
	Emission Factor ¹ (lb/ton)	Hourly Potential Emission Rate (lb/hr)	Uncontrolled Potential Emissions (tons/yr)	Pollution Control Efficiency (%)	Controlled Potential Emissions (tons/yr)	Limited Potential Emissions (tons/yr)
PM	6.0E-01	1.3E+03	5.62E+03	95.0%	2.81E+02	2.81E+02
PM ₁₀	1.3E+01	5.3E+01	2.33E+02	95.0%	1.17E+01	1.17E+01
PM _{2.5}	6.0E+00	2.4E+01	1.06E+02	95.0%	5.31E+00	5.31E+00
SO _x	9.5E+01	3.8E+02	1.68E+03	0	1.68E+03	1.68E+03
NO _x	1.1E+01	4.4E+01	1.95E+02	0	1.95E+02	1.95E+02
CO	5.0E+00	2.0E+01	8.84E+01	0	8.84E+01	8.84E+01
VOC	5.0E-02	2.0E-01	8.84E-01	0	8.84E-01	8.84E-01
CO ₂ ³	5.8E+03	2.3E+04	1.03E+05	0	1.03E+05	1.03E+05
CH ₄ ³	6.0E-02	2.4E-01	1.06E+00	0	1.06E+00	1.06E+00
N ₂ O ³	4.0E-02	1.6E-01	7.07E-01	0	7.07E-01	7.07E-01
CO ₂ e ²	5.8E+03	2.4E+04	1.03E+05	0	1.03E+05	1.03E+05
PAH ² Controlled EF	2.1E-05	8.4E-05	3.67E-04	0	3.67E-04	3.67E-04
HCl ⁴	1.3E-01	1.4E+01	6.09E+01	0	6.09E+01	6.09E+01
HF	1.5E-01	6.1E-01	2.65E+00	0	2.65E+00	2.65E+00
Total PCDD (dioxins)	6.7E-10	2.7E-09	1.18E-08	0	1.18E-08	1.18E-08

Pollutant	Coal Emissions: Boiler 4					
	Emission Factor ¹ (lb/ton)	Hourly Potential Emission Rate (lb/hr)	Uncontrolled Potential Emissions (tons/yr)	Pollution Control Efficiency (%)	Controlled Potential Emissions (tons/yr)	Limited Potential Emissions (tons/yr)
Total PCDF (furans)	1.1E-09	4.4E-09	1.93E-08	0	1.93E-08	1.93E-08
Single HAP-HCl		1.4E+01	6.09E+01	0	6.09E+01	6.09E+01
Total HAPs		1.5E+01	6.38E+01	0	6.38E+01	6.38E+01
Antimony	1.8E-05	7.3E-05	3.18E-04	0	3.18E-04	3.18E-04
Arsenic	4.1E-04	1.7E-03	7.25E-03	0	7.25E-03	7.25E-03
Beryllium	2.1E-05	8.5E-05	3.71E-04	0	3.71E-04	3.71E-04
Cadmium	5.1E-05	2.1E-04	9.02E-04	0	9.02E-04	9.02E-04
Chromium	2.6E-04	1.0E-03	4.60E-03	0	4.60E-03	4.60E-03
Chromium (VI)	7.9E-05	3.2E-04	1.40E-03	0	1.40E-03	1.40E-03
Cobalt	1.0E-04	4.0E-04	1.77E-03	0	1.77E-03	1.77E-03
Lead	4.2E-04	1.7E-03	7.43E-03	0	7.43E-03	7.43E-03
Magnesium	1.1E-02	4.4E-02	1.95E-01	0	1.95E-01	1.95E-01
Manganese	4.9E-04	2.0E-03	8.67E-03	0	8.67E-03	8.67E-03
Mercury	8.3E-05	3.4E-04	1.47E-03	0	1.47E-03	1.47E-03
Nickel	2.8E-04	1.1E-03	4.95E-03	0	4.95E-03	4.95E-03
Selenium	1.3E-03	5.2E-03	2.30E-02	0	2.30E-02	2.30E-02
Acetaldehyde	5.7E-04	2.3E-03	1.01E-02	0	1.01E-02	1.01E-02
Acetophenone	1.5E-05	6.1E-05	2.65E-04	0	2.65E-04	2.65E-04
Acrolein	2.9E-04	1.2E-03	5.13E-03	0	5.13E-03	5.13E-03
Benzene	1.3E-03	5.2E-03	2.30E-02	0	2.30E-02	2.30E-02
Benzyl chloride	7.0E-04	2.8E-03	1.24E-02	0	1.24E-02	1.24E-02
Bis(2-ethylhexyl)phthalate	7.3E-05	2.9E-04	1.29E-03	0	1.29E-03	1.29E-03
Bromoform	3.9E-05	1.6E-04	6.90E-04	0	6.90E-04	6.90E-04
Carbon disulfide	1.3E-04	5.2E-04	2.30E-03	0	2.30E-03	2.30E-03
2-Chloroacetophenone	7.0E-06	2.8E-05	1.24E-04	0	1.24E-04	1.24E-04
Chlorobenzene	2.2E-05	8.9E-05	3.89E-04	0	3.89E-04	3.89E-04
Chloroform	5.9E-05	2.4E-04	1.04E-03	0	1.04E-03	1.04E-03
Cumene	5.3E-06	2.1E-05	9.37E-05	0	9.37E-05	9.37E-05
Cyanide	2.5E-03	1.0E-02	4.42E-02	0	4.42E-02	4.42E-02

	Coal Emissions: Boiler 4					
	Emission Factor ¹ (lb/ton)	Hourly Potential Emission Rate (lb/hr)	Uncontrolled Potential Emissions (tons/yr)	Pollution Control Efficiency (%)	Controlled Potential Emissions (tons/yr)	Limited Potential Emissions (tons/yr)
2,4-Dinitrotoluene	2.8E-07	1.1E-06	4.95E-06	0	4.95E-06	4.95E-06
Dimethyl sulfate	4.8E-05	1.9E-04	8.49E-04	0	8.49E-04	8.49E-04
Ethyl benzene	9.4E-05	3.8E-04	1.66E-03	0	1.66E-03	1.66E-03
Ethyl chloride	4.2E-05	1.7E-04	7.43E-04	0	7.43E-04	7.43E-04
Ethylene dichloride	4.0E-05	1.6E-04	7.07E-04	0	7.07E-04	7.07E-04
Ethylene dibromide	1.2E-06	4.8E-06	2.12E-05	0	2.12E-05	2.12E-05
Formaldehyde	2.4E-04	9.7E-04	4.24E-03	0	4.24E-03	4.24E-03
Hexane	6.7E-05	2.7E-04	1.18E-03	0	1.18E-03	1.18E-03
Isophorone	5.8E-04	2.3E-03	1.03E-02	0	1.03E-02	1.03E-02
Methyl bromide	1.6E-04	6.5E-04	2.83E-03	0	2.83E-03	2.83E-03
Methyl chloride	5.3E-04	2.1E-03	9.37E-03	0	9.37E-03	9.37E-03
Methyl ethyl ketone	3.9E-04	1.6E-03	6.90E-03	0	6.90E-03	6.90E-03
Methyl hydrazine	1.7E-04	6.9E-04	3.01E-03	0	3.01E-03	3.01E-03
Methyl methacrylate	2.0E-05	8.1E-05	3.54E-04	0	3.54E-04	3.54E-04
Methyl tert butyl ether	3.5E-05	1.4E-04	6.19E-04	0	6.19E-04	6.19E-04
Methylene chloride	2.9E-04	1.2E-03	5.13E-03	0	5.13E-03	5.13E-03
Phenol	1.6E-05	6.5E-05	2.83E-04	0	2.83E-04	2.83E-04
Propionaldehyde	3.8E-04	1.5E-03	6.72E-03	0	6.72E-03	6.72E-03
Tetrachloroethylene	4.3E-05	1.7E-04	7.60E-04	0	7.60E-04	7.60E-04
Toluene	2.4E-04	9.7E-04	4.24E-03	0	4.24E-03	4.24E-03
1,1,1-Trichloroethane	2.0E-05	8.1E-05	3.54E-04	0	3.54E-04	3.54E-04
Styrene	2.5E-05	1.0E-04	4.42E-04	0	4.42E-04	4.42E-04
Xylenes	3.7E-05	1.5E-04	6.54E-04	0	6.54E-04	6.54E-04
Vinyl acetate	7.6E-06	3.1E-05	1.34E-04	0	1.34E-04	1.34E-04

¹ Emissions Factors found in AP-42 Section 1.1 for spreader stoker, bituminous; PM emission factor from permit limit (0.60 lb/MMBtu)

² Global warming potentials found in 40 CFR Part 98 Subp A Table A-1

³ Emissions Factors for greenhouse gases found in 40 CFR Section 98 Tables C-1 and C-2

⁴ Emission Factors from fuel analysis (HCL - uncontrolled); units are lb/MMBtu

Emission Unit Identification No.: **EU 003 Boiler 3**
Stack/Vent Designation No.: SV003 (natural gas) SV005 (coal)
Associated Pollution Control Dev CE001 and CE008
Maximum Capacity: 107 MmBtu/hr
Operating Hours: 8760 hr/yr

Fuel Data:

Fuel Type		% Ash	Heat Value	Units	Consumption	Units
Natural gas		Negligible	1020 Btu/scf			MMscf/hr

Pollutant	Natural Gas Emissions: Boiler 3					
	Emission Factor ¹ (lb/10 ⁶ scf)	Hourly Potential Emission Rate (lb/hr)	Uncontrolled Potential Emissions (tons/yr)	Pollution Control Efficiency (%)	Controlled Potential Emissions (tons/yr)	Limited Potential Emissions (tons/yr)
PM	7.6E+00	8.0E-01	3.49E+00	0	3.49E+00	3.5E+00
PM ₁₀	7.6E+00	8.0E-01	3.49E+00	0	3.5E+00	3.5E+00
PM _{2.5}	7.6E+00	8.0E-01	3.49E+00	0	3.5E+00	3.5E+00
SO _x	6.0E-01	6.3E-02	2.76E-01	0	2.8E-01	2.8E-01
NO _x	1.0E+02	1.0E+01	4.59E+01	0	4.6E+01	4.6E+01
CO	8.4E+01	8.8E+00	3.86E+01	0	3.9E+01	3.9E+01
Lead	5.0E-04	5.2E-05	2.30E-04	0	2.3E-04	2.3E-04
VOC	5.5E+00	5.8E-01	2.53E+00	0	2.5E+00	2.5E+00
CO ₂ ⁷	1.19E+05	1.3E+04	5.48E+04	0	5.5E+04	5.5E+04
CH ₄ ⁷	2.25E+00	2.4E-01	1.03E+00	0	1.0E+00	1.0E+00
N ₂ O ⁷	2.25E-01	2.4E-02	1.03E-01	0	1.0E-01	1.0E-01
CO ₂ e ⁶	1.19E+05	1.3E+04	5.48E+04	0	5.5E+04	5.5E+04
Benzene	2.1E-03	2.2E-04	9.65E-04	0	9.6E-04	9.6E-04
Dichlorobenzene	1.2E-03	1.3E-04	5.51E-04	0	5.5E-04	5.5E-04
Formaldehyde	7.5E-02	7.9E-03	3.45E-02	0	3.4E-02	3.4E-02
Hexane	1.8E+00	1.9E-01	8.27E-01	0	8.3E-01	8.3E-01

Pollutant	Natural Gas Emissions: Boiler 3					
	Emission Factor ¹ (lb/10 ⁶ scf)	Hourly Potential Emission Rate (lb/hr)	Uncontrolled Potential Emissions (tons/yr)	Pollution Control Efficiency (%)	Controlled Potential Emissions (tons/yr)	Limited Potential Emissions (tons/yr)
Naphthalene	6.1E-04	6.4E-05	2.80E-04	0	2.8E-04	2.8E-04
POM ²	8.82E-05	9.3E-06	4.05E-05	0	4.05E-05	4.1E-05
Toluene	3.4E-03	3.6E-04	1.56E-03	0	1.6E-03	1.6E-03
Total HAPs ³	1.88E+00	2.0E-01	8.65E-01	0	8.6E-01	8.6E-01
Arsenic	2.0E-04	2.1E-05	9.19E-05	0	9.2E-05	9.2E-05
Beryllium	1.2E-05	1.3E-06	5.51E-06	0	5.5E-06	5.5E-06
Cadmium	1.1E-03	1.2E-04	5.05E-04	0	5.1E-04	5.1E-04
Chromium	1.4E-03	1.5E-04	6.43E-04	0	6.4E-04	6.4E-04
Cobalt	8.4E-05	8.8E-06	3.86E-05	0	3.9E-05	3.9E-05
Manganese	3.8E-04	4.0E-05	1.75E-04	0	1.7E-04	1.7E-04
Mercury	2.6E-04	2.7E-05	1.19E-04	0	1.2E-04	1.2E-04
Nickel	2.1E-03	2.2E-04	9.65E-04	0	9.6E-04	9.6E-04
Selenium	2.4E-05	2.5E-06	1.10E-05	0	1.1E-05	1.1E-05

¹ Emissions Factors found in AP-42 Section 1.4 Natural Gas Combustion (7/98)

² The Emissions Factor for POM is the sum of the emissions factors for the following compounds as defined in AP-42 Table 1.4-3 (7/98):

Natural Gas Emissions: Boiler 4						
Pollutant	Emission Factor ¹ (lb/10 ⁶ scf)	Hourly Potential Emission Rate (lb/hr)	Uncontrolled Potential Emissions (tons/yr)	Pollution Control Efficiency (%)	Controlled Potential Emissions (tons/yr)	Limited Potential Emissions (tons/yr)
PM	7.6E+00	8.0E-01	3.49E+00	0	3.5E+00	3.5E+00
PM ₁₀	7.6E+00	8.0E-01	3.49E+00	0	3.5E+00	3.5E+00
PM _{2.5}	7.6E+00	8.0E-01	3.49E+00	0	3.5E+00	3.5E+00
SO _x	6.0E-01	6.3E-02	2.76E-01	0	2.8E-01	2.8E-01
NO _x	1.0E+02	1.0E+01	4.59E+01	0	4.6E+01	4.6E+01
CO	8.4E+01	8.8E+00	3.86E+01	0	3.9E+01	3.9E+01
Lead	5.0E-04	5.2E-05	2.30E-04	0	2.3E-04	2.3E-04
VOC	5.5E+00	5.8E-01	2.53E+00	0	2.5E+00	2.5E+00
CO ₂ ⁷	1.19E+05	1.3E+04	5.48E+04	0	5.5E+04	5.5E+04
CH ₄ ⁷	2.25E+00	2.4E-01	1.03E+00	0	1.0E+00	1.0E+00
N ₂ O ⁷	2.25E-01	2.4E-02	1.03E-01	0	1.0E-01	1.0E-01
CO ₂ e ⁶	1.19E+05	1.3E+04	5.48E+04	0	5.5E+04	5.5E+04
Benzene	2.1E-03	2.2E-04	9.65E-04	0	9.6E-04	9.6E-04
Dichlorobenzene	1.2E-03	1.3E-04	5.51E-04	0	5.5E-04	5.5E-04
Formaldehyde	7.5E-02	7.9E-03	3.45E-02	0	3.4E-02	3.4E-02
Hexane	1.8E+00	1.9E-01	8.27E-01	0	8.3E-01	8.3E-01

Pollutant	Natural Gas Emissions: Boiler 4					
	Emission Factor ¹ (lb/10 ⁶ scf)	Hourly Potential Emission Rate (lb/hr)	Uncontrolled Potential Emissions (tons/yr)	Pollution Control Efficiency (%)	Controlled Potential Emissions (tons/yr)	Limited Potential Emissions (tons/yr)
Naphthalene	6.1E-04	6.4E-05	2.80E-04	0	2.8E-04	2.8E-04
POM ²	0.00E+00	0.0E+00	0.00E+00	0	0.00E+00	0.0E+00
Toluene	3.4E-03	3.6E-04	1.56E-03	0	1.6E-03	1.6E-03
Total HAPs ³	1.88E+00	2.0E-01	8.65E-01	0	8.6E-01	8.6E-01
Arsenic	2.0E-04	2.1E-05	9.19E-05	0	9.2E-05	9.2E-05
Beryllium	1.2E-05	1.3E-06	5.51E-06	0	5.5E-06	5.5E-06
Cadmium	1.1E-03	1.2E-04	5.05E-04	0	5.1E-04	5.1E-04
Chromium	1.4E-03	1.5E-04	6.43E-04	0	6.4E-04	6.4E-04
Cobalt	8.4E-05	8.8E-06	3.86E-05	0	3.9E-05	3.9E-05
Manganese	3.8E-04	4.0E-05	1.75E-04	0	1.7E-04	1.7E-04
Mercury	2.6E-04	2.7E-05	1.19E-04	0	1.2E-04	1.2E-04
Nickel	2.1E-03	2.2E-04	9.65E-04	0	9.6E-04	9.6E-04
Selenium	2.4E-05	2.5E-06	1.10E-05	0	1.1E-05	1.1E-05

Pollutant	Emission Factor ¹ (lb/10 ⁶ scf)	Pollutant	Emission Factor ¹ (lb/10 ⁶)
2-Methylnaphthalene	2.4E-05	Benzo(g,h,i)perylene	1.2E-06
3-Methylchloranthrene	1.8E-06	Benzo(k)fluoranthene	1.8E-06
7,12-Dimethylbenz(a)anthracene	1.6E-05	Chrysene	1.8E-06
Acenaphthene	1.8E-06	Dibenzo(a,h)anthracene	1.2E-06
Acenaphthylene	1.8E-06	Fluoranthene	3.0E-06
Anthracene	2.4E-06	Fluorene	2.8E-06
Benzo(a)anthracene	1.8E-06	Indeno(1,2,3-cd)pyrene	1.8E-06
Benzo(a)pyrene	1.2E-06	Phenanthrene	1.7E-05
Benzo(b)fluoranthene	1.8E-06	Pyrene	5.0E-06
Total			8.82E-05

³ Total HAPs include: Benzene, Dichlorobenzene, Formaldehyde, Hexane, Naphthalene, Toluene and POM⁴

⁴ POM is a HAP as defined by Section 112(b) of the Clean Air Act

⁵ Emissions Factors found in AP-42 Section 1.5 Liquefied Petroleum Gas Combustion (7/08)

⁶ Global warming potentials found in 40 CFR Part 98 Subp A Table A-1

⁷ Emissions Factors found in 40 CFR Section 98 Tables C-1 and C-2

Worst-Case Scenario ¹ : Boilers 3 and 4			
Pollutant	Hourly Potential Emission Rate (lb/hr)	Limited Potential Emissions (tons/yr)	Fuel
PM	1.28E+03	2.81E+02	Coal
PM ₁₀	5.33E+01	1.17E+01	Coal
PM _{2.5}	2.42E+01	5.31E+00	Coal
SO _x	3.84E+02	1.68E+03	Coal
NO _x	4.44E+01	1.95E+02	Coal
CO	2.02E+01	8.84E+01	Coal
VOC	2.02E-01	8.84E-01	Coal
CO ₂ ⁷	2.35E+04	1.03E+05	Coal
CH ₄ ⁷	2.42E-01	1.03E+00	Coal
N ₂ O ⁷	2.36E-01	1.03E-01	Natural Gas
CO ₂ e ⁶	2.35E+04	1.03E+05	Coal
PAH ²	8.38E-05	3.67E-04	Coal
HCl	1.39E+01	6.09E+01	Coal
HF	6.06E-01	2.65E+00	Coal
Total PCDD (dioxins)	2.69E-09	1.18E-08	Coal
Total PCDF (furans)	4.41E-09	1.93E-08	Coal
Single HAP-hexane	1.89E-01	8.27E-01	Natural Gas
Total HAPs	1.46E+01	6.38E+01	Coal
Antimony	7.27E-05	3.18E-04	Coal
Arsenic	1.66E-03	7.25E-03	Coal
Beryllium	8.48E-05	3.71E-04	Coal
Cadmium	2.06E-04	9.02E-04	Coal
Chromium	1.05E-03	4.60E-03	Coal
Chromium (VI)	3.19E-04	1.40E-03	Coal
Cobalt	4.04E-04	1.77E-03	Coal
Lead	1.70E-03	7.43E-03	Coal
Magnesium	4.44E-02	1.95E-01	Coal

Worst-Case Scenario ¹ : Boilers 3 and 4			
Pollutant	Hourly Potential Emission Rate (lb/hr)	Limited Potential Emissions (tons/yr)	Fuel
Manganese	1.98E-03	8.67E-03	Coal
Mercury	3.35E-04	1.47E-03	Coal
Nickel	1.13E-03	4.95E-03	Coal
Selenium	5.25E-03	2.30E-02	Coal
Acetaldehyde	2.30E-03	1.01E-02	Coal
Acetophenone	6.06E-05	2.65E-04	Coal
Acrolein	1.17E-03	5.13E-03	Coal
Benzene	5.25E-03	2.30E-02	Coal
Benzyl chloride	2.83E-03	1.24E-02	Coal
Bis(2-ethylhexyl)phthalate	2.95E-04	1.29E-03	Coal
Bromoform	1.57E-04	6.90E-04	Coal
Carbon disulfide	5.25E-04	2.30E-03	Coal
2-Chloroacetophenone	2.83E-05	1.24E-04	Coal
Chlorobenzene	8.88E-05	3.89E-04	Coal
Chloroform	2.38E-04	1.04E-03	Coal
Cumene	2.14E-05	9.37E-05	Coal
Cyanide	1.01E-02	4.42E-02	Coal
Dichlorobenzene	1.26E-04	5.5E-04	Natural Gas
2,4-Dinitrotoluene	1.13E-06	4.95E-06	Coal
Dimethyl sulfate	1.94E-04	8.49E-04	Coal
Ethyl benzene	3.80E-04	1.66E-03	Coal
Ethyl chloride	1.70E-04	7.43E-04	Coal
Ethylene dichloride	1.62E-04	7.07E-04	Coal
Ethylene dibromide	4.85E-06	2.12E-05	Coal
Formaldehyde	7.87E-03	3.45E-02	Natural Gas
Hexane	1.89E-01	8.27E-01	Natural Gas
Isophorone	2.34E-03	1.03E-02	Coal
Methyl bromide	6.46E-04	2.83E-03	Coal
Methyl chloride	2.14E-03	9.37E-03	Coal

Worst-Case Scenario ¹ : Boilers 3 and 4			
Pollutant	Hourly Potential Emission Rate (lb/hr)	Limited Potential Emissions (tons/yr)	Fuel
Methyl ethyl ketone	1.57E-03	6.90E-03	Coal
Methyl hydrazine	6.86E-04	3.01E-03	Coal
Methyl methacrylate	8.08E-05	3.54E-04	Coal
Methyl tert butyl ether	1.41E-04	6.19E-04	Coal
Methylene chloride ⁴	1.17E-03	5.13E-03	Coal
Naphthalene	6.40E-05	2.80E-04	Natural Gas
Phenol	6.46E-05	2.83E-04	Coal
POM	9.25E-06	4.05E-05	Natural Gas
Propionaldehyde	1.53E-03	6.72E-03	Coal
Tetrachloroethylene	1.74E-04	7.60E-04	Coal
Toluene	9.69E-04	4.24E-03	Coal
1,1,1-Trichloroethane ⁴	8.1E-05	3.54E-04	Coal
Styrene	1.0E-04	4.42E-04	Coal
Xylenes	1.5E-04	6.54E-04	Coal
Vinyl acetate	3.1E-05	1.34E-04	Coal

¹ Emissions from coal and natural gas combustion were compared. Table shows results for worst case scenario of burning either natural gas or coal for 8760 hr/yr

² The Emissions Factor for PAH is the sum of the emissions factors for the following compounds as defined in AP-42 Table 1.1-13 (9/98):

Pollutant	Emission Factor ¹ (lb/ton)	Pollutant	Emission Factor ¹ (lb/ton)
Biphenyl	1.7E-06	Chrysene	1.0E-07
Acenaphthene	5.1E-07	Fluoranthene	7.1E-07
Acenaphthylene	2.5E-07	Fluorene	9.1E-07
Anthracene	2.1E-07	Indeno(1,2,3-cd)	6.1E-08
Benzo(a)anthracene	8.0E-08	Naphthalene	1.3E-05
Benzo(a)pyrene	3.8E-08	Phenanthrene	2.7E-06
Benzo(b,j,k)fluoranthene	1.1E-07	Pyrene	3.3E-07
Benzo(g,h,i)perylene	2.7E-08	5-Methyl chrys	2.2E-08
Total		2.1E-05	

³ The Emissions Factors for Total PCDD and Total PCDF are the sums of the emissions factors for the following compounds as defined in AP-42 Table 1.1-12 (9/98):

Pollutant	Emission Factor ¹ (lb/ton)	Pollutant	Emission Factor ¹ (lb/ton)
2,3,7,8-TCDD	1.43E-11	2,3,7,8-TCDF	5.10E-11
Total TCDD	9.28E-11	Total TCDF	4.04E-10
Total PeCDD	4.47E-11	Total PeCDF	3.53E-10
Total HxCDD	2.87E-11	Total HxCDF	1.92E-10
Total HpCDD	8.34E-11	Total HpCDF	7.68E-11
Total OCDD	4.16E-10	Total OCDF	6.63E-11
Total PCDD (dioxins)	6.66E-10	Total PCDF (fur)	1.09E-09

⁴ The Emissions Factors for VOCs and HAPs are the sums of the following compounds and include EFs for metals (HAPs):

Pollutant	Emission Factor ¹ (lb/ton)	Pollutant	Emission Factor ¹ (lb/ton)	Pollutant	Emission Factor ¹ (lb/ton)
Acetaldehyde	5.7E-04	2,4-Dinitrotoluene	2.8E-07	Methyl methanol	2.00E-05
Acetophenone	1.5E-05	Dimethyl sulfide	4.8E-05	Methyl tert-butyl alcohol	3.50E-05
Acrolein	2.9E-04	Ethyl benzene	9.4E-05	Methylene chloride	2.90E-04
Benzene	1.3E-03	Ethyl chloride	4.2E-05	Phenol	1.60E-05
Benzyl chloride	7.0E-04	Ethylene dichloride	4.0E-05	Propionaldehyde	3.80E-04
Bis(2-ethylhexyl)phthalate	7.3E-05	Ethylene dibromide	1.2E-06	Tetrachloroethene	4.30E-05
Bromoform	3.9E-05	Formaldehyde	2.4E-04	Toluene	2.40E-04
Carbon disulfide	1.3E-04	Hexane	6.7E-05	1,1,1-Trichloroethene	2.00E-05
2-Chloroacetophenone	7.0E-06	Isophorone	5.8E-04	Styrene	2.50E-05
Chlorobenzene	2.2E-05	Methyl bromide	1.6E-04	Xylenes	3.70E-05
Chloroform	5.9E-05	Methyl chloride	5.3E-04	Vinyl acetate	7.60E-06
Cumene	5.3E-06	Methyl ethyl ketone	3.9E-04	Total VOCs	8.9E-03
Cyanide	2.5E-03	Methyl hydrazine	1.7E-04	Total HAPs	1.3E-02

⁵ Methylene chloride and 1,1,1-Trichloroethane are HAPs but not VOCs

EU014 #8 Paper Machine

Emission Unit Identification No.:

SV007

Stack/Vent Designation No.:

Maximum Capacity:

81440 ton/yr

Operating Hours:

8760 hr/yr

Pollutant	Emission Factor ¹ (lb/ton)	Hourly Potential Emission Rate (lb/hr)	Uncontrolled Potential Emissions (tons/yr)	Pollution Control Efficiency (%)	Controlled Potential Emissions (tons/yr)	Limited Potential Emissions (tons/yr)
VOCs	0.44	4.09E+00	1.79E+01	0.0%	17.92	17.92
Single HAP	0.071	6.60E-01	2.89E+00	0.0%	2.89	2.89
Total HAPs	0.1323	1.23E+00	5.39E+00	0.0%	5.39	5.39
Acetaldehyde	0.018	1.67E-01	7.33E-01	0.0%	0.73	0.73
Biphenyl	0.02	1.86E-01	8.14E-01	0.0%	0.81	0.81
Chloroform	0.0053	4.93E-02	2.16E-01	0.0%	0.22	0.22
Formaldehyde	0.004	3.72E-02	1.63E-01	0.0%	0.16	0.16
Methanol	0.071	6.60E-01	2.89E+00	0.0%	2.89	2.89
Phenol	0.014	1.30E-01	5.70E-01	0.0%	0.57	0.57

EU015 #7 Paper Machine

Emission Unit Identification No.:

SV008

Stack/Vent Designation No.:

Maximum Capacity: 131125.2 ton/yr

Operating Hours:

8760 hr/yr

Pollutant	Emission Factor ¹ (lb/ton)	Hourly Potential Emission Rate (lb/hr)	Uncontrolled Potential Emissions (tons/yr)	Pollution Control Efficiency (%)	Controlled Potential Emissions (tons/yr)	Limited Potential Emissions (tons/yr)
VOCs	0.44	6.59	28.85	0.0%	28.85	28.85
Single HAP - methanol	0.071	1.06	4.65	0.0%	4.65	4.65
Total HAPs	0.1323	1.98	8.67	0.0%	8.67	8.67
Acetaldehyde	1.80E-02	2.69E-01	1.18E+00	0.0%	1.18	1.18
Biphenyl	2.00E-02	2.99E-01	1.31E+00	0.0%	1.31	1.31
Chloroform	5.30E-03	7.93E-02	3.47E-01	0.0%	0.35	0.35
Formaldehyde	4.00E-03	5.99E-02	2.62E-01	0.0%	0.26	0.26
Methanol	7.10E-02	1.06E+00	4.65E+00	0.0%	4.65	4.65
Phenol	1.40E-02	2.10E-01	9.18E-01	0.0%	0.92	0.92

¹ VOC and HAPs emission factors from NCASI Technical Bulletin 740

Total		212565.2 ton/yr		8760 hr/yr		
Maximum Capacity:		212565.2 ton/yr				
Operating Hours:		8760 hr/yr				
Pollutant	Emission Factor ^{1, 2} (lb/ton)	Hourly Potential Emission Rate (lb/hr)	Uncontrolled Potential Emissions (tons/yr)	Pollution Control Efficiency (%)	Controlled Potential Emissions (tons/yr)	Limited Potential Emissions (tons/yr)
VOCs	0.44	1.07E+01	46.76	0.0%	46.76	46.76
Single HAP - methanol	0.071	1.72E+00	7.55	0.0%	7.55	7.55
Total HAPs	0.1323	3.00E+00	13.14	0.0%	13.14	13.14
Acetaldehyde	0.018	4.37E-01	1.91	0.0%	1.91	1.91
Biphenyl	0.02	4.85E-01	2.13	0.0%	2.13	2.13
Chloroform	0.0053	1.29E-01	0.56	0.0%	0.56	0.56
Formaldehyde	0.004	9.71E-02	0.43	0.0%	0.43	0.43
Methanol	0.071	1.72E+00	7.55	0.0%	7.55	7.55
Phenol	0.014	3.40E-01	1.49	0.0%	1.49	1.49

Emission Unit Identification No. **EU007 Trim Cyclone**

Stack/Vent Designation No.: SV013

Maximum Capacity: lb/hr

Operating Hours: 8760 hr/yr

Trim System Cyclone and Baghouse (Bielo Broke System). The cyclone and baghouse are integral to the process; they recover valuable raw materials that are repulped to make new paper. Approximately 10% of the paper that is cut into sheets is trimmed off and repulped.

Pollutant	(Controlled) Emission Factor (gr/dscf)	Operating Rate (acfm)	Emission Rate (lb/hr)	Max Uncontrolled Emissions (ton/yr)	Pollution Control Efficiency (%)	Max Controlled Emissions (ton/yr)	Maximum Controlled Emissions (lb/hr)
PM	0.009	48510	3742.20	16390.84	99.9%	16.39	3.74
PM ₁₀	0.009	48510	3742.20	16390.84	99.9%	16.39	3.74
PM _{2.5}	0.009	48510	3742.20	16390.84	99.9%	16.39	3.74

Bielo Broke System (Finishing Room Sheeters/Shredders) (EU007 - Trim Cyclone)

SV013

Bielo Sheeter

#3 Cut size sheeter

#4 Cut size sheeter

Shredder

Per Permit 30B-90-I/O-1

Maximum process rate: 49,500 cfm 48510 acfm

Moisture content: 2%

PM emission rate from Permit 30B-90-I/O-1 Condition

All PM is assumed to be PM10.

PM 0.009 gr/dscf (controlled)

PM-10 0.009 gr/dscf (controlled)

Example calculation:

Max emissions: $0.009 \text{ gr/dscf} \times 48510 \text{ cf/min} \times 60 \text{ min/hr} \times 1 \text{ lb/7000 gr} = 3.742 \text{ lb/hr}$

Before baghouse: $3.742 \text{ lb/hr} / (1-0.999) = 3,742.2 \text{ lb/hr}$

Annual emissions are based on 8760 hr/yr

Flow rate confirmed by Jayme Klecker, WP - Brainerd on email dated 3/2/2012.

Based on discussions between Tony Colella of ENSR and MPCA in 1995, the control equipment is considered part of the process equipment. Therefore the maximum controlled emissions (as shown above) could instead be viewed as the maximum uncontrolled emissions.

Emission Unit Identification No.:
Stack/Vent Designation No.:
Control Equipment Designation No.:
Maximum Capacity:
Operating Hours:
Limited Operating Hours:

EU 016 Telephone and Pager System Back-Up Generator
SV 016

0.034 MMBtu/hr
8760 hr/yr
500 hr/yr

Emergency generator

*Actual testing is approximately 15 min/yr.

