

TECHNICAL SUPPORT DOCUMENT
For
DRAFT/PROPOSED AIR EMISSION PERMIT NO. 00700019-007

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. General Information

1.1 Applicant and Stationary Source Location:

Table 1. Applicant and Source Address

Applicant/Address	Stationary Source/Address (SIC Code: 2493)
Norbord Industries, Inc. 1 Toronto Street, Suite 600 Toronto, Ontario, Canada M5C 2W4	Norbord Minnesota, Inc. 4409 Northwood Road Northwest Solway, Beltrami County, MN 56678
Contact: Anastasia Tullos 662-348-2800 x234	

1.2 Facility Description

Norbord Minnesota (Norbord) owns and operates an Oriented Strandboard (OSB) manufacturing facility in Beltrami County, Minnesota (Facility). The Facility is located approximately 10 miles west of Bemidji, Minnesota. To produce OSB, logs are sliced into small strands, which are then dried, blended with a phenol-formaldehyde resin and wax mixture, formed into layers, and finally pressed into wood panels. The equipment used for the process consists of two rotary drum dryers with two wood-fired Lamb burners, one flatline conveyor dryer with a Wellons wood-fired burner, one multi-opening board press, two Konus wood-fired burners which are the heat source for the press, and various handling, finishing, and forming processes.

The pollution control equipment and main pollutants of concern from the emission units at the Facility are as follows: the two rotary dryers and Lamb burners are sources of particulate matter (PM) and PM with an aerodynamic diameter less than 10 and 2.5 microns (PM₁₀ and PM_{2.5}), volatile organic compounds (VOC), carbon monoxide (CO), and nitrogen oxides (NO_x). The dryers/Lamb burners are currently controlled by an Electrified Filter Bed (EFB) which controls PM. The conveyor dryer and Wellons burner are also sources of PM, PM₁₀, PM_{2.5}, VOC, CO and NO_x. The press is uncontrolled and is primarily a source of VOC. The Konus burners are sources of PM, PM₁₀, PM_{2.5}, VOC, CO and NO_x and are each controlled by multiclones and an EFB. The in-plant particulate sources are generally controlled by

baghouses. There are also fugitive particulate sources such as bark and fuel piles and paved and unpaved roads.

1.3 Description of the Activities Allowed by this Permit Action

Norbord signed a Schedule of Compliance (SOC) which became effective September 27, 2011 allowing the facility to replace the dryer compartments of EU001 (Face Dryer/Lamb Burner) and EU002 (Core Dryer/Lamb Burner). The Permittee installed the two rotary dryer compartments (14' x 50' MEC triple pass dryers) to replace the existing two dryer compartments (12' x 50'). The dryers commenced construction October 4, 2011 and initial startup was October 13, 2011. The dryers will continue to be EU001 (Face Dryer/Lamb Burner) and EU002 (Core Dryer/Lamb Burner) since only portions of the units were replaced. The heat source for the dryers (Lamb Burner) was not modified. The dryers will continue to exhaust to the Electrified Filter Beds (CE017, CE018) and RTOs (CE020, CE024, CE025) as currently used.

New forming heads will be installed on the forming line, which will increase board press (EU012) production on an annual basis. The press' heat source will not be modified.

The baghouse (CE007) for the sander (EU011) and trim saw (EU010) will be replaced. The new baghouse (CE027) will have increased airflow (from 23,000 cfm to 40,000 cfm). More air will be used for the modified sander head (from 10,000 cfm to 25,000 cfm). The CO and PM₁₀ lb/hr limits for the dryers and baghouses at GP001 and GP004 in the permit will be interpreted as BACT limits from this permit action forward.

Norbord is taking a facility-wide limit to avoid major source status under 40 CFR pt. 63. These limits will allow the existing Konus (EU007/008) and Wellons (EU003) burners to be subject to the area source boiler NESHAP (subp. JJJJJ) rather than the major source NESHAP (subp. DDDDD). The facility is an existing major source for subp. DDDD but the limit will apply to the affected sources under subp. DDDD and requirements from this subpart will remain in the permit.

1.4. Facility Emissions:

Norbord is an existing major source for PSD/NSR. The facility utilized the actual to projected actual (ATPA) method for calculating emissions increases from the modified units in this permit action. The total ATPA emissions increases are shown below in Table 2. Projected increases in emissions are from the increased capacity dryers (EU001/002), modifications to the board press (EU012) and replacing the existing baghouse E (CE007) with a new baghouse (CE027) due to increased airflow from EU010/011.

Table 2. Title I Emissions Increase Summary

Pollutant	Corrected Projected Actual Emissions* (tpy)	Baseline Actual Emissions** (tpy)	Emissions Increase (tpy)	NSR Significant Thresholds for major sources (tpy)	NSR Review Required? (Yes/No)
PM	36.89	29.45	7.44	25	No
PM ₁₀	36.89	29.45	7.44	15	No

Pollutant	Corrected Projected Actual Emissions* (tpy)	Baseline Actual Emissions** (tpy)	Emissions Increase (tpy)	NSR Significant Thresholds for major sources (tpy)	NSR Review Required? (Yes/No)
PM _{2.5}	36.89	29.45	7.44	10	No
NO _x	77.0	52.4	24.6	40	No
SO ₂				40	
CO	157.6 ¹	62.6	95	100	No
Ozone (VOC)	98.0	73.6	24.4	40	No
Lead				0.6	
CO ₂ e***	90,497	75,414	15,083	75,000	No

*Projected Actual Emissions as defined in 40 CFR § 52.21(b)(41).

**Baseline Actual Emissions as defined in 40 CFR § 52.21(b)(48).

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

1: Includes limit to restrict CO increase to 95 tpy in order to avoid classification as a major modification under 40 CFR Section 52.21 (see Section 3.1).

Table 3. Total Facility Potential to Emit Summary

	Single HAP* tpy	Total HAP tpy	Single HAP* tpy	Total HAP tpy
	controlled		permit limited	
Total Facility Limited HAP Emissions	9.43	21.68	9.0	21.5
Combustion HAP	0.00118	0.00474		

* Methanol

Table 4. Facility Classification

Classification	Major/Affected Source	Synthetic Minor/Area	Minor/Area
PSD	X		
Part 70 Permit Program	X		
Part 63 NESHAP		X*	

* See Section 2.

2. Regulatory and/or Statutory Basis

New Source Review

The facility is an existing major source under New Source Review regulations. The facility has accepted limits to avoid a major modification under NSR/PSD for the CO increase.

Part 70 Permit Program

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

New Source Performance Standards (NSPS)

New Source Performance Standard, subp. Dc: Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

National Emission Standards for Hazardous Air Pollutants (NESHAP)

The facility is an existing major source for subp. DDDD and major source of HAPs due to EPA's "once in, always in" policy. The facility is a major source under 40 CFR pt. 63, but minor for future promulgated NESHAP standards for major sources of HAPs.

Norbord is taking a facility-wide limit on single and total HAPs to become a synthetic minor source under 40 CFR pt. 63. As an area source, the existing boilers will be subject to the area source boiler NESHAP subp. JJJJJ rather than the major source subp. DDDDD. The facility will continue to be subject to the major source NESHAP subp. DDDD, though the HAPs limits will also apply to affected sources subject to subp. DDDD. For further discussion, see Section 3 below.

NESHAP subp. DDDD: Plywood and Composite Wood Products

NESHAP subp. JJJJJ: Industrial, Commercial and Institutional Boilers Area Sources

Compliance Assurance Monitoring (CAM)

CAM does not apply to the modification allowed in this permit amendment.

Environmental Review & AERA

The facility is not subject to environmental review, i.e. an Environmental Assessment Worksheet (EAW,) and 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. 7011.0610 Standards of Performance for Fossil-Fuel-Burning Direct Heating Equipment
- Minn. R. 7011.0715 Standards of Performance for Post-1969 Industrial Process Equipment

Table 5. Regulatory Overview of Units Affected by the Modification/Permit Amendment

Level*	Applicable Regulations	Comments:
GP001	Title I Condition: 40 CFR Section 52.21(j) (BACT) and 40 CFR Section 52.21(m) (modeling); Minn. R.	Prevention of Significant Deterioration. Increasing CO limit from 32.4 to 38.9 lb/hr by replacing two 12' x 50' rotary dryers with two 14' x 50' rotary dryers. The record is not clear on this requirement;

Level*	Applicable Regulations	Comments:
	7007.3000	therefore the lb/hr limit is being clarified in this permit action and will be interpreted as BACT from this permit action forward.
GP001	Title I Condition: To avoid major source modification under 40 CFR Section 52.21; Minn. R. 7007.3000	Prevention of Significant Deterioration. Carbon monoxide limit on the dryers (EU001/002) to limit the CO emissions increase to 95 tpy to avoid major modification under NSR.
GP004	Title I Condition: 40 CFR Section 52.21(j) (BACT) and 40 CFR Section 52.21(m) (modeling); Minn. R. 7007.3000	Prevention of Significant Deterioration. The new baghouse (CE027) meets the existing PM ₁₀ 0.004 gr/dscf limit, but the increased airflow will change the PM ₁₀ limit from 0.75 to 1.37 lb/hr. The TSD from PER001 describes the 0.004 gr/dscf limit as BACT and the lb/hr limits for individual CE units as modeled limits. The lb/hr limits for individual CE units will be interpreted as BACT from this permit action forward.
GP007	40 CFR pt. 63, subp. JJJJJ	National Emissions Standards for Hazardous Air Pollutants for Industrial, Commercial and Institutional Boilers Area Sources.
GP008	Title I Condition: To avoid major source status under 40 CFR Section 63.2	National Emissions Standards for Hazardous Air Pollutants. Emission limits to avoid major source status.

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

3. Technical Information

Dryer Replacement (EU001, EU002)

A Schedule of Compliance (SOC) between the Minnesota Pollution Control Agency and Norbord was signed and became effective on September 27, 2011. This SOC authorized construction and installation of two replacement dryer compartments for EU001 and EU002 at the facility. The 30-year old MEC rotary dryers used for core and face drying were replaced with MEC triple pass rotary dryers. The replacement was only for the actual dryer compartment. Commence construction and initial startup dates for the replacement dryers are listed in Section 1.3 of this TSD. The facility description, however will keep the commence construction (3/1/1981) and initial startup (6/1/1981) dates for the original burners.

No changes were made to the Lamb Burners which supply heat to the drying chambers (drums), or the control equipment for the drying system which includes electrified filter beds (EFBs) and regenerative thermal oxidizers (RTOs). The size of the new dryer chambers is 14' x 50', replacing the older dryer chambers which were 12' x 50'. Norbord claims the additional size increases the drying capacity by about 20%. The dryers (EU001, EU002) operate totally independent of a conveyor dryer system at the facility. Baghouse J, associated with rock cleaning for the face and core dryer, will not be changed. The unit has the capacity to handle any increased loading. Actual emissions from the baghouse should not change from this project.

The current permit for the face and core dryer system contains BACT limits for PM, PM₁₀, CO, NO_x, and VOCs. HAP emissions from the process are subject to NESHAP subp. DDDD. Norbord requests increasing

the limit on allowable hourly CO to 38.9 lb/hr (previously 32.4 lb/hr) due to the modification. The BACT limit of 1.3 lb CO/ton of oven dried product will remain unchanged. The citation for the CO limit of 38.9 lb/hr is being clarified and will be interpreted as BACT from this permit action forward. The existing limit of 32.4 lb CO/hr was initially proposed by Northwood Panelboard (currently Norbord) as BACT in the May 2001 PSD permit application but when the final permit was issued on May 11, 2004, the limit was cited as a Title I modeling limit from 40 CFR Section 52.21(m) and not BACT. When BACT limits are established there is usually a concentration limit and an associated lb/hr limit based on capacity or production of the unit(s).

Reviewing the RACT/BACT/LAER Clearinghouse for this facility, no results were shown in the RBLC database. The CO limits in concentration (1.3 lb/ton of oven dried product) and lb/hr (38.9 lb/hr) for the dryers will be cited as BACT with this permit action.

Board Press (EU012)

New forming heads will be installed on the forming line. This will increase the capacity of the press. No other components of the forming, press and finishing system will be modified. The existing control devices for these processes will not change and no changes in limits are necessary. The board press (EU012) has existing BACT limits for PM, PM₁₀ and VOCs. These limits will not be changed with this permit action. The current control system meets the requirements of NESHAP subp. DDDD.

Baghouse Replacement (CE027 for CE007)

The one headed sander will be modified to a two headed sander which requires more airflow to be added to the air system called "E-Air". The existing baghouse E (CE007) for the sander (EU011) and trim saw (EU010) will be replaced with a new baghouse (CE027) to accommodate the increased airflow rate of 40,000 cfm. The PM₁₀ lb/hr limit for CE027 is requested to increase to 1.37 lb/hr (currently 0.75 lb/hr) based on the increased airflow volume from 22,000 to 40,000 cfm. The existing concentration limit of 0.004 gr/dscf is not requested to be changed. Likewise to the dryers in GP001, the TSD for PER001 described the concentration limit of 0.004 gr/dscf as BACT and lb/hr limits as modeling limits. Similar to the CO lb/hr limit in GP001, the lb/hr limits for individual baghouses in GP004 will now be cited and interpreted as BACT limits keeping in line with BACT limits comprising of a concentration and lb/hr limit that are closely associated. In this case, the association between concentration and lb/hr limits is calculated by accounting for the airflow rate through each individual baghouse.

Other proposed changes at the facility include replacing two debarkers which have reached their effective lifetime, two additional log ponds, a sidelift conveyor and stair feeder. None of these processes are sources of emissions.

Permit Reopenings (DQ #2105, 2383, 2691, 2876, 2962, 2986, 3214, 3624)

2105: Performance test conducted February 21, 2008 for total hydrocarbon on the Lamb Burners and Dryers' RTOs pursuant to 40 CFR pt. 63, subp. DDDD. GP001 (CE020, 024, 025) with 3 RTOs in operation

temperature ≥ 1525 °F using a 3-hr block average. With 2 RTOs in operation temperature ≥ 1585 °F using a 3-hr block average.

2383: Performance test conducted September 24, 2008 on Konus Burners (GP002/SV003). The burners tested at worst case conditions, therefore no new operating limits are applicable pursuant to Minn. R. 7017.2025, subp. 3.

2691: Performance test conducted March 11, 2009 on the board press (EU012). The biofilter (CE026) temperature range based on test results is ≥ 72 °F and ≤ 81 °F based on 24-hr block average. The process throughput limit of 90% hardwood is no longer effective.

2876: Approval of a test waiver for the March 8-9, 2006 performance test on Lamb Burners and Dryer RTOs pursuant to 40 CFR pt. 63, subp. DDDD. GP001 (CE020, 024, 025) with 3 RTOs in operation temperature ≥ 1470 °F considered an acceptable operating alternative. Normal operating rate remains 1525 °F with 3 RTOs in operation (see 2105 above).

2962: Performance test conducted July 14-16, 2009 on the board press biofilter inlet and stack, Konus Burners and GP004's Baghouses B, F and J pursuant to 40 CFR pt. 63, subp. DDDD and August 19, 2009 PM retest on Baghouse J due to rejected test results from the July 14, 2009 test. CE026 biofilter temperature ≥ 80 °F and ≤ 88 °F based on 24-hr block average.

2986: Correction of the biofilter (CE026) temperature range to indicate results of the July 14-16, 2009 test and March 11, 2009 test. The new temperature range is set in this permit action to ≥ 72 °F and ≤ 88 °F based on 24-hr block average.

3214: Performance test conducted April 27-28, 2010 on Konus Burners and Conveyor Dryer System/Wellons Burner. GP002 heat input ≤ 38 mmBtu/hr based on 8-hr block average. GP003 production $\leq 30,480$ lbs/hr based on 8-hr block average.

3624: Performance test conducted April 13-14, 2011 on Lamb Burners and Dryers. CE017, 018 electrified filter bed (EFB) bed voltage ≥ 15.0 kV and EFB ionizer voltage ≥ 30.0 kV; both are instantaneous readings. These changes have been incorporated through this permit action.

A Notice of Compliance letter dated December 17, 2010 rescinded the GP002 heat input limit and GP003 production limit, however the production limit at GP003 will be retained in the permit. It also set limits for CE014 of ≥ 22.0 kV EFB bed voltage and ≥ 25.0 kV EFB ionizer voltage. For CE015 it set limits of ≥ 17.0 kV EFB bed voltage and ≥ 20.0 kV EFB ionizer voltage. This letter was not assigned a DQ number. These changes have been incorporated through this permit action.

Performance Tests

Below is a table listing future performance test dates for pollutants and their respective frequencies.

Table 6. Future Performance Testing

Permit Level	Pollutants	Frequency	Next Test
GP001	PM, PM ₁₀ , CO, NO _x , VOC, opacity	60 months	4/14/16

GP002	CO, NO _x	36 months	9/23/14
GP002	PM, PM ₁₀ , VOC, opacity	60 months	9/23/16
GP003	NO _x	36 months	4/28/13
GP003	PM, PM ₁₀ , CO, VOC	60 months	4/28/15
EU012	PM, PM ₁₀ , VOC	36 months	3/15/15

Deleted Initial Performance Test (GP001)

The initial performance test requirement to show compliance with Total HAP (THC as C) in accordance with NESHAP subp. DDDD emissions limit at GP001 is being removed in this permit action. The test was conducted February 21, 2008.

NESHAP Major Source Taking a Synthetic Minor Limit

Norbord converted part of its operation to include a resin called diphenyl methane diisocyanate or pMDI. The new resin is lower in formaldehyde and methanol than the previously used resin. As a result of this change, Norbord requested the inclusion of a limitation of less than 10 tpy of any single HAP and less than 25 tpy of total HAP to become a synthetic minor source of HAP due to the decrease in potential HAP emissions. The facility as permitted is already a major source of HAP and is currently subject to 40 CFR pt. 63, subp. DDDD Plywood and Composite Wood Products. Without the HAPs limit, the existing boilers would otherwise have been subject to subp. DDDDD, but instead will be subject to the area source subp. JJJJJ.

NESHAP subp. DDDDD was promulgated in 2005 and rescinded in 2007 with the rule never becoming effective since the compliance deadline was 2008-2009. Thus, Norbord was not technically subject to subp. DDDDD. An EPA guidance memo dated May 16, 1995, provides guidance for facilities that are a major source of HAPs for one rule (i.e. subp. DDDD) and take a synthetic minor limit to become an area source thereafter. The memo states: *"A facility that is subject to a MACT standard is not necessarily a major source for future MACT standards. For example, if after compliance with a MACT standard, a source's potential to emit is less than 10/25 tons per year applicability level, the EPA will consider the facility an area source for purposes of a subsequent standard."*

In Norbord's situation subp. DDDDD is the subsequent standard and by taking a synthetic minor limit on single and total HAPs will avoid being subject to subp. DDDDD and instead be subject to subp. JJJJJ for area sources. The limit on single and total HAPs will apply facility-wide to all emitting sources of HAPs, including affected sources under subp. DDDD. The requirements of subp. DDDD will remain in the permit. The purpose of the "once in, always in" policy by EPA is to prevent facilities from "backsliding" from MACT control levels and increasing emissions up to the major source thresholds.

Norbord provided HAPs emission factors from AP-42 Sections 1.4 and 1.6 for combustion HAPs as well as from stack and engineering tests and published emission factors from the National Council for Air and Stream Improvement (NCASI, 2008) for process HAPs. Emission factors for process HAPs will be used along with daily and monthly recordkeeping of hours of operation to calculate the 12-month rolling sum

of single and total process HAPs. Emission factors based on stack test results are valid for ten (10) years from the date the stack test was conducted. These emission factors are set to expire on September 14, 2016. A new stack test must be conducted before the date of expiration to reset the emission factors used for showing compliance with the synthetic minor limits on HAPs. The single and total HAPs limits of less than or equal to 9.0 and 21.5 tpy, respectively, are for process HAPs at the facility. These limits provide an adequate margin of compliance to remain below the 10 and 25 tpy major source thresholds for HAPs when including HAPs emissions from combustion sources and insignificant activities. The facility calculated worst case annual combustion HAPs of 0.00474 tpy.

Alternative Biomass Fuel Testing Requirements (GP001, GP002, GP003)

Single and total HAPs were added to the list of pollutants to be measured during test burns of alternative biomass fuel. If any alternative biomass fuels are to be tested for GP001, 002 or 003, the HAPs emissions shall be measured to assure compliance with the synthetic minor limits on single and total HAPs.

3.1 Emissions Increase Analysis

Actual to Projected Actual Analysis

As mentioned above, Norbord utilized the ATPA method in calculating their projected increases in emissions for the modifications related to this permit action. In evaluating the increase in CO emissions from the dryer replacement project, Norbord selected a baseline range of years 2006 to 2010. The greatest two year emissions of CO from the baseline range occurred in the two year period from 2006-2007. The CO baseline actual emissions from 2006-2007 were 62.6 tpy. To estimate projected actual emissions, Norbord used the proposed lb/hr limit for CO of 38.9 lb/hr and an annual hours of operation limit of 8,330 hr/yr to yield a projected actual emission rate of 162.0 tpy. Subtracting out the baseline actual emissions gives a projected increase of 99.4 tpy CO.

The significant emission rate for CO under NSR/PSD is 100 tpy. The calculated increase of 99.4 tpy is too close to the significance threshold for a major modification for CO. U.S. EPA allows a buffer of 5 to 10% below thresholds that would trigger NSR/PSD. If a 95 tpy increase in CO were allowed the revised hours of operation limit would be calculated as:

$$95 \text{ tpy CO increase} = (38.9 \text{ lb/hr} * \text{hours of operation}) - 62.6 \text{ tpy}$$

Solving for annual hours of operation gives a limit of less than or equal to 8,102 hours of operation. This gives a 5% buffer below the 100 tpy CO threshold for a major modification under NSR/PSD. Norbord was not comfortable with taking an hours of operation limit and instead opted to limit the CO emissions to less than or equal to 157.6 tpy. This limit allows Norbord to avoid a major modification under PSD and provides an adequate margin to assure Norbord can stay under the 100 tpy threshold for their dryer replacement project. Norbord is only requesting an increase in the hourly CO lb/hr limits on the dryers and claims all other emissions will remain unchanged due to the efficiency and flexibility of the control equipment.

For the press (EU012) the projected actual emissions were based on historical actual hourly rates and scaled up by a factor of 1.2 and limited to 8,330 hr/yr operation. There are no requests for changes to existing emission limits for the press.

The same methodology was also used for Baghouse E (CE007) where historical data for hourly usage and a representative measured grain loading rate were used. Only the PM₁₀ limit is requested to be raised to 1.37 lb/hr (previously 0.75 lb/hr). No change is requested to the BACT concentration limit of 0.004 gr/dscf.

The dryer system and forming and finishing system use a number of baghouses. These baghouses are currently subject to PSD BACT emission concentration limits of 0.004 gr/dscf. The baghouses and underlying processes associated with them will not be modified, except for Baghouse E (CE007). Norbord doesn't expect to use the baghouses any more frequently than previous historical levels.

3.2 Dispersion Modeling

Norbord submitted significant impact level (SIL) analysis for the proposed increase in CO emissions from the dryers (EU001/002) and PM₁₀ emissions from the new baghouse (CE027) on July 17, 2012. The CO limit at GP001 is proposed to be increased from 32.4 to 38.9 lb/hr and the PM₁₀ limit is to increase to 1.37 lb/hr, previously 0.75 lb/hr. In lieu of full modeling, a SIL analysis was conducted for the PM₁₀ and CO increases. Predicted worst-case net changes for the proposed baghouse (CE027) project were compared to PSD SILs for PM₁₀. A similar analysis was done for the CO increase from the dryers (EU001/002). AERMOD Version 12060 was used for the analysis and a summary table is shown below. A detailed discussion of the SIL analysis is attached to this TSD.

Table 7. AERMOD PM₁₀ Worst Case Net Change Predicted Impacts

Year	24-hr Highest (ug/m ³)	Annual Highest
2006	1.6	0.1
2007	1.8	0.1
2008	1.9	0
2009	1.3	0
2010	1.6	0
Worst Case	1.9	0.1
Significant Impact Level	5	1

For CO, the modeling predicted maximum impacts over a 5-year period of 33 ug/m³ for 1-hr (SIL = 2,000 ug/m³) and 20 ug/m³ for 8-hr (SIL = 500 ug/m³). The project does not show significant air quality impact by PSD definitions for PM₁₀ or CO and thus, no further modeling is needed.

3.3 Periodic Monitoring

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.

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.

The table below summarizes the periodic monitoring requirements for those emission units for which the monitoring required by the applicable requirement is nonexistent or inadequate.

Table 8. Periodic Monitoring

Level*	Requirement (rule basis)	Additional Monitoring	Discussion
GP001	CO: ≤ 38.9 lb/hr (Title I Condition: 40 CFR Section 52.21(j) (BACT) and 40 CFR Section 52.21(m) (modeling); Minn. R. 7007.3000)	Monitoring of temperature (RTO) and recordkeeping of pressure drop, and bed and ionizer voltage (EFB)	Existing monitoring requirements will remain unchanged and are adequate to show compliance with the revised limit.
GP001	CO: ≤ 157.6 tpy based on 12-mo. rolling sum (Title I Condition: To avoid major modification under 40 CFR Section 52.21; Minn. R. 7007.3000)	Daily and monthly recordkeeping of CO emissions	Daily and monthly recordkeeping of CO emissions to comply with tpy limit based on 12-month rolling sum. The 157.6 tpy limit on CO restricts the increase to 95 tpy from the baseline emissions to avoid a significant increase in CO under 40 CFR Section 52.21.
GP004 (CE027)	PM ₁₀ : ≤ 1.37 lb/hr (Title I Condition: 40 CFR Section 52.21(j) (BACT) and 40 CFR Section 52.21(m) (modeling); Minn. R. 7007.3000)	Check for visible emissions daily, performance testing	Units subject to NESHAP subp. JJJJJ include the Wellons Burner (EU003) and the Konus Burners (EU007, EU008). This permit action will interpret all lb/hr limits for individual baghouses at GP004 as BACT from this permit action forward. BACT limits include a concentration and lb/hr or production based limit to show compliance. Thus, each lb/hr limit will be cited as BACT. CE027 is replacing CE007
GP007 (EU003, EU007, EU008)	40 CFR pt. 63, subp. JJJJJ	None	Monitoring requirements from 40 CFR pt. 63, subp. JJJJJ are adequate to demonstrate compliance.
GP008	Single HAP: ≤ 9.0 tpy Total HAP: ≤ 21.5 tpy both based on 12-mo. rolling sum (Title I Condition: to avoid major source)	Recordkeeping: by the 15 th calculate the monthly and 12-month rolling sum for the previous month	Recordkeeping of hours of operation for process HAPs sources and utilization of emission factors from stack or engineering test results and NCASI 2008 factors for the industry. Stack testing emission factors are valid for ten (10) years from the date the test was conducted. Stack test emission factors set to

Level*	Requirement (rule basis)	Additional Monitoring	Discussion
	status under 40 CFR Section 63.2)		expire on September 14, 2016. Synthetic limits set to provide an adequate margin of compliance when accounting for combustion HAPs and insignificant activities.
CE014	Bed Voltage: ≥ 22.0 kV Ionizer Voltage: ≥ 25.0 kV (Title I Condition: To meet BACT limit; Minn. R. 7007.0800, subps. 2 & 14)	Recordkeeping: record pressure drop, bed & ionizer voltages	Based on April 27-28, 2010 test, based on 3-hr block average. Downtime of 15 minutes or more shall not be considered operating time. Recordkeeping for EFB voltages will be based on an instantaneous reading.
CE015	Bed Voltage: ≥ 17.0 kV Ionizer Voltage: ≥ 20.0 kV (Title I Condition: To meet BACT limit; Minn. R. 7007.0800, subps. 2 & 14)	Recordkeeping: record pressure drop, bed & ionizer voltages	Based on April 27-28, 2010 test, based on 3-hr block average. Downtime of 15 minutes or more shall not be considered operating time. Recordkeeping for EFB voltages will be based on an instantaneous reading.
CE017	Bed Voltage: ≥ 15.0 kV Ionizer Voltage: ≥ 30.0 kV (Title I Condition: To meet BACT limit; Minn. R. 7007.0800, subps. 2 & 14)	Recordkeeping: record pressure drop, bed & ionizer voltages	Based on April 13-14, 2011 test and measured as an instantaneous reading. Recordkeeping for EFB voltages will be based on an instantaneous reading.
CE018	Bed Voltage: ≥ 15.0 kV Ionizer Voltage: ≥ 30.0 kV (Title I Condition: To meet BACT limit; Minn. R. 7007.0800, subps. 2 & 14)	Recordkeeping: record pressure drop, bed & ionizer voltages	Based on April 13-14, 2011 test and measured as an instantaneous reading. Recordkeeping for EFB voltages will be based on an instantaneous reading.

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

3.4 Insignificant Activities

Norbord has several operations which are classified as insignificant activities under the MPCA's permitting rules. These are listed in Appendix B to the permit. There are no changes to insignificant activities due to this permit action.

3.5 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.

3.6 Comments Received to be completed after public notice period and EPA review

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

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

Comments were <not> received from the public during the public notice period. <The comments received did <not> include adverse comments on any applicable requirements of the permit. Changes to the permit were <not> made as a result of the comments. *Provide summary of changes.* >

<The revised permit was sent to EPA for their 45-day review on <date>.> Comments were <not> received from EPA during their review period. Changes to the permit were <not> made as a result of the comments. *Provide summary of changes.* >

4. Permit Fee Assessment

Attachment 2 to this TSD contains the MPCA's assessment of Application and Additional Points used to determine the permit application fee for this permit action as required by Minn. R. 7002.0019. The permit action includes one permit application received after the effective date of the rule (July 1, 2009). The permit includes limits to avoid a major modification under PSD (10 pts.) and major source status under 40 CFR pt. 63 (10 pts.). The facility also conducted a SIL analysis for CO and PM₁₀ that used the AERMOD program (15 pts.) and there was a NESHAP review of subp. JJJJJ (10 pts.).