Fuel Data:

Fuel Type	Sulfur Content	Units	% Ash	Heat Value	Units	Rate	Maximum Fuel Consumption
Propane		15 gr/100ft ³	Negligible		90.5 MMBtu/Mgal		0.0003732 Mgal/hr

Pollutant	Propane Emissions					Limited Potential Emissions (tons/yr)
	Emission Factor ¹ lb/MMBtu	Hourly Potential Emission Rate (lb/hr)	Uncontrolled Potential Emissions (tons/yr)	Pollution Control Efficiency (%)	Controlled Potential Emissions (tons/yr)	
PM	9.91E-03	3.38E-04	1.48E-03	0%	1.48E-03	8.46E-05
PM ₁₀	9.90E-03	3.38E-04	1.48E-03	0%	1.48E-03	8.45E-05
PM _{2.5}	9.90E-03	3.38E-04	1.48E-03	0%	1.48E-03	8.45E-05
SO _x	5.88E-04	2.01E-05	8.79E-05	0%	8.79E-05	5.02E-06
NO _x	4.08E+00	1.39E-01	6.10E-01	0%	6.10E-01	3.48E-02
CO	5.57E-01	1.90E-02	8.33E-02	0%	8.33E-02	4.75E-03
Lead	ND	ND	ND	0%	ND	ND
TOC	1.47E+00	5.02E-02	2.20E-01	0%	2.20E-01	1.25E-02
Methane	1.25E+00	4.27E-02	1.87E-01	0%	1.87E-01	1.07E-02
VOC	1.18E-01	4.03E-03	1.76E-02	0%	1.76E-02	1.01E-03
Single HAP-Formaldehyde	5.28E-02	1.80E-03	7.90E-03	0%	7.90E-03	4.51E-04
Total HAPs	1.19E-01	4.08E-03	1.79E-02	0%	1.79E-02	1.02E-03
CO ₂ ³	1.36E+02	4.63E+00	2.03E+01	0%	2.03E+01	1.16E+00
CH ₄ ³	6.61E-03	2.26E-04	9.89E-04	0%	9.89E-04	5.65E-05
N ₂ O ³	1.32E-03	4.52E-05	1.98E-04	0%	1.98E-04	1.13E-05
CO ₂ e	1.36E+02	4.65E+00	2.03E+01	0%	2.03E+01	1.16E+00
Trace Organic Compounds						
1,1,2,2-Tetrachloroethane	4.00E-05	1.37E-06	5.98E-06	0%	5.98E-06	3.41E-07
1,1,2-Trichloroethane	3.18E-05	1.09E-06	4.76E-06	0%	4.76E-06	2.71E-07

Pollutant	Propane Emissions					
	Emission Factor ¹ lb/MMBtu)	Hourly Potential Emission Rate (lb/hr)	Uncontrolled Potential Emissions (tons/yr)	Pollution Control Efficiency (%)	Controlled Potential Emissions (tons/yr)	Limited Potential Emissions (tons/yr)
1,1-Dichloroethane	2.36E-05	8.06E-07	3.53E-06	0%	3.53E-06	2.01E-07
1,2,3-Trimethylbenzene	2.30E-05	7.85E-07	3.44E-06	0%	3.44E-06	1.96E-07
1,2,4-Trimethylbenzene	1.43E-05	4.88E-07	2.14E-06	0%	2.14E-06	1.22E-07
1,2-Dichloroethane	2.36E-05	8.06E-07	3.53E-06	0%	3.53E-06	2.01E-07
1,2-Dichloropropane	2.69E-05	9.18E-07	4.02E-06	0%	4.02E-06	2.30E-07
1,3,5-Trimethylbenzene	3.38E-05	1.15E-06	5.05E-06	0%	5.05E-06	2.89E-07
1,3-Butadiene	2.67E-04	9.12E-06	3.99E-05	0%	3.99E-05	2.28E-06
1,3-Dichloropropene	2.64E-05	9.01E-07	3.95E-06	0%	3.95E-06	2.25E-07
2-Methylnaphthalene	3.32E-05	1.13E-06	4.97E-06	0%	4.97E-06	2.83E-07
2,2,4-Trimethylpentane	2.50E-04	8.54E-06	3.74E-05	0%	3.74E-05	2.13E-06
Acenaphthene	1.25E-06	4.27E-08	1.87E-07	0%	1.87E-07	1.07E-08
Acenaphthylene	5.53E-06	1.89E-07	8.27E-07	0%	8.27E-07	4.72E-08
Acetaldehyde	8.36E-03	2.85E-04	1.25E-03	0%	1.25E-03	7.14E-05
Acrolein	5.14E-03	1.76E-04	7.69E-04	0%	7.69E-04	4.39E-05
Benzene	4.40E-04	1.50E-05	6.58E-05	0%	6.58E-05	3.76E-06
Benzo(b)fluoranthene	1.66E-07	5.67E-09	2.48E-08	0%	2.48E-08	1.42E-09
Benzo(e)pyrene	4.15E-07	1.42E-08	6.21E-08	0%	6.21E-08	3.54E-09
Benzo(g,h,i)perylene	4.14E-07	1.41E-08	6.19E-08	0%	6.19E-08	3.53E-09
Biphenyl	2.12E-04	7.24E-06	3.17E-05	0%	3.17E-05	1.81E-06
Butane	5.41E-04	1.85E-05	8.09E-05	0%	8.09E-05	4.62E-06
Butyr/Isobutyraldehyde	1.01E-04	3.45E-06	1.51E-05	0%	1.51E-05	8.62E-07
Carbon Tetrachloride	3.67E-05	1.25E-06	5.49E-06	0%	5.49E-06	3.13E-07
Chlorobenzene	3.04E-05	1.04E-06	4.55E-06	0%	4.55E-06	2.59E-07
Chloroethane	1.87E-06	6.38E-08	2.80E-07	0%	2.80E-07	1.60E-08
Chloroform	2.85E-05	9.73E-07	4.26E-06	0%	4.26E-06	2.43E-07
Chrysene	6.93E-07	2.37E-08	1.04E-07	0%	1.04E-07	5.92E-09
Cyclopentane	2.27E-04	7.75E-06	3.39E-05	0%	3.39E-05	1.94E-06
Ethane	1.05E-01	3.59E-03	1.57E-02	0%	1.57E-02	8.96E-04
Ethylbenzene	3.97E-05	1.36E-06	5.94E-06	0%	5.94E-06	3.39E-07
Ethylene Dibromide	4.43E-05	1.51E-06	6.63E-06	0%	6.63E-06	3.78E-07
Fluoranthene	1.11E-06	3.79E-08	1.66E-07	0%	1.66E-07	9.47E-09
Fluorene	5.67E-06	1.94E-07	8.48E-07	0%	8.48E-07	4.84E-08
Formaldehyde	5.28E-02	1.80E-03	7.90E-03	0%	7.90E-03	4.51E-04

Pollutant	Propane Emissions					
	Emission Factor ¹ lb/MMBtu)	Hourly Potential Emission Rate (lb/hr)	Uncontrolled Potential Emissions (tons/yr)	Pollution Control Efficiency (%)	Controlled Potential Emissions (tons/yr)	Limited Potential Emissions (tons/yr)
Methanol	2.50E-03	8.54E-05	3.74E-04	0%	3.74E-04	2.13E-05
Methylcyclohexane	1.23E-03	4.20E-05	1.84E-04	0%	1.84E-04	1.05E-05
Methylene Chloride	2.00E-05	6.83E-07	2.99E-06	0%	2.99E-06	1.71E-07
n-Hexane	1.11E-03	3.79E-05	1.66E-04	0%	1.66E-04	9.47E-06
n-Nonane	1.10E-04	3.76E-06	1.65E-05	0%	1.65E-05	9.39E-07
n-Octane	3.51E-04	1.20E-05	5.25E-05	0%	5.25E-05	3.00E-06
n-Pentane	2.60E-03	8.88E-05	3.89E-04	0%	3.89E-04	2.22E-05
Naphthalene	7.44E-05	2.54E-06	1.11E-05	0%	1.11E-05	6.35E-07
PAH	2.69E-05	9.18E-07	4.02E-06	0%	4.02E-06	2.30E-07
Phenanthrene	1.04E-05	3.55E-07	1.56E-06	0%	1.56E-06	8.88E-08
Phenol	2.40E-05	8.19E-07	3.59E-06	0%	3.59E-06	2.05E-07
Propane	4.19E-02	1.43E-03	6.27E-03	0%	6.27E-03	3.58E-04
Pyrene	1.36E-06	4.64E-08	2.03E-07	0%	2.03E-07	1.16E-08
Styrene	2.36E-05	8.06E-07	3.53E-06	0%	3.53E-06	2.01E-07
Tetrachloroethane	2.48E-06	8.47E-08	3.71E-07	0%	3.71E-07	2.12E-08
Toluene	4.08E-04	1.39E-05	6.10E-05	0%	6.10E-05	3.48E-06
Vinyl Chloride	1.49E-05	5.09E-07	2.23E-06	0%	2.23E-06	1.27E-07
Xylene	1.84E-04	6.28E-06	2.75E-05	0%	2.75E-05	1.57E-06

¹ Emissions Factors found in AP-42 Section 3.2 Natural Gas-fired Reciprocating Engines, Table 3.2-2, as requested by Cindy Schafer, MPCA.

² Global warming potentials found in 40 CFR Part 98 Subp A Table A-1

³ Emissions Factors found in 40 CFR Section 98 Tables C-1 and C-2

Emission Unit Identification No.: **EU017 Hydroplant Back-Up Generator**
Stack/Vent Designation No.: SV 010
Control Equipment Designation No.:
Maximum Capacity: 1.88E-02 MMBtu/hr
Operating Hours: 8760 hr/yr
Limited Operating Hours: 500 hr/yr
*Actual testing is approximately 2 hr/yr. **Emergency generator**

Engine Data:

Fuel Type	Rated Engine Horsepower (hp)	Maximum Fuel Input (MMBtu/hr)	Sulfur (%)
Gasoline	7.38	0.0188	

Pollutant	Emission Factor ¹ (lb/MMBtu)	Hourly Potential Emission Rate (lb/hr)	Uncontrolled Potential Emissions (tons/yr)	Pollution Control Efficiency (%)	Controlled Potential Emissions (tons/yr)	Limited Potential Emissions (tons/yr)
PM	1.00E-01	1.88E-03	8.22E-03	0%	8.22E-03	4.69E-04
PM ₁₀	1.00E-01	1.88E-03	8.22E-03	0%	8.22E-03	4.69E-04
PM _{2.5}	1.00E-01	1.88E-03	8.22E-03	0%	8.22E-03	4.69E-04
SO _x	8.40E-02	1.58E-03	6.90E-03	0%	6.90E-03	3.94E-04
NO _x	1.63E+00	3.06E-02	1.34E-01	0%	1.34E-01	7.65E-03
CO	9.90E-01	1.86E-02	8.14E-02	0%	8.14E-02	4.64E-03
Lead	ND	ND	ND	ND	ND	ND
VOC	3.03E+00	5.69E-02	2.49E-01	0%	2.49E-01	1.42E-02
CO ₂	1.55E+02	2.91E+00	1.27E+01	0%	1.27E+01	7.26E-01
CH ₄	6.61E-03	1.24E-04	5.44E-04	0%	5.44E-04	3.10E-05
N ₂ O	1.32E-03	2.48E-05	1.09E-04	0%	1.09E-04	6.21E-06
CO ₂ e	1.55E+02	2.92E+00	1.28E+01	0%	1.28E+01	7.29E-01
Aldehydes	7.00E-02	1.31E-03	5.75E-03	0%	5.75E-03	3.28E-04
Single HAP	7.00E-02	1.31E-03	5.75E-03	0%	5.75E-03	3.28E-04
Total HAPs	7.00E-02	1.31E-03	5.75E-03	0%	5.75E-03	3.28E-04

¹ Emission Factors taken from AP-42 Section 3.3 Gasoline and Diesel Industrial Engines

² Global warming potentials found in 40 CFR Part 98 Subp A Table A-1

³ Emissions Factors found in 40 CFR Section 98 Tables C-1 and C-2

Emission Unit Identification No.:
Stack/Vent Designation No.:
Control Equipment Designation No.:
Maximum Capacity:
Operating Hours:
Limited Operating Hours:

EU 018 Fire Water Pump 1

SV 011

0.28 MmBtu/hr
8760 hr/yr
500 hr/yr

Emergency generator

*Actual testing is approximately 17.33 hr/yr.

Fire Water Pumps at Dam. There are two diesel powered pumps. Each has its own 550 gallon diesel tank. Each pump is tested weekly and pumps water during power outages and fires. Each pump uses a 1/2 tank of gas a year. Diesel weigh 7.34 lb/gal which equals 0.825 tpy diesel per pump. Even if all the fuel were converted to criteria pollutants, each pump would emit less than the 1 ton threshold for insignificant activities.

Engine Data:

Fuel Type	Rated Engine Horsepower (hp)	Maximim Fuel Input (MMBtu/hr)	Sulfur (%)
Diesel	110	0.28	

Pollutant	Emission Factor ¹ (lb/MMBtu)	Hourly Potential Emission Rate (lb/hr)	Uncontrolled Potential Emissions (tons/yr)	Pollution Control Efficiency (%)	Controlled Potential Emissions (tons/yr)	Limited Potential Emissions (tons/yr)
PM	3.10E-01	8.68E-02	3.80E-01	0%	3.80E-01	2.17E-02
PM ₁₀	3.10E-01	8.68E-02	3.80E-01	0%	3.80E-01	2.17E-02
PM _{2.5}	3.10E-01	8.68E-02	3.80E-01	0%	3.80E-01	2.17E-02
SO _x	2.90E-01	8.12E-02	3.56E-01	0%	3.56E-01	2.03E-02
NO _x	4.41E+00	1.24E+00	5.41E+00	0%	5.41E+00	3.09E-01
CO	9.50E-01	2.66E-01	1.17E+00	0%	1.17E+00	6.65E-02
Lead	ND	ND	ND	ND	ND	ND
VOC	3.60E-01	1.01E-01	4.42E-01	0%	4.42E-01	2.52E-02
CO ₂	1.64E+02	4.59E+01	2.01E+02	0%	2.01E+02	1.15E+01

Pollutant	Emission Factor ¹ (lb/MMBtu)	Hourly Potential Emission Rate (lb/hr)	Uncontrolled Potential Emissions (tons/yr)	Pollution Control Efficiency (%)	Controlled Potential Emissions (tons/yr)	Limited Potential Emissions (tons/yr)
CH ₄	6.61E-03	1.85E-03	8.11E-03	0%	8.11E-03	4.63E-04
N ₂ O	1.32E-03	3.71E-04	1.62E-03	0%	1.62E-03	9.26E-05
CO ₂ e	1.65E+02	4.61E+01	2.02E+02	0%	2.02E+02	1.15E+01
Aldehydes	7.00E-02	1.96E-02	8.59E-02	0%	8.59E-02	4.90E-03
Benzene	9.33E-04	2.61E-04	1.14E-03	0%	1.14E-03	6.53E-05
Toluene	4.09E-04	1.15E-04	5.02E-04	0%	5.02E-04	2.86E-05
Xylenes	2.85E-04	7.98E-05	3.50E-04	0%	3.50E-04	2.00E-05
Propylene	2.58E-03	7.23E-04	3.17E-03	0%	3.17E-03	1.81E-04
1,3-Butadiene	3.91E-05	1.10E-05	4.80E-05	0%	4.80E-05	2.74E-06
Formaldehyde	1.18E-03	3.31E-04	1.45E-03	0%	1.45E-03	8.26E-05
Acetaldehyde	7.67E-04	2.15E-04	9.41E-04	0%	9.41E-04	5.37E-05
Acrolein	9.25E-05	2.59E-05	1.13E-04	0%	1.13E-04	6.48E-06
Naphthalene ⁴	8.48E-05	2.38E-05	1.04E-04	0%	1.04E-04	5.94E-06
Single HAP-aldehydes	7.00E-02	1.96E-02	8.59E-02	0%	8.59E-02	4.90E-03
Total HAP	7.38E-02	2.07E-02	9.05E-02	0%	9.05E-02	5.17E-03
Total PAH	8.32E-05	2.33E-05	1.02E-04	0%	1.02E-04	5.83E-06

¹ Emission Factors taken from AP-42 Section 3.3 Gasoline and Diesel Industrial Engines

² Global warming potentials found in 40 CFR Part 98 Subp A Table A-1

³ Emissions Factors found in 40 CFR Section 98 Tables C-1 and C-2

⁴ Naphthalene is both a PAH and a HAP but is included in the Total HAPs calculation but not the PAH calculation for Emission Factor

Emission Unit Identification No.:

EU 019 Fire Water Pump 2

Stack/Vent Designation No.:

SV 012

Control Equipment Designation No.:

Maximum Capacity:

0.65 MMBtu/hr

Operating Hours:

8760 hr/yr

Limited Operating Hours:

500 hr/yr

Emergency generator

* Actual testing is approximately 17.33 hr/yr.

Engine Data:

Fuel Type	Rated Engine Horsepower (hp)	Maximum Fuel Input (MMBtu/hr)	Sulfur (%)
Diesel	255	0.65	

Pollutant	Emission Factor ¹ (lb/MMBtu)	Hourly Potential Emission Rate (lb/hr)	Uncontrolled Potential Emissions (tons/yr)	Pollution Control Efficiency (%)	Controlled Potential Emissions (tons/yr)	Limited Potential Emissions (tons/yr)
PM	3.10E-01	2.01E-01	8.82E-01	0%	8.82E-01	5.03E-02
PM ₁₀	3.10E-01	2.01E-01	8.82E-01	0%	8.82E-01	5.03E-02
PM _{2.5}	3.10E-01	2.01E-01	8.82E-01	0%	8.82E-01	5.03E-02
SO _x	2.90E-01	1.88E-01	8.25E-01	0%	8.25E-01	4.71E-02
NO _x	4.41E+00	2.86E+00	1.25E+01	0%	1.25E+01	7.16E-01
CO	9.50E-01	6.17E-01	2.70E+00	0%	2.70E+00	1.54E-01
Lead	ND	ND	ND	ND	ND	ND
VOC	3.60E-01	2.34E-01	1.02E+00	0%	1.02E+00	5.84E-02
CO ₂	1.64E+02	1.06E+02	4.66E+02	0%	4.66E+02	2.66E+01
CH ₄	6.61E-03	4.29E-03	1.88E-02	0%	1.88E-02	1.07E-03
N ₂ O	1.32E-03	8.59E-04	3.76E-03	0%	3.76E-03	2.15E-04
CO ₂ e	1.65E+02	1.07E+02	4.68E+02	0%	4.68E+02	2.67E+01
Aldehydes	7.00E-02	4.55E-02	1.99E-01	0%	1.99E-01	1.14E-02
Benzene	9.33E-04	6.06E-04	2.65E-03	0%	2.65E-03	1.51E-04

Pollutant	Emission Factor ¹ (lb/MMBtu)	Hourly Potential Emission Rate (lb/hr)	Uncontrolled Potential Emissions (tons/yr)	Pollution Control Efficiency (%)	Controlled Potential Emissions (tons/yr)	Limited Potential Emissions (tons/yr)
Toluene	4.09E-04	2.66E-04	1.16E-03	0%	1.16E-03	6.64E-05
Xylenes	2.85E-04	1.85E-04	8.11E-04	0%	8.11E-04	4.63E-05
Propylene	2.58E-03	1.68E-03	7.34E-03	0%	7.34E-03	4.19E-04
1,3-Butadiene	3.91E-05	2.54E-05	1.11E-04	0%	1.11E-04	6.35E-06
Formaldehyde	1.18E-03	7.66E-04	3.36E-03	0%	3.36E-03	1.92E-04
Acetaldehyde	7.67E-04	4.98E-04	2.18E-03	0%	2.18E-03	1.25E-04
Acrolein	9.25E-05	6.01E-05	2.63E-04	0%	2.63E-04	1.50E-05
Naphthalene ⁴	8.48E-05	5.51E-05	2.41E-04	0%	2.41E-04	1.38E-05
Single HAP-aldehydes	7.00E-02	4.55E-02	1.99E-01	0%	1.99E-01	1.14E-02
Total HAP	7.38E-02	4.79E-02	2.10E-01	0%	2.10E-01	1.20E-02
Total PAH	8.32E-05	5.40E-05	2.37E-04	0%	2.37E-04	1.35E-05

¹ Emission Factors taken from AP-42 Section 3.3 Gasoline and Diesel Industrial Engines

² Global warming potentials found in 40 CFR Part 98 Subp A Table A-1

³ Emissions Factors found in 40 CFR Section 98 Tables C-1 and C-2

⁴ Naphthalene is both a PAH and a HAP but is included in the Total HAPs calculation but not the PAH calculation for Emission Factor

Emission Unit Identification No **F5001 Coal Pile and Coal Handling Emissions**

Stack/Vent Designation No.: NA

Operating Hours: 8760 hr/yr

Wausau - Brainerd

PTE Calculation

F002 - Coal Handling/Coal Pile

Emission calculations and factors obtained from AP-42 ed 5, Section 13.2.5 (Industrial Wind Erosion)

Brainerd currently has 2 coal piles

Coal Pile 1 (constant pile)

Quantity: 150 tons
Height: 3.048 meters
Radius: 2.286 meters
Disturbances: 365 (daily)

Coal Pile 2 (variable pile)

Quantity: 150 tons
Height: 3.048 meters
Radius: 3.048 meters
Disturbances: 156 (3x week)

Calculations for Pile 1

Exposed surface area of the pile:

$$S = \pi r \times \text{sqrt}(r^2 + h^2)$$

$$S = 27.36 \text{ m}^2$$

Using Pile A from Figure 13.2.5-2

Area ID	u_s/u_r	Pile Surface	
		%	Area (m ²)
A	0.9	12%	3.28
B	0.6	48%	13.13
C1 + C2	0.2	40%	10.94
Total:			27.36

Notes:

1. Percentages are an approximation based on Example 1 of AP-42, Section 13.2.5

2. u_s/u_r = ratio of surface wind speed (u_s) to approach wind speed (u_r)

For representative pile shapes (i.e. conical), the ratios have been derived from wind tunnel studies.

Determination of the fastest mile (see attached set of values for St. Cloud, MN)

Used July 2011 data because it had the windiest day of 2011.

Assuming the anemometer height is 7 m (there is no information about actual height)

Fastest mile value (u^+) corrected to the reference height of 10 m.

$$u^+_{10} = u^+_7 \times (\ln(10/.005)/\ln(7/.005))$$

$$u^+_{10} = 1.05 u^+_7$$

Friction Velocities

Day	u^+_7		u^+_{10}		$u^* - 0.1u^+ \text{ (m/s)}$		
	mph	m/s	mph	m/s	$u_s/u_r = 0.2$	$u_s/u_r = 0.6$	$u_s/u_r = 0.9$
1	43	19.22	45	20.18	0.40	1.21	1.82
2	13	5.81	14	6.10	0.12	0.37	0.55
3	13	5.81	14	6.10	0.12	0.37	0.55
4	17	7.60	18	7.98	0.16	0.48	0.72
5	35	15.65	37	16.43	0.33	0.99	1.48
6	7	3.13	7	3.29	0.07	0.20	0.30
7	12	5.36	13	5.63	0.11	0.34	0.51
8	8	3.58	8	3.76	0.08	0.23	0.34
9	23	10.28	24	10.80	0.22	0.65	0.97
10	51	22.80	54	23.94	0.48	1.44	2.15
11	20	8.94	21	9.39	0.19	0.56	0.84

12	10	4.47	11	4.69	0.09	0.28	0.42
13	13	5.81	14	6.10	0.12	0.37	0.55
14	14	6.26	15	6.57	0.13	0.39	0.59
15	26	11.62	27	12.20	0.24	0.73	1.10
16	13	5.81	14	6.10	0.12	0.37	0.55
17	13	5.81	14	6.10	0.12	0.37	0.55
18	14	6.26	15	6.57	0.13	0.39	0.59
19	24	10.73	25	11.27	0.23	0.68	1.01
20	25	11.18	26	11.73	0.23	0.70	1.06
21	13	5.81	14	6.10	0.12	0.37	0.55
22	9	4.02	9	4.22	0.08	0.25	0.38
23	25	11.18	26	11.73	0.23	0.70	1.06
24	12	5.36	13	5.63	0.11	0.34	0.51
25	14	6.26	15	6.57	0.13	0.39	0.59
26	13	5.81	14	6.10	0.12	0.37	0.55
27	16	7.15	17	7.51	0.15	0.45	0.68
28	10	4.47	11	4.69	0.09	0.28	0.42
29	14	6.26	15	6.57	0.13	0.39	0.59
30	24	10.73	25	11.27	0.23	0.68	1.01
31	8	3.58	8	3.76	0.08	0.23	0.34

Notes:

1. Highlighted cells exceed the threshold value for coal pile: 1.12 m/s
2. u^* = equivalent friction velocities

Calculation of PM/PM10 Emissions

Day	u^* (m/s)	$u^* - u_t^*$ (m/s)	P (g/m ²)	ID	Pile Surface Area (m ²)	kPA (Emissions) (g/month)	Emission Rate (lb/hr)	Emission Rate (TPY)
1	1.21	0.09	2.76	B	13.13	18.11	5.47E-05	2.39E-04
4	1.44	0.32	13.71	B	13.13	90.06	2.72E-04	1.19E-03
1	1.82	0.70	45.56	A	3.28	74.79	2.26E-04	9.89E-04
2	1.48	0.36	16.42	A	3.28	26.96	8.14E-05	3.57E-04
4	2.15	1.03	87.94	A	3.28	144.37	4.36E-04	1.91E-03
Total						354.30	1.07E-03	4.69E-03

Notes:

1. Threshold friction velocity (u_t^*) = 1.12 m/s for uncrusted coal (Table 13.2.5-2)
2. Erosion potential function (P) = $58(u^* - u_t^*)^2 + 25(u^* - u_t^*)$
3. Particle size multiplier (k) = 0.5 for PM10
4. Approximately 730 hrs/month: $(365/12) \times 24$

Total Emissions from Coal Piles 1 and 2

Coal Pile 1			Coal Pile 2			Total	
kPA (Emissions) (g/month)	Emission Rate (lb/hr)	Emission Rate (TPY)	kPA (Emissions) (g/month)	Emission Rate (lb/hr)	Emission Rate (TPY)	Emission Rate (lb/hr)	Emission Rate (TPY)
18.11	5.47E-05	2.39E-04	27.31	8.25E-05	3.61E-04	1.37E-04	6.01E-04
90.06	2.72E-04	1.19E-03	135.85	4.10E-04	1.80E-03	6.82E-04	2.99E-03
74.79	2.26E-04	9.89E-04	112.82	3.41E-04	1.49E-03	5.67E-04	2.48E-03
26.96	8.14E-05	3.57E-04	40.67	1.23E-04	5.38E-04	2.04E-04	8.95E-04
144.37	4.36E-04	1.91E-03	217.79	6.58E-04	2.88E-03	1.09E-03	4.79E-03
354.30	1.07E-03	4.69E-03	534.45	1.61E-03	7.07E-03	2.68E-03	1.18E-02

Because the potential emission rates for PM and PM10 are less than 2.28 lb/hr, this source is Insignificant per MN Rule 7007.1300 subpart 4.B.

* Assumption: PM = PM₁₀ = PM_{2.5}

Wausau - Brainerd
PTE Calculation

F002 - Coal Handling/Coal Pile

Emission calculations and factors obtained from AP-42 ed 5, Section 13.2.5 (Industrial Wind Erosion)

Brainerd currently has 2 coal piles

Coal Pile 1 (constant pile)

Quantity: 150 tons
 Height: 3.048 meters
 Radius: 2.286 meters
 Disturbances: 365 (daily)

Coal Pile 2 (variable pile)

Quantity: 150 tons
 Height: 3.048 meters
 Radius: 3.048 meters
 Disturbances: 156 (3x week)

Calculations for Pile 2

Exposed surface area of the pile:

$$S = \pi r \times \text{sqrt}(r^2 + h^2)$$

$$S = 41.28 \text{ m}^2$$

Using Pile A from Figure 13.2.5-2

Area ID	u_s/u_r	Pile Surface	
		%	Area (m ²)
A	0.9	12%	4.95
B	0.6	48%	19.81
C1 + C2	0.2	40%	16.51
Total:			41.28

Notes:

- Percentages are an approximation based on Example 1 of AP-42, Section 13.2.5
 - u_s/u_r = ratio of surface wind speed (u_s) to approach wind speed (u_r)
- For representative pile shapes (i.e. conical), the ratios have been derived from wind tunnel studies.

Determination of the fastest mile (see attached set of values for St. Cloud, MN)

Used July 2011 data because it had the windiest day of 2011.

Assuming the anemometer height is 7 m (there is no information about actual height)

Fastest mile value (u^+) corrected to the reference height of 10 m.

$$u_{10}^+ = u_7^+ \times (\ln(10/.005)/\ln(7/.005))$$

$$u_{10}^+ = 1.05 u_7^+$$

Friction Velocities

3-Day Period	u_7^+		u_{10}^+		$u^* - 0.1u^+ \text{ (m/s)}$		
	mph	m/s	mph	m/s	$u_s/u_r = 0.2$	$u_s/u_r = 0.6$	$u_s/u_r = 0.9$
1	43	19.22	45	20.18	0.40	1.21	1.82
2	35	15.65	37	16.43	0.33	0.99	1.48
3	23	10.28	24	10.80	0.22	0.65	0.97
4	51	22.80	54	23.94	0.48	1.44	2.15
5	26	11.62	27	12.20	0.24	0.73	1.10
6	14	6.26	15	6.57	0.13	0.39	0.59
7	25	11.18	26	11.73	0.23	0.70	1.06
8	25	11.18	26	11.73	0.23	0.70	1.06
9	16	7.15	17	7.51	0.15	0.45	0.68
10	24	10.73	25	11.27	0.23	0.68	1.01

Notes:

- Highlighted cells exceed the threshold value for coal pile: 1.12 m/s
- u^* = equivalent friction velocities

Calculation of PM/PM10 Emissions

3-Day Period	u^* (m/s)	$u^* - u_t^*$ (m/s)	P (g/m ²)	ID	Pile Surface Area (m ²)	kPA (Emissions) (g/month)	Emission Rate (lb/hr)	Emission Rate (TPY)
1	1.21	0.09	2.76	B	19.81	27.31	8.25E-05	3.61E-04
4	1.44	0.32	13.71	B	19.81	135.85	4.10E-04	1.80E-03
1	1.82	0.70	45.56	A	4.95	112.82	3.41E-04	1.49E-03
2	1.48	0.36	16.42	A	4.95	40.67	1.23E-04	5.38E-04
4	2.15	1.03	87.94	A	4.95	217.79	6.58E-04	2.88E-03
Total						534.45	1.61E-03	7.07E-03

Notes:

1. Threshold friction velocity (u_t^*) = 1.12 m/s for uncrusted coal (Table 13.2.5-2)
2. Erosion potential function (P) = $58(u^* - u_t^*)^2 + 25(u^* - u_t^*)$
3. Particle size multiplier (k) = 0.5 for PM10
4. Approximately 730 hrs/month: $(365/12) \times 24$

Emission Unit Identification No.: Insignificant Activities 7007.1300 subp. 3(I)

Stack/Vent Designation No.: NA

Maximum Capacity:

lb/hr

Operating Hours:

8760 hr/yr

Will Cut Size Sheeters. Emissions are exhausted into the building 100% of the time and will not require air filtering systems to control indoor air emissions.

Pollutant	Emission Factor (gr/dscf)	Hourly Potential Emission Rate (lb/hr)	Uncontrolled Potential Emissions (tons/yr)	Pollution Control Efficiency (%)	Controlled Emission Rate (lb/hr)	Controlled Emissions (tons/yr)
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No Data

Emission Unit Identification No.: Insignificant Activities 7007.1300 subp. 4(B)

Stack/Vent Designation No.: NA

Maximum Capacity:

lb/hr

Operating Hours: 8760 hr/yr

Roll Grinder. Emissions are filtered through an air cleaning system and exhausted into the building 100% of the time. Actual emissions less than 1 tpy.

Pollutant	Emission Factor (gr/dscf)	Hourly Potential Emission Rate (lb/hr)	Uncontrolled Potential Emissions (tons/yr)	Pollution Control Efficiency (%)	Controlled Emission Rate (lb/hr)	Controlled Emissions (tons/yr)
PM	0.13	3.34	14.62	99.9%	3.34E-03	1.46E-02
PM ₁₀	0.10	2.50	10.97	99.9%	2.50E-03	1.10E-02
PM _{2.5}	0.10	2.50	10.97	99.9%	2.50E-03	1.10E-02

No process flow rate (mass/time) can be defined for this equipment, therefore the emission calculation is based solely on the exhaust volume flow rate.

Process flow rate:

3,000 cfm

2940 dscfm

Moisture content (default value)

2 %

Assume 'ambient' conditions to be near to 14.7 psia & 68 deg F.

Moisture content assumed to be 2% (default value).

$$c = 1.7627 * V ^ { (-0.3241)}$$

V (actual)

3000

T (actual)

68

$$c =$$
$$E =$$
$$V \text{ (stp)}$$

0.13 gr/dscf
3.34 lb/hr
2940 dscfm

0.3 gr/dscf
7.56 lb/hr

$$E = c \times V \times (60/7000)$$

Emission Unit Identification No.:

Insignificant Activities 7008.4110

Stack/Vent Designation No.:

NA

Maximum Capacity:

lb/hr

Operating Hours: 8760 hr/yr
Machine Shop Grinding. Emissions are filtered through an air cleaning system and exhausted into the building 100% of the time.

Pollutant	Emission Factor (lb/ton)	Hourly Potential Emission Rate (lb/hr)	Uncontrolled Potential Emissions (tons/yr)
No Data			

Emission Unit Identification No.: Insignificant Activities 7007.1300 subp. 3(G)
Stack/Vent Designation No.: NA
Maximum Capacity: lb/hr
Operating Hours: 8760 hr/yr

Technical Services Lab Hoods. Falls under specific laboratory exemption

Pollutant	Emission Factor (lb/ton)	Hourly Potential Emission Rate (lb/hr)	Uncontrolled Potential Emissions (tons/yr)
No data			

Emission Unit Identification No.: Insignificant Activities 7007.1300 subp. 3(H)(3)
Stack/Vent Designation No.: NA
Maximum Capacity: lb/hr
Operating Hours: 8760 hr/yr

Welding Shop and Exhaust hood. Facility does own repair work.

Pollutant	Emission Factor (lb/ton)	Hourly Potential Emission Rate (lb/hr)	Uncontrolled Potential Emissions (tons/yr)
PM	No Data		
VOCs	No Data		

Emission Unit Identification No.: Insignificant Activities 7007.1300 subp. 4(B)
Stack/Vent Designation No.: NA
Maximum Capacity: lb/hr
Operating Hours: 8760 hr/yr

Color Kitchen Dry Raw Materials Handling. (Starch Sile & Weigh Bin Blowers)

Pollutant	(Controlled) Emission Factor (gr/dscf)	Operating Rate (acfm)	Emission Rate (lb/hr)	Max Uncontrolled Emissions (ton/yr)	Pollution Control Efficiency (%)	Max Controlled Emissions (ton/yr)	Maximum Controlled Emissions (lb/hr)
PM	0.020	2,940	504.00	2,208	99.9%	2.2075	0.50

PM ₁₀	0.020	2,940	504.00	2,208	99.9%	2,2075	0.50
PM _{2.5}	0.020	2,940	504.00	2,208	99.9%	2,2075	0.50

Specification of 0.02 gr/dscf is taken from the minor modification application to MPCA for Permit 30B-85-/O-1.

Note that the selected emission rate may be unnecessarily restrictive.

Volume flow rate of 3,000 cfm; assumed to have 2% moisture content. 3000 acfm 2940 dscfm

Based on discussions between Tony Colella of ENSR and MPCA in 1995, this source can be classified as insignificant because the control equipment is considered part of the process equipment. Therefore the maximum controlled emissions (as shown above) could instead be viewed as the maximum uncontrolled emissions.

Because the controlled (actual) emission rates for PM and PM-10 are less than 2.28 lb/hr, this source is Insignificant per MN Rule 7007.1300 subpart 4.B.

Emission Unit Identification No.: Insignificant Activities 7007.1300 subp. 4(B)

Stack/Vent Designation No.: NA

Maximum Capacity: lb/hr

Operating Hours: 8760 hr/yr

Color Kitchen Vacuum.

Pollutant	(Controlled) Emission Factor (gr/dscf)	Operating Rate (acfm)	Emission Rate (lb/hr)	Max Uncontrolled Emissions (ton/yr)	Pollution Control Efficiency (%)	Max Controlled Emissions (ton/yr)	Maximum Controlled Emissions (lb/hr)
PM	0.020	735	126.00	551.88	99.9%	0.55	0.13
PM ₁₀	0.020	735	126.00	551.88	99.9%	0.55	0.13
PM _{2.5}	0.020	735	126.00	551.88	99.9%	0.55	0.13

Specification of 0.02 gr/dscf is taken from the minor modification application to MPCA for Permit 30B-85-/O-1.

Note that the selected emission rate may be unnecessarily restrictive.

Volume flow rate of 750 cfm; assumed to have 2% moisture content. 750 acfm 735 dscfm

Based on discussions between Tony Colella of ENSR and MPCA in 1995, this source can be classified as insignificant because the control equipment is considered part of the process equipment. Therefore the maximum controlled emissions (as shown above) could instead be viewed as the maximum uncontrolled emissions.

Because the controlled (actual) emission rates for PM and PM-10 are less than 2.28 lb/hr, this source is Insignificant per MN Rule 7007.1300 subpart 4.B.

Emission Unit Identification No.: Insignificant Activities 7007.1300 subp. 3(I)

Stack/Vent Designation No.: NA

Maximum Capacity: 0.5 MMBtu/hr

Heating value: 1020 MMBtu/MMscf

Operating Hours: 8760 hr/yr

Waste Treatment Plant Space Heating Boiler. Natural gas fired, heat input rating is 0.50 MMBtu/hr. All pollutants are below 1tpy.

Pollutant	Emission Factor ^{1, 2} (lb/MMscf)	Hourly Potential Emission Rate (lb/hr)	Uncontrolled Potential Emissions (tons/yr)	HAP (Y or N)
PM	7.60E+00	3.73E-03	1.63E-02	
PM ₁₀	7.60E+00	3.73E-03	1.63E-02	
PM _{2.5}	7.60E+00	3.73E-03	1.63E-02	
SO _x	6.00E-01	2.94E-04	1.29E-03	
NO _x	1.00E+02	4.90E-02	2.15E-01	
CO	8.40E+01	4.12E-02	1.80E-01	
VOC	5.50E+00	2.70E-03	1.18E-02	
Lead	5.00E-04	2.45E-07	1.07E-06	
CO ₂	1.47E+02	7.37E+01	3.23E+02	
CH ₄	2.20E-03	1.10E-03	4.83E-03	
N ₂ O	3.09E-04	1.54E-04	6.76E-04	
CO ₂ e ³	1.47E+02	7.37E+01	3.23E+02	
Single HAP - Hexane	1.8E+00	8.82E-04	3.86E-03	
Total HAPs	1.9E+00	9.25E-04	4.05E-03	
Arsenic	2.0E-04	9.80E-08	4.29E-07	Y
Barium	4.4E-03	2.16E-06	9.45E-06	N
Beryllium	1.2E-05	5.88E-09	2.58E-08	Y
Cadmium	1.1E-03	5.39E-07	2.36E-06	Y
Chromium	1.4E-03	6.86E-07	3.01E-06	Y
Cobalt	8.4E-05	4.12E-08	1.80E-07	Y
Copper	8.5E-04	4.17E-07	1.83E-06	N
Manganese	3.8E-04	1.86E-07	8.16E-07	Y
Mercury	2.6E-04	1.27E-07	5.58E-07	Y
Molybdenum	1.1E-03	5.39E-07	2.36E-06	N
Nickel	2.1E-03	1.03E-06	4.51E-06	Y
Selenium	2.4E-05	1.18E-08	5.15E-08	Y
Vanadium	2.3E-03	1.13E-06	4.94E-06	N
Zinc	2.9E-02	1.42E-05	6.23E-05	N
2-Methylnaphthalene	2.4E-05	1.18E-08	5.15E-08	N
3-Methylchloranthrene	1.8E-06	8.82E-10	3.86E-09	N
7,12-Dimethylbenz(a)anthr	1.6E-05	7.84E-09	3.44E-08	N
Acenaphthene	1.8E-06	8.82E-10	3.86E-09	N
Acenaphthylene	1.8E-06	8.82E-10	3.86E-09	N
Anthracene	2.4E-06	1.18E-09	5.15E-09	N
Benz(a)anthracene	1.8E-06	8.82E-10	3.86E-09	N
Benze	2.1E-03	1.03E-06	4.51E-06	Y
Benzo(a)pyrene	1.2E-06	5.88E-10	2.58E-09	N
Benzo(b)fluoranthene	1.8E-06	8.82E-10	3.86E-09	N

Benzo(g,h,i)perylene	1.2E-06	5.88E-10	2.58E-09	N
Benzo(k)fluoranthene	1.8E-06	8.82E-10	3.86E-09	N
Butane	2.1E+00	1.03E-03	4.51E-03	N
Chrysene	1.8E-06	8.82E-10	3.86E-09	N
Dibenzo(a,h)anthracene	1.2E-06	5.88E-10	2.58E-09	N
Dichlorobenzene	1.2E-03	5.88E-07	2.58E-06	Y
Ethane	3.1E+00	1.52E-03	6.66E-03	N
Fluoranthene	3.0E-06	1.47E-09	6.44E-09	N
Fluorene	2.8E-06	1.37E-09	6.01E-09	N
Formaldehyde	7.5E-02	3.68E-05	1.61E-04	Y
Hexane	1.8E+00	8.82E-04	3.86E-03	Y
Indeno(1,2,3-cd)pyrene	1.8E-06	8.82E-10	3.86E-09	N
Naphthalene	6.1E-04	2.99E-07	1.31E-06	Y
Pentane	6.1E-04	2.99E-07	1.31E-06	N
Phenanthrene	1.7E-05	8.33E-09	3.65E-08	N
Propane	1.6E+00	7.84E-04	3.44E-03	N
Pyrene	5.0E-06	2.45E-09	1.07E-08	N
Toluene	3.4E-03	1.67E-06	7.30E-06	Y

¹ Emission factors from AP-42 1.4 Natural Gas Combustion Tables 1.4-1, 1.4-2, 1.4-3 and 1.4-4

² Emission factors for CO₂, CH₄ and N₂O from 40 CFR part 98 Table C-1 and C-2; units are lb/MMBtu

³ Global warming potentials from 40 CFR part 98 Table A-1

Emission Unit Identification No.:

Insignificant Activities 7007.1300 subp. 4(B)

Stack/Vent Designation No.:

NA

Maximum Capacity:

lb/hr

Operating Hours:

8760 hr/yr

Wastewater Treatment Fugitive Emissions. ENSR 1995 Application showed maximum

Pollutant	HAP? (Y/N)	Primary Clarifier*			RBC Unit*			Secondary Clarifier*			Total	
		Emission Rate (g/s)	Emission Rate (lb/hr)	Emission Rate (ton/yr)	Emission Rate (g/s)	Emission Rate (lb/hr)	Emission Rate (ton/yr)	Emission Rate (g/s)	Emission Rate (lb/hr)	Emission Rate (ton/yr)	Emission Rate (lb/hr)	Emission Rate (ton/yr)
VOCs		1.62E-03	1.29E-02	5.63E-02	1.02E-02	8.10E-02	3.55E-01	3.27E-05	2.60E-04	1.14E-03	9.41E-02	4.12E-01
Single HAP - Methanol		1.13E-05	8.97E-05	3.93E-04	7.52E-03	5.97E-02	2.61E-01	8.90E-06	7.06E-05	3.09E-04	5.98E-02	2.62E-01
Total HAPs		1.44E-03	1.14E-02	5.00E-02	8.06E-03	6.39E-02	2.80E-01	1.21E-05	9.62E-05	4.21E-04	7.54E-02	3.30E-01
Acetaldehyde	Y	5.87E-04	4.66E-03	2.04E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.66E-03	2.04E-02
Acetone	N	1.77E-04	1.40E-03	6.15E-03	2.15E-03	1.71E-02	7.47E-02	2.06E-05	1.63E-04	7.16E-04	1.86E-02	8.16E-02
Benzoic Acid	N	2.07E-08	1.64E-07	7.19E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.64E-07	7.19E-07
Bis(2-Ethylhexyl)Phthalate	Y	4.93E-08	3.91E-07	1.71E-06	2.30E-04	1.83E-03	7.99E-03	3.50E-08	2.78E-07	1.22E-06	1.83E-03	8.00E-03
Cresol(-p)(1,4-Methylphenol)	Y	2.69E-07	2.13E-06	9.35E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.13E-06	9.35E-06
Dichloropropane (1,2)	N	4.92E-06	3.90E-05	1.71E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.90E-05	1.71E-04
Formaldehyde	Y	7.99E-04	6.34E-03	2.78E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.34E-03	2.78E-02
Methanol	Y	1.13E-05	8.97E-05	3.93E-04	7.52E-03	5.97E-02	2.61E-01	8.90E-06	7.06E-05	3.09E-04	5.98E-02	2.62E-01
Methyl Ethyl Ketone (2-But)	Y	4.14E-05	3.29E-04	1.44E-03	3.07E-04	2.44E-03	1.07E-02	3.19E-06	2.53E-05	1.11E-04	2.79E-03	1.22E-02

Emission Unit Identification No.: **Insignificant Activities 7007.1300 subp. 4(B)**
Stack/Vent Designation No.: NA
Maximum Capacity: 90300 ton/yr
Ash Content: 10.0%
Ash throughput: 9030
Moisture content of material: 4.5% * mean value for fly ash taken from AP-42 Table 13.2.4-1
Mean wind speed: 15 mph from 13.2.4 (max value)
Operating Hours: 8760 hr/yr
 $EF = k(0.0032)(u/5)^{1.3} / (m/2)^{1.4}$

Ash Handling. ENSR 1995 Application shows actual and PTE to be less than 1 tpy.

Pollutant	Aerodynamic Particle Size Multiplier (k)	Emission Factor ¹ (lb/ton)	Hourly Potential Emission Rate (lb/hr)	Uncontrolled Potential Emissions (tons/yr)
PM	0.74	2.003	2.06E+00	9.04E+00
PM ₁₀	0.35	0.947	9.76E-01	4.28E+00
PM _{2.5}	0.053	0.143	1.48E-01	6.48E-01

¹Source: AP-42 13.2.4 Aggregate Handling and Storage Piles (11/06)

Because the controlled (actual) emission rates for PM and PM-10 are less than 2.28 lb/hr, this source is Insignificant per MN Rule 7007.1300 subpart 4.B.

Total

Pollutant	Hourly Potential Emission Rate (lb/hr)	Uncontrolled Potential Emissions (tons/yr)	Controlled Emissions (tons/yr)
PM	6.35E+02	2,774.05	1.18E+01
PM ₁₀	6.33E+02	2,770.39	7.07E+00
PM _{2.5}	6.33E+02	2,770.39	3.45E+00
SO _x	2.94E-04	1.29E-03	1.29E-03
NO _x	4.90E-02	2.15E-01	2.15E-01
CO	4.12E-02	1.80E-01	1.80E-01
VOC	9.68E-02	4.24E-01	4.24E-01
Lead	2.45E-07	1.07E-06	1.07E-06
CO ₂	7.37E+01	3.23E+02	3.23E+02
CH ₄	1.10E-03	4.83E-03	4.83E-03
N ₂ O	1.54E-04	6.76E-04	6.76E-04
CO ₂ e ³	7.37E+01	3.23E+02	3.23E+02
Single HAP - Methanol	5.98E-02	2.62E-01	0.262065495
Total HAPs	7.64E-02	3.35E-01	0.334516257

Totals include permit limits.

Unit	Description	PM		PM ₁₀		PM _{2.5}		SOx	
		(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)
EU001	Boiler 1	7.19E-01	2.89E+00	7.19E-01	2.89E+00	7.19E-01	2.89E+00	5.68E-02	2.28E-01
EU002	Boiler 2	6.42E+02	1.42E+02	2.66E+01	5.89E+00	1.21E+01	2.68E+00	1.94E+02	8.48E+02
EU003	Boiler 3	1.28E+03	2.81E+02	5.33E+01	1.17E+01	2.42E+01	5.31E+00	3.84E+02	1.68E+03
EU004	Boiler 4	1.28E+03	2.81E+02	5.33E+01	1.17E+01	2.42E+01	5.31E+00	3.84E+02	1.68E+03
EU007	Trim Cyclone	3.74E+00	1.64E+01	3.74E+00	1.64E+01	3.74E+00	1.64E+01	0	0
EU014	Paper Machine 8	0	0	0	0	0	0	0	0
EU015	Paper Machine 7	0	0	0	0	0	0	0	0
	Telephone and Pager System								
EU016	Backup Generator	3.38E-04	8.46E-05	3.38E-04	8.45E-05	3.38E-04	8.45E-05	2.01E-05	5.02E-06
EU017	Hydroplant Backup Generator	1.88E-03	4.69E-04	1.88E-03	4.69E-04	1.88E-03	4.69E-04	1.58E-03	3.94E-04
EU018	Fire Water Pump 1	8.68E-02	2.17E-02	8.68E-02	2.17E-02	8.68E-02	2.17E-02	8.12E-02	2.03E-02
EU019	Fire Water Pump 2	2.01E-01	5.03E-02	2.01E-01	5.03E-02	2.01E-01	5.03E-02	1.88E-01	4.71E-02
	Total	3.21E+03	7.24E+02	1.38E+02	4.86E+01	6.53E+01	3.26E+01	9.61E+02	4.21E+03
IAs	various	6.35E+02	1.18E+01	6.33E+02	7.07E+00	6.33E+02	3.45E+00	2.94E-04	1.29E-03
	Total w/IAs	3.85E+03	7.35E+02	7.71E+02	5.57E+01	6.98E+02	3.61E+01	9.61E+02	4.21E+03

Totals include permit limits.

Unit	Description	NOx		CO		VOC		HAP - Single - HCl	
		(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)
EU001	Boiler 1	9.46E+00	3.80E+01	7.95E+00	3.19E+01	5.20E-01	2.09E+00	1.70E-01	6.84E-01
EU002	Boiler 2	2.24E+01	9.82E+01	1.02E+01	4.46E+01	1.02E-01	4.46E-01	7.02E+00	3.07E+01
EU003	Boiler 3	4.44E+01	1.95E+02	2.02E+01	8.84E+01	2.02E-01	8.84E-01	1.39E+01	6.09E+01
EU004	Boiler 4	4.44E+01	1.95E+02	2.02E+01	8.84E+01	2.02E-01	8.84E-01	1.39E+01	6.09E+01
EU007	Trim Cyclone	0	0	0	0	0	0	0	0
EU014	Paper Machine 8	0	0	0	0	4.09E+00	1.79E+01	6.60E-01	2.89E+00
EU015	Paper Machine 7	0	0	0	0	6.59E+00	2.88E+01	1.06E+00	4.65E+00
	Telephone and Pager System								
EU016	Backup Generator	1.39E-01	3.48E-02	1.90E-02	4.75E-03	4.03E-03	1.01E-03	1.80E-03	4.51E-04
EU017	Hydroplant Backup Generator	3.06E-02	7.65E-03	1.86E-02	4.64E-03	5.69E-02	1.42E-02	1.31E-03	3.28E-04
EU018	Fire Water Pump 1	1.24E+00	3.09E-01	2.66E-01	6.65E-02	1.01E-01	2.52E-02	1.96E-02	4.90E-03
EU019	Fire Water Pump 2	2.86E+00	7.16E-01	6.17E-01	1.54E-01	2.34E-01	5.84E-02	4.55E-02	1.14E-02
	Total	1.25E+02	5.26E+02	5.94E+01	2.54E+02	1.21E+01	5.12E+01	3.48E+01	1.53E+02
IAs	various	4.90E-02	2.15E-01	4.12E-02	1.80E-01	9.68E-02	4.24E-01	5.98E-02	0.262065
	Total w/IAs	1.25E+02	5.27E+02	5.95E+01	2.54E+02	1.22E+01	5.16E+01	3.48E+01	1.53E+02

Totals include permit limits.

Unit	Description	HAPs - Total		GHG		CO ₂ e	
		(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)
EU001	Boiler 1	1.79E+01	7.17E-01	1.13E+04	4.53E+04	1.13E+04	4.54E+04
EU002	Boiler 2	7.35E+00	3.22E+01	1.18E+04	5.18E+04	1.19E+04	5.20E+04
EU003	Boiler 3	1.46E+01	6.38E+01	2.35E+04	1.03E+05	2.35E+04	1.03E+05
EU004	Boiler 4	1.46E+01	6.38E+01	2.35E+04	1.03E+05	2.35E+04	1.03E+05
EU007	Trim Cyclone	0	0	0	0	0	0
EU014	Paper Machine 8	1.23E+00	5.39E+00	0	0	0	0
EU015	Paper Machine 7	1.98E+00	8.67E+00	0	0	0	0
	Telephone and Pager System						
EU016	Backup Generator	4.08E-03	1.02E-03	4.63E+00	1.16E+00	4.65E+00	1.16E+00
EU017	Hydroplant Backup Generator	1.31E-03	3.28E-04	2.91E+00	7.26E-01	2.92E+00	7.29E-01
EU018	Fire Water Pump 1	2.07E-02	5.17E-03	4.59E+01	1.15E+01	4.61E+01	1.15E+01
EU019	Fire Water Pump 2	4.79E-02	1.20E-02	1.06E+02	2.66E+01	1.07E+02	2.67E+01
	Total	3.99E+01	1.75E+02	7.02E+04	3.03E+05	7.03E+04	3.03E+05
IAs	various	7.64E-02	0.334516	7.37E+01	3.23E+02	7.37E+01	3.23E+02
	Total w/IAs	4.00E+01	1.75E+02	7.03E+04	3.03E+05	7.04E+04	3.04E+05

ATTACHMENT 2
NET EMISSIONS INCREASE SPREADSHEET

Wausau Paper - Brainerd Mill
 Broke Pulper Project
 Permit Applicability Determination
 Project No.: 188177.0000.0000

Per Minnesota Admin. Rules Part 7007.1200, Subp. 3, emissions for a modification must be calculated by comparing hourly emission rate of source, at maximum capacity, before and after the proposed change:

	VOC	SO2	NOx	CO
	lbs/hr	lbs/hr	lbs/hr	lbs/hr
Potential Emissions - Pulper	0.76			
Potential Emissions - PM7 Mod ¹	3.37	0.004	0.58	0.49
Total	4.13	0.004	0.58	0.49

Insignificant Permitting Threshold <2.28 <2.28 <2.28 <5.70

Minor Permitting Threshold <9.13 <9.13 <9.13 <22.80

*Potential short-term emissions from coal combustion will not change as a result of this project and are therefore not included above.

To determine if this project is subject to review under NSR/PSD, compare net increase in emissions to applicable thresholds:

	PM	PM10	SO2	NOx	CO	VOC
	TPY					
Net Emissions Increase - Coal	0.25	1.12	4.34	1.50	0.68	0.01
Net Emissions Increase - Pulper						3.33
Net Emissions Increase - PM7 Mod ¹	0.19	0.19	0.02	2.56	2.15	0.26
Total	0.44	1.31	4.36	4.06	2.83	3.60

PSD Sig Threshold - Major Sources 25 15 40 40 100 40

Notes:

1. Net increase from May 2010 supplement permit application submitted to MPCA

Wausau Paper - Brainerd Mill
Broke Pulper Project
Chloroform emissions from Sodium Hypochlorite
Project No.: 188177.0000.0000

HAP
EF (lb/ODTP)
EF Source

Chloroform/VOCs
2.03

Table 3 - NCASI SARA Handbook: Chloroform, 3/11 - see calculation below

Maximum color stripping capacity (ton/day): 9 Based on 3,000 lb batches at 6 batches/day
Maximum color stripping capacity (ton/hr): 0.375 at 4 hr/batch, 24 hr/day operating
Maximum Operating Schedule (hr/yr): 8400 at 350 day/yr and 24 hr/day

Average color stripping (ton/day): 4.5 Based on 3,000 lb batches at 3 batches/day
Average color stripping capacity (ton/hr): 0.375 at 4 hr/batch, 12 hr/day operating

Chloroform	Actual Emissions	Potential Emissions		
	lbs/hr	lbs/hr	lbs/yr	TPY
	0.76	0.76	6394.50	3.20

Production Data from Wausau Paper:

87 gal hypo/batch	maximum
3000 lb pulp/batch	avg and max
6 batches/day	maximum
3 batches/day	average
4 hr/batch	batch time
522 gal hypo/day	max
350 day/yr	max
182700 gal hypo/yr	max

Calculate % hypo in units of lb available Cl2 used/lb pulp (per NCASI SARA Handbook - Chloroform, 3/11):

87	gal hypo	1	batch	10.1	lb hypo	0.29	lb hypo
1	batch	3000	lb pulp		gal hypo	=	lb pulp

Table 1 in NCASI handbook provides the following conversion from lb hypo/lb pulp to %hypo:

0.29	lb hypo	35.5		0.14	lb available Cl2 used
	lb pulp	74.5	=		lb pulp

0.14 lb available Cl2 used * 100 = 14 % hypo

Table 3 of this Handbook lists data from three mills with repulping sources.

To be conservative, the highest chloroform emission factor listed for those sources is

2.03	lb chloroform/ODTP
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Wausau Paper - Brainerd Mill

Broke Pulper Project

Increase in Coal emissions from Boiler

Project No.: 188177.0000.0000

Due to the higher temperature water needed to break down the wet strength grades, additional steam usage is required

Steam usage has been converted to coal usage by Wausau Paper:

Current Actual Usage (ton coal/yr)

Future Actual Usage (ton coal/yr)

Net Increase in Actual Usage (ton coal/yr) 273.0

Operating Hours (hr/yr) 8,760.0

Chemical	Emission Factor lb/ton	Note	Actual Emissions Increase		
			lbs/hr	lbs/yr	TPY
PM	1.84	1	0.06	502.88	0.25
PM10	7.19	2	0.22	1964.12	0.98
SO2	31.58	2	0.98	8620.88	4.31
NOx	11.00	3	0.34	3003.00	1.50
CO	5.00	3	0.16	1365.00	0.68
TNMOC	0.05	4	0.002	13.65	0.01

Notes:

1. PM emission factor from stack test conducted on 3-13-07
2. PM10 and SO2 emission factors from stack test conducted on 1-31-02
3. NOx and CO emission factors from AP-42 Table 1.1-3, 9/98.
4. VOC emission factor from AP-42 Table 1.1-19, 9/98.

Baseline Actuals	2009 (TPY)	2010 (TPY)	AVG (TPY)	Increase (TPY, from above)	Projected Actuals (TPY)
PM	33.15	43.04	38.10	0.25	38.35
PM10	76.41	95.96	86.19	0.98	87.17
SO2	465.47	609.62	537.55	4.31	541.86
NOx	196.01	220.30	208.15	1.50	209.66
CO	85.22	99.80	92.51	0.68	93.19
TNMOC	1.49	1.28	1.387	0.007	1.394

Baseline data from 2009 and 2010 Emission Inventory spreadsheets

ATTACHMENT 3
FACILITY DESCRIPTION AND CD-01 FORMS



FACILITY DESCRIPTION: EMISSION UNIT (EU)

Show: Active and Pending Records

Action: PER 005

AQD Facility ID: 03500002

Facility Name: Wausau Paper Mills LLC

ID No.	Emission Unit Status	Added By (Action)	Retired By (Action)	Insignificant Activity	Operator ID for Item	Stack/Vent ID No(s).	Control Equip. ID No(s).	Operator Description	Manufacturer	Model Number	SIC	Max. Design Capacity	Maximum Design Capacity		Max Fuel Input (mil Btu)
													Materials	Units n	Units d
1 EU 001	Active	PER 001		<input type="checkbox"/>		SV 001 (M)		Boiler 1	Zurn	14M Keystone	2621	95	Heat	Mmbtu	Hr
2 EU 002	Active	PER 001		<input type="checkbox"/>		SV 002 (B) SV 005 (M)	CE 001 CE 007	Boiler 2	Combustion Engineering	VUZ	2621	54	Heat	Mmbtu	Hr
3 EU 002	Active	PER 005		<input type="checkbox"/>		SV 005 (M)	CE 001 CE 007	Boiler 2	Combustion Engineering	VUZ	2621	54	Heat	Mmbtu	Hr
4 EU 003	Active	PER 001		<input type="checkbox"/>		SV 003 (B) SV 005 (M)	CE 001 CE 008	Boiler 3	Babcock & Wilcox	S-55	2621	107	Heat	Mmbtu	Hr
5 EU 004	Active	PER 001		<input type="checkbox"/>		SV 004 (B) SV 005 (M)	CE 001 CE 009	Boiler 4	Babcock & Wilcox	S-55	2621	107	Heat	Mmbtu	Hr
6 EU 005	Removed	PER 001		<input type="checkbox"/>				#7 Paper Coater	Rice Barton		2621	135479		Ton	Yr
7 EU 006	Removed	PER 001		<input type="checkbox"/>				Paper Dryer			2621				
8 EU 007	Active	EIS 001		<input type="checkbox"/>				Trim Cyclone			2621				
9 EU 007	Active	PER 005		<input type="checkbox"/>		SV 013 (M)	CE 010 CE 011	Trim Cyclone			2621	49500		Ft3(s)	Min
10 EU 008	Active	EIS 003		<input checked="" type="checkbox"/>			CE 003	Clay Unloading 1			2621				
11 EU 008	Removed	PER 005		<input type="checkbox"/>				Clay Unloading 1			2621				
12 EU 009	Active	EIS 003		<input checked="" type="checkbox"/>			CE 003	Clay Storage 1			2621				
13 EU 009	Removed	PER 005		<input type="checkbox"/>				Clay Storage 1			2621				
14 EU 010	Active	EIS 003		<input checked="" type="checkbox"/>			CE 004	Clay Conveying 1			2621				
15 EU 010	Removed	PER 005		<input type="checkbox"/>				Clay Conveying 1			2621				
16 EU 011	Active	EIS 003		<input checked="" type="checkbox"/>			CE 005	Clay Unloading 2			2621				
17 EU 011	Removed	PER 005		<input type="checkbox"/>				Clay Unloading 2			2621				
18 EU 012	Active	EIS 003		<input checked="" type="checkbox"/>			CE 005	Clay Storage 2			2621				
19 EU 012	Removed	PER 005		<input type="checkbox"/>				Clay Storage 2			2621				
20 EU 013	Active	EIS 003		<input checked="" type="checkbox"/>			CE 006	Clay Conveying 2			2621				
21 EU 013	Removed	PER 005		<input type="checkbox"/>				Clay Conveying 2			2621				
22 EU 014	Active	PER 004		<input type="checkbox"/>		SV 007 (M)		#8 Paper Machine	Beloit		2621	81440		Ton	Yr
23 EU 015	Active	PER 002		<input type="checkbox"/>		SV 008 (M)		#7 Paper Machine	Beloit		2621	109271		Ton	Yr
24 EU 016	Active	PER 005		<input type="checkbox"/>		SV 009 (M)		Telephone/Pager Backup Generator			2621	0.034		Mmbtu	Hr

FACILITY DESCRIPTION: EMISSION UNIT (EU)

ID No.	Emission Unit Status	Added By (Action)	Commence Const. Date	Initial Startup Date	Removal Date	Firing Method	Pct. Fuel/Space Heat	Bottleneck	Elevator Type
1	EU 001	Active	PER 001	01/01/1987			20		
2	EU 002	Active	PER 001	01/01/1945		Spreader Stoker	20		
3	EU 002	Active	PER 005	01/01/1945		Spreader Stoker	20		
4	EU 003	Active	PER 001	01/01/1958		Spreader Stoker	20		
5	EU 004	Active	PER 001	01/01/1958		Spreader Stoker	20		
6	EU 005	Removed	PER 001	01/01/1967	09/01/2002			Group of Sources	
7	EU 006	Removed	PER 001		09/01/2002				
8	EU 007	Active	EIS 001						
9	EU 007	Active	PER 005						
10	EU 008	Active	EIS 003						
11	EU 008	Removed	PER 005						
12	EU 009	Active	EIS 003						
13	EU 009	Removed	PER 005						
14	EU 010	Active	EIS 003						
15	EU 010	Removed	PER 005						
16	EU 011	Active	EIS 003						
17	EU 011	Removed	PER 005						
18	EU 012	Active	EIS 003						
19	EU 012	Removed	PER 005						
20	EU 013	Active	EIS 003						
21	EU 013	Removed	PER 005						
22	EU 014	Active	PER 004	01/01/1917				Group of Sources	
23	EU 015	Active	PER 002	01/01/1959				Group of Sources	
24	EU 016	Active	PER 005	01/01/1988					

FACILITY DESCRIPTION: EMISSION UNIT (EU)

Show: Active and Pending Records

Action: PER 005

AQD Facility ID: 03500002

Facility Name: Wausau Paper Mills LLC

ID No.	Emission Unit Status	Added By (Action)	Retired By (Action)	Insignif-icant Activity	Operator ID for Item	Stack/Vent ID No(s).	Control Equip. ID No(s).	Operator Description	Manufacturer	Model Number	SIC	Max. Design Capacity	Maximum Design Capacity			Max Fuel Input (mil Btu)
													Materials	Units	n	Units
25	EU 017	Active	PER 005	<input type="checkbox"/>		SV 010 (M)		Hydroplant Backup Generator			2621	0.0188		Mmbtu	Hr	
26	EU 018	Active	PER 005	<input type="checkbox"/>		SV 011 (M)		Fire Water Pump 1	Fairbanks Morse		2621	0.28		Mmbtu	Hr	
27	EU 019	Active	PER 005	<input type="checkbox"/>		SV 012 (M)		Fire Water Pump 2	Cummins		2621	0.65		Mmbtu	Hr	

FACILITY DESCRIPTION: EMISSION UNIT (EU)

	ID No.	Emission Unit Status	Added By (Action)	Commence Const. Date	Initial Startup Date	Removal Date	Firing Method	Pct. Fuel/Space Heat	Bottleneck	Elevator Type
25	EU 017	Active	PER 005	01/01/1996	01/01/1996					
26	EU 018	Active	PER 005	01/01/1957	01/01/1957					
27	EU 019	Active	PER 005	01/01/1977	01/01/1977					

FACILITY DESCRIPTION: CONTROL EQUIPMENT (CE)

Show: Active and Pending Records

Action: PER 005

AQD Facility ID: 03500002

Facility Name: Wausau Paper Mills LLC

ID No.	Control Equip. Status	Added By (Action)	Retired By (Action)	Operator ID for Item	Control Equip. Type	Control Equipment Description	Manufacturer	Model	Pollutants Controlled	Capture Efficiency (%)	Destruction/Collection Efficiency (%)	Afterburner Combustion Parameters
1	CE 001	Active	PER 001		010	Electrostatic Precipitator - High Efficiency	UOP	24(999)34-1-6 Mechanical Collectors	PM10 PM	100 100	95 95	
2	CE 002	Removed	PER 001		018	Fabric Filter - Low Temperature, i.e., T<180 Degrees F						
3	CE 003	Removed	PER 001		018	Fabric Filter - Low Temperature, i.e., T<180 Degrees F						
4	CE 004	Removed	PER 001		018	Fabric Filter - Low Temperature, i.e., T<180 Degrees F						
5	CE 005	Removed	PER 001		018	Fabric Filter - Low Temperature, i.e., T<180 Degrees F						
6	CE 006	Removed	PER 001		018	Fabric Filter - Low Temperature, i.e., T<180 Degrees F						
7	CE 007	Active	PER 001		075	Single Cyclone	Made in-house		PM10 PM	100 100	10 10	
8	CE 008	Active	PER 001		076	Multiple Cyclone w/o Fly Ash Reinjection - Most Multiclones	Western Precipitation Corp.	P-74552-B Type 9VGR12	PM10 PM	100 100	80 80	
9	CE 009	Active	PER 001		076	Multiple Cyclone w/o Fly Ash Reinjection - Most Multiclones	Western Precipitation Corp.	P-74552-B Type 9VGR12	PM10 PM	100 100	80 80	
10	CE 010	Active	PER 005		075	Single Cyclone			PM10 PM	100 100	90 90	
11	CE 011	Active	PER 005		018	Fabric Filter - Low Temperature, i.e., T<180 Degrees F			PM10 PM	100 100	99 99	

FACILITY DESCRIPTION: STACK/VENTS (SV)