5. Conclusion

Based on the information provided by Norbord Minnesota, the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 00700019-007 and this TSD, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Staff Members on Permit Team: Tarik Hanafy (permit writer/engineer)
 Rachel Studanski (enforcement)
 Marc Severin (stack testing)
 Jim Sullivan (modeling)
 Sarah Sevcik (peer reviewer)

AQ File No. 1750; DQ 3846, incorporates reopenings 2105, 2383, 2691, 2876, 2962, 2986, 3214, 3624

- Attachments:
1. Facility Description and CD-01 Forms
 2. Points Calculator
 3. SIL analysis for PM₁₀ and CO
 4. Emissions Calculations

Attachment 1:
Facility Description and CD-01 Forms



FACILITY DESCRIPTION: GROUPS (GP)

Show: Active and Pending Records

Action: PER 007

AQD Facility ID: 00700019

Facility Name: Norbord Minnesota

	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 005		<input type="checkbox"/>		Lamb Burners and Dryers	CE 017, CE 018, CE 020, CE 024, CE 025, EU 001, EU 002, EU 004, EU 005
2	GP 002	Active	PER 005		<input type="checkbox"/>		Konus Burners	CE 014, CE 015, EU 007, EU 008
3	GP 003	Active	PER 005		<input type="checkbox"/>		Conveyor Dryer System	CE 002, CE 021, CE 022, EU 003, EU 020, SV 002, SV 017, SV 018
4	GP 004	Active	PER 001		<input type="checkbox"/>		Baghouses	CE 004, CE 005, CE 006, CE 007, CE 008, CE 009, CE 010, CE 016
5	GP 004	Active	PER 007		<input type="checkbox"/>		Baghouses	CE 004, CE 005, CE 006, CE 008, CE 009, CE 010, CE 016, CE 027
6	GP 005	Removed	PER 003		<input type="checkbox"/>		Clean Units controlled by baghouses	EU 009, EU 010, EU 011, EU 013, EU 014, EU 015
7	GP 006	Active	PER 005		<input type="checkbox"/>		Regenerative Thermal Oxidizers (RTO)	CE 020, CE 024, CE 025
8	GP 007	Active	PER 007		<input type="checkbox"/>		NESHAP subp. JJJJJ Burners	CE 002, CE 014, CE 015, EU 003, EU 007, EU 008, SV 002, SV 003
9	GP 008	Active	PER 007		<input type="checkbox"/>		Total Facility Synthetic Minor HAPs Limit	CE 002, CE 005, CE 006, CE 008, CE 014, CE 015, CE 017, CE 018, CE 020, CE 021, CE 022, CE 024, CE 025, CE 026, CE 027, EU 001, EU 002, EU 003, EU 004, EU 005, EU 007, EU 008, EU 010, EU 012, EU 013, EU 020, SV 001, SV 002, SV 003, SV 007, SV 008, SV 009, SV 011, SV 012, SV 017, SV 018



FACILITY DESCRIPTION: STACK/VENTS (SV)

Show: Active and Pending Records

Action: PER 007

AQD Facility ID: 00700019

Facility Name: Norbord Minnesota

	ID No.	Stack/ Vent Status	Added By (Action)	Retired By (Action)	Operator ID for Item	Operators 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 005			GP001 Lamb Burners & Dryers	150.0	5.67		110000	220	Estimate	Up, No Cap
2	SV 002	Active	PER 005			GP003 Conveyor Dryer System	117	5.50		56150	395	Estimate	Up, No Cap
3	SV 003	Active	PER 005			GP002 Konus Burners	80.0	4.00		63073	310	Estimate	Up, No Cap
4	SV 004	Active	PER 005			GP005 Konus EFB Rock Clean 1	15.0	0.75	0.67	4000	110	Estimate	Up, No Cap
5	SV 005	Active	PER 005			GP005 Konus EFB Rock Clean 2	15.0	0.75	0.67	4000	110	Estimate	Up, No Cap
6	SV 006	Active	PER 005			GP005 Rough Cut Saw	15.0	13		46500	80	Estimate	Up, With Cap
7	SV 007	Active	PER 005			GP005 Final Trim Saw	15.0	4.33		46500	80	Estimate	Horizontal
8	SV 008	Active	PER 005			GP005 Rough Cut/Final Trim Saws	13.0	7		2800	80	Estimate	Up, With Cap
9	SV 009	Active	PER 005			GP005 Tongue & Groove/Sander/Final Trim	14.0	10		23000	78	Estimate	Up, With Cap
10	SV 009	Active	PER 007			GP005 Tongue & Groove/Sander/Final Trim	14.0	4		40000	70	Estimate	Up, With Cap
11	SV 010	Active	PER 005			GP005 Lamb EFB Rock Clean 1&2	60.0	2.08	5.00	23100	126	Estimate	Horizontal
12	SV 011	Active	PER 005			GP005 Board Forming	12.0	2.00		24000	78	Estimate	Horizontal
13	SV 012	Active	PER 005			CE 026 Biofilter	110.0	8.00		120000	116	Estimate	Up, No Cap
14	SV 013	Retired	PER 005			Face Dryer Bypass	75.0	4.00		45700	230	Estimate	Up, No Cap
15	SV 014	Retired	PER 005			Core Dryer Bypass	75.0	4.00		45700	230	Estimate	Up, No Cap
16	SV 015	Retired	PER 005			Lamb Burner Bypass 1	70.0	5.00			2000	Estimate	Up, No Cap
17	SV 016	Retired	PER 005			Lamb Burner Bypass 2	70.0	5.00			2000	Estimate	Up, No Cap
18	SV 017	Active	PER 005			GP003 Conveyor Dryer System	65.0	2.7		23500	170	Estimate	Up, No Cap
19	SV 018	Active	PER 005			GP003 Conveyor Dryer System	65.0	2.83		31600	180	Estimate	Up, No Cap



FACILITY DESCRIPTION: CONTROL EQUIPMENT (CE)

Show: Active and Pending Records

Action: PER 007

AQD Facility ID: 00700019

Facility Name: Norbord Minnesota

	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	Removed	PER 001			011	Electrostatic Precipitator - Medium Efficiency						
2	CE 002	Active	PER 001			010	Electrostatic Precipitator - High Efficiency	Wellons	ESP (24/22/2x20/12)	PM10 PM	100 100	95 95	
3	CE 003	Removed	PER 001			011	Electrostatic Precipitator - Medium Efficiency						
4	CE 004	Active	PER 001			018	Fabric Filter - Low Temperature, i.e., T<180 Degrees F	Carothers	RJ 460	PM10 PM	100 100	99 99	
5	CE 005	Active	PER 001			018	Fabric Filter - Low Temperature, i.e., T<180 Degrees F	Carothers	RJ 460	PM10 PM	100 100	99 99	
6	CE 006	Active	PER 001			018	Fabric Filter - Low Temperature, i.e., T<180 Degrees F	Carothers	72 bags	PM10 PM	100 100	99 99	
7	CE 007	Active	PER 001			018	Fabric Filter - Low Temperature, i.e., T<180 Degrees F	Carothers	180 bags	PM10 PM	100 100	99 99	
8	CE 007	Removed	PER 007			018	Fabric Filter - Low Temperature, i.e., T<180 Degrees F	Carothers	180 bags	PM10 PM	100 100	99 99	
9	CE 008	Active	PER 001			018	Fabric Filter - Low Temperature, i.e., T<180 Degrees F	Carter Day	RF8-276	PM10 PM	100 100	99 99	
10	CE 009	Active	PER 001			018	Fabric Filter - Low Temperature, i.e., T<180 Degrees F	Carter Day	RF10-156	PM10 PM	100 100	99 99	
11	CE 010	Active	PER 001			018	Fabric Filter - Low Temperature, i.e., T<180 Degrees F	EFB, Inc.	EFB-25	PM10 PM	100 100	99 99	
12	CE 011	Removed	PER 001			007	Centrifugal Collector - High Efficiency						
13	CE 012	Active	PER 001			904	6% or Greater Moisture Content						
14	CE 013	Active	EIS 001			061	Dust Suppression by Water Spray						
15	CE 014	Active	PER 001			159	Electrified Filter Bed	EFB Inc	FDC-25	PM10 PM	100 100	95 95	
16	CE 015	Active	PER 001			159	Electrified Filter Bed	EFB Inc	FDC-25	PM10 PM	100 100	95 95	
17	CE 016	Active	PER 001			018	Fabric Filter - Low Temperature, i.e., T<180 Degrees F	EFB, Inc.	EFB-25	PM10 PM	100 100	99 99	
18	CE 017	Active	PER 001			159	Electrified Filter Bed	EFB, Inc.	50,000 cfm	PM10 PM	100 100	77 77	
19	CE 018	Active	PER 001			159	Electrified Filter Bed	EFB, Inc.	50,000 cfm	PM10 PM	100 100	77 77	
20	CE 019	Removed	PER 005			010	Electrostatic Precipitator - High Efficiency	or EFB		PM	100	90	
21	CE 020	Active	PER 005			131	Thermal Oxidizer	Megtec		HAPvol PM10 PM VOC	100 100 100 100	90 30 30 90	1500 F



FACILITY DESCRIPTION: CONTROL EQUIPMENT (CE)

Show: Active and Pending Records

Action: PER 007

AQD Facility ID: 00700019

Facility Name: Norbord Minnesota

	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
22	CE 021	Active	PER 001			007	Centrifugal Collector - High Efficiency	Even Air		PM10 PM	100 100	80 80	
23	CE 022	Active	PER 001			007	Centrifugal Collector - High Efficiency	Even Air		PM10 PM	100 100	80 80	
24	CE 023	Removed	PER 005			010	Electrostatic Precipitator - High Efficiency	or EFB	to be determined	PM	100	90	
25	CE 024	Active	PER 005			131	Thermal Oxidizer	Megtec		HAPvol PM10 PM VOC	100 100 100 100	90 30 30 90	
26	CE 025	Active	PER 005			131	Thermal Oxidizer	Megtec		HAPvol PM10 PM VOC	100 100 100 100	90 30 30 90	
27	CE 026	Active	PER 005			099	Biofilter						
28	CE 027	Active	PER 007			018	Fabric Filter - Low Temperature, i.e., T<180 Degrees F	Donaldson/Torit	376RFW	PM2.5 PM10 PM	100 100 100	99 99 99	



FACILITY DESCRIPTION: EMISSION UNIT (EU)

Show: Active and Pending Records

Action: PER 007

AQD Facility ID: 00700019

Facility Name: Norbord Minnesota

	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	EIS 008		<input type="checkbox"/>		SV 001 (M) SV 013 (B) SV 015 (B)	CE 017	Face Dryer/Lamb Burner	Lamb/MEC		2493	25000	Wafer/Chip	Lb	Hr	45
2	EU 001	Active	PER 007		<input type="checkbox"/>		SV 001 (M) SV 013 (B) SV 015 (B)	CE 017 CE 020 CE 024 CE 025	Face Dryer/Lamb Burner	Lamb/MEC		2493	32500	Wafer/Chip	Lb	Hr	45
3	EU 002	Active	EIS 008		<input type="checkbox"/>		SV 001 (M) SV 014 (B) SV 016 (B)	CE 018	Core Dryer/Lamb Burner	Lamb/MEC		2493	25000	Wafer/Chip	Lb	Hr	45
4	EU 002	Active	PER 007		<input type="checkbox"/>		SV 001 (M) SV 014 (B) SV 016 (B)	CE 018 CE 020 CE 024 CE 025	Core Dryer/Lamb Burner	Lamb/MEC		2493	32500	Wafer/Chip	Lb	Hr	45
5	EU 003	Active	EIS 008		<input type="checkbox"/>		SV 002	CE 002	Wellons Burner	Wellons/Koch		2493	45000	Wafer/Chip	Lb	Hr	
6	EU 004	Active	EIS 008		<input type="checkbox"/>		SV 001	CE 017	Face Burner 1 (backup burner)	Hauck		2493					45
7	EU 005	Active	EIS 008		<input type="checkbox"/>		SV 001	CE 018	Core Burner 2 (backup burner)	Hauck		2493					45
8	EU 006	Active	PER 001		<input type="checkbox"/>		SV 010	CE 009	Face and Core Dryer, EFB Rock Clean 1 & 2	EFB Inc		2493					
9	EU 007	Active	PER 005		<input type="checkbox"/>		SV 003	CE 014	Konus Burner 1	Konus Systems Inc		2493	23	Heat	Mmbtu	Hr	20
10	EU 008	Active	PER 005		<input type="checkbox"/>		SV 003	CE 015	Konus Burner 2	Konus Systems Inc		2493	23	Heat	Mmbtu	Hr	20
11	EU 009	Active	EIS 008		<input type="checkbox"/>		SV 006 (P) SV 008 (P)	CE 004 CE 006	Rough Cut Saw	Mereen Johnson	900	2493					
12	EU 010	Active	EIS 008		<input type="checkbox"/>		SV 007 (P) SV 008 (P) SV 009 (P)	CE 005 CE 006 CE 007	Final Trim Saw	Mereen Johnson		2493					
13	EU 010	Active	PER 007		<input type="checkbox"/>		SV 007 (P) SV 008 (P) SV 009 (P)	CE 005 CE 006 CE 027	Final Trim Saw	Mereen Johnson		2493					
14	EU 011	Active	EIS 008		<input type="checkbox"/>		SV 009	CE 007	Sander Tongue & Groove	Steinemann; Mereen J		2493					
15	EU 011	Active	PER 007		<input type="checkbox"/>		SV 009	CE 027	Sander Tongue & Groove	Steinemann; Mereen J		2493					
16	EU 012	Active	PER 005		<input type="checkbox"/>		SV 012	CE 026	Board Press	Siempel Kamp Inc		2493	75000	Wafer/Chip	Lb	Hr	
17	EU 013	Active	EIS 008		<input type="checkbox"/>		SV 011	CE 008	Board Forming	Carother/Siempel Kam		2493	75000	Wafer/Chip	Lb	Hr	
18	EU 014	Active	EIS 008		<input type="checkbox"/>		SV 004	CE 010	Konus EFB Rock Clean 1	EFB Inc		2493					
19	EU 015	Active	EIS 008		<input type="checkbox"/>		SV 005	CE 016	Konus EFB Rock Clean 2	EFB Inc		2493					

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	EIS 008	03/01/1980	06/01/1981					
2	EU 001	Active	PER 007	03/01/1980	06/01/1981					
3	EU 002	Active	EIS 008	03/01/1980	06/01/1981					
4	EU 002	Active	PER 007	03/01/1980	06/01/1981					
5	EU 003	Active	EIS 008	05/25/1995	03/01/1996					
6	EU 004	Active	EIS 008	03/01/1980	06/01/1981					
7	EU 005	Active	EIS 008	03/01/1980	06/01/1981					
8	EU 006	Active	PER 001	01/01/1985	01/01/1985				Whole Facility	
9	EU 007	Active	PER 005	05/01/1980	06/01/1981					
10	EU 008	Active	PER 005	05/01/1980	06/01/1981					
11	EU 009	Active	EIS 008	01/01/1980	06/01/1981					
12	EU 010	Active	EIS 008	01/01/1980	06/01/1981					
13	EU 010	Active	PER 007	01/01/1980	06/01/1981					
14	EU 011	Active	EIS 008	01/01/1980	06/01/1981					
15	EU 011	Active	PER 007	01/01/1980	06/01/1981					
16	EU 012	Active	PER 005	01/01/1980	06/01/1981					
17	EU 013	Active	EIS 008	01/01/1980	06/01/1981					
18	EU 014	Active	EIS 008	01/01/1985	01/01/1985					
19	EU 015	Active	EIS 008	01/01/1985	01/01/1985					



FACILITY DESCRIPTION: EMISSION UNIT (EU)

Show: Active and Pending Records

Action: PER 007

AQD Facility ID: 00700019

Facility Name: Norbord Minnesota

	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	
20	EU 016	Removed	PER 001		<input type="checkbox"/>		SV 013		Face Dryer Bypass			2493					
21	EU 017	Removed	PER 001		<input type="checkbox"/>		SV 014		Core Dryer Bypass			2493					
22	EU 018	Removed	PER 001		<input type="checkbox"/>		SV 015		Lamb Burner 1 (face) Bypass			2493					
23	EU 019	Removed	PER 001		<input type="checkbox"/>		SV 016		Lamb Burner 2 (core) Bypass			2493					
24	EU 020	Active	EIS 008		<input type="checkbox"/>		SV 017 (P) SV 018 (P)	CE 021 CE 022	Conveyor Zone 1, 2 & 3			2493					
25	EU 021	Active	PER 005		<input type="checkbox"/>				Edge Seal			2493					

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
20	EU 016	Removed	PER 001			12/31/1998				
21	EU 017	Removed	PER 001			12/31/1998				
22	EU 018	Removed	PER 001			12/31/1998				
23	EU 019	Removed	PER 001			12/31/1998				
24	EU 020	Active	EIS 008	05/25/1995	03/01/1996					
25	EU 021	Active	PER 005							



FACILITY DESCRIPTION: FUGITIVE SOURCES (FS)

Show: Active and Pending Records

Action: PER 007

AQD Facility ID: 00700019

Facility Name: Norbord Minnesota

	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	Retired	EIS 008		<input type="checkbox"/>				Road Segment E (paved)		2003
2	FS 002	Active	EIS 001		<input type="checkbox"/>			CE 012	Bark Fuel Transfer		
3	FS 003	Removed	PER 001		<input type="checkbox"/>				Sander Dust Transfer		1997
4	FS 004	Active	EIS 001		<input type="checkbox"/>				Burner Ash Transfer		
5	FS 005	Active	EIS 001		<input type="checkbox"/>			CE 013	Bark Fuel Pile Wind Erosion		
6	FS 006	Active	PER 001		<input type="checkbox"/>				Burner Ash Pile 1-4 Wind Erosion		
7	FS 007	Removed	PER 001		<input type="checkbox"/>				Sander Dust Pile Wind Erosion		1997
8	FS 008	Active	PER 001		<input type="checkbox"/>				Road Segment A (paved)		
9	FS 009	Active	PER 001		<input type="checkbox"/>				Road Segment B (paved)		
10	FS 010	Active	PER 001		<input type="checkbox"/>				Road Segment C (paved)		
11	FS 011	Active	PER 001		<input type="checkbox"/>				Road Segment D (paved)		
12	FS 012	Active	PER 001		<input type="checkbox"/>				Road Segment E (paved)		