Show: Active and Pending Records

Action: PER 005

AQD Facility ID: 03500002

Facility Name: Wausau Paper Mills LLC

ID No.	Stack/ Vent Status	Added By (Action)	Retired By (Action)	Operator ID for Item	Operator's Description	Height of Opening From Ground (feet)	Inside Dimensions		Design Flow Rate at Top (ACFM)	Exit Gas Temperature at Top (°F)	Flow Rate/ Temperature Information Source	Discharge Direction
							Diameter or Length (feet)	Width (feet)				
1	SV 001	Active	PER 001		Boiler #1 Exhaust	57.6	4.33		30000	475	Estimate	Up, No Cap
2	SV 002	Active	PER 001		Boiler #2 Bypass Stack	66	5	3	32,000	395	Estimate	Up, No Cap
3	SV 002	Retired	PER 005		Boiler #2 Bypass Stack	66	5	3	32,000	395	Estimate	Up, No Cap
4	SV 003	Active	PER 001		Boiler #3 Stack for Natural Gas	66	5	5	58,000	395	Estimate	Up, No Cap
5	SV 004	Active	PER 001		Boiler #4 Stack for Natural Gas	66	5	5	58,000	395	Estimate	Up, No Cap
6	SV 005	Active	PER 001		ESP Exhaust Stack	79.8	7.17		148,000	380	Test	Up, No Cap
7	SV 006	Active	PER 001		Coater Equivalent Stack	51.5	8.15		63,780	175	Estimate	Up, No Cap
8	SV 006	Retired	PER 005		Coater Equivalent Stack	51.5	8.15		63,780	175	Estimate	Up, No Cap
9	SV 007	Active	PER 004		#8 Paper Machine Equiv. Stack	47.6	6.94		95,900	160	Estimate	Up, No Cap
10	SV 008	Active	PER 002		#7 Paper Machine Equiv. Stack	53.2	11.22		249,000	159	Test	Up, No Cap
11	SV 009	Active	PER 005		Telephone/Pager Generator Stack		0.167					
12	SV 010	Active	PER 005		Hydroplant Generator Stack		0.167					
13	SV 011	Active	PER 005		Fire Water Pump 1 Stack		0.667					
14	SV 012	Active	PER 005		Fire Water Pump 2 Stack		0.50					
15	SV 013	Active	PER 005		Trim Cyclone Stack				48510		Estimate	

FACILITY DESCRIPTION: GROUPS (GP)

Show: Active and Pending Records

Action: PER 005

AQD Facility ID: 03500002

Facility Name: Wausau Paper Mills LLC

ID No.	Group Status	Added By (Action)	Retired By (Action)	Include in EI	Operator ID for Item	Group Description	Group Items
1 GP 001	Active	PER 001		<input checked="" type="checkbox"/>		Existing Boilers	CE 001, CE 007, CE 008, CE 009, EU 002, EU 003, EU 004, SV 005
2 GP 002	Active	PER 001		<input checked="" type="checkbox"/>		Paper Machines	EU 014, EU 015
3 GP 003	Active	PER 005		<input checked="" type="checkbox"/>		Fire Water Pumps	EU 018, EU 019
4 GP 004	Active	PER 005		<input checked="" type="checkbox"/>		SI Backup Generators	EU 016, EU 017

FACILITY DESCRIPTION: STORAGE TANKS (TK)

Show: Active and Pending Records

Action: PER 005

AQD Facility ID: 03500002

Facility Name: Wausau Paper Mills LLC

ID No.	Tank Status	Added By (Action)	Retired By (Action)	Insignif-icant Activity	Operator ID for Item	Control Equip. ID No(s).	Product Stored	Interior Height (ft.)	Interior Diameter (ft.)	Capacity (1000 gal)	Construction Type
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FACILITY DESCRIPTION: STORAGE TANKS (TK)

ID No.	Tank Status	Added By (Action)	Support Type (floating roof only)	Column Count	Column Diameter (ft.)	Deck Type (floating roof only)	Seal Type (floating roof only)	Year Installed	Year Removed
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FACILITY DESCRIPTION: FUGITIVE SOURCES (FS)

Show: Active and Pending Records

Action: PER 005

AQD Facility ID: 03500002

Facility Name: Wausau Paper Mills LLC

ID No.	Fugitive Source Status	Added By (Action)	Retired By (Action)	Insignif-icant Activity	Operator ID for Item	Pollutant(s) Emitted	Control Equip. ID No(s).	Fugitive Source Description	Year Installed	Year Removed
1 FS 001	Active	EIS 003		<input checked="" type="checkbox"/>				Coal Receiving		
2 FS 001	Active	PER 005		<input type="checkbox"/>				Coal Receiving		
3 FS 002	Active	PER 001		<input checked="" type="checkbox"/>				Coal Conveying		
4 FS 002	Removed	PER 005		<input type="checkbox"/>				Coal Conveying		
5 FS 003	Active	EIS 003		<input checked="" type="checkbox"/>				Coal Stockpiles		
6 FS 003	Removed	PER 005		<input type="checkbox"/>				Coal Stockpiles		

FACILITY DESCRIPTION: CONTINUOUS MONITORS (MR)

Show: Active and Pending Records

Action: PER 005

AQD Facility ID: 03500002

Facility Name: Wausau Paper Mills LLC

ID No.	Monitor Status	Added By (Action)	Retired By (Action)	Monitored Item (ID No(s).)	Operator ID for Item	Monitor Description	Manufacturer	Model Number	Serial Number	Parameters Monitored
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FACILITY DESCRIPTION: CONTINUOUS MONITORS (MR)

ID No.	Monitor Status	Added By (Action)	Span Value	System Full-Scale Value	Bypass Capability?	Optical Path Length Ratio	Installation Date	Removal Date
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FACILITY DESCRIPTION: DATA ACQUISITION SYSTEMS (DA)

Show: Active and Pending Records

Action: PER 005

AQD Facility ID: 03500002

Facility Name: Wausau Paper Mills LLC

ID No.	DAS Status	Added By (Action)	Retired By (Action)	Operator ID for Item	Data Acquisition System Description	Manufacturer	Model Number	Serial Number	Data Storage Medium	Installation Date	Removal Date
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FACILITY DESCRIPTION: CONTINUOUS MONITORING SYSTEMS (CM)

Show: Active and Pending Records

Action: PER 005

AQD Facility ID: 03500002

Facility Name: Wausau Paper Mills LLC

ID No.	CMS Status	Added By (Action)	Retired By (Action)	Monitor ID No(s).	DAS ID No(s).	Operator ID for Item	CMS Description	Parameter	Month/ Year Installed	Month/ Year Removed	Cert. Date	Cert. Basis
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FACILITY DESCRIPTION: BUILDINGS (BG)

Show: Active and Pending Records

Action: PER 005

AQD Facility ID: 03500002

Facility Name: Wausau Paper Mills LLC

ID No.	Added By (Action)	Retired By (Action)	Operator ID for Item	Length (feet)	Width (feet)	Roof Height from Ground (feet)	Description/Comment	Building Status
1 BG 001	PER 005		001	236	167	26	Shipping	Active
2 BG 002	PER 005		002	209	154	25	Pulp Storage Building	Active
3 BG 003	PER 005		003	84	247	28.2	Roll Storage	Active
4 BG 004	PER 005		004	134	110	35	Water Treatment	Active
5 BG 005	PER 005		005	124	216	23	Pulp Storage	Active
6 BG 006	PER 005		006	61	348	22	Pulp Storage	Active
7 BG 007	PER 005		007	84	458	46.2	Paper Machine Exhaust Room	Active
8 BG 008	PER 005		008	315	72	32	Finishing	Active
9 BG 009	PER 005		009	154	91	47	Finishing	Active
10 BG 010	PER 005		010	88	101	17	Office	Active
11 BG 011	PER 005		011	80	96	32	Finishing	Active
12 BG 012	PER 005		012	185	198	32	Baghouse, Cyclone Exhaust Room	Active
13 BG 013	PER 005		013	76	107	22	Finishing	Active
14 BG 014	PER 005		014	109	78	49	Stock Storage	Active
15 BG 015	PER 005		015	56	54	45	Color Kitchen	Active
16 BG 016	PER 005		016	180	79	29	Material Storage	Active
17 BG 017	PER 005		017	505	56	22	Paper Machine Building, Coater Building	Active
18 BG 018	PER 005		018	108	82	22	Paper Machine Building	Active
19 BG 019	PER 005		019	125	62	29	Paper Machine Building	Active
20 BG 020	PER 005		020	64	44	50	Stock Preparation	Active
21 BG 021	PER 005		021	64	107	47	Stock Preparation	Active

FACILITY DESCRIPTION: BUILDINGS (BG)

Show: Active and Pending Records

Action: PER 005

AQD Facility ID: 03500002

Facility Name: Wausau Paper Mills LLC

ID No.	Added By (Action)	Retired By (Action)	Operator ID for Item	Length (feet)	Width (feet)	Roof Height from Ground (feet)	Description/Comment	Building Status
22	BG 022 PER 005		022	70	68	56	Boiler Room	Active
23	BG 023 PER 005		023	32	43	48	Boiler Room	Active
24	BG 024 PER 005		024	95	39	30	Boiler Room	Active

FACILITY DESCRIPTION: Potential-to-emit (by item)

Show: Active and Pending Records

AQD Facility ID: 03500002

Facility Name: Wausau Paper Mills LLC

Item	Pollutant	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
EU 001							
	Benzene	PER 001		2.00E-04	8.90E-04	8.10E-04	
	Benzene	PER 005		1.99E-04	8.70E-04	7.89E-04	
	Arsenic compounds	PER 005		1.89E-05	8.29E-05	7.60E-05	
	Beryllium	PER 005		1.14E-06	4.97E-06	4.56E-06	
	Carbon Dioxide Equivalent	PER 005		1.13E+04	4.95E+04	4.54E+04	
	Cadmium compounds	PER 005		1.04E-04	4.56E-04	4.18E-04	
	Methane	PER 005		2.13E-01	9.32E-01	8.55E-01	
	Carbon Monoxide	PER 001		7.98E+00	3.50E+01	3.19E+01	
	Carbon Monoxide	PER 005		7.95E+00	3.48E+01	3.19E+01	
	Carbon Dioxide	PER 005		1.13E+04	4.94E+04	4.53E+04	
	Cobalt compounds	PER 005		7.95E-06	3.48E-05	3.19E-05	
	Chromium compounds	PER 005		1.32E-04	5.80E-04	5.32E-04	
	1,4-Dichlorobenzene	PER 005		1.14E-04	4.97E-04	4.56E-04	
	Formaldehyde	PER 001		7.13E-03	3.12E-02	2.85E-02	
	Formaldehyde	PER 005		7.10E-03	3.11E-02	2.85E-02	
	Hexane	PER 001		1.71E-01	7.49E-01	6.80E-01	
	Hexane	PER 005		1.70E-01	7.46E-01	6.84E-01	
	Naphthalene	PER 005		5.77E-05	2.53E-04	2.32E-04	
	HAPs - Total	PER 001		1.80E-01	7.80E-01	7.20E-01	
	HAPs - Total	PER 005		1.78E-01	7.80E-01	7.15E-01	
	Mercury	PER 005		2.46E-05	1.08E-04	9.88E-05	
	Toluene	PER 001		3.20E-04	1.40E-03	1.30E-03	
	Toluene	PER 005		3.22E-04	1.41E-03	1.29E-03	
	Manganese compounds	PER 005		3.60E-05	1.57E-04	1.44E-04	
	Nitrous Oxide	PER 005		2.13E-02	9.32E-02	8.55E-02	
	Nickel compounds	PER 001		2.00E-04	8.70E-04	8.00E-04	
	Nitrogen Oxides	PER 001		9.50E+00	4.16E+01	3.80E+01	
	Nitrogen Oxides	PER 005		9.46E+00	4.14E+01	3.80E+01	
	PM < 2.5 micron	PER 005		7.19E-01	3.15E+00	2.89E+00	
	Lead	PER 005		4.73E-05	2.07E-04	1.90E-04	
	PM < 10 micron	PER 001		7.20E-01	3.16E+00	2.90E+00	
	PM < 10 micron	PER 005		7.19E-01	3.15E+00	2.89E+00	
	Polycyclic organic matter	PER 005		8.34E-06	3.65E-05	3.35E-05	
	Total Particulate Matter	PER 001		7.20E-01	3.16E+00	2.90E+00	
	Total Particulate Matter	PER 005		7.19E-01	3.15E+00	2.89E+00	
	Selenium compounds	PER 005		2.27E-06	9.95E-06	9.12E-06	
	Sulfur Dioxide	PER 001		6.00E-02	2.50E-01	2.30E-01	
	Sulfur Dioxide	PER 005		5.68E-02	2.49E-01	2.28E-01	
	Volatile Organic Compounds	PER 001		5.20E-01	2.30E+00	2.10E+00	
EU 002							
	Acetaldehyde	PER 005		1.16E-03	5.09E-03	5.09E-03	
	Acetophenone	PER 005		3.06E-05	1.34E-04	1.34E-04	
	Acrolein	PER 005		5.91E-04	2.59E-03	2.59E-03	
	Benzene	PER 005		2.65E-03	1.16E-02	1.16E-02	
	Arsenic compounds	PER 005		8.35E-04	3.66E-03	3.66E-03	
	Benzyl chloride	PER 005		1.43E-03	6.25E-03	6.25E-03	

FACILITY DESCRIPTION: Potential-to-emit (by item)

Show: Active and Pending Records

AQD Facility ID: 03500002

Facility Name: Wausau Paper Mills LLC

Item	Pollutant	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
EU 002							
	Bis(2-ethylhexyl) phthalate	PER 005		1.49E-03	6.52E-04	6.52E-04	
	Bromoform	PER 005		7.95E-05	3.48E-04	3.48E-04	
	Beryllium	PER 005		4.28E-05	1.87E-04	1.87E-04	
	Carbon disulfide	PER 005		2.65E-04	1.16E-03	1.16E-03	
	Carbon Dioxide Equivalent	PER 005		1.19E+04	5.20E+04	5.20E+04	
	2-Chloroacetophenone	PER 005		1.43E-05	6.25E-05	6.25E-05	
	Chlorobenzene	PER 005		4.48E-05	1.96E-04	1.96E-04	
	Chloroform	PER 005		1.20E-04	5.27E-04	5.27E-04	
	Cadmium compounds	PER 005		1.04E-04	4.55E-04	4.55E-04	
	Methane	PER 005		1.22E-01	5.36E-01	5.36E-01	
	Cyanide compounds	PER 005		5.09E-03	2.23E-02	2.23E-02	
	Carbon Monoxide	PER 001		1.02E+01	4.45E+01	4.45E+01	
	Carbon Dioxide	PER 005		1.18E+04	5.18E+04	5.18E+04	
	Cobalt compounds	PER 005		2.04E-04	8.93E-04	8.93E-04	
	Chromium compounds	PER 005		5.30E-04	2.32E-03	2.32E-03	
	Cumene	PER 005		1.08E-05	4.73E-05	4.73E-05	
	Dimethyl sulfate	PER 005		9.78E-05	4.28E-04	4.28E-04	
	2,4-Dinitrotoluene	PER 005		5.71E-07	2.50E-06	2.50E-06	
	Ethylbenzene	PER 005		1.92E-04	8.39E-04	8.39E-04	
	Formaldehyde	PER 005		4.89E-04	2.14E-03	2.14E-03	
	Hexane	PER 005		1.37E-04	5.98E-04	5.98E-04	
	Hydrogen fluoride	PER 005		3.06E-01	1.34E+00	1.34E+00	
	Methyl ethyl ketone (MEK)	PER 005		7.95E-04	3.48E-03	3.48E-03	
	Methyl methacrylate	PER 005		4.08E-05	1.79E-04	1.79E-04	
	Methylhydrazine	PER 005		3.46E-04	1.52E-03	1.52E-03	
	HAPs - Total	PER 005		7.35E+00	3.22E+01	3.22E+01	
	Mercury	PER 005		1.69E-04	7.41E-04	7.41E-04	
	Phenol	PER 005		3.26E-05	1.43E-04	1.43E-04	
	Styrene	PER 005		5.09E-05	2.23E-04	2.23E-04	
	Tetrachloroethylene	PER 005		8.76E-05	3.84E-04	3.84E-04	
	Toluene	PER 005		4.89E-04	2.14E-03	2.14E-03	
	1,1,1-Trichloroethane	PER 005		4.08E-05	1.79E-04	1.79E-04	
	Vinyl acetate	PER 005		1.55E-05	6.78E-05	6.78E-05	
	Xylenes (mixed isomers)	PER 005		7.54E-05	3.30E-04	3.30E-04	
	Hydrochloric acid	PER 005		7.02E+00	3.07E+01	3.07E+01	
	Manganese compounds	PER 005		9.98E-04	4.37E-03	4.37E-03	
	Ethylene dibromide (dibromoeth	PER 005		2.45E-06	1.07E-05	1.07E-05	
	Nitrous Oxide	PER 005		8.15E-02	3.57E-01	3.57E-01	
	Isophorone	PER 005		1.18E-03	5.18E-03	5.18E-03	
	Methyl chloride (chloromethane	PER 005		1.08E-03	4.73E-03	4.73E-03	
	Methyl tert butyl ether	PER 005		7.13E-05	3.12E-04	3.12E-04	
	Methylene chloride (dichlorome	PER 005		5.91E-04	2.59E-03	2.59E-03	
	Propionaldehyde	PER 005		7.74E-04	3.39E-03	3.39E-03	
	Total Polycyclic aromatic hydr	PER 005		4.23E-05	1.85E-04	1.85E-04	
	Nickel compounds	PER 005		5.71E-04	2.50E-03	2.50E-03	
	Nitrogen Oxides	PER 001		2.24E+01	9.79E+01	9.79E+01	

FACILITY DESCRIPTION: Potential-to-emit (by item)

Show: Active and Pending Records

AQD Facility ID: 03500002

Facility Name: Wausau Paper Mills LLC

Item	Pollutant	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
EU 002							
	Nitrogen Oxides	PER 005		2.24E+01	9.82E+01	9.82E+01	
	PM < 2.5 micron	PER 005		1.22E+01	5.36E+01	2.68E+00	
	Lead	PER 005		8.56E-04	3.75E-03	3.75E-03	
	PM < 10 micron	PER 001		1.45E+00	1.27E+02	6.34E+00	
	PM < 10 micron	PER 005		2.69E+01	1.18E+02	5.89E+00	
	Total Particulate Matter	PER 001		6.71E+00	5.88E+02	2.94E+01	
	Total Particulate Matter	PER 005		6.48E+02	2.84E+03	1.42E+02	
	Antimony compounds	PER 005		3.67E-05	1.61E-04	1.61E-04	
	Selenium compounds	PER 005		2.65E-03	1.16E-02	1.16E-02	
	Sulfur Dioxide	PER 001		1.93E+02	8.46E+02	8.46E+02	
	Sulfur Dioxide	PER 005		1.94E+02	8.48E+02	8.48E+02	
	Volatile Organic Compounds	PER 001		1.02E-01	4.45E-01	4.45E-01	
EU 003							
	Acetaldehyde	PER 005		2.30E-03	1.01E-02	1.01E-02	
	Acetophenone	PER 005		6.06E-05	2.65E-04	2.65E-04	
	Acrolein	PER 005		1.17E-03	5.13E-03	5.13E-03	
	Benzene	PER 005		5.25E-03	2.30E-02	2.30E-02	
	Arsenic compounds	PER 005		1.66E-03	7.25E-03	7.25E-03	
	Benzyl chloride	PER 005		2.83E-03	1.24E-02	1.24E-02	
	Bis(2-ethylhexyl) phthalate	PER 005		2.95E-04	1.29E-03	1.29E-03	
	Bromoform	PER 005		1.57E-04	6.90E-04	6.90E-04	
	Beryllium	PER 005		8.48E-05	3.71E-04	3.71E-04	
	Carbon disulfide	PER 005		5.25E-04	2.30E-03	2.30E-03	
	Carbon Dioxide Equivalent	PER 005		2.35E+04	1.03E+05	1.03E+05	
	2-Chloroacetophenone	PER 005		2.83E-05	1.24E-04	1.24E-04	
	Chlorobenzene	PER 005		8.88E-05	3.89E-04	3.89E-04	
	Chloroform	PER 005		2.38E-04	1.04E-03	1.04E-03	
	Cadmium compounds	PER 005		2.06E-04	9.02E-04	9.02E-04	
	Methane	PER 005		2.42E-01	1.03E+00	1.30E+00	
	Cyanide compounds	PER 005		1.01E-02	4.42E-02	4.42E-02	
	Carbon Monoxide	PER 001		2.01E+01	8.82E+01	8.82E+01	
	Carbon Monoxide	PER 005		2.02E+01	8.84E+01	8.84E+01	
	Carbon Dioxide	PER 005		2.35E+04	1.03E+05	1.03E+05	
	Cobalt compounds	PER 005		4.04E-04	1.77E-03	1.77E-03	
	Chromium compounds	PER 005		1.05E-03	4.60E-03	4.60E-03	
	Cumene	PER 005		2.14E-05	9.37E-05	9.37E-05	
	Dimethyl sulfate	PER 005		1.98E-04	8.65E-04	8.65E-04	
	2,4-Dinitrotoluene	PER 005		1.13E-06	4.95E-06	4.95E-06	
	Ethylbenzene	PER 005		3.80E-04	1.66E-03	1.66E-03	
	Formaldehyde	PER 005		7.87E-03	3.45E-02	3.45E-02	
	Hexane	PER 005		1.89E-01	8.27E-01	8.27E-01	
	Hydrogen fluoride	PER 005		6.06E-01	2.65E+00	2.65E+00	
	Methyl ethyl ketone (MEK)	PER 005		1.57E-03	6.90E-03	6.90E-03	
	Methyl methacrylate	PER 005		8.08E-05	3.54E-04	3.54E-04	
	Methylhydrazine	PER 005		6.86E-04	3.01E-03	3.01E-03	
	Naphthalene	PER 005		6.40E-05	2.80E-04	2.80E-04	

FACILITY DESCRIPTION: Potential-to-emit (by item)

Show: Active and Pending Records

AQD Facility ID: 03500002

Facility Name: Wausau Paper Mills LLC

Item	Pollutant	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
EU 003							
	HAPs - Total	PER 005		1.46E+01	6.38E+01	6.38E+01	
	Mercury	PER 005		3.35E-04	1.47E-03	1.47E-03	
	Phenol	PER 005		6.46E-05	2.83E-04	2.83E-04	
	Styrene	PER 005		1.01E-04	4.42E-04	4.42E-04	
	Tetrachloroethylene	PER 005		1.74E-04	7.60E-04	7.60E-04	
	Toluene	PER 005		9.69E-04	4.24E-03	4.24E-03	
	1,1,1-Trichloroethane	PER 005		8.08E-05	3.54E-04	3.54E-04	
	Vinyl acetate	PER 005		3.07E-05	1.34E-04	1.34E-04	
	Xylenes (mixed isomers)	PER 005		1.49E-04	6.54E-04	6.54E-04	
	Hydrochloric acid	PER 005		1.39E+01	6.09E+01	6.09E+01	
	Manganese compounds	PER 005		1.98E-03	8.67E-03	8.67E-03	
	Ethylene dibromide (dibromoeth	PER 005		4.85E-06	2.12E-05	2.12E-05	
	Nitrous Oxide	PER 005		2.36E-01	1.03E-01	1.03E-01	
	Isophorone	PER 005		2.34E-03	1.03E-02	1.03E-02	
	Methyl chloride (chloromethane	PER 005		2.14E-03	9.37E-03	9.37E-03	
	Methyl tert butyl ether	PER 005		1.41E-04	6.19E-04	6.19E-04	
	Methylene chloride (dichlorome	PER 005		1.17E-03	5.13E-03	5.13E-03	
	Propionaldehyde	PER 005		1.53E-03	6.72E-03	6.72E-03	
	Total Polycyclic aromatic hydr	PER 005		8.38E-05	3.67E-04	3.67E-04	
	Nickel compounds	PER 005		1.13E-03	4.95E-03	4.95E-03	
	Nitrogen Oxides	PER 001		4.43E+01	1.94E+02	1.94E+02	
	Nitrogen Oxides	PER 005		4.44E+01	1.95E+02	1.95E+02	
	PM < 2.5 micron	PER 005		2.42E+01	1.06E+02	5.31E+00	
	Lead	PER 005		1.70E-03	7.43E-03	7.43E-03	
	PM < 10 micron	PER 001		2.88E+00	2.51E+02	1.26E+01	
	PM < 10 micron	PER 005		5.33E+01	2.33E+02	1.17E+01	
	Polycyclic organic matter	PER 005		9.25E-06	4.05E-05	4.05E-05	
	Total Particulate Matter	PER 001		1.33E+01	1.16E+03	5.82E+01	
	Total Particulate Matter	PER 005		1.28E+03	5.62E+03	2.81E+02	
	Antimony compounds	PER 005		7.27E-05	3.18E-04	3.18E-04	
	Selenium compounds	PER 005		5.25E-03	2.30E-02	2.30E-02	
	Sulfur Dioxide	PER 001		3.83E+02	1.68E+03	1.68E+03	
	Sulfur Dioxide	PER 005		3.84E+02	1.68E+03	1.68E+03	
	Volatile Organic Compounds	PER 001		5.89E-01	2.58E+00	2.58E+00	
	Volatile Organic Compounds	PER 005		2.02E-01	8.84E-01	8.84E-01	
EU 004							
	Acetaldehyde	PER 005		2.30E-03	1.01E-02	1.01E-02	
	Acetophenone	PER 005		6.06E-05	2.65E-04	2.65E-04	
	Acrolein	PER 005		1.17E-03	5.13E-03	5.13E-03	
	Benzene	PER 005		5.25E-03	2.30E-02	2.30E-02	
	Arsenic compounds	PER 005		1.66E-03	7.25E-03	7.25E-03	
	Benzyl chloride	PER 005		2.83E-03	1.24E-02	1.24E-02	
	Bis(2-ethylhexyl) phthalate	PER 005		2.95E-04	1.29E-03	1.29E-03	
	Bromoform	PER 005		1.57E-04	6.90E-04	6.90E-04	
	Beryllium	PER 005		8.48E-05	3.71E-04	3.71E-04	
	Carbon disulfide	PER 005		5.25E-04	2.30E-03	2.30E-03	

FACILITY DESCRIPTION: Potential-to-emit (by item)

Show: Active and Pending Records

AQD Facility ID: 03500002

Facility Name: Wausau Paper Mills LLC

Item	Pollutant	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
EU 004							
	Carbon Dioxide Equivalent	PER 005		2.35E+04	1.03E+05	1.03E+05	
	2-Chloroacetophenone	PER 005		2.83E-05	1.24E-04	1.24E-04	
	Chlorobenzene	PER 005		8.88E-05	3.89E-04	3.89E-04	
	Chloroform	PER 005		2.38E-04	1.04E-03	1.04E-03	
	Cadmium compounds	PER 005		2.06E-04	9.02E-04	9.02E-04	
	Methane	PER 005		2.42E-01	1.03E+00	1.03E+00	
	Cyanide compounds	PER 005		1.01E-02	4.42E-02	4.42E-02	
	Carbon Monoxide	PER 001		2.01E+01	8.82E+01	8.82E+01	
	Carbon Monoxide	PER 005		2.02E+01	8.84E+01	8.84E+01	
	Carbon Dioxide	PER 005		2.35E+04	1.03E+05	1.03E+05	
	Cobalt compounds	PER 005		4.04E-04	1.77E-03	1.77E-03	
	Chromium compounds	PER 005		1.05E-03	4.60E-03	4.60E-03	
	Cumene	PER 005		2.14E-05	9.37E-05	9.37E-05	
	Dimethyl sulfate	PER 005		1.98E-04	8.65E-04	8.65E-04	
	2,4-Dinitrotoluene	PER 005		1.13E-06	4.95E-06	4.95E-06	
	Ethylbenzene	PER 005		3.80E-04	1.66E-03	1.66E-03	
	Formaldehyde	PER 005		7.87E-03	3.45E-02	3.45E-02	
	Hexane	PER 005		1.89E-01	8.27E-01	8.27E-01	
	Hydrogen fluoride	PER 005		6.06E-01	2.65E+00	2.65E+00	
	Methyl ethyl ketone (MEK)	PER 005		1.57E-03	6.90E-03	6.90E-03	
	Methyl methacrylate	PER 005		8.08E-05	3.54E-04	3.54E-04	
	Methylhydrazine	PER 005		6.86E-04	3.01E-03	3.01E-03	
	Naphthalene	PER 005		6.40E-05	2.80E-04	2.80E-04	
	HAPs - Total	PER 005		1.46E+01	6.38E+01	6.38E+01	
	Mercury	PER 005		3.35E-04	1.47E-03	1.47E-03	
	Phenol	PER 005		6.46E-05	2.83E-04	2.83E-04	
	Styrene	PER 005		1.01E-04	4.42E-04	4.42E-04	
	Tetrachloroethylene	PER 005		1.74E-04	7.60E-04	7.60E-04	
	Toluene	PER 005		9.69E-04	4.24E-03	4.24E-03	
	1,1,1-Trichloroethane	PER 005		8.08E-05	3.54E-04	3.54E-04	
	Vinyl acetate	PER 005		3.07E-05	1.34E-04	1.34E-04	
	Xylenes (mixed isomers)	PER 005		1.49E-04	6.54E-04	6.54E-04	
	Hydrochloric acid	PER 005		1.39E+01	6.09E+01	6.09E+01	
	Manganese compounds	PER 005		1.98E-03	8.67E-03	8.67E-03	
	Ethylene dibromide (dibromoeth	PER 005		4.85E-06	2.12E-05	2.12E-05	
	Nitrous Oxide	PER 005		2.36E-01	1.03E-01	1.03E-01	
	Isophorone	PER 005		2.34E-03	1.03E-02	1.03E-02	
	Methyl chloride (chloromethane	PER 005		2.14E-03	9.37E-03	9.37E-03	
	Methyl tert butyl ether	PER 005		1.41E-04	6.19E-04	6.19E-04	
	Methylene chloride (dichlorome	PER 005		1.17E-03	5.13E-03	5.13E-03	
	Propionaldehyde	PER 005		1.53E-03	6.72E-03	6.72E-03	
	Total Polycyclic aromatic hydr	PER 005		8.38E-05	3.67E-04	3.67E-04	
	Nickel compounds	PER 005		1.13E-03	4.95E-03	4.95E-03	
	Nitrogen Oxides	PER 001		4.43E+01	1.94E+02	1.94E+02	
	Nitrogen Oxides	PER 005		4.44E+01	1.95E+02	1.95E+02	
	PM < 2.5 micron	PER 005		2.42E+01	1.06E+02	5.31E+00	

FACILITY DESCRIPTION: Potential-to-emit (by item)

Show: Active and Pending Records

AQD Facility ID: 03500002

Facility Name: Wausau Paper Mills LLC

Item	Pollutant	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
EU 004							
	Lead	PER 005		1.70E-03	7.43E-03	7.43E-03	
	PM < 10 micron	PER 001		2.88E+00	2.51E+02	1.26E+01	
	PM < 10 micron	PER 005		5.33E+01	2.33E+02	1.17E+01	
	Polycyclic organic matter	PER 005		9.25E-06	4.05E-05	4.05E-05	
	Total Particulate Matter	PER 001		1.33E+01	1.16E+03	5.82E+01	
	Total Particulate Matter	PER 005		1.28E+03	5.62E+03	2.81E+02	
	Antimony compounds	PER 005		7.27E-05	3.18E-04	3.18E-04	
	Selenium compounds	PER 005		5.25E-03	2.30E-02	2.30E-02	
	Sulfur Dioxide	PER 001		3.83E+02	1.68E+03	1.68E+03	
	Sulfur Dioxide	PER 005		3.84E+02	1.68E+03	1.68E+03	
	Volatile Organic Compounds	PER 001		5.89E-01	2.58E+00	2.58E+00	
	Volatile Organic Compounds	PER 005		2.02E-01	8.84E-01	8.84E-01	
EU 007							
	PM < 2.5 micron	PER 005		3.74E+03	1.64E+04	1.64E+01	
	PM < 10 micron	PER 005		3.74E+03	1.64E+04	1.64E+01	
	Total Particulate Matter	PER 005		3.74E+03	1.64E+04	1.64E+01	
EU 014							
	Acetaldehyde	PER 005		1.67E-01	7.33E-01	7.33E-01	
	Biphenyl	PER 005		1.86E-01	8.14E-01	8.14E-01	
	Chloroform	PER 005		4.93E-02	2.16E-01	2.16E-01	
	Formaldehyde	PER 005		3.72E-02	1.63E-01	1.63E-01	
	Methanol	PER 005		6.60E-01	2.89E+00	2.89E+00	
	HAPs - Total	PER 005		1.23E+00	5.39E+00	5.39E+00	
	Phenol	PER 005		1.30E-01	5.70E-01	5.70E-01	
	Volatile Organic Compounds	PER 001		4.09E+00	1.79E+01	1.79E+01	
EU 015							
	Acetaldehyde	PER 005		2.69E-01	1.18E+00	1.18E+00	
	Biphenyl	PER 005		2.99E-01	1.31E+00	1.31E+00	
	Chloroform	PER 005		7.93E-02	3.47E-01	3.47E-01	
	Formaldehyde	PER 005		5.99E-02	2.62E-01	2.62E-01	
	Methanol	PER 005		1.06E+00	4.65E+00	4.65E+00	
	HAPs - Total	PER 005		1.98E+00	8.67E+00	8.67E+00	
	Phenol	PER 005		2.10E-01	9.18E-01	9.18E-01	
	Volatile Organic Compounds	PER 001		5.49E+00	2.40E+01	2.40E+01	
	Volatile Organic Compounds	PER 005		6.59E+00	2.89E+01	2.89E+01	
EU 016							
	Acetaldehyde	PER 005		2.85E-04	1.25E-03	7.14E-05	
	Acrolein	PER 005		1.76E-04	7.69E-04	4.39E-05	
	Benzene	PER 005		1.50E-05	6.58E-05	3.76E-06	
	Biphenyl	PER 005		7.24E-06	3.17E-05	1.81E-06	
	1,3-Butadiene	PER 005		9.12E-06	3.99E-05	2.28E-06	
	Carbon tetrachloride	PER 005		1.25E-06	5.49E-06	3.13E-07	
	Carbon Dioxide Equivalent	PER 005		4.65E+00	2.03E+01	1.16E+00	
	Chlorobenzene	PER 005		1.04E-06	4.55E-06	2.59E-07	
	Chloroethane	PER 005		6.38E-08	2.80E-07	1.60E-08	
	Chloroform	PER 005		9.73E-07	4.26E-06	2.43E-07	

FACILITY DESCRIPTION: Potential-to-emit (by item)

Show: Active and Pending Records

AQD Facility ID: 03500002

Facility Name: Wausau Paper Mills LLC

Item	Pollutant	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
EU 016							
	Methane	PER 005		4.27E-02	1.87E-01	1.07E-02	
	Carbon Monoxide	PER 005		1.90E-02	8.33E-02	4.75E-03	
	Carbon Dioxide	PER 005		4.63E+00	2.03E+01	1.16E+00	
	1,1-Dichloroethane	PER 005		8.06E-07	3.53E-06	2.01E-07	
	1,2-Dichloroethane	PER 005		8.06E-07	3.53E-06	2.01E-07	
	1,2-Dichloropropane	PER 005		9.18E-07	4.02E-06	2.30E-07	
	1,3-Dichloropropene	PER 005		9.01E-07	3.95E-06	2.25E-07	
	Ethylbenzene	PER 005		1.36E-06	5.94E-06	3.39E-07	
	Formaldehyde	PER 005		1.80E-03	7.90E-03	4.51E-04	
	Hexane	PER 005		3.79E-05	1.66E-04	9.47E-06	
	Methanol	PER 005		8.54E-05	3.74E-04	2.13E-05	
	Naphthalene	PER 005		2.54E-06	1.11E-05	6.35E-07	
	HAPs - Total	PER 005		4.08E-03	1.79E-02	1.02E-03	
	Phenol	PER 005		8.19E-07	3.59E-06	2.05E-07	
	Styrene	PER 005		8.06E-07	3.53E-06	2.01E-07	
	1,1,2,2-Tetrachloroethane	PER 005		1.37E-06	5.98E-06	3.41E-07	
	Toluene	PER 005		1.39E-05	6.10E-05	3.48E-06	
	1,2,4-Trichlorobenzene	PER 005		4.88E-07	2.14E-06	1.22E-07	
	1,1,2-Trichloroethane	PER 005		1.09E-06	4.76E-06	2.71E-07	
	Vinyl chloride	PER 005		5.09E-07	2.23E-06	1.27E-07	
	Xylenes (mixed isomers)	PER 005		6.28E-06	2.75E-05	1.57E-06	
	2,2,4-trimethylpentane	PER 005		8.54E-06	3.74E-05	2.13E-06	
	Acenaphthene	PER 005		4.27E-08	1.87E-07	1.07E-08	
	Acenaphthylene	PER 005		1.89E-07	8.27E-07	4.72E-08	
	Benzo(a)pyrene	PER 005		1.42E-08	6.21E-08	3.50E-09	
	Benzo(b)fluoranthene	PER 005		5.70E-09	2.48E-08	1.40E-09	
	Benzo(ghi)perylene	PER 005		1.41E-08	6.19E-08	3.50E-09	
	Chrysene	PER 005		2.37E-08	1.04E-07	5.90E-09	
	Ethylene dibromide (dibromoeth)	PER 005		1.51E-06	6.63E-06	3.78E-07	
	Fluoranthene	PER 005		3.79E-08	1.66E-07	9.50E-09	
	Fluorene	PER 005		1.94E-07	8.48E-07	4.84E-08	
	Nitrous Oxide	PER 005		4.52E-05	1.98E-04	1.13E-05	
	Methylene chloride (dichlorome	PER 005		6.83E-07	2.99E-06	1.71E-07	
	Phenanthrene	PER 005		3.55E-07	1.56E-06	8.88E-08	
	Pyrene	PER 005		4.64E-08	2.03E-07	1.16E-08	
	Total Polycyclic aromatic hydr	PER 005		9.18E-07	4.02E-06	2.30E-07	
	Nitrogen Oxides	PER 005		1.39E-01	6.10E-01	3.48E-02	
	PM < 2.5 micron	PER 005		3.38E-04	1.48E-03	8.46E-05	
	PM < 10 micron	PER 005		3.38E-04	1.48E-03	8.46E-05	
	Total Particulate Matter	PER 005		3.38E-04	1.48E-03	8.46E-05	
	Sulfur Dioxide	PER 005		2.01E-05	8.79E-05	5.02E-06	
	Total Organic Compounds	PER 005		5.02E-02	2.20E-01	1.25E-02	
	Volatile Organic Compounds	PER 005		4.03E-03	1.76E-02	1.01E-03	
EU 017							
	Carbon Dioxide Equivalent	PER 005		2.92E+00	1.28E+01	7.29E-01	
	Methane	PER 005		1.24E-04	5.44E-04	3.10E-05	

FACILITY DESCRIPTION: Potential-to-emit (by item)

Show: Active and Pending Records

AQD Facility ID: 03500002

Facility Name: Wausau Paper Mills LLC

Item	Pollutant	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
EU 017							
	Carbon Monoxide	PER 005		1.86E-02	8.14E-02	4.64E-03	
	Carbon Dioxide	PER 005		2.91E+00	1.27E+01	7.26E-01	
	HAPs - Total	PER 005		1.31E-03	5.75E-03	3.28E-04	
	Nitrous Oxide	PER 005		2.48E-05	1.09E-04	6.21E-06	
	Nitrogen Oxides	PER 005		3.06E-02	1.34E-01	7.65E-03	
	PM < 2.5 micron	PER 005		1.88E-03	8.22E-03	4.69E-04	
	PM < 10 micron	PER 005		1.88E-03	8.22E-03	4.69E-04	
	Total Particulate Matter	PER 005		1.88E-03	8.22E-03	4.69E-04	
	Sulfur Dioxide	PER 005		1.58E-03	6.90E-03	3.94E-04	
	Volatile Organic Compounds	PER 005		5.69E-02	2.49E-01	1.42E-02	
EU 018							
	Acetaldehyde	PER 005		2.15E-04	9.41E-04	5.37E-05	
	Acrolein	PER 005		2.59E-05	1.13E-04	6.48E-06	
	Benzene	PER 005		2.61E-04	1.14E-03	6.53E-05	
	1,3-Butadiene	PER 005		1.10E-05	4.80E-05	2.74E-06	
	Carbon Dioxide Equivalent	PER 005		4.61E+01	2.02E+02	1.15E+01	
	Methane	PER 005		1.85E-03	8.11E-03	4.63E-04	
	Carbon Monoxide	PER 005		2.66E-01	1.17E+00	6.65E-02	
	Carbon Dioxide	PER 005		4.59E+01	2.01E+02	1.15E+01	
	Formaldehyde	PER 005		3.31E-04	1.45E-03	8.26E-05	
	Naphthalene	PER 005		2.38E-05	1.04E-04	5.94E-06	
	HAPs - Total	PER 005		2.07E-02	9.05E-02	5.17E-03	
	Propylene oxide	PER 005		7.23E-04	3.17E-03	1.81E-04	
	Toluene	PER 005		1.15E-04	5.02E-04	2.86E-05	
	Xylenes (mixed isomers)	PER 005		7.98E-05	3.50E-04	2.00E-05	
	Nitrous Oxide	PER 005		3.71E-04	1.62E-03	9.26E-05	
	Total Polycyclic aromatic hydr	PER 005		2.33E-05	1.02E-04	5.83E-06	
	Nitrogen Oxides	PER 005		1.24E+00	5.41E+00	3.09E-01	
	PM < 2.5 micron	PER 005		8.68E-02	3.80E-01	2.17E-02	
	PM < 10 micron	PER 005		8.68E-02	3.80E-01	2.17E-02	
	Total Particulate Matter	PER 005		8.68E-02	3.80E-01	2.17E-02	
	Sulfur Dioxide	PER 005		8.12E-02	3.56E-01	2.03E-02	
	Volatile Organic Compounds	PER 005		1.01E-01	4.42E-01	2.52E-02	
EU 019							
	Acetaldehyde	PER 005		4.98E-04	2.18E-03	1.25E-04	
	Acrolein	PER 005		6.01E-05	2.63E-04	1.50E-05	
	Benzene	PER 005		6.06E-04	2.65E-03	1.51E-04	
	1,3-Butadiene	PER 005		2.54E-05	1.11E-04	6.35E-06	
	Carbon Dioxide Equivalent	PER 005		1.07E+02	4.68E+02	2.67E+01	
	Methane	PER 005		4.29E-03	1.88E-02	1.07E-03	
	Carbon Monoxide	PER 005		6.17E-01	2.70E+00	1.54E-01	
	Carbon Dioxide	PER 005		1.06E+02	4.66E+02	2.66E+01	
	Formaldehyde	PER 005		7.66E-04	3.36E-03	1.92E-04	
	Naphthalene	PER 005		5.51E-05	2.41E-04	1.38E-05	
	HAPs - Total	PER 005		4.79E-02	2.10E-01	1.20E-02	
	Propylene oxide	PER 005		1.68E-03	7.34E-03	4.19E-04	

FACILITY DESCRIPTION: Potential-to-emit (by item)

Show: Active and Pending Records

AQD Facility ID: 03500002

Facility Name: Wausau Paper Mills LLC

Item	Pollutant	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
EU 019							
	Toluene	PER 005		2.66E-04	1.16E-03	6.64E-05	
	Xylenes (mixed isomers)	PER 005		1.85E-04	8.11E-04	4.63E-05	
	Nitrous Oxide	PER 005		8.59E-04	3.76E-03	2.15E-04	
	Total Polycyclic aromatic hydr	PER 005		5.40E-05	2.37E-04	1.35E-05	
	Nitrogen Oxides	PER 005		2.86E+00	1.25E+01	7.16E-01	
	PM < 2.5 micron	PER 005		2.01E-01	8.82E-01	5.03E-02	
	PM < 10 micron	PER 005		2.01E-01	8.82E-01	5.03E-02	
	Total Particulate Matter	PER 005		2.01E-01	8.82E-01	5.03E-02	
	Sulfur Dioxide	PER 005		1.88E-01	8.25E-01	4.71E-02	
	Volatile Organic Compounds	PER 005		2.34E-01	1.02E+00	5.84E-02	
GP 001							
	Acetaldehyde	PER 001		5.75E-02	2.52E-01	2.52E-01	
	Acetaldehyde	PER 005					
	Acetophenone	PER 001		1.50E-03	6.60E-03	6.60E-03	
	Acetophenone	PER 005					
	Acrolein	PER 001		2.93E-02	1.28E-01	1.28E-01	
	Acrolein	PER 005					
	Benzene	PER 001		1.31E-01	5.74E-01	5.74E-01	
	Benzene	PER 005					
	Arsenic compounds	PER 001		5.41E-01	2.37E+01	2.37E+00	
	Arsenic compounds	PER 005					
	Benzyl chloride	PER 001		7.06E-02	3.09E-01	3.09E-01	
	Benzyl chloride	PER 005					
	Bis(2-ethylhexyl) phthalate	PER 001		7.40E-03	3.23E-02	3.23E-02	
	Bis(2-ethylhexyl) phthalate	PER 005					
	Bromoform	PER 001		3.90E-03	1.72E-02	1.72E-02	
	Bromoform	PER 005					
	Bromomethane	PER 001		1.61E-02	7.07E-02	7.07E-02	
	Bromomethane	PER 005					
	Beryllium Compounds	PER 001		1.25E-01	5.45E+00	5.45E-01	
	Beryllium Compounds	PER 005					
	Carbon disulfide	PER 001		1.31E-02	5.74E-02	5.74E-02	
	Carbon disulfide	PER 005					
	Chlorobenzene	PER 001		2.20E-03	9.70E-03	9.70E-03	
	Chlorobenzene	PER 005					
	Chloroethane	PER 001		4.20E-03	1.86E-02	1.86E-02	
	Chloroethane	PER 005					
	Chloroform	PER 001		6.00E-03	2.61E-02	2.61E-02	
	Chloroform	PER 005					
	Cadmium compounds	PER 001		2.09E-02	9.17E-01	9.17E-02	
	Cadmium compounds	PER 005					
	Cyanide compounds	PER 001		2.52E-01	1.10E+00	1.10E+00	
	Cyanide compounds	PER 005					
	Cobalt compounds	PER 001		1.79E-01	7.86E+00	7.86E-01	
	Cobalt compounds	PER 005					
	Chromium compounds	PER 001		5.42E-01	2.37E+01	2.37E+00	

FACILITY DESCRIPTION: Potential-to-emit (by item)

Show: Active and Pending Records

AQD Facility ID: 03500002

Facility Name: Wausau Paper Mills LLC

Item	Pollutant	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
GP 001							
	Chromium compounds	PER 005					
	1,2-Dichloroethane	PER 001		4.00E-03	1.77E-02	1.77E-02	
	1,2-Dichloroethane	PER 005					
	Dimethyl sulfate	PER 001		4.80E-03	2.12E-02	2.12E-02	
	Dimethyl sulfate	PER 005					
	Ethylbenzene	PER 001		9.50E-03	4.15E-02	4.15E-02	
	Ethylbenzene	PER 005					
	Formaldehyde	PER 001		2.42E-02	1.06E-01	1.06E-01	
	Formaldehyde	PER 005					
	Hexane	PER 001		6.80E-03	2.96E-02	2.96E-02	
	Hexane	PER 005					
	Hydrogen fluoride	PER 001		1.50E+01	6.55E+01	6.55E+01	
	Hydrogen fluoride	PER 005					
	Methyl ethyl ketone (MEK)	PER 001		3.93E-02	1.72E-01	1.72E-01	
	Methyl ethyl ketone (MEK)	PER 005					
	Methyl methacrylate	PER 001		2.00E-03	8.80E-03	8.80E-03	
	Methyl methacrylate	PER 005					
	Methylhydrazine	PER 001		1.71E-02	7.51E-02	7.51E-02	
	Methylhydrazine	PER 005					
	Naphthalene	PER 001		1.30E-03	5.70E-03	5.70E-03	
	Naphthalene	PER 005					
	HAPs - Total	PER 001		2.94E+02	1.48E+03	1.29E+03	
	HAPs - Total	PER 005					
	Mercury Compounds	PER 001		1.40E-03	6.32E-02	6.30E-03	
	Mercury Compounds	PER 005					
	Phenol	PER 001		1.60E-03	7.10E-03	7.10E-03	
	Phenol	PER 005					
	Styrene	PER 001		2.50E-03	1.10E-02	1.10E-02	
	Styrene	PER 005					
	Tetrachloroethylene	PER 001		4.30E-03	1.90E-02	1.90E-02	
	Tetrachloroethylene	PER 005					
	Toluene	PER 001		2.42E-02	1.06E-01	1.06E-01	
	Toluene	PER 005					
	1,1,1-Trichloroethane	PER 001		2.00E-03	8.80E-03	8.80E-03	
	1,1,1-Trichloroethane	PER 005					
	Xylenes (mixed isomers)	PER 001		3.70E-03	1.63E-02	1.63E-02	
	Xylenes (mixed isomers)	PER 005					
	Hydrochloric acid	PER 001		2.73E+02	1.20E+03	1.20E+03	
	Hydrochloric acid	PER 005					
	Manganese compounds	PER 001		2.60E+00	1.14E+02	1.14E+01	
	Manganese compounds	PER 005					
	Isophorone	PER 001		5.85E-02	2.56E-01	2.56E-01	
	Isophorone	PER 005					
	Lead Compounds	PER 001		3.49E-01	1.53E+01	1.53E+00	
	Lead Compounds	PER 005					
	Methyl chloride (chloromethane)	PER 001		5.35E-02	2.34E-01	2.34E-01	

FACILITY DESCRIPTION: Potential-to-emit (by item)

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AQD Facility ID: 03500002

Facility Name: Wausau Paper Mills LLC

Item	Pollutant	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
GP 001							
	Methyl chloride (chloromethane)	PER 005					
	Methyl tert butyl ether	PER 001		3.50E-03	1.55E-02	1.55E-02	
	Methyl tert butyl ether	PER 005					
	Methylene chloride (dichlorome	PER 001		2.93E-02	1.28E-01	1.28E-01	
	Methylene chloride (dichlorome	PER 005					
	Propionaldehyde	PER 001		3.83E-02	1.68E-01	1.68E-01	
	Propionaldehyde	PER 005					
	Nickel compounds	PER 001		4.33E-01	1.90E+01	1.90E+00	
	Nickel compounds	PER 005					
	Antimony compounds	PER 001		2.66E-02	1.17E+00	1.17E-01	
	Antimony compounds	PER 005					
	Selenium compounds	PER 001		1.17E-01	5.11E+00	5.11E-01	
	Selenium compounds	PER 005					
GP 002							
	Acetaldehyde	PER 001		3.90E-01	1.72E+00	1.72E+00	
	Acetaldehyde	PER 005					
	Biphenyl	PER 001		4.40E-01	1.91E+00	1.91E+00	
	Biphenyl	PER 005					
	Chloroform	PER 001		1.20E-01	5.10E-01	5.10E-01	
	Chloroform	PER 005					
	Formaldehyde	PER 001		9.00E-02	3.80E-01	3.80E-01	
	Formaldehyde	PER 005					
	Methanol	PER 001		1.50E+00	6.77E+00	6.77E+00	
	Methanol	PER 005					
	HAPs - Total	PER 001		3.27E+00	1.43E+01	1.26E+01	
	HAPs - Total	PER 005					
	Phenol	PER 001		3.00E-01	1.33E+00	1.33E+00	
	Phenol	PER 005					

FACILITY DESCRIPTION: Potential-to-emit (by pollutant)

Show: Active and Pending Records

AQD Facility ID: 03500002

Facility Name: Wausau Paper Mills LLC

Pollutant	Item	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
Acetaldehyde							
	EU 002	PER 005		1.160E-03	5.090E-03	5.090E-03	
	EU 003	PER 005		2.300E-03	1.010E-02	1.010E-02	
	EU 004	PER 005		2.300E-03	1.010E-02	1.010E-02	
	EU 014	PER 005		1.670E-01	7.330E-01	7.330E-01	
	EU 015	PER 005		2.690E-01	1.180E+00	1.180E+00	
	EU 016	PER 005		2.850E-04	1.250E-03	7.140E-05	
	EU 018	PER 005		2.150E-04	9.410E-04	5.370E-05	
	EU 019	PER 005		4.980E-04	2.180E-03	1.250E-04	
	GP 001	PER 001		5.750E-02	2.519E-01	2.519E-01	
	GP 001	PER 005		0.000E+00	0.000E+00	0.000E+00	
	GP 002	PER 001		3.900E-01	1.720E+00	1.720E+00	
	GP 002	PER 005		0.000E+00	0.000E+00	0.000E+00	
Totals					1.943E+00	1.939E+00	0.000E+00
Acetophenone							
	EU 002	PER 005		3.060E-05	1.340E-04	1.340E-04	
	EU 003	PER 005		6.060E-05	2.650E-04	2.650E-04	
	EU 004	PER 005		6.060E-05	2.650E-04	2.650E-04	
	GP 001	PER 001		1.500E-03	6.600E-03	6.600E-03	
	GP 001	PER 005		0.000E+00	0.000E+00	0.000E+00	
Totals					6.640E-04	6.640E-04	0.000E+00
Acrolein							
	EU 002	PER 005		5.910E-04	2.590E-03	2.590E-03	
	EU 003	PER 005		1.170E-03	5.130E-03	5.130E-03	
	EU 004	PER 005		1.170E-03	5.130E-03	5.130E-03	
	EU 016	PER 005		1.760E-04	7.690E-04	4.390E-05	
	EU 018	PER 005		2.590E-05	1.130E-04	6.480E-06	
	EU 019	PER 005		6.010E-05	2.630E-04	1.500E-05	
	GP 001	PER 001		2.930E-02	1.281E-01	1.281E-01	
	GP 001	PER 005		0.000E+00	0.000E+00	0.000E+00	
Totals					1.400E-02	1.292E-02	0.000E+00
Benzene							
	EU 001	PER 001		2.000E-04	8.900E-04	8.100E-04	
	EU 001	PER 005		1.990E-04	8.700E-04	7.890E-04	
	EU 002	PER 005		2.650E-03	1.160E-02	1.160E-02	
	EU 003	PER 005		5.250E-03	2.300E-02	2.300E-02	

FACILITY DESCRIPTION: Potential-to-emit (by pollutant)

Show: Active and Pending Records

AQD Facility ID: 03500002

Facility Name: Wausau Paper Mills LLC

Pollutant	Item	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
Benzene							
	EU 004	PER 005		5.250E-03	2.300E-02	2.300E-02	
	EU 016	PER 005		1.500E-05	6.580E-05	3.760E-06	
	EU 018	PER 005		2.610E-04	1.140E-03	6.530E-05	
	EU 019	PER 005		6.060E-04	2.650E-03	1.510E-04	
	GP 001	PER 001		1.311E-01	5.744E-01	5.744E-01	
	GP 001	PER 005		0.000E+00	0.000E+00	0.000E+00	
Totals					6.233E-02	5.861E-02	0.000E+00
Arsenic compounds							
	EU 001	PER 005		1.890E-05	8.290E-05	7.600E-05	
	EU 002	PER 005		8.350E-04	3.660E-03	3.660E-03	
	EU 003	PER 005		1.660E-03	7.250E-03	7.250E-03	
	EU 004	PER 005		1.660E-03	7.250E-03	7.250E-03	
	GP 001	PER 001		5.406E-01	2.368E+01	2.368E+00	
	GP 001	PER 005		0.000E+00	0.000E+00	0.000E+00	
Totals					1.824E-02	1.824E-02	0.000E+00
Benzyl chloride							
	EU 002	PER 005		1.430E-03	6.250E-03	6.250E-03	
	EU 003	PER 005		2.830E-03	1.240E-02	1.240E-02	
	EU 004	PER 005		2.830E-03	1.240E-02	1.240E-02	
	GP 001	PER 001		7.060E-02	3.093E-01	3.093E-01	
	GP 001	PER 005		0.000E+00	0.000E+00	0.000E+00	
Totals					3.105E-02	3.105E-02	0.000E+00
Biphenyl							
	EU 014	PER 005		1.860E-01	8.140E-01	8.140E-01	
	EU 015	PER 005		2.990E-01	1.310E+00	1.310E+00	
	EU 016	PER 005		7.240E-06	3.170E-05	1.810E-06	
	GP 002	PER 001		4.400E-01	1.910E+00	1.910E+00	
	GP 002	PER 005		0.000E+00	0.000E+00	0.000E+00	0.000E+00
Totals					2.124E+00	2.124E+00	0.000E+00
Bis(2-ethylhexyl) phthalate							
	EU 002	PER 005		1.490E-03	6.520E-04	6.520E-04	
	EU 003	PER 005		2.950E-04	1.290E-03	1.290E-03	
	EU 004	PER 005		2.950E-04	1.290E-03	1.290E-03	
	GP 001	PER 001		7.400E-03	3.230E-02	3.230E-02	
	GP 001	PER 005		0.000E+00	0.000E+00	0.000E+00	
Totals					3.232E-03	3.232E-03	0.000E+00

FACILITY DESCRIPTION: Potential-to-emit (by pollutant)

Show: Active and Pending Records

AQD Facility ID: 03500002

Facility Name: Wausau Paper Mills LLC

Pollutant	Item	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
Bromoform							
	EU 002	PER 005		7.950E-05	3.480E-04	3.480E-04	
	EU 003	PER 005		1.570E-04	6.900E-04	6.900E-04	
	EU 004	PER 005		1.570E-04	6.900E-04	6.900E-04	
	GP 001	PER 001		3.900E-03	1.720E-02	1.720E-02	
	GP 001	PER 005		0.000E+00	0.000E+00	0.000E+00	
Totals					1.728E-03	1.728E-03	0.000E+00
Bromomethane							
	GP 001	PER 001		1.610E-02	7.070E-02	7.070E-02	
	GP 001	PER 005		0.000E+00	0.000E+00	0.000E+00	
Totals					0.000E+00	0.000E+00	0.000E+00
1,3-Butadiene							
	EU 016	PER 005		9.120E-06	3.990E-05	2.280E-06	
	EU 018	PER 005		1.100E-05	4.800E-05	2.740E-06	
	EU 019	PER 005		2.540E-05	1.110E-04	6.350E-06	
Totals					1.989E-04	1.137E-05	0.000E+00
Beryllium							
	EU 001	PER 005		1.140E-06	4.970E-06	4.560E-06	
	EU 002	PER 005		4.280E-05	1.870E-04	1.870E-04	
	EU 003	PER 005		8.480E-05	3.710E-04	3.710E-04	
	EU 004	PER 005		8.480E-05	3.710E-04	3.710E-04	
Totals					9.340E-04	9.336E-04	0.000E+00
Beryllium Compounds							
	GP 001	PER 001		1.245E-01	5.454E+00	5.454E-01	
	GP 001	PER 005		0.000E+00	0.000E+00	0.000E+00	
Totals					0.000E+00	0.000E+00	0.000E+00
Carbon disulfide							
	EU 002	PER 005		2.650E-04	1.160E-03	1.160E-03	
	EU 003	PER 005		5.250E-04	2.300E-03	2.300E-03	
	EU 004	PER 005		5.250E-04	2.300E-03	2.300E-03	
	GP 001	PER 001		1.310E-02	5.740E-02	5.740E-02	
	GP 001	PER 005		0.000E+00	0.000E+00	0.000E+00	
Totals					5.760E-03	5.760E-03	0.000E+00
Carbon tetrachloride							
	EU 016	PER 005		1.250E-06	5.490E-06	3.130E-07	
Totals					5.490E-06	3.130E-07	0.000E+00

FACILITY DESCRIPTION: Potential-to-emit (by pollutant)

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Facility Name: Wausau Paper Mills LLC

Pollutant	Item	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
Carbon Dioxide Equivalent							
	EU 001	PER 005		1.130E+04	4.950E+04	4.540E+04	
	EU 002	PER 005		1.190E+04	5.200E+04	5.200E+04	
	EU 003	PER 005		2.350E+04	1.030E+05	1.030E+05	
	EU 004	PER 005		2.350E+04	1.030E+05	1.030E+05	
	EU 016	PER 005		4.650E+00	2.030E+01	1.160E+00	
	EU 017	PER 005		2.920E+00	1.280E+01	7.290E-01	
	EU 018	PER 005		4.610E+01	2.020E+02	1.150E+01	
	EU 019	PER 005		1.070E+02	4.680E+02	2.670E+01	
Totals					3.082E+05	3.034E+05	0.000E+00
2-Chloroacetophenone							
	EU 002	PER 005		1.430E-05	6.250E-05	6.250E-05	
	EU 003	PER 005		2.830E-05	1.240E-04	1.240E-04	
	EU 004	PER 005		2.830E-05	1.240E-04	1.240E-04	
Totals					3.105E-04	3.105E-04	0.000E+00
Chlorobenzene							
	EU 002	PER 005		4.480E-05	1.960E-04	1.960E-04	
	EU 003	PER 005		8.880E-05	3.890E-04	3.890E-04	
	EU 004	PER 005		8.880E-05	3.890E-04	3.890E-04	
	EU 016	PER 005		1.040E-06	4.550E-06	2.590E-07	
	GP 001	PER 001		2.200E-03	9.700E-03	9.700E-03	
	GP 001	PER 005		0.000E+00	0.000E+00	0.000E+00	
Totals					9.786E-04	9.743E-04	0.000E+00
Chloroethane							
	EU 016	PER 005		6.380E-08	2.800E-07	1.600E-08	
	GP 001	PER 001		4.200E-03	1.860E-02	1.860E-02	
	GP 001	PER 005		0.000E+00	0.000E+00	0.000E+00	
Totals					2.800E-07	1.600E-08	0.000E+00
Chloroform							
	EU 002	PER 005		1.200E-04	5.270E-04	5.270E-04	
	EU 003	PER 005		2.380E-04	1.040E-03	1.040E-03	
	EU 004	PER 005		2.380E-04	1.040E-03	1.040E-03	
	EU 014	PER 005		4.930E-02	2.160E-01	2.160E-01	
	EU 015	PER 005		7.930E-02	3.470E-01	3.470E-01	
	EU 016	PER 005		9.730E-07	4.260E-06	2.430E-07	
	GP 001	PER 001		6.000E-03	2.610E-02	2.610E-02	
	GP 001	PER 005		0.000E+00	0.000E+00	0.000E+00	

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AQD Facility ID: 03500002

Facility Name: Wausau Paper Mills LLC

Pollutant	Item	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
Chloroform							
	GP 002	PER 001		1.200E-01	5.100E-01	5.100E-01	
	GP 002	PER 005		0.000E+00	0.000E+00	0.000E+00	
Totals					5.656E-01	5.656E-01	0.000E+00
Cadmium compounds							
	EU 001	PER 005		1.040E-04	4.560E-04	4.180E-04	
	EU 002	PER 005		1.040E-04	4.550E-04	4.550E-04	
	EU 003	PER 005		2.060E-04	9.020E-04	9.020E-04	
	EU 004	PER 005		2.060E-04	9.020E-04	9.020E-04	
	GP 001	PER 001		2.090E-02	9.168E-01	9.170E-02	
	GP 001	PER 005		0.000E+00	0.000E+00	0.000E+00	
Totals					2.715E-03	2.677E-03	0.000E+00
Methane							
	EU 001	PER 005		2.130E-01	9.320E-01	8.550E-01	
	EU 002	PER 005		1.220E-01	5.360E-01	5.360E-01	
	EU 003	PER 005		2.420E-01	1.030E+00	1.300E+00	
	EU 004	PER 005		2.420E-01	1.030E+00	1.030E+00	
	EU 016	PER 005		4.270E-02	1.870E-01	1.070E-02	
	EU 017	PER 005		1.240E-04	5.440E-04	3.100E-05	
	EU 018	PER 005		1.850E-03	8.110E-03	4.630E-04	
	EU 019	PER 005		4.290E-03	1.880E-02	1.070E-03	
Totals					3.742E+00	3.733E+00	0.000E+00
Cyanide compounds							
	EU 002	PER 005		5.090E-03	2.230E-02	2.230E-02	
	EU 003	PER 005		1.010E-02	4.420E-02	4.420E-02	
	EU 004	PER 005		1.010E-02	4.420E-02	4.420E-02	
	GP 001	PER 001		2.522E-01	1.105E+00	1.105E+00	
	GP 001	PER 005		0.000E+00	0.000E+00	0.000E+00	
Totals					1.107E-01	1.107E-01	0.000E+00
Carbon Monoxide							
	EU 001	PER 001		7.980E+00	3.500E+01	3.190E+01	
	EU 001	PER 005		7.950E+00	3.480E+01	3.190E+01	
	EU 002	PER 001		1.020E+01	4.450E+01	4.450E+01	
	EU 003	PER 001		2.010E+01	8.820E+01	8.820E+01	
	EU 003	PER 005		2.020E+01	8.840E+01	8.840E+01	
	EU 004	PER 001		2.010E+01	8.820E+01	8.820E+01	
	EU 004	PER 005		2.020E+01	8.840E+01	8.840E+01	

FACILITY DESCRIPTION: Potential-to-emit (by pollutant)

Show: Active and Pending Records

AQD Facility ID: 03500002

Facility Name: Wausau Paper Mills LLC

Pollutant	Item	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
Carbon Monoxide							
	EU 016	PER 005		1.900E-02	8.330E-02	4.750E-03	
	EU 017	PER 005		1.860E-02	8.140E-02	4.640E-03	
	EU 018	PER 005		2.660E-01	1.170E+00	6.650E-02	
	EU 019	PER 005		6.170E-01	2.700E+00	1.540E-01	
Totals					2.601E+02	2.534E+02	0.000E+00
Carbon Dioxide							
	EU 001	PER 005		1.130E+04	4.940E+04	4.530E+04	
	EU 002	PER 005		1.180E+04	5.180E+04	5.180E+04	
	EU 003	PER 005		2.350E+04	1.030E+05	1.030E+05	
	EU 004	PER 005		2.350E+04	1.030E+05	1.030E+05	
	EU 016	PER 005		4.630E+00	2.030E+01	1.160E+00	
	EU 017	PER 005		2.910E+00	1.270E+01	7.260E-01	
	EU 018	PER 005		4.590E+01	2.010E+02	1.150E+01	
	EU 019	PER 005		1.060E+02	4.660E+02	2.660E+01	
Totals					3.079E+05	3.031E+05	0.000E+00
Cobalt compounds							
	EU 001	PER 005		7.950E-06	3.480E-05	3.190E-05	
	EU 002	PER 005		2.040E-04	8.930E-04	8.930E-04	
	EU 003	PER 005		4.040E-04	1.770E-03	1.770E-03	
	EU 004	PER 005		4.040E-04	1.770E-03	1.770E-03	
	GP 001	PER 001		1.794E-01	7.860E+00	7.860E-01	
	GP 001	PER 005		0.000E+00	0.000E+00	0.000E+00	
Totals					4.468E-03	4.465E-03	0.000E+00
Chromium compounds							
	EU 001	PER 005		1.320E-04	5.800E-04	5.320E-04	
	EU 002	PER 005		5.300E-04	2.320E-03	2.320E-03	
	EU 003	PER 005		1.050E-03	4.600E-03	4.600E-03	
	EU 004	PER 005		1.050E-03	4.600E-03	4.600E-03	
	GP 001	PER 001		5.418E-01	2.373E+01	2.373E+00	
	GP 001	PER 005		0.000E+00	0.000E+00	0.000E+00	
Totals					1.210E-02	1.205E-02	0.000E+00
Cumene							
	EU 002	PER 005		1.080E-05	4.730E-05	4.730E-05	
	EU 003	PER 005		2.140E-05	9.370E-05	9.370E-05	
	EU 004	PER 005		2.140E-05	9.370E-05	9.370E-05	
Totals					2.347E-04	2.347E-04	0.000E+00

FACILITY DESCRIPTION: Potential-to-emit (by pollutant)