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

Show: Active and Pending Records

AQD Facility ID: 00700019

Facility Name: Norbord Minnesota

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							
	Acetaldehyde	PER 007		1.50E-01		6.60E-01	
	Acrolein	PER 007		9.00E-02		4.00E-01	
	Formaldehyde	PER 007		3.40E-01		1.47E+00	
	Methanol	PER 007		1.20E-01		5.20E-01	
	Phenol	PER 007		8.00E-02		3.30E-01	
	Propionaldehyde	PER 007		6.00E-02		2.40E-01	
EU 002							
	Acetaldehyde	PER 007		1.50E-01		6.60E-01	
	Acrolein	PER 007		9.00E-02		4.00E-01	
	Formaldehyde	PER 007		3.40E-01		1.47E+00	
	Methanol	PER 007		1.20E-01		5.20E-01	
	Phenol	PER 007		8.00E-02		3.30E-01	
	Propionaldehyde	PER 007		6.00E-02		2.40E-01	
EU 003							
	Acetaldehyde	PER 001		9.10E-03		4.00E-02	
	Acetaldehyde	PER 007		2.00E-02		8.00E-02	
	Acrolein	PER 001		1.00E-03		4.40E-03	
	Acrolein	PER 007		3.00E-02		1.40E-01	
	Carbon Monoxide	PER 001		2.07E+01		9.10E+01	
	Formaldehyde	PER 001		3.00E-01		1.30E+00	
	Formaldehyde	PER 007		3.00E-02		1.20E-01	
	Methanol	PER 001		1.20E-01		5.30E-01	
	Methanol	PER 007		7.00E-02		3.10E-01	
	Phenol	PER 001		2.00E-04		8.80E-04	
	Phenol	PER 007		1.52E-03		6.67E-03	
	Propionaldehyde	PER 007		2.40E-03		1.05E-02	
	Nitrogen Oxides	PER 001		2.24E+01		9.80E+01	
	PM < 10 micron	PER 001		4.98E+00		2.18E+01	
	Total Particulate Matter	PER 001		4.98E+00		2.18E+01	
	Sulfur Dioxide	PER 001		8.27E+00		3.62E+01	
EU 007							
	Acetaldehyde	PER 007		6.60E-03		3.00E-02	
	Acrolein	PER 007		1.14E-02		5.00E-02	
	Formaldehyde	PER 007		1.03E-02		4.00E-02	
	Methanol	PER 007		3.00E-02		1.10E-01	
	Phenol	PER 007		6.00E-04		2.63E-03	
	Propionaldehyde	PER 007		8.00E-04		3.50E-03	
EU 008							
	Acetaldehyde	PER 007		6.60E-03		3.00E-02	
	Acrolein	PER 007		1.14E-02		5.00E-02	
	Formaldehyde	PER 007		1.03E-02		4.00E-02	
	Methanol	PER 007		3.00E-02		1.10E-01	
	Phenol	PER 007		6.00E-04		2.63E-03	
	Propionaldehyde	PER 007		8.00E-04		3.50E-03	

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

Show: Active and Pending Records

AQD Facility ID: 00700019

Facility Name: Norbord Minnesota

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 010							
	Formaldehyde	PER 007		4.00E-02		1.80E-01	
	Methanol	PER 007		1.30E-01		5.50E-01	
EU 012							
	Acetaldehyde	PER 001		4.50E-01		2.00E+00	
	Acetaldehyde	PER 007		1.00E-02		4.00E-02	
	Acrolein	PER 007		3.00E-02		1.30E-01	
	Formaldehyde	PER 001		4.80E+00		2.10E+01	
	Formaldehyde	PER 007		4.30E-01		1.87E+00	
	Methanol	PER 001		8.90E+00		3.90E+01	
	Methanol	PER 007		1.11E+00		4.85E+00	
	Phenol	PER 001		4.50E-01		2.00E+00	
	Phenol	PER 007		1.00E-01		4.20E-01	
	Propionaldehyde	PER 007		3.00E-02		1.30E-01	
	PM < 2.5 micron	PER 007		1.50E+01		6.57E+01	
	PM < 10 micron	PER 001		1.50E+01		6.57E+01	
	Total Particulate Matter	PER 001		1.50E+01		6.57E+01	
	Volatile Organic Compounds	PER 001		3.09E+01		1.35E+02	
EU 013							
	Formaldehyde	PER 007		2.00E-02		1.00E-01	
	Methanol	PER 007		1.10E-01		5.00E-01	
EU 020							
	Acetaldehyde	PER 007		1.10E-01		4.70E-01	
	Acrolein	PER 007		2.10E-01		9.30E-01	
	Formaldehyde	PER 007		4.00E-02		1.60E-01	
	Methanol	PER 007		4.40E-01		1.94E+00	
	Phenol	PER 007		2.00E-02		9.20E-02	
	Propionaldehyde	PER 007		2.10E-01		9.25E-01	
GP 001							
	Acetaldehyde	PER 001		2.80E+00		1.20E+01	
	Acetaldehyde	PER 007					
	Acrolein	PER 001		7.80E-01		3.40E+00	
	Acrolein	PER 007					
	Carbon Monoxide	PER 001		3.24E+01		1.42E+02	
	Carbon Monoxide	PER 007		3.89E+01		1.70E+02	
	Formaldehyde	PER 001		2.30E+00		1.00E+01	
	Formaldehyde	PER 007					
	Methanol	PER 001		1.80E+00		7.90E+00	
	Methanol	PER 007					
	Phenol	PER 001		2.10E-01		9.30E-01	
	Phenol	PER 007					
	Propionaldehyde	PER 001		1.90E-01		8.20E-01	
	Propionaldehyde	PER 007					
	Nitrogen Oxides	PER 001		2.50E+01		1.10E+02	
	PM < 2.5 micron	PER 007		1.22E+01		5.34E+01	
	PM < 10 micron	PER 001		1.22E+01		5.34E+01	
	Total Particulate Matter	PER 001		1.22E+01		5.34E+01	

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

Show: Active and Pending Records

AQD Facility ID: 00700019

Facility Name: Norbord Minnesota

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							
	Sulfur Dioxide	PER 005		2.50E+00		1.10E+01	
	Volatile Organic Compounds	PER 001		1.47E+01		6.40E+01	
GP 002							
	Acetaldehyde	PER 001		4.40E-03		1.90E-02	
	Acetaldehyde	PER 007					
	Acrolein	PER 001		4.80E-04		2.10E-03	
	Acrolein	PER 007					
	Carbon Monoxide	PER 005		5.06E+01		2.22E+02	
	Formaldehyde	PER 001		1.40E-02		6.30E-02	
	Formaldehyde	PER 007					
	Methanol	PER 001		5.60E-02		2.50E-01	
	Methanol	PER 007					
	Phenol	PER 001		8.40E-05		3.70E-04	
	Phenol	PER 007					
	Nitrogen Oxides	PER 005		1.84E+01		8.10E+01	
	PM < 2.5 micron	PER 007		9.70E+00		4.25E+01	
	PM < 10 micron	PER 005		9.70E+00		4.25E+01	
	Total Particulate Matter	PER 005		9.70E+00		4.25E+01	
	Sulfur Dioxide	PER 001		1.00E+00		4.40E+00	
	Volatile Organic Compounds	PER 005		1.20E+01		5.20E+01	
GP 003							
	Volatile Organic Compounds	PER 001		1.30E+01		5.70E+01	
GP 008							
	HAPs - Total	PER 007				2.15E+01	
SV 004							
	PM < 10 micron	PER 001		1.40E-01		6.00E-01	
	Total Particulate Matter	PER 001		1.40E-01		6.00E-01	
SV 005							
	PM < 10 micron	PER 001		1.40E-01		6.00E-01	
	Total Particulate Matter	PER 001		1.40E-01		6.00E-01	
SV 006							
	PM < 10 micron	PER 001		1.50E+00		6.60E+00	
	Total Particulate Matter	PER 001		1.50E+00		6.60E+00	
SV 007							
	PM < 10 micron	PER 001		1.50E+00		6.60E+00	
	Total Particulate Matter	PER 001		1.50E+00		6.60E+00	
SV 008							
	PM < 10 micron	PER 001		9.10E-02		4.00E-01	
	Total Particulate Matter	PER 001		9.10E-02		4.00E-01	
SV 009							
	PM < 2.5 micron	PER 007		1.37E+00		6.00E+00	
	PM < 10 micron	PER 001		7.50E-01		3.30E+00	
	PM < 10 micron	PER 007		1.37E+00		6.00E+00	
	Total Particulate Matter	PER 001		7.50E-01		3.30E+00	

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

Show: Active and Pending Records

AQD Facility ID: 00700019

Facility Name: Norbord Minnesota

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)
SV 009							
	Total Particulate Matter	PER 007		1.37E+00		6.00E+00	
SV 010							
	PM < 10 micron	PER 001		6.50E-01		2.90E+00	
	Total Particulate Matter	PER 001		6.50E-01		2.90E+00	
SV 011							
	PM < 10 micron	PER 001		7.80E-01		3.40E+00	
	Total Particulate Matter	PER 001		7.80E-01		3.40E+00	

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

Show: Active and Pending Records

AQD Facility ID: 00700019

Facility Name: Norbord Minnesota

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 001	PER 007		1.500E-01		6.600E-01	
	EU 002	PER 007		1.500E-01		6.600E-01	
	EU 003	PER 001		9.100E-03		4.000E-02	
	EU 003	PER 007		2.000E-02		8.000E-02	
	EU 007	PER 007		6.600E-03		3.000E-02	
	EU 008	PER 007		6.600E-03		3.000E-02	
	EU 012	PER 001		4.500E-01		2.000E+00	
	EU 012	PER 007		1.000E-02		4.000E-02	
	EU 020	PER 007		1.100E-01		4.700E-01	
	GP 001	PER 001		2.800E+00		1.200E+01	
	GP 001	PER 007		0.000E+00		0.000E+00	
	GP 002	PER 001		4.400E-03		1.900E-02	
	GP 002	PER 007		0.000E+00		0.000E+00	
Totals					0.000E+00	1.970E+00	0.000E+00
Acrolein							
	EU 001	PER 007		9.000E-02		4.000E-01	
	EU 002	PER 007		9.000E-02		4.000E-01	
	EU 003	PER 001		1.000E-03		4.400E-03	
	EU 003	PER 007		3.000E-02		1.400E-01	
	EU 007	PER 007		1.140E-02		5.000E-02	
	EU 008	PER 007		1.140E-02		5.000E-02	
	EU 012	PER 007		3.000E-02		1.300E-01	
	EU 020	PER 007		2.100E-01		9.300E-01	
	GP 001	PER 001		7.800E-01		3.400E+00	
	GP 001	PER 007		0.000E+00		0.000E+00	
	GP 002	PER 001		4.800E-04		2.100E-03	
	GP 002	PER 007		0.000E+00		0.000E+00	
Totals					0.000E+00	2.100E+00	0.000E+00
Carbon Monoxide							
	EU 003	PER 001		2.070E+01		9.100E+01	
	GP 001	PER 001		3.240E+01		1.420E+02	
	GP 001	PER 007		3.890E+01		1.704E+02	
	GP 002	PER 005		5.060E+01		2.216E+02	
Totals					0.000E+00	4.830E+02	0.000E+00

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

Show: Active and Pending Records

AQD Facility ID: 00700019

Facility Name: Norbord Minnesota

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 007		3.400E-01		1.470E+00	
	EU 002	PER 007		3.400E-01		1.470E+00	
	EU 003	PER 001		3.000E-01		1.300E+00	
	EU 003	PER 007		3.000E-02		1.200E-01	
	EU 007	PER 007		1.030E-02		4.000E-02	
	EU 008	PER 007		1.030E-02		4.000E-02	
	EU 010	PER 007		4.000E-02		1.800E-01	
	EU 012	PER 001		4.800E+00		2.100E+01	
	EU 012	PER 007		4.300E-01		1.870E+00	
	EU 013	PER 007		2.000E-02		1.000E-01	
	EU 020	PER 007		4.000E-02		1.600E-01	
	GP 001	PER 001		2.300E+00		1.000E+01	
	GP 001	PER 007		0.000E+00		0.000E+00	
	GP 002	PER 001		1.400E-02		6.300E-02	
	GP 002	PER 007		0.000E+00		0.000E+00	
Totals					0.000E+00	5.450E+00	0.000E+00
Methanol							
	EU 001	PER 007		1.200E-01		5.200E-01	
	EU 002	PER 007		1.200E-01		5.200E-01	
	EU 003	PER 001		1.200E-01		5.300E-01	
	EU 003	PER 007		7.000E-02		3.100E-01	
	EU 007	PER 007		3.000E-02		1.100E-01	
	EU 008	PER 007		3.000E-02		1.100E-01	
	EU 010	PER 007		1.300E-01		5.500E-01	
	EU 012	PER 001		8.900E+00		3.900E+01	
	EU 012	PER 007		1.110E+00		4.850E+00	
	EU 013	PER 007		1.100E-01		5.000E-01	
	EU 020	PER 007		4.400E-01		1.940E+00	
	GP 001	PER 001		1.800E+00		7.900E+00	
	GP 001	PER 007		0.000E+00		0.000E+00	
	GP 002	PER 001		5.600E-02		2.500E-01	
	GP 002	PER 007		0.000E+00		0.000E+00	
Totals					0.000E+00	9.410E+00	0.000E+00

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

Show: Active and Pending Records

AQD Facility ID: 00700019

Facility Name: Norbord Minnesota

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							
	GP 008	PER 007				2.150E+01	
Totals					0.000E+00	2.150E+01	0.000E+00
Phenol							
	EU 001	PER 007		8.000E-02		3.300E-01	
	EU 002	PER 007		8.000E-02		3.300E-01	
	EU 003	PER 001		2.000E-04		8.800E-04	
	EU 003	PER 007		1.520E-03		6.670E-03	
	EU 007	PER 007		6.000E-04		2.630E-03	
	EU 008	PER 007		6.000E-04		2.630E-03	
	EU 012	PER 001		4.500E-01		2.000E+00	
	EU 012	PER 007		1.000E-01		4.200E-01	
	EU 020	PER 007		2.000E-02		9.200E-02	
	GP 001	PER 001		2.100E-01		9.300E-01	
	GP 001	PER 007		0.000E+00		0.000E+00	
	GP 002	PER 001		8.400E-05		3.700E-04	
	GP 002	PER 007		0.000E+00		0.000E+00	
Totals					0.000E+00	1.184E+00	0.000E+00
Propionaldehyde							
	EU 001	PER 007		6.000E-02		2.400E-01	
	EU 002	PER 007		6.000E-02		2.400E-01	
	EU 003	PER 007		2.400E-03		1.050E-02	
	EU 007	PER 007		8.000E-04		3.500E-03	
	EU 008	PER 007		8.000E-04		3.500E-03	
	EU 012	PER 007		3.000E-02		1.300E-01	
	EU 020	PER 007		2.100E-01		9.250E-01	
	GP 001	PER 001		1.900E-01		8.200E-01	
	GP 001	PER 007		0.000E+00		0.000E+00	
Totals					0.000E+00	1.553E+00	0.000E+00
Nitrogen Oxides							
	EU 003	PER 001		2.240E+01		9.800E+01	
	GP 001	PER 001		2.500E+01		1.100E+02	
	GP 002	PER 005		1.840E+01		8.100E+01	
Totals					0.000E+00	2.890E+02	0.000E+00
PM < 2.5 micron							
	EU 012	PER 007		1.500E+01		6.570E+01	
	GP 001	PER 007		1.220E+01		5.340E+01	