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AQD Facility ID: 03500002

Facility Name: Wausau Paper Mills LLC

Pollutant	Item	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
1,4-Dichlorobenzene							
	EU 001	PER 005		1.140E-04	4.970E-04	4.560E-04	
Totals					4.970E-04	4.560E-04	0.000E+00
1,1-Dichloroethane							
	EU 016	PER 005		8.060E-07	3.530E-06	2.010E-07	
Totals					0.000E+00	0.000E+00	0.000E+00
1,2-Dichloroethane							
	EU 016	PER 005		8.060E-07	3.530E-06	2.010E-07	
	GP 001	PER 001		4.000E-03	1.770E-02	1.770E-02	
	GP 001	PER 005		0.000E+00	0.000E+00	0.000E+00	
Totals					3.530E-06	2.010E-07	0.000E+00
1,2-Dichloropropane							
	EU 016	PER 005		9.180E-07	4.020E-06	2.300E-07	
Totals					0.000E+00	0.000E+00	0.000E+00
1,3-Dichloropropene							
	EU 016	PER 005		9.010E-07	3.950E-06	2.250E-07	
Totals					3.950E-06	2.250E-07	0.000E+00
Dimethyl sulfate							
	EU 002	PER 005		9.780E-05	4.280E-04	4.280E-04	
	EU 003	PER 005		1.980E-04	8.650E-04	8.650E-04	
	EU 004	PER 005		1.980E-04	8.650E-04	8.650E-04	
	GP 001	PER 001		4.800E-03	2.120E-02	2.120E-02	
	GP 001	PER 005		0.000E+00	0.000E+00	0.000E+00	
Totals					2.158E-03	2.158E-03	0.000E+00
2,4-Dinitrotoluene							
	EU 002	PER 005		5.710E-07	2.500E-06	2.500E-06	
	EU 003	PER 005		1.130E-06	4.950E-06	4.950E-06	
	EU 004	PER 005		1.130E-06	4.950E-06	4.950E-06	
Totals					1.240E-05	1.240E-05	0.000E+00
Ethylbenzene							
	EU 002	PER 005		1.920E-04	8.390E-04	8.390E-04	
	EU 003	PER 005		3.800E-04	1.660E-03	1.660E-03	
	EU 004	PER 005		3.800E-04	1.660E-03	1.660E-03	
	EU 016	PER 005		1.360E-06	5.940E-06	3.390E-07	
	GP 001	PER 001		9.500E-03	4.150E-02	4.150E-02	
	GP 001	PER 005		0.000E+00	0.000E+00	0.000E+00	
Totals					4.165E-03	4.159E-03	0.000E+00

FACILITY DESCRIPTION: Potential-to-emit (by pollutant)

Show: Active and Pending Records

AQD Facility ID: 03500002

Facility Name: Wausau Paper Mills LLC

Pollutant	Item	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
Formaldehyde							
	EU 001	PER 001		7.130E-03	3.120E-02	2.850E-02	
	EU 001	PER 005		7.100E-03	3.110E-02	2.850E-02	
	EU 002	PER 005		4.890E-04	2.140E-03	2.140E-03	
	EU 003	PER 005		7.870E-03	3.450E-02	3.450E-02	
	EU 004	PER 005		7.870E-03	3.450E-02	3.450E-02	
	EU 014	PER 005		3.720E-02	1.630E-01	1.630E-01	
	EU 015	PER 005		5.990E-02	2.620E-01	2.620E-01	
	EU 016	PER 005		1.800E-03	7.900E-03	4.510E-04	
	EU 018	PER 005		3.310E-04	1.450E-03	8.260E-05	
	EU 019	PER 005		7.660E-04	3.360E-03	1.920E-04	
	GP 001	PER 001		2.420E-02	1.060E-01	1.060E-01	
	GP 001	PER 005		0.000E+00	0.000E+00	0.000E+00	
	GP 002	PER 001		9.000E-02	3.800E-01	3.800E-01	
	GP 002	PER 005		0.000E+00	0.000E+00	0.000E+00	
Totals					5.400E-01	5.254E-01	0.000E+00
Hexane							
	EU 001	PER 001		1.710E-01	7.490E-01	6.800E-01	
	EU 001	PER 005		1.700E-01	7.460E-01	6.840E-01	
	EU 002	PER 005		1.370E-04	5.980E-04	5.980E-04	
	EU 003	PER 005		1.890E-01	8.270E-01	8.270E-01	
	EU 004	PER 005		1.890E-01	8.270E-01	8.270E-01	
	EU 016	PER 005		3.790E-05	1.660E-04	9.470E-06	
	GP 001	PER 001		6.800E-03	2.960E-02	2.960E-02	
	GP 001	PER 005		0.000E+00	0.000E+00	0.000E+00	
Totals					2.401E+00	2.339E+00	0.000E+00
Hydrogen fluoride							
	EU 002	PER 005		3.060E-01	1.340E+00	1.340E+00	
	EU 003	PER 005		6.060E-01	2.650E+00	2.650E+00	
	EU 004	PER 005		6.060E-01	2.650E+00	2.650E+00	
	GP 001	PER 001		1.496E+01	6.554E+01	6.554E+01	
	GP 001	PER 005		0.000E+00	0.000E+00	0.000E+00	
Totals					6.640E+00	6.640E+00	0.000E+00
Methanol							
	EU 014	PER 005		6.600E-01	2.890E+00	2.890E+00	
	EU 015	PER 005		1.060E+00	4.650E+00	4.650E+00	

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AQD Facility ID: 03500002

Facility Name: Wausau Paper Mills LLC

Pollutant	Item	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
Methanol							
	EU 016	PER 005		8.540E-05	3.740E-04	2.130E-05	
	GP 002	PER 001		1.500E+00	6.770E+00	6.770E+00	
	GP 002	PER 005		0.000E+00	0.000E+00	0.000E+00	
Totals					7.540E+00	7.540E+00	0.000E+00
Methyl ethyl ketone (MEK)							
	EU 002	PER 005		7.950E-04	3.480E-03	3.480E-03	
	EU 003	PER 005		1.570E-03	6.900E-03	6.900E-03	
	EU 004	PER 005		1.570E-03	6.900E-03	6.900E-03	
	GP 001	PER 001		3.930E-02	1.723E-01	1.723E-01	
	GP 001	PER 005		0.000E+00	0.000E+00	0.000E+00	
Totals					1.728E-02	1.728E-02	0.000E+00
Methyl methacrylate							
	EU 002	PER 005		4.080E-05	1.790E-04	1.790E-04	
	EU 003	PER 005		8.080E-05	3.540E-04	3.540E-04	
	EU 004	PER 005		8.080E-05	3.540E-04	3.540E-04	
	GP 001	PER 001		2.000E-03	8.800E-03	8.800E-03	
	GP 001	PER 005		0.000E+00	0.000E+00	0.000E+00	
Totals					8.870E-04	8.870E-04	0.000E+00
Methylhydrazine							
	EU 002	PER 005		3.460E-04	1.520E-03	1.520E-03	
	EU 003	PER 005		6.860E-04	3.010E-03	3.010E-03	
	EU 004	PER 005		6.860E-04	3.010E-03	3.010E-03	
	GP 001	PER 001		1.710E-02	7.510E-02	7.510E-02	
	GP 001	PER 005		0.000E+00	0.000E+00	0.000E+00	
Totals					7.540E-03	7.540E-03	0.000E+00
Naphthalene							
	EU 001	PER 005		5.770E-05	2.530E-04	2.320E-04	
	EU 003	PER 005		6.400E-05	2.800E-04	2.800E-04	
	EU 004	PER 005		6.400E-05	2.800E-04	2.800E-04	
	EU 016	PER 005		2.540E-06	1.110E-05	6.350E-07	
	EU 018	PER 005		2.380E-05	1.040E-04	5.940E-06	
	EU 019	PER 005		5.510E-05	2.410E-04	1.380E-05	
	GP 001	PER 001		1.300E-03	5.700E-03	5.700E-03	
	GP 001	PER 005		0.000E+00	0.000E+00	0.000E+00	
Totals					1.169E-03	8.124E-04	0.000E+00

FACILITY DESCRIPTION: Potential-to-emit (by pollutant)

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AQD Facility ID: 03500002

Facility Name: Wausau Paper Mills LLC

Pollutant	Item	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
HAPs - Total							
	EU 001	PER 001		1.800E-01	7.800E-01	7.200E-01	
	EU 001	PER 005		1.780E-01	7.800E-01	7.150E-01	
	EU 002	PER 005		7.350E+00	3.220E+01	3.220E+01	
	EU 003	PER 005		1.460E+01	6.380E+01	6.380E+01	
	EU 004	PER 005		1.460E+01	6.380E+01	6.380E+01	
	EU 014	PER 005		1.230E+00	5.390E+00	5.390E+00	
	EU 015	PER 005		1.980E+00	8.670E+00	8.670E+00	
	EU 016	PER 005		4.080E-03	1.790E-02	1.020E-03	
	EU 017	PER 005		1.310E-03	5.750E-03	3.280E-04	
	EU 018	PER 005		2.070E-02	9.050E-02	5.170E-03	
	EU 019	PER 005		4.790E-02	2.100E-01	1.200E-02	
	GP 001	PER 001		2.938E+02	1.482E+03	1.287E+03	
	GP 001	PER 005		0.000E+00	0.000E+00	0.000E+00	
	GP 002	PER 001		3.270E+00	1.430E+01	1.262E+01	
	GP 002	PER 005		0.000E+00	0.000E+00	0.000E+00	
Totals					1.750E+02	1.746E+02	0.000E+00
Mercury							
	EU 001	PER 005		2.460E-05	1.080E-04	9.880E-05	
	EU 002	PER 005		1.690E-04	7.410E-04	7.410E-04	
	EU 003	PER 005		3.350E-04	1.470E-03	1.470E-03	
	EU 004	PER 005		3.350E-04	1.470E-03	1.470E-03	
Totals					3.789E-03	3.780E-03	0.000E+00
Mercury Compounds							
	GP 001	PER 001		1.400E-03	6.320E-02	6.300E-03	
	GP 001	PER 005		0.000E+00	0.000E+00	0.000E+00	
Totals					0.000E+00	0.000E+00	0.000E+00
Phenol							
	EU 002	PER 005		3.260E-05	1.430E-04	1.430E-04	
	EU 003	PER 005		6.460E-05	2.830E-04	2.830E-04	
	EU 004	PER 005		6.460E-05	2.830E-04	2.830E-04	
	EU 014	PER 005		1.300E-01	5.700E-01	5.700E-01	
	EU 015	PER 005		2.100E-01	9.180E-01	9.180E-01	
	EU 016	PER 005		8.190E-07	3.590E-06	2.050E-07	
	GP 001	PER 001		1.600E-03	7.100E-03	7.100E-03	
	GP 001	PER 005		0.000E+00	0.000E+00	0.000E+00	0.000E+00

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Facility Name: Wausau Paper Mills LLC

Pollutant	Item	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
Phenol							
	GP 002	PER 001		3.000E-01	1.330E+00	1.330E+00	
	GP 002	PER 005		0.000E+00	0.000E+00	0.000E+00	
Totals					1.489E+00	1.489E+00	0.000E+00
Propylene oxide							
	EU 018	PER 005		7.230E-04	3.170E-03	1.810E-04	
	EU 019	PER 005		1.680E-03	7.340E-03	4.190E-04	
Totals					1.051E-02	6.000E-04	0.000E+00
Styrene							
	EU 002	PER 005		5.090E-05	2.230E-04	2.230E-04	
	EU 003	PER 005		1.010E-04	4.420E-04	4.420E-04	
	EU 004	PER 005		1.010E-04	4.420E-04	4.420E-04	
	EU 016	PER 005		8.060E-07	3.530E-06	2.010E-07	
	GP 001	PER 001		2.500E-03	1.100E-02	1.100E-02	
	GP 001	PER 005		0.000E+00	0.000E+00	0.000E+00	
Totals					1.111E-03	1.107E-03	0.000E+00
1,1,2,2-Tetrachloroethane							
	EU 016	PER 005		1.370E-06	5.980E-06	3.410E-07	
Totals					5.980E-06	3.410E-07	0.000E+00
Tetrachloroethylene							
	EU 002	PER 005		8.760E-05	3.840E-04	3.840E-04	
	EU 003	PER 005		1.740E-04	7.600E-04	7.600E-04	
	EU 004	PER 005		1.740E-04	7.600E-04	7.600E-04	
	GP 001	PER 001		4.300E-03	1.900E-02	1.900E-02	
	GP 001	PER 005		0.000E+00	0.000E+00	0.000E+00	
Totals					1.904E-03	1.904E-03	0.000E+00
Toluene							
	EU 001	PER 001		3.200E-04	1.400E-03	1.300E-03	
	EU 001	PER 005		3.220E-04	1.410E-03	1.290E-03	
	EU 002	PER 005		4.890E-04	2.140E-03	2.140E-03	
	EU 003	PER 005		9.690E-04	4.240E-03	4.240E-03	
	EU 004	PER 005		9.690E-04	4.240E-03	4.240E-03	
	EU 016	PER 005		1.390E-05	6.100E-05	3.480E-06	
	EU 018	PER 005		1.150E-04	5.020E-04	2.860E-05	
	EU 019	PER 005		2.660E-04	1.160E-03	6.640E-05	
	GP 001	PER 001		2.420E-02	1.060E-01	1.060E-01	

FACILITY DESCRIPTION: Potential-to-emit (by pollutant)

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AQD Facility ID: 03500002

Facility Name: Wausau Paper Mills LLC

Pollutant	Item	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
Toluene							
	GP 001	PER 005		0.000E+00	0.000E+00	0.000E+00	
Totals					1.375E-02	1.201E-02	0.000E+00
1,2,4-Trichlorobenzene							
	EU 016	PER 005		4.880E-07	2.140E-06	1.220E-07	
Totals					2.140E-06	1.220E-07	0.000E+00
1,1,1-Trichloroethane							
	EU 002	PER 005		4.080E-05	1.790E-04	1.790E-04	
	EU 003	PER 005		8.080E-05	3.540E-04	3.540E-04	
	EU 004	PER 005		8.080E-05	3.540E-04	3.540E-04	
	GP 001	PER 001		2.000E-03	8.800E-03	8.800E-03	
	GP 001	PER 005		0.000E+00	0.000E+00	0.000E+00	
Totals					8.870E-04	8.870E-04	0.000E+00
1,1,2-Trichloroethane							
	EU 016	PER 005		1.090E-06	4.760E-06	2.710E-07	
Totals					4.760E-06	2.710E-07	0.000E+00
Vinyl acetate							
	EU 002	PER 005		1.550E-05	6.780E-05	6.780E-05	
	EU 003	PER 005		3.070E-05	1.340E-04	1.340E-04	
	EU 004	PER 005		3.070E-05	1.340E-04	1.340E-04	
Totals					3.358E-04	3.358E-04	0.000E+00
Vinyl chloride							
	EU 016	PER 005		5.090E-07	2.230E-06	1.270E-07	
Totals					2.230E-06	1.270E-07	0.000E+00
Xylenes (mixed isomers)							
	EU 002	PER 005		7.540E-05	3.300E-04	3.300E-04	
	EU 003	PER 005		1.490E-04	6.540E-04	6.540E-04	
	EU 004	PER 005		1.490E-04	6.540E-04	6.540E-04	
	EU 016	PER 005		6.280E-06	2.750E-05	1.570E-06	
	EU 018	PER 005		7.980E-05	3.500E-04	2.000E-05	
	EU 019	PER 005		1.850E-04	8.110E-04	4.630E-05	
	GP 001	PER 001		3.700E-03	1.630E-02	1.630E-02	
	GP 001	PER 005		0.000E+00	0.000E+00	0.000E+00	
Totals					2.827E-03	1.706E-03	0.000E+00
2,2,4-trimethylpentane							
	EU 016	PER 005		8.540E-06	3.740E-05	2.130E-06	
Totals					3.740E-05	2.130E-06	0.000E+00

FACILITY DESCRIPTION: Potential-to-emit (by pollutant)

Show: Active and Pending Records

AQD Facility ID: 03500002

Facility Name: Wausau Paper Mills LLC

Pollutant	Item	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
Hydrochloric acid							
	EU 002	PER 005		7.020E+00	3.070E+01	3.070E+01	
	EU 003	PER 005		1.390E+01	6.090E+01	6.090E+01	
	EU 004	PER 005		1.390E+01	6.090E+01	6.090E+01	
	GP 001	PER 001		2.730E+02	1.196E+03	1.196E+03	
	GP 001	PER 005		0.000E+00	0.000E+00	0.000E+00	
Totals					1.525E+02	1.525E+02	0.000E+00
Manganese compounds							
	EU 001	PER 005		3.600E-05	1.570E-04	1.440E-04	
	EU 002	PER 005		9.980E-04	4.370E-03	4.370E-03	
	EU 003	PER 005		1.980E-03	8.670E-03	8.670E-03	
	EU 004	PER 005		1.980E-03	8.670E-03	8.670E-03	
	GP 001	PER 001		2.603E+00	1.140E+02	1.140E+01	
	GP 001	PER 005		0.000E+00	0.000E+00	0.000E+00	
Totals					2.187E-02	2.185E-02	0.000E+00
Acenaphthene							
	EU 016	PER 005		4.270E-08	1.870E-07	1.070E-08	
Totals					0.000E+00	0.000E+00	0.000E+00
Acenaphthylene							
	EU 016	PER 005		1.890E-07	8.270E-07	4.720E-08	
Totals					0.000E+00	0.000E+00	0.000E+00
Benzo(a)pyrene							
	EU 016	PER 005		1.420E-08	6.210E-08	3.500E-09	
Totals					0.000E+00	0.000E+00	0.000E+00
Benzo(b)fluoranthene							
	EU 016	PER 005		5.700E-09	2.480E-08	1.400E-09	
Totals					0.000E+00	0.000E+00	0.000E+00
Benzo(ghi)perylene							
	EU 016	PER 005		1.410E-08	6.190E-08	3.500E-09	
Totals					0.000E+00	0.000E+00	0.000E+00
Chrysene							
	EU 016	PER 005		2.370E-08	1.040E-07	5.900E-09	
Totals					1.040E-07	5.900E-09	0.000E+00
Ethylene dibromide (dibromoeth							
	EU 002	PER 005		2.450E-06	1.070E-05	1.070E-05	
	EU 003	PER 005		4.850E-06	2.120E-05	2.120E-05	
	EU 004	PER 005		4.850E-06	2.120E-05	2.120E-05	

FACILITY DESCRIPTION: Potential-to-emit (by pollutant)

Show: Active and Pending Records

AQD Facility ID: 03500002

Facility Name: Wausau Paper Mills LLC

Pollutant	Item	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
Ethylene dibromide (dibromoeth							
	EU 016	PER 005		1.510E-06	6.630E-06	3.780E-07	
Totals					5.310E-05	5.310E-05	0.000E+00
Fluoranthene							
	EU 016	PER 005		3.790E-08	1.660E-07	9.500E-09	
Totals					0.000E+00	0.000E+00	0.000E+00
Fluorene							
	EU 016	PER 005		1.940E-07	8.480E-07	4.840E-08	
Totals					8.480E-07	4.840E-08	0.000E+00
Nitrous Oxide							
	EU 001	PER 005		2.130E-02	9.320E-02	8.550E-02	
	EU 002	PER 005		8.150E-02	3.570E-01	3.570E-01	
	EU 003	PER 005		2.360E-01	1.030E-01	1.030E-01	
	EU 004	PER 005		2.360E-01	1.030E-01	1.030E-01	
	EU 016	PER 005		4.520E-05	1.980E-04	1.130E-05	
	EU 017	PER 005		2.480E-05	1.090E-04	6.210E-06	
	EU 018	PER 005		3.710E-04	1.620E-03	9.260E-05	
	EU 019	PER 005		8.590E-04	3.760E-03	2.150E-04	
Totals					6.619E-01	6.488E-01	0.000E+00
Isophorone							
	EU 002	PER 005		1.180E-03	5.180E-03	5.180E-03	
	EU 003	PER 005		2.340E-03	1.030E-02	1.030E-02	
	EU 004	PER 005		2.340E-03	1.030E-02	1.030E-02	
	GP 001	PER 001		5.850E-02	2.563E-01	2.563E-01	
	GP 001	PER 005		0.000E+00	0.000E+00	0.000E+00	
Totals					2.578E-02	2.578E-02	0.000E+00
Lead Compounds							
	GP 001	PER 001		3.486E-01	1.527E+01	1.527E+00	
	GP 001	PER 005		0.000E+00	0.000E+00	0.000E+00	
Totals					0.000E+00	0.000E+00	0.000E+00
Methyl chloride (chloromethane							
	EU 002	PER 005		1.080E-03	4.730E-03	4.730E-03	
	EU 003	PER 005		2.140E-03	9.370E-03	9.370E-03	
	EU 004	PER 005		2.140E-03	9.370E-03	9.370E-03	
	GP 001	PER 001		5.350E-02	2.342E-01	2.342E-01	
	GP 001	PER 005		0.000E+00	0.000E+00	0.000E+00	0.000E+00
Totals					2.347E-02	2.347E-02	0.000E+00

FACILITY DESCRIPTION: Potential-to-emit (by pollutant)

Show: Active and Pending Records

AQD Facility ID: 03500002

Facility Name: Wausau Paper Mills LLC

Pollutant	Item	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
Methyl tert butyl ether							
	EU 002	PER 005		7.130E-05	3.120E-04	3.120E-04	
	EU 003	PER 005		1.410E-04	6.190E-04	6.190E-04	
	EU 004	PER 005		1.410E-04	6.190E-04	6.190E-04	
	GP 001	PER 001		3.500E-03	1.550E-02	1.550E-02	
	GP 001	PER 005		0.000E+00	0.000E+00	0.000E+00	
Totals					1.550E-03	1.550E-03	0.000E+00
Methylene chloride (dichlorome							
	EU 002	PER 005		5.910E-04	2.590E-03	2.590E-03	
	EU 003	PER 005		1.170E-03	5.130E-03	5.130E-03	
	EU 004	PER 005		1.170E-03	5.130E-03	5.130E-03	
	EU 016	PER 005		6.830E-07	2.990E-06	1.710E-07	
	GP 001	PER 001		2.930E-02	1.281E-01	1.281E-01	
	GP 001	PER 005		0.000E+00	0.000E+00	0.000E+00	
Totals					1.285E-02	1.285E-02	0.000E+00
Phenanthrene							
	EU 016	PER 005		3.550E-07	1.560E-06	8.880E-08	
Totals					1.560E-06	8.880E-08	0.000E+00
Propionaldehyde							
	EU 002	PER 005		7.740E-04	3.390E-03	3.390E-03	
	EU 003	PER 005		1.530E-03	6.720E-03	6.720E-03	
	EU 004	PER 005		1.530E-03	6.720E-03	6.720E-03	
	GP 001	PER 001		3.830E-02	1.679E-01	1.679E-01	
	GP 001	PER 005		0.000E+00	0.000E+00	0.000E+00	
Totals					1.683E-02	1.683E-02	0.000E+00
Pyrene							
	EU 016	PER 005		4.640E-08	2.030E-07	1.160E-08	
Totals					2.030E-07	1.160E-08	0.000E+00
Total Polycyclic aromatic hydr							
	EU 002	PER 005		4.230E-05	1.850E-04	1.850E-04	
	EU 003	PER 005		8.380E-05	3.670E-04	3.670E-04	
	EU 004	PER 005		8.380E-05	3.670E-04	3.670E-04	
	EU 016	PER 005		9.180E-07	4.020E-06	2.300E-07	
	EU 018	PER 005		2.330E-05	1.020E-04	5.830E-06	
	EU 019	PER 005		5.400E-05	2.370E-04	1.350E-05	
Totals					1.262E-03	9.386E-04	0.000E+00

FACILITY DESCRIPTION: Potential-to-emit (by pollutant)

Show: Active and Pending Records

AQD Facility ID: 03500002

Facility Name: Wausau Paper Mills LLC

Pollutant	Item	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
Nickel compounds							
	EU 001	PER 001		2.000E-04	8.700E-04	8.000E-04	
	EU 002	PER 005		5.710E-04	2.500E-03	2.500E-03	
	EU 003	PER 005		1.130E-03	4.950E-03	4.950E-03	
	EU 004	PER 005		1.130E-03	4.950E-03	4.950E-03	
	GP 001	PER 001		4.330E-01	1.897E+01	1.897E+00	
	GP 001	PER 005		0.000E+00	0.000E+00	0.000E+00	
Totals					1.327E-02	1.320E-02	0.000E+00
Nitrogen Oxides							
	EU 001	PER 001		9.500E+00	4.160E+01	3.800E+01	
	EU 001	PER 005		9.460E+00	4.140E+01	3.800E+01	
	EU 002	PER 001		2.240E+01	9.790E+01	9.790E+01	
	EU 002	PER 005		2.240E+01	9.820E+01	9.820E+01	0.000E+00
	EU 003	PER 001		4.430E+01	1.940E+02	1.940E+02	
	EU 003	PER 005		4.440E+01	1.950E+02	1.950E+02	
	EU 004	PER 001		4.430E+01	1.940E+02	1.940E+02	
	EU 004	PER 005		4.440E+01	1.950E+02	1.950E+02	
	EU 016	PER 005		1.390E-01	6.100E-01	3.480E-02	
	EU 017	PER 005		3.060E-02	1.340E-01	7.650E-03	
	EU 018	PER 005		1.240E+00	5.410E+00	3.090E-01	
	EU 019	PER 005		2.860E+00	1.250E+01	7.160E-01	
Totals					5.483E+02	5.273E+02	0.000E+00
PM < 2.5 micron							
	EU 001	PER 005		7.190E-01	3.150E+00	2.890E+00	
	EU 002	PER 005		1.220E+01	5.360E+01	2.680E+00	
	EU 003	PER 005		2.420E+01	1.060E+02	5.310E+00	
	EU 004	PER 005		2.420E+01	1.060E+02	5.310E+00	
	EU 007	PER 005		3.742E+03	1.639E+04	1.639E+01	
	EU 016	PER 005		3.380E-04	1.480E-03	8.460E-05	
	EU 017	PER 005		1.880E-03	8.220E-03	4.690E-04	
	EU 018	PER 005		8.680E-02	3.800E-01	2.170E-02	
	EU 019	PER 005		2.010E-01	8.820E-01	5.030E-02	
Totals					1.666E+04	3.265E+01	0.000E+00
Lead							
	EU 001	PER 005		4.730E-05	2.070E-04	1.900E-04	
	EU 002	PER 005		8.560E-04	3.750E-03	3.750E-03	

FACILITY DESCRIPTION: Potential-to-emit (by pollutant)

Show: Active and Pending Records

AQD Facility ID: 03500002

Facility Name: Wausau Paper Mills LLC

Pollutant	Item	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
Lead							
	EU 003	PER 005		1.700E-03	7.430E-03	7.430E-03	
	EU 004	PER 005		1.700E-03	7.430E-03	7.430E-03	
Totals					1.882E-02	1.880E-02	0.000E+00
PM < 10 micron							
	EU 001	PER 001		7.200E-01	3.160E+00	2.900E+00	
	EU 001	PER 005		7.190E-01	3.150E+00	2.890E+00	
	EU 002	PER 001		1.450E+00	1.270E+02	6.340E+00	
	EU 002	PER 005		2.690E+01	1.180E+02	5.890E+00	
	EU 003	PER 001		2.880E+00	2.510E+02	1.260E+01	
	EU 003	PER 005		5.330E+01	2.330E+02	1.170E+01	
	EU 004	PER 001		2.880E+00	2.510E+02	1.260E+01	
	EU 004	PER 005		5.330E+01	2.330E+02	1.170E+01	
	EU 007	PER 005		3.742E+03	1.639E+04	1.639E+01	
	EU 016	PER 005		3.380E-04	1.480E-03	8.460E-05	
	EU 017	PER 005		1.880E-03	8.220E-03	4.690E-04	
	EU 018	PER 005		8.680E-02	3.800E-01	2.170E-02	
	EU 019	PER 005		2.010E-01	8.820E-01	5.030E-02	
Totals					1.698E+04	4.864E+01	0.000E+00
Polycyclic organic matter							
	EU 001	PER 005		8.340E-06	3.650E-05	3.350E-05	
	EU 003	PER 005		9.250E-06	4.050E-05	4.050E-05	
	EU 004	PER 005		9.250E-06	4.050E-05	4.050E-05	
Totals					1.175E-04	1.145E-04	0.000E+00
Total Particulate Matter							
	EU 001	PER 001		7.200E-01	3.160E+00	2.900E+00	
	EU 001	PER 005		7.190E-01	3.150E+00	2.890E+00	
	EU 002	PER 001		6.710E+00	5.880E+02	2.940E+01	
	EU 002	PER 005		6.480E+02	2.840E+03	1.420E+02	
	EU 003	PER 001		1.330E+01	1.164E+03	5.820E+01	
	EU 003	PER 005		1.280E+03	5.620E+03	2.810E+02	
	EU 004	PER 001		1.330E+01	1.164E+03	5.820E+01	
	EU 004	PER 005		1.280E+03	5.620E+03	2.810E+02	
	EU 007	PER 005		3.742E+03	1.639E+04	1.639E+01	
	EU 016	PER 005		3.380E-04	1.480E-03	8.460E-05	
	EU 017	PER 005		1.880E-03	8.220E-03	4.690E-04	

FACILITY DESCRIPTION: Potential-to-emit (by pollutant)

Show: Active and Pending Records

AQD Facility ID: 03500002

Facility Name: Wausau Paper Mills LLC

Pollutant	Item	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
Total Particulate Matter							
	EU 018	PER 005		8.680E-02	3.800E-01	2.170E-02	
	EU 019	PER 005		2.010E-01	8.820E-01	5.030E-02	
Totals					3.048E+04	7.234E+02	0.000E+00
Antimony compounds							
	EU 002	PER 005		3.670E-05	1.610E-04	1.610E-04	
	EU 003	PER 005		7.270E-05	3.180E-04	3.180E-04	
	EU 004	PER 005		7.270E-05	3.180E-04	3.180E-04	
	GP 001	PER 001		2.660E-02	1.167E+00	1.167E-01	
	GP 001	PER 005		0.000E+00	0.000E+00	0.000E+00	
Totals					7.970E-04	7.970E-04	0.000E+00
Selenium compounds							
	EU 001	PER 005		2.270E-06	9.950E-06	9.120E-06	
	EU 002	PER 005		2.650E-03	1.160E-02	1.160E-02	
	EU 003	PER 005		5.250E-03	2.300E-02	2.300E-02	
	EU 004	PER 005		5.250E-03	2.300E-02	2.300E-02	
	GP 001	PER 001		1.166E-01	5.109E+00	5.109E-01	
	GP 001	PER 005		0.000E+00	0.000E+00	0.000E+00	
Totals					5.761E-02	5.761E-02	0.000E+00
Sulfur Dioxide							
	EU 001	PER 001		6.000E-02	2.500E-01	2.300E-01	
	EU 001	PER 005		5.680E-02	2.490E-01	2.280E-01	
	EU 002	PER 001		1.930E+02	8.460E+02	8.460E+02	
	EU 002	PER 005		1.940E+02	8.480E+02	8.480E+02	
	EU 003	PER 001		3.830E+02	1.676E+03	1.676E+03	
	EU 003	PER 005		3.840E+02	1.680E+03	1.680E+03	
	EU 004	PER 001		3.830E+02	1.676E+03	1.676E+03	
	EU 004	PER 005		3.840E+02	1.680E+03	1.680E+03	
	EU 016	PER 005		2.010E-05	8.790E-05	5.020E-06	
	EU 017	PER 005		1.580E-03	6.900E-03	3.940E-04	
	EU 018	PER 005		8.120E-02	3.560E-01	2.030E-02	
	EU 019	PER 005		1.880E-01	8.250E-01	4.710E-02	
Totals					4.209E+03	4.208E+03	0.000E+00
Total Organic Compounds							
	EU 016	PER 005		5.020E-02	2.200E-01	1.250E-02	
Totals					2.200E-01	1.250E-02	0.000E+00

FACILITY DESCRIPTION: Potential-to-emit (by pollutant)

Show: Active and Pending Records

AQD Facility ID: 03500002

Facility Name: Wausau Paper Mills LLC

Pollutant	Item	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
Volatile Organic Compounds							
	EU 001	PER 001		5.200E-01	2.300E+00	2.100E+00	
	EU 002	PER 001		1.020E-01	4.450E-01	4.450E-01	
	EU 003	PER 001		5.890E-01	2.580E+00	2.580E+00	
	EU 003	PER 005		2.020E-01	8.840E-01	8.840E-01	
	EU 004	PER 001		5.890E-01	2.580E+00	2.580E+00	
	EU 004	PER 005		2.020E-01	8.840E-01	8.840E-01	
	EU 014	PER 001		4.090E+00	1.792E+01	1.792E+01	
	EU 015	PER 001		5.490E+00	2.404E+01	2.404E+01	
	EU 015	PER 005		6.590E+00	2.885E+01	2.885E+01	
	EU 016	PER 005		4.030E-03	1.760E-02	1.010E-03	
	EU 017	PER 005		5.690E-02	2.490E-01	1.420E-02	
	EU 018	PER 005		1.010E-01	4.420E-01	2.520E-02	
	EU 019	PER 005		2.340E-01	1.020E+00	5.840E-02	
Totals					5.301E+01	5.118E+01	0.000E+00



COMPLIANCE PLAN **CD-01**

Facility Name: Wausau Paper Mills LLC

Permit Number: 03500002 - 005

Subject Item: Total Facility

	NC/ CA	Type	Citation	Requirement
1.0		CD	hdr	SOURCE-SPECIFIC REQUIREMENTS
2.0		CD	Minn. R. 7007.0800, subp. 2	Permit Appendices: This permit contains appendices as listed in the permit Table of Contents. The Permittee shall comply with all requirements contained in Appendix C: Insignificant Activities and Applicable Requirements. Modeling parameters in Appendix B: Modeled Parameters are included for reference only as described elsewhere in Table A.
3.0		CD	Minn. Stat. Section 116.07, subd. 4a; Minn. R. 7007.0100; Minn. R. 7007.0800, subp. 2; Minn. R. 7011.0150; Minn. R. 7009.0020	Comply with Fugitive Emission Control Plan: The Permittee shall follow the actions and recordkeeping specified in the control plan. The plan may be amended by the Permittee with the Commissioner's approval. If the Commissioner determines the Permittee is out of compliance with Minn. R. 7011.0150 or the fugitive control plan, then the Permittee may be required to amend the control plan and/or to install and operate particulate matter ambient monitors as requested by the Commissioner.
4.0		CD	40 CFR pt. 50; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subps. 7A, 7L & 7M; Minn. R. 7007.0800, subps. 1, 2, and 4; Minn. R. 7009.0010-7009.0080	The Permittee shall comply, and upon written request demonstrate compliance, with National Primary and Secondary Ambient Air Quality Standards, 40 CFR pt. 50, and the Minnesota Ambient Air Quality Standards, Minn. R. 7009.0010 to 7009.0080.
5.0		CD	hdr	MODELING REQUIREMENTS
6.0		S/A	Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7009.0020; Minn. R. 7011.0150; Minn. R. 7007.0100; Minn. R. 7007.0800, subp. 2	Computer Dispersion Modeling Protocol: due 90 days after Permit Issuance for PM < 10 micron. This protocol will describe the proposed modeling methodology and input data, in accordance with MPCA modeling guidance for Title V air dispersion modeling analyses. This is a state-only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act.
7.0		S/A	Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7009.0020; Minn. R. 7011.0150; Minn. R. 7007.0100; Minn. R. 7007.0800, subp. 2	Computer Dispersion Modeling Results: due 180 days after Computer Dispersion Modeling Protocol approval. To be submitted after the MPCA has reviewed and approved the modeling protocol. The submittal should adhere to MPCA modeling guidance for Title V air dispersion modeling analyses. This is a state-only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act.
8.0		CD	40 CFR pt. 50; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subp. 7(A), 7(L) & 7(M); Minn. R. 7007.0800, subps. 1, 2 & 4; Minn. R. 7009.0010-7009.0080	The parameters used in SO ₂ modeling for permit 03500002-001 are listed in Appendix B of this permit. The parameters describe the operation of the facility at maximum permitted capacity. The purpose of listing the parameters in the appendix is to provide a benchmark for future changes. Modeling Triggers: For any changes that affect any modeled parameter or emission rate, or adds new emission points, the Remodeling Submittal requirement is triggered. This includes changes that do not require a permit amendment as well as changes that require any type of permit amendment.
9.0		CD	Title I Condition: 40 CFR Section 52.21(k); Minn. R. 7007.3000Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subp. 7(A), 7(L), & 7(M); Minn. R. 7007.0800, subps. 1, 2 & 4; Minn. R. 7009.0010-7009.0080	SO ₂ Remodeling Submittal: The Permittee must submit to the Commissioner for approval changes meeting the above criteria and must wait for a written approval before making such changes. For minor amendments, written approval of the modeling may be given before permit issuance; however, this approval applies only to the modeling and not to any other changes. The information submitted must include, for stack and vent sources, source emission rate, location, height, diameters, exit velocity, exit temperature, discharge direction, use of rain caps or rain hats, and, if applicable, locations and dimensions of nearby buildings. For non-stack/vent sources, this includes the source emission rate, location, size and shape, release height, and, if applicable, any emission rate scalars, and the initial lateral dimensions and initial vertical dimensions and adjacent building heights.
10.0		CD	Title I Condition: 40 CFR Section 52.21(k); Minn. R. 7007.3000 Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subp. 7(A), 7(L), & 7(M); Minn. R. 7007.0800, subps. 1, 2 & 4; Minn. R. 7009.0010-7009.0080, continued	SO ₂ Remodeling Submittal, continued: The plume dispersion characteristics due to the revisions of the information must be equivalent to or better than the dispersion characteristics modeled in 2007. The Permittee shall demonstrate this equivalency in the proposal. If the information does not demonstrate equivalent or better dispersion characteristics, or if a conclusion cannot readily be made about the dispersion, the Permittee must submit full remodeling.