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

Show: Active and Pending Records

AQD Facility ID: 00700019

Facility Name: Norbord Minnesota

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)
PM < 2.5 micron							
	GP 002	PER 007		9.700E+00		4.250E+01	
	SV 009	PER 007		1.370E+00		6.000E+00	
Totals					0.000E+00	1.676E+02	0.000E+00
PM < 10 micron							
	EU 003	PER 001		4.980E+00		2.180E+01	
	EU 012	PER 001		1.500E+01		6.570E+01	
	GP 001	PER 001		1.220E+01		5.340E+01	
	GP 002	PER 005		9.700E+00		4.250E+01	
	SV 004	PER 001		1.400E-01		6.000E-01	
	SV 005	PER 001		1.400E-01		6.000E-01	
	SV 006	PER 001		1.500E+00		6.600E+00	
	SV 007	PER 001		1.500E+00		6.600E+00	
	SV 008	PER 001		9.100E-02		4.000E-01	
	SV 009	PER 001		7.500E-01		3.300E+00	
	SV 009	PER 007		1.370E+00		6.000E+00	
	SV 010	PER 001		6.500E-01		2.900E+00	
	SV 011	PER 001		7.800E-01		3.400E+00	
Totals					0.000E+00	2.105E+02	0.000E+00
Total Particulate Matter							
	EU 003	PER 001		4.980E+00		2.180E+01	
	EU 012	PER 001		1.500E+01		6.570E+01	
	GP 001	PER 001		1.220E+01		5.340E+01	
	GP 002	PER 005		9.700E+00		4.250E+01	
	SV 004	PER 001		1.400E-01		6.000E-01	
	SV 005	PER 001		1.400E-01		6.000E-01	
	SV 006	PER 001		1.500E+00		6.600E+00	
	SV 007	PER 001		1.500E+00		6.600E+00	
	SV 008	PER 001		9.100E-02		4.000E-01	
	SV 009	PER 001		7.500E-01		3.300E+00	
	SV 009	PER 007		1.370E+00		6.000E+00	
	SV 010	PER 001		6.500E-01		2.900E+00	
	SV 011	PER 001		7.800E-01		3.400E+00	
Totals					0.000E+00	2.105E+02	0.000E+00
Sulfur Dioxide							
	EU 003	PER 001		8.270E+00		3.620E+01	

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

Show: Active and Pending Records

AQD Facility ID: 00700019

Facility Name: Norbord Minnesota

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)
Sulfur Dioxide							
	GP 001	PER 005		2.500E+00		1.100E+01	
	GP 002	PER 001		1.000E+00		4.400E+00	
Totals					0.000E+00	5.160E+01	0.000E+00
Volatile Organic Compounds							
	EU 012	PER 001		3.090E+01		1.350E+02	
	GP 001	PER 001		1.470E+01		6.400E+01	
	GP 002	PER 005		1.200E+01		5.200E+01	
	GP 003	PER 001		1.300E+01		5.700E+01	
Totals					0.000E+00	3.080E+02	0.000E+00



COMPLIANCE PLAN **CD-01**

Facility Name: Norbord Minnesota

Permit Number: 00700019 - 007

Subject Item: Total Facility

	NC/ CA	Type	Citation	Requirement
1.0		CD	hdr	FACILITY LIMIT
2.0		CD	Title I Condition: 40 CFR Section 52.21(j) (BACT limit for EU 012 - press); Minn. R. 7007.3000	Process Throughput: greater than or equal to an average of 90 percent hardwood as furnish per calendar week. This throughput limit will no longer be in effect upon demonstration of compliance with NESHAP limit for EU 012.
3.0		CD	Title I Condition: Monitoring for BACT limit; Minn. R. 7007.0800, subp. 4 and 5	Daily Recordkeeping. Once each day of operation, the Permittee shall calculate, record, and maintain a record of the total quantity and type (i.e. hardwood, softwood) of wood furnish used at the facility. This shall be based on usage records. This recordkeeping will no longer be in effect upon demonstration of compliance with NESHAP limit for EU 012.
4.0		CD	Minn. R. 7007.0800. subp. 4 and 5	Weekly Recordkeeping - Hardwood and Softwood Furnish Usage. By the close of business each Friday, the Permittee shall calculate and record the percent, by weight, of the amount of hardwood and softwood processed as well as the total amount of wood processed for the previous calendar week. This recordkeeping will no longer be in effect upon demonstration of compliance with NESHAP limit for EU 012.
5.0		CD	hdr	MODELING REQUIREMENTS
6.0		CD	Title I Condition: 40 CFR Section 52.21(k); Minn. R. 7007.3000	Parameters Used in Modeling: The stack heights, emission rates, and other parameters used in the modeling are listed in Appendix C of this permit. The Permittee must submit to the Commissioner for approval any revisions of these parameters and must wait for a written approval before making such changes. The information submitted must include, at a minimum, the locations, heights and diameters of the stacks, locations and dimensions of nearby buildings, the velocity and temperatures of the gases emitted, and the emission rates. The plume dispersion characteristics due to the revisions of the information must be equivalent to or better than the dispersion characteristics modeled as part of this permit. 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 remodel.
7.0		CD	Title I Condition: 40 CFR Section 52.21(k); Minn. R. 7007.3000	For changes that do not involve an increase in an emission rate and that do not require a permit amendment, this proposal must be submitted as soon as practicable, but no less than 60 days before beginning actual construction of the stack or associated emission unit. For changes involving increases in emission rates and that require a minor permit amendment, the proposal must be submitted as soon as practicable, but no less than 60 days before beginning actual construction of the stack or associated emission unit. For changes involving increases in emission rates and that require a permit amendment other than a minor amendment, the proposal must be submitted with the permit application. For any physical change to or change in the method of operation of a stack emitting PM10 or for any increase in PM10 emissions (whether or not the increase would require a permit amendment of any type), the Permittee may be required to remodel, subject to the Agency's approval.
8.0		CD	Minn. R. 7007.0800, subp. 2	Property Line Fencing: the Permittee shall maintain the fencing and gates which have previously been installed to enclose the boundaries of the property. The property shall be enclosed with a continuous fence, excluding access points, and shall have installed gates or a guard at each access point, except as described below. The Permittee shall thereafter keep the gates closed unless: 1) A guard is present controlling access at a gate; or 2) Authorized persons are entering or leaving the property through a gate. Access points such as a railroad shall be patrolled and shall be posted with "No Trespassing" signs. The Permittee shall inspect the fencing and gates once per year to ensure compliance with access control. The Permittee shall complete all repairs and maintenance to the fencing and gates as soon as possible but no later than 30 days after the Permittee observes the need for repair or maintenance.
9.0		CD	hdr	OPERATIONAL REQUIREMENTS



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10.0		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 & 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.
11.0		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.
12.0		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.
13.0		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.
14.0		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.
15.0		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.
16.0		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.
17.0		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).
18.0		CD	Minn. R. 7007.0800, subp. 16	The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16.
19.0		CD	hdr	PERFORMANCE TESTING
20.0		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.
21.0		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>
22.0		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.
23.0		CD	hdr	MONITORING REQUIREMENTS
24.0		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).



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25.0		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.
26.0		CD	hdr	RECORDKEEPING
27.0		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.
28.0		CD	Minn. R. 7007.0800, subp. 5(C)	Record keeping: Retain all records at the stationary source 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).
29.0		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.
30.0		CD	40 CFR Section 63.10(b)(1); Minn. R. 7019.0100, subp. 2(B)	Recordkeeping: The Permittee shall maintain files of all information required by this part in a form suitable and readily available for expeditious inspection and review. The files should be retained for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. Only the most recent two years of information must be kept on site.
31.0		CD	40 CFR Section 63.10(b)(2); Minn. R. 7019.0100, subp. 2(B)	The Permittee shall maintain, at a minimum, the following information in the files: 1) the occurrence and duration of each startup or shutdown when the startup or shutdown causes the source to exceed any applicable emission limitation in the relevant emission standards; 2) the occurrence and duration of each malfunction of the emission unit or air pollution control or monitoring equipment; 3) all maintenance performed on the pollution control and monitoring equipment; 4) actions taken during periods of startup or shutdown when the source exceeded applicable emission limits in a relevant standard and when such actions are different from the procedures specified in the affected source's startup, shutdown, and malfunction plan (SSMP); or actions taken during period of malfunction when the actions taken are different from the procedures specified in the SSMP; (continued)
32.0		CD	40 CFR Section 63.10(b)(2); Minn. R. 7019.0100, subp. 2(B)	5) all information necessary to demonstrate conformance with the affected source's SSMP when all actions taken during SSM are consistent with procedures specified in the SSMP; 6) each period during which a continuous monitoring system (CMS) is malfunctioning or inoperative; 7) all required measurements needed to demonstrate compliance with a relevant standard; 8) all results of performance test, and CMS performance evaluations; 9) all measurements as may be necessary to determine the conditions of performance tests and performance evaluations; 10) all CMS calibration checks; 11) all adjustments and maintenance performed on CMS; 12) any information demonstrating whether a source is meeting the requirements for a waiver of record keeping or reporting requirements under this part; 13) all documents supporting initial notifications and notifications of compliance status.



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33.0		CD	40 CFR Section 63.2282(a) and (b)	<p>(a) The Permittee must keep the following records:</p> <p>(1) A copy of each notification and report submitted to comply with subpart DDDD, including all documentation supporting any Initial Notification or Notification of Compliance Status submitted, according to the requirements in Section 63.10(b)(2)(xiv).</p> <p>(2) The records in Section 63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.</p> <p>(3) Documentation of approved routine control device maintenance exemption, if a request for such an exemption is made under Section 63.2251.</p> <p>(4) Records of performance tests and performance evaluations as required in Section 63.10(b)(2)(viii).</p> <p>(b) The Permittee must keep the records required in Tables 7 and 8 to subpart DDDD to show continuous compliance with each compliance option, operating requirement, and work practice requirement that applies.</p>
34.0		CD	40 CFR Section 63.2283(a), (b), and (c)	<p>(a) Records must be in a form suitable and readily available for expeditious review as specified in Section 63.10(b)(1).</p> <p>(b) As specified in Section 63.10(b)(1), each record must be kept for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.</p> <p>(c) Record must be kept on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record according to Section 63.10(b)(1). Records can be kept offsite for the remaining 3 years.</p>
35.0		CD	hdr	NOTIFICATIONS
36.0		CD	40 CFR Section 63.2280	<p>(a) The Permittee must submit all of the notifications in Sections 63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), 63.9 (b) through (e), and (g) and (h) by the dates specified.</p> <p>(b) The Permittee must submit an Initial Notification no later than 120 calendar days after September 28, 2004, or after initial startup, whichever is later, as specified in Section 63.9(b)(2). This has been completed.</p> <p>(c) If the Permittee is required to conduct a performance test, the Permittee must submit a written notification of intent to conduct a performance test at least 60 calendar days before the performance test is scheduled to begin as specified in Section 63.7(b)(1).</p>
37.0		CD	40 CFR Section 63.2280	<p>(d) If the Permittee is required to conduct a performance test, design evaluation, or other initial compliance demonstration as specified in Tables 4, 5, and 6 to subpart DDDD, submit a Notification of Compliance Status as specified in Section 63.9(h)(2)(ii).</p> <p>(1) For each initial compliance demonstration required in Table 5 or 6 to subpart DDDD that does not include a performance test, submit the Notification of Compliance Status before the close of business on the 30th calendar day following the completion of the initial compliance demonstration.</p> <p>(2) For each initial compliance demonstration required in Tables 5 and 6 to subpart DDDD that includes a performance test conducted according to the requirements in Table 4 to subpart DDDD, submit the Notification of Compliance Status, including the performance test results, before the close of business on the 60th calendar day following the completion of the performance test according to Section 63.10(d)(2).</p>
38.0		CD	40 CFR Section 63.2280	<p>(e) If the Permittee requests a routine control device maintenance exemption according to Section 63.2251, the Permittee must submit the request for the exemption no later than 30 days before the compliance date.</p> <p>(g) The Permittee must notify the EPA Administrator within 30 days before taking any of the actions specified in paragraphs (g)(1) and (3) of Section 63.2280.</p> <p>(1) The Permittee modifies or replaces the control system for any process unit subject to the compliance options and operating requirements in subpart DDDD.</p> <p>(3) The Permittee changes a continuous monitoring parameter or the value or range of values of a continuous monitoring parameter for any process unit or control device.</p>
39.0		CD	hdr	REPORTING/SUBMITTALS



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40.0		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>
41.0		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>
42.0		CD	Minn. R. 7019.1000, subp. 1	<p>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.</p>
43.0		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.
44.0		S/A	Minn. R. 7007.0800, subp. 6(A)(2)	<p>Semiannual Deviations Report: due 30 days after end of each calendar half-year starting 05/11/2004. 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.</p>
45.0		CD	Minn. R. 7007.1150 - 7007.1500	<p>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.</p>
46.0		S/A	Minn. R. 7007.0400, subp. 3	<p>Application for Permit Reissuance: due 180 days before expiration of Existing Permit</p>
47.0		CD	40 CFR Section 63.52(b)(1) and 63.52(e)(1)	<p>For changes that do not require a permit amendment:</p> <ul style="list-style-type: none"> - The Permittee shall submit a Part 1 MACT application within 30 days of startup of any 112(j) affected source. The application shall meet the requirements of 40 CFR Section 63.53(a). - The Permittee shall submit a Part 2 MACT application within 90 days of startup of any 112(j) affected source. The application shall meet the requirements of 40 CFR Section 63.53(b). <p>112(j) affected source is defined in 40 CFR Section 63.51. As of permit issuance, 112(j) affected sources include industrial, commercial, and institutional boilers and process heaters; brick and structural clay products manufacturing; clay ceramics manufacturing.</p>



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48.0		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).
49.0		S/A	Minn. R. 7007.0800, subp. 6(C)	Compliance Certification: due 31 days after end of each calendar year starting 05/11/2004 (for the previous calendar year). To be submitted on a form approved by the Commissioner, both to the Commissioner, and to the U.S. EPA regional office in Chicago. This report covers all deviations experienced during the calendar year. The EPA copy shall be sent to: Mr. George Czerniak, Chief, Air Enforcement and Compliance Assurance Branch, Air and Radiation Division, EPA Region V, 77 West Jackson Boulevard, Chicago, Illinois 60604.
50.0		CD	Minn. R. 7019.3000 - 7019.3010	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.
51.0		CD	Minn. R. 7002.0005 - 7002.0095	Emission Fees: due 60 days after receipt of an MPCA bill.
52.0		CD	40 CFR Section 63.10(d)(5)(i); Minn. R. 7019.0100, subp. 2(B)	If actions taken during a startup or shutdown (and the startup or shutdown causes the source to exceed any applicable emission limitation in the relevant emission standards) or malfunction of an affected source are consistent with the procedures specified in the SSMP, then the Permittee shall state such information in a startup, shutdown, and malfunction report. Actions taken to minimize emissions during such startups, shutdowns and malfunctions shall be summarized in the report. Reports shall only be required if a startup or shutdown caused the source to exceed any applicable emission standards, or if a malfunction occurred during the reporting period. Such reports shall be delivered or postmarked by the 30th day following the end of each calendar half year.
53.0		CD	40 CFR Section 63.6(e)(3)(iv) & Minn. R. 7011.7000; 40 CFR Section 63.10(d)(5)(ii) and Minn. R. 7019.0100, subp. 2(B)	If an action taken by the Permittee during a startup or shutdown that caused the source to exceed any applicable emission limitation in the relevant emission standards, or during a malfunction is not consistent with the procedures specified in the SSMP, then the Permittee shall report the actions taken for that event with an immediate report within 2 working days after commencing actions inconsistent with the plan, followed by a letter within 7 working days after the end of the event. The immediate report, within 2 days, shall consist of a telephone call or fax and shall report the actions taken for the event. The letter, to be submitted within 7 days, must contain name, title, and signature of a responsible official who is certifying its accuracy, explaining the circumstances of the event, the reasons for not following SSMP, describing all excess emissions and/or parameter monitoring exceedances which are believed to have occurred, and actions taken to minimize emissions.
54.0		CD	40 CFR Section 63.2281(a) and (b)	(a) The Permittee must submit each report in Table 9 to subpart DDDD that applies. (b) Unless the EPA Administrator has approved a different schedule for submission of reports under Section 63.10(a), submit each report by the date in Table 9 to subpart DDDD and as specified in paragraphs (b)(1) through (5) of Section 63.2281. (1) The first compliance report must cover the period beginning on the compliance date that is specified for the Permittee's affected source in Section 63.2233 ending on June 30 or December 31, and lasting at least 6 months, but less than 12 months. For example, if the compliance date is March 1, then the first semiannual reporting period would begin on March 1 and end on December 31. (2) The first compliance report must be postmarked or delivered no later than July 31 or January 31 for compliance periods ending on June 30 and December 31, respectively.
55.0		CD	40 CFR Section 63.2281(b)	(b)(3) Each subsequent compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31. (4) Each subsequent compliance report must be postmarked or delivered no later than July 31 or January 31 for the semiannual reporting period ending on June 30 and December 31, respectively. (5) For each affected source that is subject to permitting regulations pursuant to 40 CFR part 70 or 40 CFR part 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to Section 70.6(a)(3)(iii)(A) or Section 71.6(a)(3)(iii)(A), the Permittee may submit the first and subsequent compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (b)(1) through (4) of Section 63.2281.