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11.0		CD	Title I Condition: 40 CFR Section 52.21(k); Minn. R. 7007.3000 Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subp. 7(A), 7(L), & 7(M); Minn. R. 7007.0800, subps. 1, 2 & 4; Minn. R. 7009.0010-7009.0080	The parameters used in NOx modeling for permit number 03500002-001 are listed in Appendix B of this permit. The parameters describe the operation of the facility at maximum permitted capacity. The purpose of listing the parameters in the appendix is to provide a benchmark for future changes.
12.0		CD	Title I Condition: 40 CFR Section 52.21(k); Minn. R. 7007.3000 Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subp. 7(A), 7(L), & 7(M); Minn. R. 7007.0800, subps. 1, 2 & 4; Minn. R. 7009.0010-7009.0080	The parameters used in Total Particulate Matter modeling for permit 03500002-001 are listed in Appendix B of this permit. The parameters describe the operation of the facility at maximum permitted capacity. The purpose of listing the parameters in the appendix is to provide a benchmark for future changes.
13.0		CD	Title I Condition: 40 CFR Section 52.21(k); Minn. R. 7007.3000 Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subp. 7(A), 7(L), & 7(M); Minn. R. 7007.0800, subps. 1, 2 & 4; Minn. R. 7009.0010-7009.0080	Modeling at Reissuance: The Permittee shall submit an assessment with the reissuance application (due as stated elsewhere in this permit) that addresses any changes made during the permit term that did not require a permit amendment but that affected any modeled parameter or emission rate (including adding sources beyond those documented in Appendix B) and were not assessed in a later modeling submittal. The information in this submittal shall be the same as listed in the requirement entitled "Remodeling Submittal".
14.0		CD	hdr	DETERMINING IF A PROJECT/MODIFICATION IS SUBJECT TO NSR
15.0		CD	Title I Condition: 40 CFR Section 52.21(r)(6); Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 2	<p>These requirements apply if a reasonable possibility (RP) as defined in 40 CFR Section 52.21(r)(6)(vi) exists that a proposed project, analyzed using the actual-to-projected-actual (ATPA) test (either by itself or as part of the hybrid test at Section 52.21(a)(2)(iv)(f)) and found to not be part of a major modification, may result in a significant emissions increase (SEI). If the ATPA test is not used for the project, or if there is no RP that the proposed project could result in a SEI, these requirements do not apply to that project. The Permittee is only subject to the Preconstruction Documentation requirement for a project where a RP occurs only within the meaning of Section 52.21(r)(6)(vi)(b).</p> <p>Even though a particular modification is not subject to New Source Review (NSR), or where there isn't a RP that a proposed project could result in a SEI, a permit amendment, recordkeeping, or notification may still be required by Minn. R. 7007.1150 - 7007.1500.</p>
16.0		CD	Title I Condition: 40 CFR Section 52.21(r)(6); Minn. R. 7007.3000; Minn. R. 7007.1200, subp. 4; Minn. R. 7007.0800, subps. 4 & 5	<p>Preconstruction Documentation -- Before beginning actual construction on a project, the Permittee shall document the following:</p> <ol style="list-style-type: none"> 1. Project description 2. Identification of any emission unit (EU) whose emissions of an NSR pollutant could be affected 3. Pre-change potential emissions of any affected existing EU, and the projected post-change potential emissions of any affected existing or new EU. 4. A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including the baseline actual emissions, the projected actual emissions, the amount of emissions excluded due to increases not associated with the modification and that the EU could have accommodated during the baseline period, an explanation of why the amounts were excluded, and any creditable contemporaneous increases and decreases that were considered in the determination. <p>The Permittee shall maintain records of this documentation.</p>
17.0		CD	Title I Condition: 40 CFR Section 52.21(r)(6); Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 4 & 5	The Permittee shall monitor the actual emissions of any regulated NSR pollutant that could increase as a result of the project and that were analyzed using the ATPA test, and the potential emissions of any regulated NSR pollutant that could increase as a result of the project and that were analyzed using potential emissions in the hybrid test. The Permittee shall calculate and maintain a record of the sum of the actual and potential (if the hybrid test was used in the analysis) emissions of the regulated pollutant, in tons per year on a calendar year basis, for a period of 5 years following resumption of regular operations after the change, or for a period of 10 years following resumption of regular operations after the change if the project increases the design capacity of or potential to emit of any unit associated with the project.



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18.0		CD	Title I Condition: 40 CFR Section 52.21(r)(6); Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 4 & 5	<p>The Permittee must submit a report to the Agency if the annual summed (actual, plus potential if used in hybrid test) emissions differ from the preconstruction projection and exceed the baseline actual emissions by a significant amount as listed at 40 CFR Section 52.21(b)(23). Such report shall be submitted to the Agency within 60 days after the end of the year in which the exceedances occur. The report shall contain:</p> <ul style="list-style-type: none"> a. The name and ID number of the facility, and the name and telephone number of the facility contact person b. The annual emissions (actual, plus potential if any part of the project was analyzed using the hybrid test) for each pollutant for which the preconstruction projection and significant emissions increase are exceeded. c. Any other information, such as an explanation as to why the summed emissions differ from the preconstruction projection.
19.0		CD	hdr	OPERATIONAL REQUIREMENTS
20.0		CD	40 CFR pt. 50; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subp. 7(A), 7(L), & 7(M); Minn. R. 7007.0800, subps. 1, 2 & 4; Minn. R. 7009.0010-7009.0080	The Permittee shall comply with National Primary and Secondary Ambient Air Quality Standards, 40 CFR pt. 50, and the Minnesota Ambient Air Quality Standards, Minn. R. 7009.0010 to 7009.0080. Compliance shall be demonstrated upon written request by the MPCA.
21.0		CD	Minn. R. 7011.0020	Circumvention: Do not install or use a device or means that conceals or dilutes emissions, which would otherwise violate a federal or state air pollution control rule, without reducing the total amount of pollutant emitted.
22.0		CD	Minn. R. 7007.0800, subp. 2; Minn. R. 7007.0800, subp. 16(J)	Air Pollution Control Equipment: Operate all pollution control equipment whenever the corresponding process equipment and emission units are operated.
23.0		CD	Minn. R. 7007.0800, subps. 14 and 16(J)	Operation and Maintenance Plan: Retain at the stationary source an operation and maintenance plan for all air pollution control equipment. At a minimum, the O & M plan shall identify all air pollution control equipment and control practices and shall include a preventative maintenance program for the equipment and practices, a description of (the minimum but not necessarily the only) corrective actions to be taken to restore the equipment and practices to proper operation to meet applicable permit conditions, a description of the employee training program for proper operation and maintenance of the control equipment and practices, and the records kept to demonstrate plan implementation.
24.0		CD	Minn. R. 7019.1000, subp. 4	Operation Changes: In any shutdown, breakdown, or deviation the Permittee shall immediately take all practical steps to modify operations to reduce the emission of any regulated air pollutant. The Commissioner may require feasible and practical modifications in the operation to reduce emissions of air pollutants. No emissions units that have an unreasonable shutdown or breakdown frequency of process or control equipment shall be permitted to operate.
25.0		CD	Minn. R. 7011.0150	Fugitive Emissions: Do not cause or permit the handling, use, transporting, or storage of any material in a manner which may allow avoidable amounts of particulate matter to become airborne. Comply with all other requirements listed in Minn. R. 7011.0150.
26.0		CD	Minn. R. 7030.0010 - 7030.0080	Noise: The Permittee shall comply with the noise standards set forth in Minn. R. 7030.0010 to 7030.0080 at all times during the operation of any emission units. This is a state only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act.
27.0		CD	Minn. R. 7007.0800, subp. 9(A)	Inspections: The Permittee shall comply with the inspection procedures and requirements as found in Minn. R. 7007.0800, subp. 9(A).
28.0		CD	Minn. R. 7007.0800, subp. 16	The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16.
29.0		CD	hdr	PERFORMANCE TESTING
30.0		CD	Minn. R. ch. 7017	Performance Testing: Conduct all performance tests in accordance with Minn. R. ch. 7017 unless otherwise noted in Tables A, B, and/or C.



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31.0		CD	Minn. R. 7017.2018; Minn. R. 7017.2030, subps. 1-4, Minn. R. 7017.2035, subps. 1-2	<p>Performance Test Notifications and Submittals:</p> <p>Performance Tests are due as outlined in Table A of the permit. See Table B for additional testing requirements.</p> <p>Performance Test Notification (written): due 30 days before each Performance Test Performance Test Plan: due 30 days before each Performance Test Performance Test Pre-test Meeting: due 7 days before each Performance Test Performance Test Report: due 45 days after each Performance Test Performance Test Report - Microfiche Copy: due 105 days after each Performance Test</p> <p>The Notification, Test Plan, and Test Report may be submitted in an alternative format as allowed by Minn. R. 7017.2018.</p>
32.0		CD	Minn. R. 7017.2025, subp. 3	Limits set as a result of a performance test (conducted before or after permit issuance) apply until superseded as stated in the MPCA's Notice of Compliance letter granting preliminary approval. Preliminary approval is based on formal review of a subsequent performance test on the same unit as specified by Minn. R. 7017.2025, subp. 3. The limit is final upon issuance of a permit amendment incorporating the change.
33.0		CD	hdr	MONITORING REQUIREMENTS
34.0		CD	Minn. R. 7007.0800, subp. 4(D)	Monitoring Equipment Calibration: The Permittee shall calibrate all required monitoring equipment at least once every 12 months (any requirements applying to continuous emission monitors are listed separately in this permit).
35.0		CD	Minn. R. 7007.0800, subp. 4(D)	Operation of Monitoring Equipment: Unless otherwise noted in Tables A, B, and/or C, monitoring a process or control equipment connected to that process is not necessary during periods when the process is shutdown, or during checks of the monitoring systems, such as calibration checks and zero and span adjustments. If monitoring records are required, they should reflect any such periods of process shutdown or checks of the monitoring system.
36.0		CD	hdr	RECORDKEEPING
37.0		CD	Minn. R. 7007.0800, subp. 5(C)	Recordkeeping: Retain all records at the stationary source, unless otherwise specified within this permit, for a period of five (5) years from the date of monitoring, sample, measurement, or report. Records which must be retained at this location include all calibration and maintenance records, all original recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Records must conform to the requirements listed in Minn. R. 7007.0800, subp. 5(A).
38.0		CD	Minn. R. 7007.0800, subp. 5(B)	Recordkeeping: Maintain records describing any insignificant modifications (as required by Minn. R. 7007.1250, subp. 3) or changes contravening permit terms (as required by Minn. R. 7007.1350, subp. 2), including records of the emissions resulting from those changes.
39.0		CD	Minn. R. 7007.1200, subp. 4	If the Permittee determines that no permit amendment or notification is required prior to making a change, the Permittee must retain records of all calculations required under Minn. R. 7007.1200. For expiring permits, these records shall be kept for a period of five years from the date the change was made or until permit reissuance, whichever is longer. The records shall be kept at the stationary source for the current calendar year of operation and may be kept at the stationary source or office of the stationary source for all other years. The records may be maintained in either electronic or paper format.
40.0		CD	hdr	REPORTING/SUBMITTALS
41.0		CD	Minn. R. 7019.1000, subp. 3	<p>Shutdown Notifications: Notify the Commissioner at least 24 hours in advance of a planned shutdown of any control equipment or process equipment if the shutdown would cause any increase in the emissions of any regulated air pollutant. If the owner or operator does not have advance knowledge of the shutdown, notification shall be made to the Commissioner as soon as possible after the shutdown. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 3.</p> <p>At the time of notification, the owner or operator shall inform the Commissioner of the cause of the shutdown and the estimated duration. The owner or operator shall notify the Commissioner when the shutdown is over.</p>



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42.0		CD	Minn. R. 7019.1000, subp. 2	<p>Breakdown Notifications: Notify the Commissioner within 24 hours of a breakdown of more than one hour duration of any control equipment or process equipment if the breakdown causes any increase in the emissions of any regulated air pollutant. The 24-hour time period starts when the breakdown was discovered or reasonably should have been discovered by the owner or operator. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 2.</p> <p>At the time of notification or as soon as possible thereafter, the owner or operator shall inform the Commissioner of the cause of the breakdown and the estimated duration. The owner or operator shall notify the Commissioner when the breakdown is over.</p>
43.0		CD	Minn. R. 7019.1000, subp. 1	Notification of Deviations Endangering Human Health or the Environment: As soon as possible after discovery, notify the Commissioner or the state duty officer, either orally or by facsimile, of any deviation from permit conditions which could endanger human health or the environment.
44.0		CD	Minn. R. 7019.1000, subp. 1	<p>Notification of Deviations Endangering Human Health or the Environment Report: Within 2 working days of discovery, notify the Commissioner in writing of any deviation from permit conditions which could endanger human health or the environment. Include the following information in this written description:</p> <ol style="list-style-type: none"> 1. the cause of the deviation; 2. the exact dates of the period of the deviation, if the deviation has been corrected; 3. whether or not the deviation has been corrected; 4. the anticipated time by which the deviation is expected to be corrected, if not yet corrected; and 5. steps taken or planned to reduce, eliminate, and prevent reoccurrence of the deviation.
45.0		S/A	Minn. R. 7007.0800, subp. 6(A)(2)	Semiannual Deviations Report: due 30 days after end of each calendar half-year following Permit Issuance. The first semiannual report submitted by the Permittee shall cover the calendar half-year in which the permit is issued. The first report of each calendar year covers January 1 - June 30. The second report of each calendar year covers July 1 - December 31. If no deviations have occurred, the Permittee shall submit the report stating no deviations.
46.0		CD	Minn. Stat. Section 116.07, subd. 4a; Minn. R. 7007.0800, subp. 2	Fugitive Emissions Control Plan: The Permittee shall submit to the Commissioner and implement a fugitive emissions control plan within <60> days of the date of permit issuance. The plan shall identify all fugitive emission sources, primary and contingent control measures, and record keeping. The Permittee shall follow the actions and record keeping specified in the control plan. If the Commissioner determines the Permittee is out of compliance with Minn. R. 7011.0150 or the fugitive emission control plan, then the Permittee may be required to amend the control plan and/or to install and operate particulate matter ambient monitors.
47.0		CD	Minn. R. 7007.1150 - 7007.1500	Application for Permit Amendment: If a permit amendment is needed, submit an application in accordance with the requirements of Minn. R. 7007.1150 through Minn. R. 7007.1500. Submittal dates vary, depending on the type of amendment needed.
48.0		S/A	Minn. R. 7007.0400, subp. 2	Application for Permit Reissuance: due 180 days before expiration of Existing Permit
49.0		CD	Minn. R. 7007.1400, subp. 1(H)	Extension Requests: The Permittee may apply for an Administrative Amendment to extend a deadline in a permit by no more than 120 days, provided the proposed deadline extension meets the requirements of Minn. R. 7007.1400, subp. 1(H). Performance testing deadlines from the General Provisions of 40 CFR pt. 60 and pt. 63 are examples of deadlines for which the MPCA does not have authority to grant extensions and therefore do not meet the requirements of Minn. R. 7007.1400, subp. 1(H).
50.0		S/A	Minn. R. 7007.0800, subp. 6(C)	Compliance Certification: due 31 days after end of each calendar year following Permit Issuance (for the previous calendar year). The Permittee shall submit this on a form approved by the Commissioner, both to the Commissioner and to the US EPA regional office in Chicago. This report covers all deviations experienced during the calendar year.
51.0		CD	Minn. R. 7019.3000 - 7019.3100	Emission Inventory Report: due on or before April 1 of each calendar year following permit issuance, to be submitted on a form approved by the Commissioner.
52.0		CD	Minn. R. 7002.0005 - 7002.0095	Emission Fees: due 60 days after receipt of an MPCA bill.



COMPLIANCE PLAN **CD-01**

Facility Name: Wausau Paper Mills LLC

Permit Number: 03500002 - 005

Subject Item: GP 001 Existing Boilers

Associated Items: CE 001 Electrostatic Precipitator - High Efficiency

CE 007 Single Cyclone

CE 008 Multiple Cyclone w/o Fly Ash Reinjection - Most Multiclones

CE 009 Multiple Cyclone w/o Fly Ash Reinjection - Most Multiclones

EU 002 Boiler 2

EU 003 Boiler 3

EU 004 Boiler 4

SV 005 ESP Exhaust Stack

	NC/ CA	Type	Citation	Requirement
1.0		CD	hdr	LIMITS AND REQUIREMENTS
2.0		CD	40 CFR 63, subp. DDDDD	The Permittee shall comply with the applicable provisions based on 40 CFR Section 63, subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters by the compliance date.
3.0		LIMIT	Minn. R. 7011.0510, subp. 1	Total Particulate Matter: less than or equal to 0.60 lbs/million Btu heat input . (This limit applies individually to each boiler listed above under Associated Items.) The PTE for each emission unit, using AP-42 emission factors and 95% control efficiency, is 0.12 lb/MMBtu.
4.0		LIMIT	Minn. R. 7011.0510, subp. 2	Opacity: less than or equal to 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity. (This limit applies individually to each boiler listed above under Associated Items.)
5.0		LIMIT	Minn. R. 7011.0510, subp. 1	Sulfur Dioxide: less than or equal to 4.0 lbs/million Btu heat input when coal is being burned. (This limit applies individually to each boiler listed above under Associated Items.)
6.0		CD	Minn. R. 7007.0800, subp. 2	Fuels Allowed: The Permittee shall only combust coal or natural gas in EU 003 or EU 004 (Boiler #3 or #4) and only coal in EU 002 (Boiler #2). In addition, on-site generated petroleum derived used oil/sorbents/filter media and kerosene-soaked sorbents may be burned in the boilers. The used oil shall only be on-specification used oil. The used oil and kerosene-soaked sorbents must be generated on site.
7.0		LIMIT	Minn. R. 7007.0800, subp. 2	Sulfur Content of Fuel: less than or equal to 2.5 percent by weight for coal.
8.0		LIMIT	Minn. R. 7007.0800, subp. 2	Fuel Usage: less than or equal to 8000 gallons/year using 12-month Rolling Sum total for all boilers combined, of used oil.
9.0		LIMIT	Minn. R. 7007.0800, subp. 2	Fuel Usage: less than or equal to 13750 gallons/year using 12-month Rolling Sum total for all boilers combined of oil- or kerosene-soaked sorbent/filter media per year.
10.0		CD	hdr	CONTROL EQUIPMENT EMISSION AND OPERATIONAL LIMITS
11.0		CD	Minn. R. 7007.0800, subp. 2 and 14	The Permittee shall operate and maintain the electrostatic precipitator (CE001) at all times that any of the process equipment controlled by the ESP (EU002, EU003, and EU004) are burning coal, used oil, or kerosene-soaked sorbents. The Permittee shall document periods of non-operation of the control equipment.
12.0		LIMIT	Minn. R. 7007.0800, subp. 2 and 14	The Permittee shall operate and maintain the control equipment such that it achieves a control efficiency for Total Particulate Matter: greater than or equal to 95 percent control efficiency
13.0		LIMIT	Minn. R. 7007.0800, subp. 2 and 14	The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for PM < 10 micron: greater than or equal to 95 percent control efficiency
14.0		LIMIT	Minn. R. 7007.0800, subps. 2 and 14	The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for PM < 2.5 micron: greater than or equal to 95 percent control efficiency
15.0		CD	Minn. R. 7007.0800, subp. 14	Operation and Maintenance of ESP: The Permittee shall operate and maintain the ESP in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and review by MPCA staff.



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Facility Name: Wausau Paper Mills LLC

Permit Number: 03500002 - 005

16.0		LIMIT	Minn. R. 7007.0800, subps. 2 and 14; Minn. R. 7017.2025, subp. 3	<p>Secondary Voltage: greater than or equal to 155 volts using 3-hour Block Average unless a new minimum secondary voltage is required to be set pursuant to Minn. R. 7017.2025, subp. 3.</p> <p>This limit will be reset based on the permit conditions that follow.</p>
17.0		CD	Minn. R. 7007.0800, subps. 2 and 14; Minn. R. 7017.2025, subp. 3	A new total power input is required to be set pursuant to Minn. R. 7017.2025, subp. 3. The new total power input is required to be set; it will be based on the average total power input recorded during the most recent MPCA approved performance test where compliance for Total Particulate Matter emissions was demonstrated. If the three-hour rolling average minimum total power input drops below the minimum limit, this shall be reported as a deviation.
18.0		CD	hdr	REPORTING/SUBMITTALS
19.0		S/A	40 CFR Section 64.4(d)(1)-(2);	<p>Compliance Plan: due 180 days after Permit Issuance. This is the Compliance Assurance Monitoring Plan.</p> <p>If the existing data from unit-specific compliance or performance testing specified in paragraph (c) of 40 CFR Section 64.4 are not available the Permittee:</p> <ul style="list-style-type: none"> - shall submit a test plan and schedule for obtaining such data in accordance with paragraph (e) or 40 CFR Section 64.4; or - may submit indicator ranges that rely on engineering assessments and other data, provided that the owner or operator demonstrates that factors specific to the type of monitoring, control device, or pollutant-specific emissions unit make compliance or performance testing unnecessary to establish indicator ranges at levels that satisfy the criteria in 40 CFR Section 64.3(a).
20.0		CD	40 CFR Section 64.4(e)	If the monitoring submitted by the owner or operator requires installation, testing, or other necessary activities prior to use of the monitoring for purposes of this part, the owner or operator shall include an implementation plan and schedule for installing, testing and performing any other appropriate activities prior to use of the monitoring. The implementation plan and schedule shall provide for use of the monitoring as expeditiously as practicable after approval of the monitoring in the part 70 permit pursuant to 40 CFR Section 64.6, but in no case shall the schedule for completing installation and beginning operation of the monitoring exceed 180 days after approval of the permit.
21.0		CD	hdr	CONTROL EQUIPMENT MONITORING AND RECORDKEEPING
22.0		CD	40 CFR Section 64.7(b); Minn. R. 7017.0200	Monitoring Equipment: The necessary monitoring equipment must be installed, in use, and properly maintained, including maintaining the necessary parts for routine repairs of the monitoring equipment, whenever operation of the monitored control equipment is required.
23.0		CD	Minn. R. 7007.0800, subp. 4 and 5	Daily ESP Monitoring: The Permittee shall physically check the total power input recording device at least once each operating day to verify that it is working and recording properly.
24.0		CD	Minn. R. 7007.0800, subp. 4(D)	Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording total power input as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored ESP is in operation within 365 days of permit issuance.
25.0		S/A	Minn. R. 7007.0800, subp. 2	Notification: due 15 days after Equipment Installation of monitoring and recording equipment for total power input of ESP (CE001). The Permittee shall submit the notification to the MPCA.
26.0		CD	40 CFR Section 64.3(b)(4)(ii); Minn. R. 7017.0200	Continuous Monitoring: The Permittee shall continuously, or at a minimum once every 15 minutes, monitor and record the total power input of the ESP once the necessary monitoring equipment is installed.
27.0		CD	40 CFR Section 64.3; Minn. R. 7010.0200	Periodic Inspections: At least once per calendar quarter, or more frequently if required by the manufacturer, the Permittee shall inspect the control equipment components that are subject to wear or plugging, for example: bearings, belts, hoses, fans, nozzles, orifices, and ducts. The Permittee shall maintain a written record of the inspection and any corrective actions taken resulting from the inspection.
28.0		CD	40 CFR Section 64.3; Minn. R. 7017.0200	Annual Inspections: At least once per calendar year, or more frequently if required by the manufacturer, the Permittee shall inspect the control equipment components not covered by the quarterly inspections. This includes, but is not limited to, components that are not subject to wear or plugging including structural components, housings, and hoods. The Permittee shall maintain a written record of the inspection and any corrective actions taken resulting from the inspection.



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Facility Name: Wausau Paper Mills LLC

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29.0		CD	40 CFR Section 64.7(d); Minn. R. 7017.0200	Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - the secondary voltage, averaged over any 3-hour period, is less than 155 volts; or - the total power input, average over any 3-hour period, is outside the range recorded during the most recent MPCA approved performance test where compliance for Total Particulate Matter emissions was demonstrated. - the ESP or any of its components are found during the inspections to need repair. Corrective actions shall return operation to within the permitted range and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the ESP. The Permittee shall keep a record of the type and date of any corrective action taken for the ESP.
30.0		CD	40 CFR Section 64.7(e); Minn. R. 7017.0200	Documentation of Need for Improved Monitoring: If the Permittee fails to achieve compliance with an emission limit or standard for which the monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing opacity which is considered an excursion, the Permittee shall promptly notify the MPCA and, if necessary, submit a permit amendment application to address the necessary monitoring changes.
31.0		CD	40 CFR Section 64.9(a)(2); Minn. R. 7017.0200	As required by 40 CFR Section 64.9(a)(2), for the Semi-Annual Deviations Report listed in Table B of this permit and/or the Notification of Deviations Endangering Human Health and the Environment listed earlier in Table A of this permit, as applicable, the Permittee shall include the following related to the monitoring identified as required by 40 CFR pt. 64: 1) Summary information on the number, duration, and cause of excursions or exceedances, as applicable, and the corrective action taken; and 2) Summary information on the number, duration, and cause for monitor downtime incidents.
32.0		CD	40 CFR Section 64.9(b); Minn. R. 7017.0200	The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, and other supporting information required to be maintained. The Permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements.
33.0		CD	Minn. R. 7007.0800, subp. 14	The Permittee shall operate and maintain the ESP in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff.
34.0		CD	Minn. R. 7007.0800, subp. 4 and 5	The Permittee shall maintain a continuous hard copy readout or computer disk file of the total power input readings for the ESP. Installation of the necessary monitoring and recording equipment is due within 90 days of permit issuance.
35.0		CD	hdr	PERFORMANCE TESTING
36.0		S/A	Minn. R. 7017.2020, subp. 1	Performance Test: due before end of each 60 months starting 02/03/2012, to measure Opacity. The interval between performance tests shall be no greater than 60 months. Testing is to be performed on SV005, stack from ESP. The next performance test is due before 02/03/2017.
37.0		S/A	Minn. R. 7017.2020, subp. 1	Performance Test: due before end of each 60 months starting 02/03/2012, to measure Total Particulate Matter. The interval between performance tests shall be no greater than 60 months. Testing is to be performed on SV005, stack from ESP. The next performance test is due before 02/03/2017.
38.0		S/A	Minn. R. 7017.2020, subp. 1	Initial Performance Test: due before end of each calendar 60 months starting 02/03/2012 to measure PM < 10 micron emissions. Testing is to be performed on SV005, stack from ESP.
39.0		S/A	Minn. R. 7017.2020, subp. 1	Initial Performance Test: due before end of each calendar 60 months starting 02/03/2012 to measure PM < 2.5 micron emissions. Testing is to be performed on SV005, stack from ESP.
40.0		S/A	Minn. R. 7017.2020, subp. 1	Testing Frequency Plan: due 60 days after Initial Performance Test for PM < 10 micron emissions. The plan shall specify a testing frequency based on the test data and MPCA guidance. Future performance tests based on 12-month, 36-month, or 60-month intervals, or as applicable, shall be required upon written approval of the MPCA.
41.0		S/A	Minn. R. 7017.2020, subp. 1	Testing Frequency Plan: due 60 days after Initial Performance Test for PM < 2.5 micron emissions. The plan shall specify a testing frequency based on the test data and MPCA guidance. Future performance tests based on 12-month, 36-month, or 60-month intervals, or as applicable, shall be required upon written approval of the MPCA.



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Facility Name: Wausau Paper Mills LLC

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42.0		CD	hdr	RECORDKEEPING
43.0		CD	Minn. R. 7007.0800, subp. 5	Coal Fuel Records: The Permittee shall obtain and maintain a certification from the fuel supplier for each coal delivery. The certification shall specify the sulfur content of the coal, in percent by weight. This information shall be maintained on site.
44.0		CD	Minn. R. 7007.0800, subp. 4 and 5	Recordkeeping. The total amounts of used oil and absorbent material added to the boiler fuel stream shall be calculated and recorded daily.
45.0		CD	Minn. R. 7007.0800, subp. 4 and 5	Monthly Recordkeeping - Fuel Usage. By the 15th of the month, the Permittee shall calculate and record the following: 1) The total usage of used oil and of oil/kerosene-soaked sorbent/filter media usage for the previous calendar month using daily usage records. 2) The 12 month rolling sum fuel usage for the previous 12 month period by summing the monthly fuel usage data for the previous 12 months.



COMPLIANCE PLAN **CD-01**

Facility Name: Wausau Paper Mills LLC

Permit Number: 03500002 - 005

Subject Item: GP 002 Paper Machines

Associated Items: EU 014 #8 Paper Machine

EU 015 #7 Paper Machine

	NC/ CA	Type	Citation	Requirement
1.0		LIMIT	Minn. R. 7011.0710, subp. 1(A)	Total Particulate Matter: less than or equal to 0.3 grains/dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn R. 7011.0730 or Minn. R. 7011.0735. This limit applies individually to each emission unit listed in this group (GP002). These types of machines by their nature do not generate particulate emissions and therefore will not emit particulate matter in any significant amount.
2.0		LIMIT	Minn. R. 7011.0710, subp. 1(B)	Opacity: less than or equal to 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity. This limit applies individually to each emission unit listed in this group (GP002).
3.0		CD	Minn. R. 7007.0800, subp. 4	Periodic Monitoring: the Permittee shall conduct proper maintenance of the paper machines so as to prevent excessive amounts of particulate matter from being emitted from the associated stack/vents.