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56.0		CD	40 CFR Section 63.2281(c)	<p>(c) The compliance report must contain the information in paragraphs (c)(1) through (8) of Section 63.2281.</p> <p>(1) Company name and address.</p> <p>(2) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.</p> <p>(3) Date of report and beginning and ending dates of the reporting period.</p> <p>(4) If there was a startup, shutdown, or malfunction during the reporting period and actions were taken consistent with the SSMP, the compliance report must include the information specified in Section 63.10(d)(5)(i).</p> <p>(5) A description of control device maintenance performed while the control device was offline and one or more of the process units controlled by the control device was operating, including the information specified in paragraphs (c)(5)(i) through (iii) of Section 63.2281.</p>
57.0		CD	40 CFR Section 63.2281(c)	<p>(c)(5)(i) The date and time when the control device was shut down and restarted.</p> <p>(ii) Identification of the process units that were operating and the number of hours that each process unit operated while the control device was offline.</p> <p>(iii) A statement of whether or not the control device maintenance was included in the approved routine control device maintenance exemption developed pursuant to Section 63.2251. If the control device maintenance was included in the approved routine control device maintenance exemption, then the Permittee must report the information in paragraphs (c)(5)(iii)(A) through (C) of Section 63.2281.</p> <p>(A) The total amount of time that each process unit controlled by the control device operated during the semiannual compliance period and during the previous semiannual compliance period.</p>
58.0		CD	40 CFR Section 63.2281(c)	<p>(c)(5)(iii)(B) The amount of time that each process unit controlled by the control device operated while the control device was down for maintenance covered under the routine control device maintenance exemption during the semiannual compliance period and during the previous semiannual compliance period.</p> <p>(C) Based on the information recorded under paragraphs (c)(5)(iii)(A) and (B) of this section for each process unit, compute the annual percent of process unit operating uptime during which the control device was offline for routine maintenance using Equation 1 of Section 63.2281.</p>
59.0		CD	hdr	DETERMINING IF A PROJECT/MODIFICATION IS SUBJECT TO NSR
60.0		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 52.2(r)(6)(vi)(a).</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>
61.0		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>



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62.0		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.
63.0		CD	Title I Condition: 40 CFR Section 52.21(r)(6); Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 4 & 5	The Permittee 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: 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.
64.0		CD	hdr	NESHAP REQUIREMENTS: 40 CFR Section 63, subpart DDDD, Plywood and Composite Wood Products (also called the Plywood MACT)
65.0		CD	40 CFR Section 63, Subpart DDDD: Plywood and Composite Wood Products	The Permittee shall comply with the applicable provisions in 40 CFR Section 63, subpart DDDD, Plywood and Composite Wood Products (referred to as "subpart DDDD" in this portion of the permit) by October 1, 2007, compliance date of the MACT except for the requirements related to the EU 012 Board Press and for GP 003, the conveyor dryer, for which a one year extension was granted. The Permittee shall comply with the applicable provisions related to the EU 012 Board Press by October 1, 2008. Control equipment (biofilter) will be added to the press, and part of the conveyor dryer system is to be re-routed (exhaust from Zone 1 will be routed into the flame zone of the Wellons burner).
66.0		CD	40 CFR Section 63, Subpart DDDD: Plywood and Composite Wood Products	The Permittee shall comply with all the applicable provisions for the following emission units: EU 001 Face Dryer/Lamb Burner EU 002 Core Dryer/Lamb Burner EU 012 Board Press EU 020 Conveyor Dryer Zones 1, 2, and 3 (Requirements for each emission unit are located under the emission unit heading in the permit.)
67.0		CD	Minn. R. 7007.0800, subp. 2	All submittals and notifications under subpart DDDD shall be sent to both the MPCA and the EPA contacts listed on Page B-1 of this permit, unless otherwise noted.
68.0		CD	hdr	GENERAL COMPLIANCE REQUIREMENTS
69.0		CD	40 CFR Section 63.7520; 40 CFR Section 63.7(c), (d), (e), (f), and (h)	Performance Test Procedures: The Permittee shall conduct all performance tests according to 40 CFR Section 63.7(c), (d), (f) and 40 CFR Section 63.7520(a) through (g), as applicable, and Minn. R. ch. 7017.
70.0		CD	40 CFR Section 63.2250(a)	The Permittee must be in compliance with the compliance options, operating requirements, and the work practice requirements in subpart DDDD at all times, except during periods of process unit or control device startup, shutdown, and malfunction; prior to process unit initial startup; and during the routine control device maintenance exemption specified in 40 CFR Section 63.2251. The compliance options, operating requirements, and work practice requirements do not apply during times when the process unit(s) subject to the compliance options, operating requirements, and work practice requirements are not operating, or during periods of startup, shutdown, and malfunction. Startup and shutdown periods must not exceed the minimum amount of time necessary for these events.



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71.0		CD	40 CFR Section 63.2250(b); 40 CFR Section 63.6(e)(1)(i)	Operate and Maintain Source: The Permittee shall at all times operate and maintain the emission unit subject to the NESHAP and its associated air pollution control equipment in a manner consistent with good air pollution control practices for minimizing emissions at least to the levels required by all relevant standards, as described at 40 CFR Section 63.6(e)(1)(i).
72.0		CD	40 CFR Section 63.2250(c); 40 CFR Section 63.6(e)(3)	Startup, Shutdown, and Malfunction Plan (SSMP): The Permittee shall develop, implement, and maintain a written startup, shutdown, and malfunction plan (SSMP) according to all of the provisions in 40 CFR Section 63.6(e)(3). The plan must be available for inspection and copying by the Administrator upon request.
73.0		CD	40 CFR Section 63.2251	Routine Control Device Maintenance Exemption: The Permittee may request a routine control device maintenance exemption from the EPA Administrator for routine maintenance events in accordance with 40 CFR Section 63.2251.
74.0		CD	40 CFR Section 63.2280	Notifications: The Permittee must submit all of the notifications in 40 CFR Sections 63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), 63.9(b) through (e), and (g) and (h) by the dates specified.
75.0		CD	40 CFR Section 63.2280(g)(1) and (3)	The Permittee shall notify the EPA Administrator and the MPCA within 30 days before: 1) any control system for any process unit subject to the compliance options and operating requirements for subpart DDDD are modified or replaced and 2) a continuous monitoring parameter or the value or range of values of a continuous monitoring parameter for any process unit or control device is changed.
76.0		S/A	40 CFR Section 63.2281	Semiannual Compliance Report: due 31 days after end of each calendar half-year starting 10/01/2008. The first semiannual reporting period begins on October 1, 2008 and ends on June 30, 2009. The first semiannual report is due July 31, 2009. The report must contain the information in 40 CFR Section 63.2281(c) through (g).
77.0		CD	40 CFR Sections 63.6(e)(3)(iv) and 63.10(d)(5)(ii)	Immediate Startup, Shutdown, and Malfunction Report (SSMR): The Permittee must submit an immediate SSMR if EU001 had a startup, shutdown, or malfunction during the reporting period that is not consistent with the Permittee's SSMP, and the boiler exceeded any applicable emission limitation. The report must contain: 1). Actions taken for the event; 2). The name, title, and signature of a responsible official who is certifying its accuracy, 3). An explanation of the circumstances of the event; 4). The reasons for not following the SSMP; and 5). Whether any excess emissions and/or parameter monitoring exceedances are believed to have occurred. The Permittee must submit the report: 1). By fax or telephone within 2 working days after starting actions inconsistent with the plan; and 2). By letter within 7 working days after the end of the event unless the Permittee has made alternative arrangements with the Administrator.
78.0		CD	40 CFR Section 63.10(d)(5)(i)	Periodic Startup, Shutdown, and Malfunction Reports (SSMP Reports). The Permittee shall submit SSMP Reports only if there is an occurrence of startup, shutdown, or malfunction during the reporting period and shall be delivered or postmarked by the 30th day following the end of each calendar half year. The content of the report shall be as required by 40 CFR Section 63.10(d)(5)(i).
79.0		CD	hdr	SOURCE-SPECIFIC REQUIREMENTS
80.0		CD	40 CFR Section 63.2252	Part 63 Subpart DDDD Plywood and Composite Wood Products MACT Standard Requirements: For process units not subject to the compliance options or work practice requirements specified in Section 63.2240 (including but not limited to, lumber kilns), the Permittee is not required to comply with the compliance options, work practice requirements, performance testing, monitoring, SSM plans, and recordkeeping or reporting requirements of this subpart, or any other requirements in subpart A of this part, except for the initial notification requirements in Section 63.9(b).
81.0		CD	hdr	LIMITS AND OPERATING REQUIREMENTS



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82.0		CD	40 CFR Section 63.2250	<p>General Requirements:</p> <p>(a) The Permittee must be in compliance with the compliance options, operating requirements, and the work practice requirements in this subpart at all times, except during periods of process unit or control device startup, shutdown, and malfunction; prior to process unit initial startup; and during the routine control device maintenance exemption specified in Section 63.2251. The compliance options, operating requirements, and work practice requirements do not apply during times when the process unit(s) subject to the compliance options, operating requirements, and work practice requirements are not operating, or during periods of startup, shutdown, and malfunction. Startup and shutdown periods must not exceed the minimum amount of time necessary for these events.</p> <p>(continued)</p>
83.0		CD	40 CFR Section 63.2250	<p>General Requirements (continued):</p> <p>(b) The Permittee must always operate and maintain the affected source, including air pollution control and monitoring equipment, according to the provisions in Section 63.6(e)(1)(i).</p> <p>(c) The Permittee must develop a written SSMP according to the provisions in Section 63.6(e)(3).</p>
84.0		CD	hdr	CONTROL EQUIPMENT REQUIREMENTS
85.0		CD	40 CFR Section 63.2269(a)	<p>Temperature Monitoring: For each temperature monitoring device, the Permittee must meet the requirements in paragraphs (a) and (b)(1) through (6) of Section 63.2269.</p> <p>(a) The Permittee must install, operate, and maintain each continuous parameter monitoring system (CPMS) according to paragraphs (a)(1) through (3) of Section 63.2269.</p> <p>(1) The CPMS must be capable of completing a minimum of one cycle of operation (sampling, analyzing, and recording) for each successive 15-minute period.</p> <p>(2) At all times, the Permittee must maintain the monitoring equipment including, but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.</p> <p>(3) Record the results of each inspection, calibration, and validation check.</p> <p>(continued)</p>
86.0		CD	40 CFR Section 63.2269(b)	<p>Temperature Monitoring (cont.):</p> <p>(b) (1) Locate the temperature sensor in a position that provides a representative temperature.</p> <p>(2) Use a temperature sensor with a minimum accuracy of 4 °F or 0.75 percent of the temperature value, whichever is larger.</p> <p>(3) If a chart recorder is used, it must have a sensitivity with minor divisions not more than 20 °F.</p> <p>(continued)</p>
87.0		CD	40 CFR Section 63.2269(b)	<p>Temperature Monitoring (cont.):</p> <p>(4) Perform an electronic calibration at least semiannually according to the procedures in the manufacturer's owners manual. Following the electronic calibration, the Permittee shall conduct a temperature sensor validation check in which a second or redundant temperature sensor placed nearby the process temperature sensor must yield a reading within 30 °F of the process temperature sensor's reading.</p> <p>(5) Conduct calibration and validation checks any time the sensor exceeds the manufacturer's specified maximum operating temperature range or install a new temperature sensor.</p> <p>(6) At least quarterly, inspect all components for integrity and all electrical connections for continuity, oxidation, and galvanic corrosion.</p>



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88.0		CD	40 CFR Section 63.2270(a) and (b)	<p>(a) Monitor and collect data according to section 63.2270.</p> <p>(b) Except for, as appropriate, monitor malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the Permittee must conduct all monitoring in continuous operation at all times that the process unit is operating. For purposes of calculating data averages, do not use data recorded during monitoring malfunctions, associated repairs, out-of-control periods, or required quality assurance or control activities. The Permittee must use all the data collected during all other periods in assessing compliance.</p> <p>(continued)</p>
89.0		CD	40 CFR Section 63.2270(b)	<p>(continued from above)</p> <p>A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions. Any period for which the monitoring system is out-of-control and data are not available for required calculations constitutes a deviation from the monitoring requirements.</p>
90.0		CD	40 CFR Section 63.2270(c) and (d)	<p>(c) The Permittee may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities; data recorded during periods of startup, shutdown, and malfunction; or data recorded during periods of control device downtime covered in any approved routine control device maintenance exemption in data averages and calculations used to report emission or operating levels, nor may such data be used in fulfilling a minimum data availability requirement, if applicable. Use all the data collected during all other periods in assessing the operation of the control system.</p> <p>(d) Determine the 3-hour block average of all recorded readings, calculated after every 3 hours of operation as the average of the evenly spaced recorded readings in the previous 3 operating hours (excluding periods described in paragraphs (b) and (c) of Section 63.2270).</p>
91.0		CD	40 CFR Section 63.2270(f)	<p>(f) To calculate the data averages for each 3-hour or 24-hour averaging period, the Permittee must have at least 75 percent of the required recorded readings for that period using only recorded readings that are based on valid data (i.e., not from periods described in paragraphs (b) and (c) of Section 63.2270).</p>
92.0		CD	40 CFR Section 63.2271(a) and (b)	<p>(a) The Permittee must demonstrate continuous compliance with the compliance options, operating requirements, and work practice requirements in Sections 63.2240 and 63.2241 that apply according to the methods specified in Tables 7 and 8 to subpart DDDD.</p> <p>(b) The Permittee must report each instance in which the applicable compliance option, operating requirement, and work practice requirement in Tables 7 and 8 to subpart DDDD were not met. This includes periods of startup, shutdown, and malfunction and periods of control device maintenance specified in paragraphs (b)(1) through (3) of Section 63.2271. These instances are deviations from the compliance options, operating requirements, and work practice requirements in subpart DDDD. These deviations must be reported according to the requirements in Section 63.2281.</p>



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Subject Item: GP 001 Lamb Burners and Dryers

Associated Items: CE 017 Electrified Filter Bed

CE 018 Electrified Filter Bed

CE 020 Thermal Oxidizer

CE 024 Thermal Oxidizer

CE 025 Thermal Oxidizer

EU 001 Face Dryer/Lamb Burner

EU 002 Core Dryer/Lamb Burner

EU 004 Face Burner 1 (backup burner)

EU 005 Core Burner 2 (backup burner)

	NC/ CA	Type	Citation	Requirement
1.0		CD	hdr	LIMITS
2.0		LIMIT	Title I Condition: 40 CFR Section 52.21(j) (BACT); Minn. R. 7007.3000	Total Particulate Matter: less than or equal to 0.49 lbs/ton of oven dried product. This is more stringent than limit in Minn. R. 7011.0610, subp 1(A), which also applies.
3.0		LIMIT	Title I Condition: 40 CFR Section 52.21(m) (modeling); Minn. R. 7007.3000	PM < 10 micron: less than or equal to 12.2 lbs/hour
4.0		LIMIT	Title I Condition: 40 CFR Section 52.21(j) (BACT); Minn. R. 7007.3000	PM < 10 micron: less than or equal to 0.49 lbs/ton of oven dried product.
5.0		LIMIT	Minn. R. 7011.0610, subp. 1(A)(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.
6.0		LIMIT	Title I Condition: 40 CFR Section 52.21(j) (BACT) and 40 CFR Section 52.21(m) (modeling); Minn. R. 7007.3000	Carbon Monoxide: less than or equal to 38.9 lbs/hour
7.0		LIMIT	Title I Condition: 40 CFR Section 52.21(j) (BACT); Minn. R. 7007.3000	Carbon Monoxide: less than or equal to 1.3 lbs/ton of oven dried product.
8.0		LIMIT	Title I Condition: To avoid major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000	Carbon Monoxide: less than or equal to 157.6 tons/year using 12-month Rolling Sum to avoid a major modification increase in CO emissions from the Face (EU001) and Core (EU002) dryers.
9.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (m) (modeling); Minn. R. 7007.3000	Nitrogen Oxides: less than or equal to 25 lbs/hour
10.0		LIMIT	Title I Condition: 40 CFR Section 52.21(j) (BACT); Minn. R. 7007.3000	Nitrogen Oxides: less than or equal to 1.0 lbs/ton of oven dried product.
11.0		LIMIT	Title I Condition: 40 CFR Section 52.21(j) (BACT); Minn. R. 7007.3000	Volatile Organic Compounds: less than or equal to 0.59 lbs/ton of oven dried product. The VOC limit is on an "as VOC basis", and is to be measured using the draft Oregon "Guidance for Evaluating VOC Emissions from Drying and Hot-Pressing Activities Common to the Wood Products Industry" (attached as Appendix D to this permit).
12.0		LIMIT	Minn. R. 7011.0610, subp. 2(B)(1)	Sulfur Dioxide: less than or equal to 4.0 lbs/million Btu heat input . The PTE of this unit is 2.2 lb/hr.
13.0		LIMIT	40 CFR Section 63.2240(b); Table 1B to Subpart DDDD of Part 63	HAPs - Total: less than or equal to 20 parts per million ; total HAP measured as Total Hydrocarbons (THC) as carbon. This limit is based on the compliance option, specified in Table 1B to Subpart DDDD of Part 63, chosen by the Permittee based on current operations. If the Permittee later chooses to switch to a different compliance option allowed in the standard, the Permittee shall comply with all applicable portions of 40 CFR pt. 63, subp. DDDD, for that option.



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14.0		CD	Minn. R. 7007.0800, subp. 2	Fuel Usage: limited to hog fuel (bark, wood, trims and dust collected from baghouses), propane, natural gas, and up to 150 lb/hr (monthly average) of the total fuel combusted may consist of manufacturing residue. Cellulose based sorbents and alternate biomass fuels may be combusted subject to the approval by the MPCA.
15.0		CD	Minn. R. 7007.0800, subp. 2	Manufacturing residue: The manufacturing residue must be generated on site and may consist of the following: wood flake resin and wax accumulations cleaned from equipment, water-based paint residues from edgesealing and stenciling operations, confidential office records (paper) and corrugated cardboard unsuitable for recycling. In addition, the manufacturing residue shall not contain any of the following: any hazardous waste listed in Minn. R. 7045.0135, any wastes specified in Minn. R. 7045.0131 as hazardous, or batteries or any other material where mercury has been purposely introduced. Absorbent material from spills containing oil, anti-freeze, water-based paints, or soy or water-based ink may be combusted. The spilled material other than oil shall not contain: any hazardous waste listed in Minn. R. 7045.0135 or any wastes specified in Minn. R. 7045.0131 as hazardous. The oil in any absorbent material shall only be on-specification used oil.
16.0		CD	Minn. R. 7007.0800, subp. 2	Alternative Biomass Fuel Testing Authorization: The Permittee is authorized to conduct test burns of alternative biomass fuels except for peat, wood that has been painted, stained or pressure treated, waste oil, farm chemicals, pesticide containers, demolition waste except for wood, waste from farms from an open dump, tire derived fuels, non-agricultural industrial process wastes, animal manures and wastes, or any material meeting the definition of a hazardous waste.
17.0		CD	Minn. R. 7007.0800, subp. 2	Alternative Biomass Fuel Testing Restrictions: Test burns for any potential biomass fuel shall be limited to 4,000 tons, not more than 45 days of operation using the fuel, and a test period not to exceed 180 days.
18.0		CD	Title I Condition: To avoid classification as a major source under 40 CFR Section 63.2; Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 2	Alternative Biomass Fuel Testing Requirements: Test burns shall be conducted to measure air pollutant emissions and may include measuring CO, PM, PM10, VOC and single and total HAPs emissions, monitoring NOx and SO2 emissions, and determining the fuel chlorine, Total Selected Metals (TSM) and mercury content. The final list of air pollutants to be measured and monitored during the test burn will depend on the type of fuel burned and will be finalized in the test plan approved by the MPCA.
19.0		CD	Minn. R. 7017.2030, subps. 1-4, Minn. R. 7017.2018	Alternative Biomass Fuel Testing Submittals: 30 days prior to testing of a biomass fuel, the Permittee shall submit a written performance test notification and test plan. The test plan shall meet the requirements of Minn. R. 7017.2030 and shall also include: 1) the type(s) and estimated amount of biomass to be tested, 2) operating parameters and anticipated fuel mixes during testing for the process heater to be tested, 3) air pollutants that will be monitored and measured during testing, and 4) a testing schedule.
20.0		CD	hdr	CONTROL EQUIPMENT
21.0		CD	hdr	CONTROL EQUIPMENT - ELECTRIFIED FILTER BED (EFB) - See requirements under Subject Items CE 017 and CE 018.
22.0		CD	hdr	CONTROL EQUIPMENT - REGENERATIVE THERMAL OXIDIZERS (RTO) See requirements under Subject Items GP 006.
23.0		LIMIT	Title I Condition: 40 CFR Section 52.21; Minn. R. 7007.3000	The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for Volatile Organic Compounds: greater than or equal to 90 percent control efficiency
24.0		LIMIT	Title I Condition: 40 CFR Section 52.21; Minn. R. 7007.3000	The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for Total Particulate Matter and PM < 10 micron: greater than or equal to 90 percent control efficiency
25.0		CD	Title I Condition: To meet BACT limit; Minn. R. 7007.0800, subps. 4, 5 and 14	The Permittee shall operate and maintain the control equipment (electrified filter beds (EFB) and thermal oxidizers (RTO)) any time that any process equipment controlled by the control equipment is in operation. Normal operation for the Permittee is to operate all three RTOs. Operating two RTOs is considered alternate operation. All monitoring, inspection requirements, etc. will be identical for all three RTOs. Performance testing will be conducted with three RTOs on line.
26.0		CD	40 CFR Section 63.2240(b); Table 1B to Subpart DDDD of Part 63	The Permittee shall operate and maintain the RTO to meet the Total HAP emissions limit. Additional requirements from NESHAP can be found under GP 006.
27.0		CD	hdr	MONITORING
28.0		CD	Title I Condition: Monitoring for BACT limit	The Permittee shall maintain a continuous hard copy readout or electronic file of the temperature readings and calculated three hour block average temperatures for the combustion chamber.



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29.0		CD	Minn. R. 7007.0800, subps. 4 and 5	Daily Monitoring: The Permittee shall physically check the temperature recording device for the thermal oxidizer and any other recording device used for monitoring of control equipment as required by the permit at least once each operating day to verify that it is working and recording properly. The Permittee shall maintain a written record of these daily checks and any corrective actions taken resulting from the daily checks.
30.0		CD	Minn. R. 7007.0800, subps. 4 and 5	Monitoring Equipment: The Permittee shall install and maintain thermocouples for the thermal oxidizer to conduct temperature monitoring required by this permit. The monitoring equipment must be installed, in use, and properly maintained whenever operation of the monitored control equipment is required. The Permittee shall maintain and operate a thermocouple monitoring device that continuously indicates and records the combustion chamber temperature of the thermal oxidizer. The Permittee shall maintain and operate monitoring devices to continuously indicate the EFB pressure drop, bed voltage and ionizer voltage.
31.0		CD	Minn. R. 7007.0800, subps. 4, 5, and 14	Quarterly Inspections: At least once per calendar quarter, the Permittee shall inspect the control equipment external system components, including but not limited to the electrical systems. The Permittee shall maintain a written record of the inspection and any corrective actions taken resulting from the inspection.
32.0		CD	Minn. R. 7007.0800, subps. 4, 5, and 14	Annual Inspections: At least once per calendar year, the Permittee shall inspect the control equipment internal system components, including but not limited to the refractory and heat exchanger systems of the thermal oxidizer. The Permittee shall maintain a written record of the inspection and any corrective actions taken resulting from the inspection.
33.0		CD	Minn. R. 7007.0800, subps. 4, 5, and 14	Annual Calibration: The Permittee shall calibrate the temperature monitor at least annually and shall maintain a written record of the calibration and any action resulting from the calibration.
34.0		CD	Minn. R. 7007.0800, subps. 4, 5, and 14	Corrective Actions: If the temperature is below the minimum specified by this permit or if the thermal oxidizer or any of its components are found during the inspections to need repair, the Permittee shall take corrective action as soon as possible. Corrective actions shall return the temperature to at least the permitted minimum 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 thermal oxidizer. The Permittee shall keep a record of the type and date of any corrective action taken.
35.0		CD	Minn. R. 7007.0800, subp. 14	The Permittee shall operate and maintain the thermal oxidizer 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.
36.0		CD	hdr	PERFORMANCE TESTING
37.0		S/A	Title I Condition: Monitoring for BACT limits	Performance Test: due before end of each 60 months starting 04/14/2011 to measure opacity and total particulate matter, PM < 10 microns, carbon monoxide, nitrogen oxides, and volatile organic compound emissions. VOC emissions shall be measured in accordance with the draft Oregon "Guidance for Evaluating VOC Emissions from Drying and Hot-Pressing Activities Common to the Wood Products Industry" (attached as Appendix D to this permit). The next performance test is due April 14, 2016.
38.0		CD	40 CFR Section 63.2280(c)	Performance Test Notification (written): due 60 days before Performance Test to measure Total HAPs (THC as C) is scheduled to begin. Submit a written notification of intent to conduct the performance test.
39.0		CD	40 CFR Section 63.2262(a) and part 63 subpart DDDD Table 4 items (1) - (5), and (11)	Performance Testing: conduct each performance test used to determine compliance with the applicable limit in part 63 subpart DDDD Table 1B, according to the requirements in Section 63.7(e)(1), the requirements in paragraphs (b) through (l) of Section 63.2262, and according to the applicable methods specified in Table 4 of part 63 subpart DDDD.
40.0		CD	40 CFR Part 63 subpart DDDD table 5 item (3)	Compliance Demonstration: Initial compliance has been demonstrated for total HAP (THC as C) emissions limit if: the average Total HAP emissions, measured using the methods in Table 4 to subpart DDDD over the 3-hour performance test, do not exceed 20 ppmvd; AND the Permittee has a record of the oxidizer operating temperatures as required by Table 2 of subpart DDDD over the performance test during which emissions did not exceed 20 ppmvd.
41.0		CD	hdr	RECORDKEEPING



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42.0		CD	Title I Condition: Monitoring for Title I Condition (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 calculate, record, and maintain records of, the total weight of manufacturing residue, absorbent material or biomass fed to the burner fuel stream.
43.0		CD	Minn. R. 7007.0800, subp. 4 and 5	Monthly Recordkeeping - Within 15 days of the end of each month, the Permittee shall calculate and record the average hourly feed rate of manufacturing residue and absorbent material burned in the boilers for the previous month. This feed rate in lb/hr shall be compared to the limit to determine compliance.
44.0		CD	Title I Condition: Recordkeeping for Title I Condition to avoid major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000	Daily Recordkeeping: On each day of operation, the Permittee shall calculate, record, and maintain records of CO emissions for the Face (EU001) and Core (EU002) dryers.
45.0		CD	Title I Condition: Recordkeeping for Title I Condition to avoid major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000	Monthly Recordkeeping - by the 15th of the month the Permittee shall calculate and record the total CO emissions from the previous month for the Face (EU001) and Core (EU002) Dryers. Also, sum the monthly total CO emissions (in tons) with the previous eleven (11) months to calculate the 12-month rolling sum.
46.0		CD	Minn. R. 7017.2035, subp. 2; meets requirements of 40 CFR Section 63.7(g)(1)	Performance Test Report: due 45 days after Performance Test for measuring Total HAPs (THC as C).
47.0		CD	40 CFR Section 63.2280; meets requirements of Minn. R. 7017.2030, subp. 1	Performance Test Notification (written): due 60 days before Performance Test for measuring Total HAPs (THC as C). The notification shall meet the requirements specified in Section 63.7(b)(1).
48.0		S/A	40 CFR Section 63.2280	Notification of compliance status: due 60 days after Performance Test required by subpart DDDD according to 40 CFR Section 63.9(h)(2)(ii) and Section 63.2280(d). For each initial compliance demonstration, the Permittee must submit the NOCS, including all performance test results, according to 40 CFR Section 63.10(d)(2).



COMPLIANCE PLAN **CD-01**

Facility Name: Norbord Minnesota

Permit Number: 00700019 - 007

Subject Item: GP 002 Konus Burners

Associated Items: CE 014 Electrified Filter Bed

CE 015 Electrified Filter Bed

EU 007 Konus Burner 1

EU 008 Konus Burner 2

	NC/ CA	Type	Citation	Requirement
1.0		CD	hdr	LIMITS
2.0		LIMIT	Title I Condition: 40 CFR Section 52.21(j) (BACT); Minn. R. 7007.3000	Total Particulate Matter: less than or equal to 0.21 lbs/million Btu heat input . This is more stringent than limit in Minn. R. 7011.0610, subp 1(A), which also applies.
3.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (m) (modeling); Minn. R. 7007.3000	PM < 10 micron: less than or equal to 9.7 lbs/hour
4.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (j) (BACT); Minn. R. 7007.3000	PM < 10 micron: less than or equal to 0.21 lbs/million Btu heat input
5.0		LIMIT	Minn. R. 7011.0610, subp. 1(A)(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.
6.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (m) (modeling); Minn. R. 7007.3000	Carbon Monoxide: less than or equal to 50.6 lbs/hour
7.0		LIMIT	Title I Condition: 40 CFR Section 52.21(j) (BACT); Minn. R. 7007.3000	Carbon Monoxide: less than or equal to 1.1 lbs/million Btu heat input
8.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (m) (modeling); Minn. R. 7007.3000	Nitrogen Oxides: less than or equal to 18.4 lbs/hour
9.0		LIMIT	Title I Condition: 40 CFR Section 52.21(j) (BACT); Minn. R. 7007.3000	Nitrogen Oxides: less than or equal to 0.40 lbs/million Btu heat input
10.0		LIMIT	Title I Condition: 40 CFR Section 52.21(j) (BACT); Minn. R. 7007.3000	Volatile Organic Compounds: less than or equal to 0.26 lbs/million Btu heat input . The VOC limit is based on using Method 25A, measured as propane.
11.0		LIMIT	Minn. R. 7011.0610, subp. 2(B)(1)	Sulfur Dioxide: less than or equal to 4.0 lbs/million Btu heat input . The PTE of this unit is 2.5 lb/hr.
12.0		CD	Minn. R. 7007.0800, subp. 2	Fuel Usage: limited to hog fuel (bark, wood, trims and dust collected from baghouses), propane, natural gas, and up to 150 lb/hr (monthly average) of the total fuel combusted may consist of manufacturing residue. Cellulose based sorbents and alternate biomass fuels may be combusted subject to the approval by the MPCA.
13.0		CD	Minn. R. 7007.0800, subp. 2	Manufacturing residue: The manufacturing residue must be generated on site and may consist of the following: wood flake resin and wax accumulations cleaned from equipment, water-based paint residues from edgesealing and stenciling operations, confidential office records (paper) and corrugated cardboard unsuitable for recycling. In addition, the manufacturing residue shall not contain any of the following: any hazardous waste listed in Minn. R. 7045.0135, any wastes specified in Minn. R. 7045.0131 as hazardous, or batteries or any other material where mercury has been purposely introduced. Absorbent material from spills containing oil, anti-freeze, water-based paints, or soy or water-based ink may be combusted. The spilled material other than oil shall not contain: any hazardous waste listed in Minn. R. 7045.0135 or any wastes specified in Minn. R. 7045.0131 as hazardous. The oil in any absorbent material shall only be on-specification used oil.
14.0		CD	Minn. R. 7007.0800, subp. 2	Alternative Biomass Fuel Testing Authorization: The Permittee is authorized to conduct test burns of alternative biomass fuels except for peat, wood that has been painted, stained or pressure treated, waste oil, farm chemicals, pesticide containers, demolition waste except for wood, waste from farms from an open dump, tire derived fuels, non-agricultural industrial process wastes, animal manures and wastes, or any material meeting the definition of a hazardous waste.