COMPLIANCE PLAN **CD-01**

Facility Name: Wausau Paper Mills LLC

Permit Number: 03500002 - 005

Subject Item: GP 003 Fire Water Pumps

Associated Items: EU 018 Fire Water Pump 1

EU 019 Fire Water Pump 2

	NC/ CA	Type	Citation	Requirement
1.0		CD	hdr	LIMITS
2.0		LIMIT	Minn. R. 7011.2300, subp. 1	Opacity: less than or equal to 20.0 percent opacity once operating temperatures have been attained. This limit applies individually to each emission unit listed in this group (GP003).
3.0		LIMIT	Minn. R. 7011.2300, subp. 2	Sulfur Dioxide: less than or equal to 0.50 lbs/million Btu heat input . This limit applies individually to each emission unit listed in this group (GP003). PTE based on equipment capacity and allowed fuels is 0.29 lb/MMBtu.
4.0		LIMIT	Minn. R. 7007.0800, subp. 2	Sulfur Content of Fuel: less than or equal to 0.40 percent by weight This limit applies individually to each emission unit listed in this group (GP003).
5.0		CD	hdr	OPERATIONAL REQUIREMENTS
6.0		CD	40 CFR Section 63.6595(a)(1); Minn. R. 7011.8150	This emission units in this group are subject separately to the requirements of 40 CFR Part 63 Subpart ZZZZ. The source shall comply with the applicable emission limitations and operating limitations no later than May 3, 2013.
7.0		CD	Minn. R. 7007.0800, subps. 4 and 5	Fuel Supplier Certification: obtain and maintain a fuel supplier certification for each shipment of diesel fuel, certifying that the sulfur content does not exceed 0.40% by weight.
8.0		CD	40 CFR Section 63.6602 and Table 2C to Subpart ZZZZ of Part 63; Minn. R. 7011.8150	Change oil and filter every 500 hours of operation or annually, whichever comes first.
9.0		CD	40 CFR Section 63.6602 and Table 2C to Subpart ZZZZ of Part 63; Minn. R. 7011.8150	Inspect air cleaner every 1000 hours of operation or annually, whichever comes first.
10.0		CD	40 CFR Section 63.6602 and Table 2C to Subpart ZZZZ of Part 63; Minn. R. 7011.8150	Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.
11.0		CD	40 CFR Section 63.6605(a) and (b); Minn. R. 7011.8150	At all times the Permittee shall operate and maintain the engine in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.
12.0		CD	40 CFR Section 63.6625(e)(2); Minn. R. 7011.8150	Operate and maintain the engine and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop a 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 for minimizing emissions.
13.0		CD	40 CFR Section 63.6625(f); Minn. R. 7011.8150	Install a non-resettable hour meter if one is not already installed by May 3, 2013.
14.0		CD	40 CFR Section 63.6625(h); Minn. R. 7011.8150	The Permittee shall minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes.
15.0		CD	40 CFR Section 63.6625(i); Minn. R. 7011.8150	The Permittee has the option of utilizing an oil analysis program in order to extend the specified oil change requirement. The oil analysis must be performed at the same frequency specified for changing the oil. The analysis program must at a minimum analyze the following 3 parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is great than 0.5.

(continued below)



COMPLIANCE PLAN **CD-01**

Facility Name: Wausau Paper Mills LLC

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16.0		CD	40 CFR Section 63.6625(i); Minn. R. 7011.8150	(continued from above) If none of the condemning limits are exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.
17.0		CD	40 CFR Section 63.6640(f)(1); Minn. R. 7011.8150	The Permittee shall operate the emergency generator according to the requirements (i)-(iii). Any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described in (i)-(iii), is prohibited. If the Permittee does not operate the engine according to the requirements in (i)-(iii), the engine will not be considered an emergency engine and will need to meet all requirements for non-emergency engines; (i) There is no time limit on the use of the emergency engine in emergency situations.
18.0		CD	40 CFR Section 63.6640(f)(1); Minn. R. 7011.8150	(ii) The Permittee may operate the engine for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing is limited to 100 hours per year. The Permittee may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the Permittee maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency RICE beyond 100 hours per year.
19.0		CD	40 CFR Section 63.6640(f)(1); Minn. R. 7011.8150	(iii) The Permittee may operate the engine up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income by supplying power to the electric grid or otherwise supplying power as part of a financial arrangement with another entity; except that the Permittee may operate the engine for a maximum of 15 hours per year as part of a demand response program if the regional transmission organization or equivalent balancing authority and transmission operator has determined there are emergency conditions that could lead to a potential electrical blackout, such as unusually low frequency, equipment overload, capacity or energy deficiency, or unacceptable voltage level.
20.0		CD	40 CFR Section 63.6640(f)(1); Minn. R. 7011.8150	(iii), continued from above The engine may not be operated for more than 30 minutes prior to the time when the emergency condition is expected to occur, and the engine operation must be terminated immediately after the facility is notified that the emergency condition is no longer imminent. The 15 hours per year of demand response operation are counted as part of the 50 hours of operation per year provided for non-emergency situations. The supply of emergency power to another entity or entities pursuant to financial arrangement is not limited by this paragraph, as long as the power provided by the financial arrangement is limited to emergency power.
21.0		CD	40 CFR Section 63.6665 and Table 8 to Subpart ZZZZ of Part 63; 40 CFR Section 63.1 - 63.15; Minn. R. 7011.8150	The Permittee shall comply with the General Provisions in 40 CFR Section 63.1 through 63.15, as applicable.
22.0		CD	hdr	RECORDKEEPING
23.0		CD	40 CFR Section 63.6655(e)(2); Minn. R. 7011.8150	The Permittee shall keep records of the maintenance conducted on the engine in order to demonstrate that the Permittee operated and maintained the engine and after-treatment control device (if any) according to the maintenance plan.
24.0		CD	40 CFR Section 63.6655(f)(1); Minn. R. 7011.8150	The Permittee shall keep records of the hours of operation of the engine that are recorded through the non-resettable hour meter. The Permittee shall document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engine is used for demand response operation, the Permittee shall keep records of the notification of the emergency situation, and the time the engine was operated as part of demand response.



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25.0		CD	40 CFR Section 63.6660; 40 CFR Section 63.10(b)(1); Minn. R. 7011.8150	<p>(a) The Permittee shall keep records in a form suitable and readily available for expeditious review according to 40 CFR Section 63.10(b)(1).</p> <p>(b) As specified in 40 CFR Section 63.10(b)(1), the Permittee must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.</p> <p>(c) The Permittee shall keep each record readily accessible in hard copy or electronic format for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 40 CFR Section 63.10(b)(1).</p>
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COMPLIANCE PLAN **CD-01**

Facility Name: Wausau Paper Mills LLC

Permit Number: 03500002 - 005

Subject Item: EU 001 Boiler 1

Associated Items: SV 001 Boiler #1 Exhaust

	NC/ CA	Type	Citation	Requirement
1.0		CD	hdr	LIMITS
2.0		LIMIT	Minn. R. 7011.0515, subp. 1	Total Particulate Matter: less than or equal to 0.4 lbs/million Btu heat input . The PTE of this emission unit is 0.0076 lb/MMBtu.
3.0		LIMIT	Minn. R. 7011.0515, subp. 2	Opacity: less than or equal to 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity.
4.0		LIMIT	Title I Condition: To avoid classification as major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000	Fuel Usage: less than or equal to 760 million cubic feet/year using 12-month Rolling Sum to be calculated by the 15th day of each month for the previous 12-month period as described later in this permit.
5.0		CD	hdr	RECORDKEEPING
6.0		CD	Title I Condition: To avoid classification as major modification under 40 CFR 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800. subp. 4 and 5	Daily Recordkeeping. On each day of operation, the Permittee shall record and maintain the total quantity of natural gas burned in Boiler #1. This shall be based on a flowmeter.
7.0		CD	Minn. R. 7007.0800, subp. 4 and 5	Monthly Recordkeeping -- Natural Gas Usage By the 15th day of each month, the Permittee shall calculate and record the following: 1) The total usage of natural gas in Boiler #1 for the previous calendar month using the daily usage records. 2) The 12 month rolling sum natural gas usage for the previous 12 month period by summing the natural gas usage data for the previous 12 months.



COMPLIANCE PLAN **CD-01**

Facility Name: Wausau Paper Mills LLC

Permit Number: 03500002 - 005

Subject Item: EU 007 Trim Cyclone

Associated Items: CE 010 Single Cyclone

SV 013 Trim Cyclone Stack

	NC/ CA	Type	Citation	Requirement
1.0		CD	hdr	LIMITS
2.0		LIMIT	Minn. R. 7011.0710, subp. 1(A)	Total Particulate Matter: less than or equal to 0.30 grains/dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735.
3.0		LIMIT	Minn. R. 7011.0715, subp. 1(B)	Opacity: less than or equal to 20 percent except for one six-minute period per hour of not more than 60 percent opacity.
4.0		CD	hdr	CONTROL EQUIPMENT EMISSION AND OPERATIONAL LIMITS
5.0		LIMIT	Minn. R. 7007.0800, subps. 2 and 14	The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for Total Particulate Matter: greater than or equal to 99.9 percent
6.0		LIMIT	Minn. R. 7007.0800, subps. 2 and 14	The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for PM < 10 micron: greater than or equal to 99.9 percent
7.0		LIMIT	Minn. R. 7007.0800, subps. 2 and 14	The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for PM < 2.5 micron: greater than or equal to 99.9 percent
8.0		CD	Minn. R. 7007.0800, subps. 4 and 5	Visible Emissions: The Permittee shall check the fabric filter stack (SV 013) for any visible emissions once each day of operation during daylight hours. During inclement weather, the Permittee shall read and record the pressure drop across the fabric filter, once each day of operation.
9.0		CD	hdr	CONTROL EQUIPMENT MONITORING AND RECORDKEEPING
10.0		CD	Minn. R. 7007.0800, subps. 4 and 5	Recordkeeping of Visible Emissions. The Permittee shall record the time and date of each visible emission inspection and whether or not any visible emissions were observed.
11.0		CD	Minn. R. 7007.0800, subps. 2 and 14	The Permittee shall operate and maintain the fabric filter at all times that any emission unit controlled by the fabric filter is in operation. The Permittee shall document periods of non-operation of the control equipment.
12.0		CD	Minn. R. 7007.0800, subps. 4, 5, and 14	Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - visible emissions are observed; or - the fabric filter or any of its components are found during the inspections to need repair. Corrective actions shall eliminate visible emissions, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the fabric filter. The Permittee shall keep a record of the type and date of any corrective action taken for each filter.
13.0		CD	Minn. R. 7007.0800, subps. 4, 5 and 14	Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections.
14.0		CD	Minn. R. 7007.0800, subp. 14	The Permittee shall operate and maintain the fabric filter in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff.



COMPLIANCE PLAN **CD-01**

Facility Name: Wausau Paper Mills LLC

Permit Number: 03500002 - 005

Subject Item: EU 016 Telephone/Pager Backup Generator

Associated Items: SV 009 Telephone/Pager Generator Stack

	NC/ CA	Type	Citation	Requirement
1.0		CD	hdr	LIMITS
2.0		LIMIT	Minn. R. 7011.2300, subp. 1	Opacity: less than or equal to 20.0 percent opacity once operating temperatures have been attained.
3.0		LIMIT	Minn. R. 7011.2300, subp. 2	Sulfur Dioxide: less than or equal to 0.50 lbs/million Btu heat input . PTE based on equipment capacity and allowed fuels is 0.29 lb/MMBtu.
4.0		CD	Minn. R. 7005.0100, subp. 35a	Fuel type: propane only.
5.0		CD	hdr	OPERATIONAL REQUIREMENTS
6.0		CD	40 CFR Section 63.6595(a)(1); Minn. R. 7011.8150	This emission units in this group are subject separately to the requirements of 40 CFR Part 63 Subpart ZZZZ. The source shall comply with the applicable emission limitations and operating limitations no later than May 3, 2013.
7.0		CD	40 CFR Section 63.6602 and Table 2C to Subpart ZZZZ of Part 63; Minn. R. 7011.8150	Change oil and filter every 500 hours of operation or annually, whichever comes first.
8.0		CD	40 CFR Section 63.6602 and Table 2C to Subpart ZZZZ of Part 63; Minn. R. 7011.8150	Inspect spark plugs every 1000 hours of operation or annually, whichever comes first, and replace as necessary.
9.0		CD	40 CFR Section 63.6602 and Table 2C to Subpart ZZZZ of Part 63; Minn. R. 7011.8150	Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.
10.0		CD	40 CFR Section 63.6605(a) and (b); Minn. R. 7011.8150	At all times the Permittee shall operate and maintain the engine in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.
11.0		CD	40 CFR Section 63.6625(e)(2); Minn. R. 7011.8150	Operate and maintain the engine and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop a 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 for minimizing emissions.
12.0		CD	40 CFR Section 63.6625(f); Minn. R. 7011.8150	Install a non-resettable hour meter if one is not already installed by October 19, 2013.
13.0		CD	40 CFR Section 63.6625(h); Minn. R. 7011.8150	The Permittee shall minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes.
14.0		CD	40 CFR Section 63.6640(f)(1); Minn. R. 7011.8150	The Permittee shall operate the emergency generator according to the requirements (i)-(iii). Any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described in (i)-(iii), is prohibited. If the Permittee does not operate the engine according to the requirements in (i)-(iii), the engine will not be considered an emergency engine and will need to meet all requirements for non-emergency engines; (i) There is no time limit on the use of the emergency engine in emergency situations.
15.0		CD	40 CFR Section 63.6640(f)(1); Minn. R. 7011.8150	(ii) The Permittee may operate the engine for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing is limited to 100 hours per year. The Permittee may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the Permittee maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency RICE beyond 100 hours per year.



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Permit Number: 03500002 - 005

16.0		CD	40 CFR Section 63.6640(f)(1); Minn. R. 7011.8150	(iii) The Permittee may operate the engine up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income by supplying power to the electric grid or otherwise supplying power as part of a financial arrangement with another entity; except that the Permittee may operate the engine for a maximum of 15 hours per year as part of a demand response program if the regional transmission organization or equivalent balancing authority and transmission operator has determined there are emergency conditions that could lead to a potential electrical blackout, such as unusually low frequency, equipment overload, capacity or energy deficiency, or unacceptable voltage level.
17.0		CD	40 CFR Section 63.6640(f)(1); Minn. R. 7011.8150	(iii), continued from above The engine may not be operated for more than 30 minutes prior to the time when the emergency condition is expected to occur, and the engine operation must be terminated immediately after the facility is notified that the emergency condition is no longer imminent. The 15 hours per year of demand response operation are counted as part of the 50 hours of operation per year provided for non-emergency situations. The supply of emergency power to another entity or entities pursuant to financial arrangement is not limited by this paragraph, as long as the power provided by the financial arrangement is limited to emergency power.
18.0		CD	40 CFR Section 63.6665 and Table 8 to Subpart ZZZZ of Part 63; 40 CFR Section 63.1 - 63.15; Minn. R. 7011.8150	The Permittee shall comply with the General Provisions in 40 CFR Section 63.1 through 63.15, as applicable.
19.0		CD	hdr	RECORDKEEPING
20.0		CD	40 CFR Section 63.6655(e)(2); Minn. R. 7011.8150	The Permittee shall keep records of the maintenance conducted on the engine in order to demonstrate that the Permittee operated and maintained the engine and after-treatment control device (if any) according to the maintenance plan.
21.0		CD	40 CFR Section 63.6655(f)(1); Minn. R. 7011.8150	The Permittee shall keep records of the hours of operation of the engine that are recorded through the non-resettable hour meter. The Permittee shall document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engine is used for demand response operation, the Permittee shall keep records of the notification of the emergency situation, and the time the engine was operated as part of demand response.
22.0		CD	40 CFR Section 63.6660; 40 CFR Section 63.10(b)(1); Minn. R. 7011.8150	(a) The Permittee shall maintain records in a form suitable and readily available for expeditious review according to 40 CFR Section 63.10(b)(1). (b) As specified in 40 CFR Section 63.10(b)(1), the Permittee keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. (c) The Permittee shall keep each record readily accessible in hard copy or electronic format for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 40 CFR Section 63.10(b)(1).



COMPLIANCE PLAN **CD-01**

Facility Name: Wausau Paper Mills LLC

Permit Number: 03500002 - 005

Subject Item: EU 017 Hydroplant Backup Generator

Associated Items: SV 010 Hydroplant Generator Stack

	NC/ CA	Type	Citation	Requirement
1.0		CD	hdr	NONROAD ENGINES
2.0		CD	Minn. R. 7007.0800, subp. 4 and 5	<p>The Permittee shall keep records for each nonroad engine that will include:</p> <ol style="list-style-type: none">1) Date that the nonroad engine is brought onsite.2) Date that the nonroad engine is taken offsite and/or moved to a different location.3) Identification number.4) Rated capacity of the nonroad engine.5) The model year and date of manufacture (as defined by the applicable nonroad engine rule).6) Which nonroad provision that the nonroad engine is certified under.7) Function of the nonroad engine. <p>While on site, each engine shall be labeled in such way that it can be determined that it is a nonroad engine and not one of the permitted engines covered by this air permit.</p>
3.0		CD	40 CFR Section 1068.30, "Nonroad engines", (2)(iii)	<p>The Permittee shall not have nonroad engines in one location for more than 12 consecutive months. Any engine, or engines, that replaces an engine at a location and that is intended to perform the same or similar function as the engine it replaced will be included in calculating the consecutive time period.</p> <p>A location is any single site at a building, structure, facility, or installation.</p>
4.0		CD	40 CFR Section 1068.101(b)(3)	<p>For a nonroad engine that is excluded from any requirements of 40 CFR Part 1068 because it is a stationary engine, the Permittee may not move it or install it in any mobile equipment, except as allowed by the provisions of 40 CFR Part 1068. The Permittee may not circumvent or attempt to circumvent the residence-time requirements of paragraph (2)(iii) of the nonroad engine definition in 40 CFR Section 1068.30.</p>

ATTACHMENT 4
CAM PLAN

Compliance Assurance Monitoring (CAM) Plan

Compliance Assurance Monitoring (CAM) Plan
Wausau Paper Printing & Writing LLC
Brainerd, Minnesota

1. Applicability

- 1.1 Process/Emission Unit: Boilers 2, 3, and 4 (EU 002, EU003, and EU004)
- 1.2 Control Technology: Electrostatic Precipitator (ESP) – (CE001)
- 1.3 Pollutant: Particulate Matter (PM, PM10)

2. Monitoring Approach Description

Indicators Monitored	Total voltage input.
Rationale for Monitoring Approach	<p>In an ESP, electric fields are established by applying a direct-current voltage across a pair of electrodes: a discharge electrode and a collection electrode. Particulate matter suspended in the gas stream is electrically charged by passing through the electric field around each discharge electrode (the negatively charged electrode). The negatively charged particles then migrate toward the positively charged collection electrodes. The particulate matter is separated from the collection plates by rapping the plates.</p> <p>The secondary voltage drops when a malfunction, such as grounded electrodes, occurs in the ESP. When the secondary voltage drops, less particulate is charged and collected. Therefore, monitoring the voltage input will provide a reasonable assurance that the ESP is functioning properly.</p>
Monitoring Methods Location	Adhere to the Operation and Maintenance Plan for the high voltage controls and equipment for the ESP (record voltages from the display on field control cabinets) and take corrective action as soon as possible to eliminate any problem associated with the voltage input.
Analytical Device Required	ESP voltage is measured for each field, using a voltmeter.
Data Acquisition and Measurement System Operation	<ul style="list-style-type: none">▪ Frequency of Measurement: Physically check the total voltage input recording device at least once each operating day.▪ Reporting Units: Voltage (V)▪ Recording Process: Operations keeps a written record of the voltages for each field daily from the display on field control cabinets. <p>If total voltage input is outside the required operating range, the owner or operator will follow the Operation and Maintenance plan for the ESP and take corrective action. Owner or operator will keep a record of the type and date of any deviations and/or corrective actions taken.</p>
Data Requirements	The facility's historical records on ESP voltage input measurements.
QA/QC Procedures	Calibrate the voltage transducers for the Distributed Control System (DCS) charting system and confirm the voltmeter zero when ESP is not operating, at least annually. Perform all manufacturer's recommended maintenance.

3. Justification

The selected deviation level is 155 V/ per 3-hour block average. When a deviation occurs, corrective action will be initiated, beginning with an evaluation of the occurrence to determine the action required to correct the situation. All deviations will be documented and reported.

The indicator range for the ESP voltage was selected based upon the level maintained during normal operation and recent performance tests. The normal operating voltage is set at its highest level achievable without having an excess spark rate. During abnormal operation or a malfunction (such as grounded electrodes), the ESP voltage levels are appreciably lower than normal operational levels. Operational experience has indicated that the ESP typically operates in the range of 210 to 230 VAC. If one field in the ESP goes out of service, the total voltage input may drop below 155 V.

The most recent performance test using Method 5 and Method 202 was conducted March 13-14, 2007. During this test, the measured PM emissions for the unit averaged 0.07 lbs/MMBtu and 0.02 lbs/MMBtu for two different conditions tested. Visible emission opacity observations averaged 0%. During the performance tests, the ESP was operating normally and the measured particulate emissions were below the PM emission limitation of 0.6 lbs/MMBtu and the opacity limitation of 20%.

ATTACHMENT 5
NAAQS/MAAQs RESULTS TABLE FROM MODELING (2008)

Pollutant	Averaging Time	Year	Modeled Concentration	Background	Total Concentration	NAAQS	MAAQS	% of NAAQS	% of MAAQS	Max %
			(µg/m ³)	(µg/m ³)	(µg/m ³)	(µg/m ³)	(µg/m ³)			
CO	1-hour	1972			0			0.00%	0.00%	0.00%
		1973			0			0.00%	0.00%	
		1974			0	40,000	35,000	0.00%	0.00%	
		1975			0			0.00%	0.00%	
		1976			0			0.00%	0.00%	
	8-hour	1972			0			0.00%	0.00%	0.00%
		1973			0			0.00%	0.00%	
		1974			0	10,000	10,000	0.00%	0.00%	
		1975			0			0.00%	0.00%	
		1976			0			0.00%	0.00%	
	1-hour	1972	1162.732		1272.732			649.35%	97.90%	98.65%
		1973	1164.799		1274.799			650.41%	98.06%	
		1974	1153.583	110	1263.583	196	1,300	644.69%	97.20%	
		1975	1151.425		1261.425			643.58%	97.03%	
		1976	1172.494		1282.494			654.33%	98.65%	
	3-hour	1972			0			N/A	0.00%	98.65%
		1973			0			N/A	0.00%	
		1974			0	N/A	915	N/A	0.00%	
		1975			0			N/A	0.00%	
		1976			0			N/A	0.00%	
SO ₂	3-hour	1972	1162.732		1272.732			N/A	97.90%	98.65%
		1973	1164.799		1274.799			N/A	98.06%	
		1974	1153.583	110	1263.583	N/A	1,300	N/A	97.20%	
		1975	1151.425		1261.425			N/A	97.03%	
		1976	1172.494		1282.494			N/A	98.65%	
	24-hour	1972	197.8043		257.8043			70.63%	N/A	98.65%
		1973	273.3453		333.3453			91.33%	N/A	
		1974	291.6037	60	351.6037	365	N/A	96.33%	N/A	
		1975	209.064		269.064			73.72%	N/A	
		1976	254.043		314.043			86.04%	N/A	
	Annual	1972	16.44313		21.44313			26.80%	35.74%	98.65%
		1973	16.26061		21.26061			26.58%	35.43%	
		1974	18.11599	5	23.11599	80	60	28.89%	38.53%	
		1975	17.78212		22.78212			28.48%	37.97%	
		1976	19.13243		24.13243			30.17%	40.22%	
		1972	261.2653		341.2653			181.52%	N/A	
		1973	262.5998		342.5998			182.23%	N/A	

1-hour SO2 NAAQS not in effect until 2010

1-hour NO2 NAAQS not in effect until 2010

Pollutant	Averaging Time	Year	Modeled Concentration ($\mu\text{g}/\text{m}^3$)	Background ($\mu\text{g}/\text{m}^3$)	Total Concentration ($\mu\text{g}/\text{m}^3$)	NAAQS ($\mu\text{g}/\text{m}^3$)	MAAQs ($\mu\text{g}/\text{m}^3$)	% of NAAQS	% of MAAQS	Max %
NO ₂	1-hour	1974	262.0159	80	342.0159	188	N/A	181.92%	N/A	23.26%
		1975	260.5494		340.5494			181.14%	N/A	
		1976	265.5518		345.5518			183.80%	N/A	
		1972	5.53332		22.53332			22.53%	N/A	
	Annual	1973	5.23634	17	22.23634	100	N/A	22.24%	N/A	
		1974	5.91466		22.91466			22.91%	N/A	
		1975	5.74725		22.74725			22.75%	N/A	
		1976	6.26107		23.26107			23.26%	N/A	
PM ₁₀	24-hour	1972	26.46057	37	63.46057	150	N/A	42.31%	N/A	52.07%
		1973	20.07156		57.07156			38.05%	N/A	
		1974	23.01074		60.01074			40.01%	N/A	
		1975	18.31643		55.31643			36.88%	N/A	
		1976	19.95164		56.95164			37.97%	N/A	
		1972	2.53987		25.53987			N/A	50	
	1973	2.55265	25.55265	N/A	51.11%					
	1974	3.03291	26.03291	N/A	52.07%					
	1975	2.53954	25.53954	N/A	51.08%					
	1976	2.87228	25.87228	N/A	51.74%					
	PM _{2.5}	24-hour	1972			0	35	N/A	0.00%	
1973				0		0.00%			N/A	
1974				0		0.00%			N/A	
1975				0		0.00%			N/A	
1976				0		0.00%			N/A	
1972				0		15			N/A	0.00%
1973			0	0.00%	N/A					
1974			0	0.00%	N/A					
1975			0	0.00%	N/A					
1976			0	0.00%	N/A					
Pb		Rolling 3-Month	1972			0	0.15	N/A	0.00%	N/A
	1973			0		0.00%			N/A	
	1974			0		0.00%			N/A	
	1975			0		0.00%			N/A	
	1976			0		0.00%			N/A	

ATTACHMENT 6

MPCA MODELING GUIDANCE MEMO

Office Memorandum

DATE : 05/26/2011

TO : Affected Permitted Facilities

FROM : Jeff Smith
Director
Industrial Division

PHONE : 651/757-2735

SUBJECT : Modeling Guidance for Compliance with one-hour NO₂, one-hour SO₂ and 2006 24-hour PM_{2.5} NAAQS**PURPOSE:**

In 2010, the U.S. Environmental Protection Agency (EPA) promulgated new National Ambient Air Quality Standards (NAAQS) for nitrogen dioxide (NO₂) and sulfur dioxide (SO₂) averaged over one hour. In 2006, EPA promulgated a revised fine particulate matter (PM_{2.5}) NAAQS with an averaging time of 24 hours. The Minnesota Pollution Control Agency's (MPCA's) ongoing goal is the protection of human health and the environment through appropriate implementation of NAAQS. Evolving federal implementation guidance, data limitations, and the short-term form of these standards create challenges for efficient implementation of these newer NAAQS.

This guidance document, which applies for the time prior to the attainment dates for each of these standards, clarifies when the MPCA will require facility-based air dispersion modeling for the 2010 one-hour NO₂, 2010 one-hour SO₂ and the 2006 24-hour PM_{2.5} NAAQS.

This guidance document also provides clarity regarding how facility-based air dispersion modeling conducted by an owner or operator for the three NAAQS identified above, if conducted prior to facility-specific enforceable requirements, impacts a facility's Annual Compliance Certification as required under Minn. R. 7007.0800, Subp. 6(C).

MODELING GUIDANCE

Except for the reasons described below, the MPCA generally will not immediately require facility-based air dispersion modeling to demonstrate compliance with the 2010 one-hour NO₂, 2010 one-hour SO₂ and the 2006 24-hour PM_{2.5} NAAQS. Consistent with EPA requirements and the practices of EPA Region 5 states and other neighboring states, the MPCA may require facility-based air dispersion modeling under the circumstances described below.

Prior to the respective attainment dates for 2010 one-hour NO₂, 2010 one-hour SO₂ and the 2006 24-hour PM_{2.5} NAAQS, the MPCA encourages facility owners and operators to conduct internal air dispersion modeling and engineering analyses to review and refine emission factors, stack information, and other air dispersion modeling inputs to facilitate future attainment and compliance. The respective attainment dates are: February 2017 for the 2010 one-hour NO₂ NAAQS, July 2017 for the 2010 one-hour SO₂ NAAQS and December 2014 for the 2006 PM_{2.5} NAAQS.

When the internal analyses include air dispersion modeling, the modeling results for the 2010 one-hour NO₂, 2010 one-hour SO₂ and the 2006 24-hour PM_{2.5} NAAQS are not required to be reported on the Annual Compliance Certification for an operating air quality permit prior to the effective date of facility-specific requirements. When a formal request for air dispersion modeling is made by the MPCA, the information must be submitted to the MPCA for permit or SIP evaluation. This guidance does not change existing Title V Annual Compliance Certification obligations to consider internal modeling results as potential credible evidence of noncompliance for any standards not specifically addressed by this policy.

The MPCA encourages any owner or operator conducting such internal modeling to follow the air dispersion modeling guidance provided on the MPCA or EPA web sites.¹ The use of consistent protocols will help facilities plan based on reliable data.

The MPCA believes the allowance for internal modeling for the 2010 one-hour NO₂, 2010 one-hour SO₂ and the 2006 24-hour PM_{2.5} NAAQS provided above will help owners and operators prepare for the eventual compliance demonstration for the identified NAAQS. This preparation will provide owners and operators with information to plan for any necessary facility changes, including permit modifications, to demonstrate that their facility emissions do not cause or contribute to a NAAQS violation.

If owners or operators want to increase their regulatory certainty for future planning purposes, the MPCA is willing to enter into schedules of compliance that would lay out air dispersion modeling and other future work from the owners or operators to demonstrate compliance and potentially provide for related facility changes. An owner or operator wanting to enter into a schedule of compliance under this guidance should contact the supervisor of the Air Quality Compliance and Enforcement Unit at the MPCA.

WHEN AIR DISPERSION MODELING MAY BE REQUIRED

Prevention of Significant Deterioration Permitting

Federal regulations define the air dispersion modeling requirements for all final NAAQS for Prevention of Significant Deterioration (PSD) permitting. The MPCA has no discretion to defer PSD modeling when air dispersion modeling is required under the PSD program, due to proposed emissions of a facility or facility changes. Therefore, PSD modeling is not impacted by this guidance.

State Implementation Plans

The Clean Air Act (CAA) requires EPA and states to implement NAAQS through the development and approval of State Implementation Plans (SIPs). Air dispersion modeling may be required during the development of a nonattainment or maintenance SIP. The CAA requires a state to implement any facility emission reductions or changes necessary to demonstrate attainment with the relevant standard. Section 110(a)(2)(A) of the Clean Air Act requires that these reductions are enforceable at the state level when the state submits the SIP for EPA approval.

¹ <http://www.pca.state.mn.us/nwqh421> or <http://www.epa.gov/scram001/>

Compliance with the reduction requirements must occur on a timeframe that ensures the NAAQS attainment date is met. The state must demonstrate, usually through air dispersion modeling, that the emission reductions will result in attainment. The MPCA uses permits, consent decrees and administrative orders to ensure SIP requirements are enforceable.

Under the 2010 SO₂ NAAQS, EPA will require air dispersion modeling for implementation of the one-hour SO₂ NAAQS. EPA will also require a robust CAA §110(a) SIP that uses air dispersion modeling to evaluate whether facilities above a federally defined emission threshold cause or contribute to violations of the 2010 one-hour SO₂ NAAQS. For any sources where air dispersion modeling shows a potential to cause or contribute to a NAAQS violation, the MPCA must include enforceable conditions in the SIP and show that compliance will occur by July 2017. To complete the SIP for the one-hour SO₂ NAAQS by the federally required date of June 2013, the MPCA will conduct the first round of air dispersion modeling. If the first round of air dispersion modeling indicates NAAQS receptor exceedances, the MPCA will work with potentially culpable sources to conduct refined modeling and plan for an enforceable compliance demonstration. The MPCA will send letters to facilities requesting validation of air dispersion modeling input information in May 2011.

As of May 2011, the EPA has not required that the MPCA submit air dispersion modeling results as part of the maintenance SIPs for the 2010 one-hour NO₂ and 2006 24 hour PM_{2.5} standards.

Minor Source New Source Review Permitting

The CAA requires the MPCA to have the ability to ensure that minor sources do not cause or contribute to NAAQS violations or cause the exceedance of any applicable PSD increments. The CAA also requires Minnesota's SIPs to demonstrate that the MPCA has the authority to ensure that major and minor sources do not cause or contribute to a violation of any NAAQS or cause the exceedance of any applicable PSD increments. These requirements establish the MPCA's obligation to formally require air dispersion modeling for minor sources to meet federal requirements for a state Minor Source New Source Review (NSR) program. Without the ability to ensure that minor sources do not cause or contribute to a violation of NAAQS, the MPCA's ability to receive full approval of SIPs to implement NAAQS in Minnesota is jeopardized.

The MPCA does not require all minor sources to model for NAAQS or applicable PSD increment compliance. The current practice is to assess compliance with applicable PSD increments during the review of PSD modeling for proposed modifications at a major source. The MPCA uses the following criteria for when NAAQS modeling may be required from minor sources under the MPCA's Minor Source NSR authority:

- a) Triggering PSD, nonattainment area New Source Review, or environmental review;
- b) The installation of a non-emergency internal combustion engine;
- c) The facility is located in a nonattainment or maintenance area for a related pollutant;

- d) Existing modeling that indicates a potential threat to the NAAQS;
- e) An increase in emissions of a related pollutant; or
- f) Public interest.

Though these criteria are broad, owners or operators may better predict when modeling may be required through proactive work in advance of potential investment in new facilities or modifications. Owners or operators may review existing modeling results for their own and nearby facilities. Predictions approaching NAAQS, PSD increments, or visibility thresholds are more likely to lead to modeling requests. Owners or operators may also work cooperatively with their local communities to improve residents' understanding of their current operations and future plans. Ideally, this type of cooperation would allow local resolution of concerns.

Multiple Pollutant or Regulatory Implications

Some sources may be subject to multiple federal and state regulations that will require emission reductions of multiple pollutants or facility modifications (e.g. Regional Haze, Boiler MACT, Mercury TMDL, Transport Rule). The compliance dates for these regulations may be different and the MPCA wants to ensure efficient implementation of regulatory requirements and provide regulatory certainty for affected parties.

The MPCA wants to apply multi-pollutant approaches to efficiently address regulations and avoid single pollutant solutions that may exacerbate or complicate emission reductions for other pollutants. We encourage facilities to discuss such multi-pollutant strategies proactively with MPCA to increase efficiency and ensure future compliance. In some cases, MPCA may request modeling data or demonstrations for the new standards in order to satisfy the requirements and goals of multiple programs and achieve compliance with NAAQS.

ONGOING DISCUSSIONS

The MPCA will continue to meet with interested parties and stakeholders to ensure the MPCA's use of air dispersion modeling meets state and federal requirements without discouraging facilities from engaging in internal air dispersion modeling for planning purposes. The MPCA will continue to work with EPA and other states to improve air dispersion modeling guidance and tools. The MPCA will also continue to monitor the use of air dispersion modeling in other states to efficiently implement an air quality program that protects human health and the environment.

For further questions regarding this guidance policy, contact the Air Quality Permits Section Manager or the Air Assessment and Environmental Data Management Section Manager.