COMPLIANCE PLAN **CD-01**

Facility Name: Norbord Minnesota

Permit Number: 00700019 - 007

15.0		CD	Minn. R. 7007.0800, subp. 2	Alternative Biomass Fuel Testing Restrictions: Test burns for any potential biomass fuel shall be limited to 4,000 tons, not more than 45 days of operation using the fuel, and a test period not to exceed 180 days.
16.0		CD	Title I Condition: To avoid classification as a major source under 40 CFR Section 63.2; Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 2	Alternative Biomass Fuel Testing Requirements: Test burns shall be conducted to measure air pollutant emissions and may include measuring CO, PM, PM10, VOC and single and total HAPs emissions, monitoring NOx and SO2 emissions, and determining the fuel chlorine, Total Selected Metals (TSM) and mercury content. The final list of air pollutants to be measured and monitored during the test burn will depend on the type of fuel burned and will be finalized in the test plan approved by the MPCA.
17.0		CD	Minn. R. 7017.2030, subps 1-4, Minn. R. 7017.2018	Alternative Biomass Fuel Testing Submittals: 30 days prior to testing of a biomass fuel, the Permittee shall submit a written performance test notification and test plan. The test plan shall meet the requirements of Minn. R. 7017.2030 and shall also include: 1) the type(s) and estimated amount of biomass to be tested, 2) operating parameters and anticipated fuel mixes during testing for the process heater to be tested, 3) air pollutants that will be monitored and measured during testing, and 4) a testing schedule.
18.0		CD	hdr	CONTROL EQUIPMENT
19.0		CD	hdr	CONTROL EQUIPMENT - ELECTRIFIED FILTER BED (EFB) - See requirements under Subject Items CE 014 and CE 015.
20.0		LIMIT	Title I Condition: 40 CFR Section 52.21; Minn. R. 7007.3000	The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for Total Particulate Matter and PM < 10 micron: greater than or equal to 95 percent control efficiency
21.0		CD	Title I Condition: BACT limit; Minn. R. 7007.0800, subps. 2 and 14	The Permittee shall operate and maintain the EFBs at all times that any emission unit controlled by the EFBs is in operation.
22.0		CD	Minn. R. 7007.0800, subps. 4, 5, and 14	Quarterly Inspections: At least once per calendar quarter, the Permittee shall inspect the control equipment external system components, including but not limited to the electrical systems. The Permittee shall maintain a written record of the inspection and any corrective actions taken resulting from the inspection.
23.0		CD	Minn. R. 7007.0800, subps. 4, 5, and 14	Annual Inspections: At least once per calendar year, the Permittee shall inspect the control equipment internal system components. The Permittee shall maintain a written record of the inspection and any corrective actions taken resulting from the inspection.
24.0		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: - the recorded pressure drop, EFB bed voltage or EFB ionizer voltage is outside the required operating range; or - the EFB or any of its components are found during the inspections to need repair. Corrective actions shall return the recorded parameter 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 EFB. The Permittee shall keep a record of the type and date of any corrective action taken for each EFB.
25.0		CD	hdr	PERFORMANCE TESTING
26.0		S/A	Title I Condition: Monitoring for BACT limits; Minn. R. 7017.2020, subp. 1	Performance Test: due before end of each 36 months starting 09/23/2011 to measure emission rate of nitrogen oxides. The next performance test is due September 23, 2014.
27.0		S/A	Title I Condition: Monitoring for BACT limits; Minn. R. 7017.2020, subp. 1	Performance Test: due before end of each 60 months starting 09/23/2011 to measure emission rates of total particulate matter and PM < 10 microns. The next performance test is due September 23, 2016.
28.0		S/A	Title I Condition: Monitoring for BACT limits; Minn. R. 7017.2020, subp. 1	Performance Test: due before end of each 36 months starting 09/23/2011 to measure emission rates of carbon monoxide. The next performance test is due September 23, 2014.
29.0		S/A	Title I Condition: Monitoring for BACT limits; Minn. R. 7017.2020, subp. 1	Performance Test: due before end of each 60 months starting 09/23/2011 to measure emission rate of volatile organic compounds. The next performance test is due September 23, 2016.



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30.0		S/A	Minn. R. 7017.2020, subp. 1	Performance Test: due before end of each 60 months starting 09/23/2011 to measure opacity. A new limit may be set pursuant to Minn. R. 7017.2025, subp. 3 based on results from the most recent MPCA-approved performance test where compliance was demonstrated regardless of the pollutant being tested. The MPCA also reserves the right to select additional surrogate parameters as operating limits if deemed necessary to correctly regulate a given pollutant. The next test is due September 23, 2016.
31.0		S/A	Minn. R. 7017.2020, subp. 1	Testing Frequency Plan: due 60 days after Performance Test for nitrogen oxides and carbon monoxide 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.
32.0		S/A	Minn. R. 7017.2020, subp. 1	Testing Frequency Plan: due 60 days after Performance Test for total particulate matter, PM < 10 microns, volatile organic compounds and opacity 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.
33.0		CD	hdr	RECORDKEEPING
34.0		CD	Title I Condition: Monitoring for Title I Condition (40 CFR 52.21) and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 4 and 5	Daily Recordkeeping: On each day of operation, the Permittee shall calculate, record, and maintain records of, the total weight of manufacturing residue, absorbent material or biomass fed to the burner fuel stream.
35.0		CD	Minn. R. 7007.0800, subps. 4 and 5	Monthly Recordkeeping - Within 15 days of the end of each month, the Permittee shall calculate and record the average hourly feed rate of manufacturing residue and absorbent material burned in the boilers for the previous month. This feed rate in lb/hr shall be compared to the limit to determine compliance.



COMPLIANCE PLAN **CD-01**

Facility Name: Norbord Minnesota

Permit Number: 00700019 - 007

Subject Item: GP 003 Conveyor Dryer System

Associated Items: CE 002 Electrostatic Precipitator - High Efficiency

CE 021 Centrifugal Collector - High Efficiency

CE 022 Centrifugal Collector - High Efficiency

EU 003 Wellons Burner

EU 020 Conveyor Zone 1, 2 & 3

SV 002 GP003 Conveyor Dryer System

SV 017 GP003 Conveyor Dryer System

SV 018 GP003 Conveyor Dryer System

	NC/ CA	Type	Citation	Requirement
1.0		CD	hdr	LIMITS
2.0		LIMIT	Title I Condition: 40 CFR Section 52.21(k) (modeling); Minn. R. 7007.3000	Total Particulate Matter: less than or equal to 8.3 lbs/hour
3.0		LIMIT	Title I Condition: 40 CFR Section 52.21(j) (BACT limit); 40 CFR pt. 60, subp. Dc; Minn. R. 7007.3000	Total Particulate Matter: less than or equal to 0.10 lbs/million Btu heat input . The BACT limit is the same as the NSPS limit (40 CFR pt. 60, subp. Dc), which also applies.
4.0		LIMIT	Title I Condition: 40 CFR Section 52.21(k) (modeling); Minn. R. 7007.3000	PM < 10 micron: less than or equal to 8.3 lbs/hour
5.0		LIMIT	Title I Condition: 40 CFR Section 52.21(j) (BACT limit); Minn. R. 7007.3000	PM < 10 micron: less than or equal to 0.10 lbs/million Btu heat input
6.0		LIMIT	Title I Condition: 40 CFR Section 52.21(k) (modeling); Minn. R. 7007.3000	Nitrogen Oxides: less than or equal to 22.4 lbs/hour
7.0		LIMIT	Title I Condition: 40 CFR Section 52.21(j) (BACT limit); Minn. R. 7007.3000	Nitrogen Oxides: less than or equal to 0.27 lbs/million Btu heat input
8.0		LIMIT	Title I Condition: 40 CFR Section 52.21(k) (modeling); Minn. R. 7007.3000	Carbon Monoxide: less than or equal to 20.7 lbs/hour
9.0		LIMIT	Title I Condition: 40 CFR Section 52.21(j) (BACT limit); Minn. R. 7007.3000	Carbon Monoxide: less than or equal to 0.25 lbs/million Btu heat input
10.0		LIMIT	Title I Condition: 40 CFR Section 52.21(j) (BACT limit); Minn. R. 7007.3000	Volatile Organic Compounds: less than or equal to 0.16 lbs/million Btu heat input . The VOC limit is on an "as VOC basis", and is to be measured using the draft Oregon "Guidance for Evaluating VOC Emissions from Drying and Hot-Pressing Activities Common to the Wood Products Industry" (attached as Appendix D to this permit).
11.0		LIMIT	40 CFR pt. 60.43c(c)	Opacity: less than or equal to 20 percent opacity , except for one 6-minute period per hour of not more than 27 percent opacity. This limit does not apply during periods of startup, shutdown, or malfunction.
12.0		CD	Minn. R. 7007.0800, subp. 2	Fuel Usage: limited to hog fuel (bark, wood, trims and dust collected from baghouses), propane, natural gas, and up to 150 lb/hr (monthly average) of the total fuel combusted may consist of manufacturing residue. Cellulose based sorbents and alternate biomass fuels may be combusted subject to the approval by the MPCA.



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Facility Name: Norbord Minnesota

Permit Number: 00700019 - 007

13.0		CD	Minn. R. 7007.0800, subp. 2	Manufacturing residue: The manufacturing residue must be generated on site and may consist of the following: wood flake resin and wax accumulations cleaned from equipment, water-based paint residues from edgesealing and stenciling operations, confidential office records (paper) and corrugated cardboard unsuitable for recycling. In addition, the manufacturing residue shall not contain any of the following: any hazardous waste listed in Minn. R. 7045.0135, any wastes specified in Minn. R. 7045.0131 as hazardous, or batteries or any other material where mercury has been purposely introduced. Absorbent material from spills containing oil, anti-freeze, water-based paints, or soy or water-based ink may be combusted. The spilled material other than oil shall not contain: any hazardous waste listed in Minn. R. 7045.0135 or any wastes specified in Minn. R. 7045.0131 as hazardous. The oil in any absorbent material shall only be on-specification used oil.
14.0		CD	Minn. R. 7007.0800, subp. 2	Alternative Biomass Fuel Testing Authorization: The Permittee is authorized to conduct test burns of alternative biomass fuels except for peat, wood that has been painted, stained or pressure treated, waste oil, farm chemicals, pesticide containers, demolition waste except for wood, waste from farms from an open dump, tire derived fuels, non-agricultural industrial process wastes, animal manures and wastes, or any material meeting the definition of a hazardous waste.
15.0		CD	Minn. R. 7007.0800, subp. 2	Alternative Biomass Fuel Testing Restrictions: Test burns for any potential biomass fuel shall be limited to 4,000 tons, not more than 45 days of operation using the fuel, and a test period not to exceed 180 days.
16.0		CD	Title I Condition: To avoid classification as a major source under 40 CFR Section 63.2; Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 2	Alternative Biomass Fuel Testing Requirements: Test burns shall be conducted to measure CO, PM, PM10, VOC and single and total HAPs emissions, to monitor NOx and SO2 emissions, and to determine fuel chlorine, TSM and mercury content in accordance with MACT standard.
17.0		CD	Minn. R. 7017.2030, subps 1-4, Minn. R. 7017.2018	Alternative Biomass Fuel Testing Submittals: 30 days prior to testing of a biomass fuel, the Permittee shall submit a written performance test notification and test plan. The test plan shall meet the requirements of Minn. R. 7017.2030 and shall also include: 1) the type(s) and estimated amount of biomass to be tested, 2) operating parameters and anticipated fuel mixes during testing for the process heater to be tested, 3) air pollutants that will be monitored and measured during testing, and 4) a testing schedule.
18.0		LIMIT	Title I Condition: 40 CFR Section 52.21; Minn. R. 7007.3000; Minn. R. 7017.2025, subp. 3	Production: less than or equal to 37550 lbs/hour using 8-hour Block Average (Production of Oven Dried Strands). This limit will be amended as specified in Minn. R. 7017.2025, upon completion of each subsequent performance test.
19.0		LIMIT	Title I Condition: 40 CFR Section 52.21; Minn. R. 7007.3000	Oven Dried Strand Production: less than 35000 lbs/hour using 30-day Rolling Average
20.0		CD	Title I Condition: Monitoring for production limit; Minn. R. 7007.0800. subps. 4 and 5	Daily Recordkeeping. At least once each 8-hour discrete block of each day of operation, the Permittee shall record the total quantity of oven dried strands produced in the conveyor-dryer system. This shall be based on production records. The Permittee, on each day of operation shall then calculate and record the following: 1) The total oven dried strand production for the previous calendar month using the daily production records. 2) The 30-day rolling average production for the previous 30-day period. 3) The 8-hour block average for each of the 8-hour blocks of the previous day.
21.0		CD	hdr	NESHAP REQUIREMENTS
22.0		S/A	40 CFR Section 63.6(i)(6)(i)	Start Of Construction: due before 07/01/2008 to route Zone 1 emissions from EU 020 Conveyor Dryer to the EU 003 Wellons Burner combustion chamber. Requirement completed.
23.0		S/A	40 CFR Section 63.6(i)(6)(i)	Notification of the Date Construction Began: due 30 days after 07/01/2008 for the routing of Zone 1 emissions to the Wellons Burner combustion chamber. Requirement completed.
24.0		S/A	40 CFR Section 63(i)(6)(i)	Notification of the Actual Date of Initial Startup: due 15 days after 10/01/2008 for the routing of Zone 1 emissions to the Wellons Burner combustion chamber. Requirement completed.
25.0		CD	40 CFR Section 63.2260(a)	The conveyor dryer system will be routing exhaust from Zone 1 into the flame zone of the Wellons burner. This is the compliance option for the NESHAP for the conveyor system; there is no associated requirement for testing or monitoring from the Wellons burner.
26.0		CD	hdr	CONTROL EQUIPMENT



COMPLIANCE PLAN **CD-01**

Facility Name: Norbord Minnesota

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27.0		LIMIT	Title I Condition: 40 CFR Section 52.21; Minn. R. 7007.3000	The Permittee shall operate and maintain the control equipment (ESP) such that it achieves an overall control efficiency on the Wellons Burner for Total Particulate Matter and PM < 10 micron: greater than or equal to 95 percent control efficiency
28.0		CD	Title I Condition: To meet BACT limit; Minn. R. 7007.0800, subps. 2 and 14	Number of Fields on Line (for ESP): Greater than or equal to two, unless a new minimum is set based on the most recent MPCA-approved performance test where compliance for PM and PM10 emissions was demonstrated. If the number of fields on line falls outside the range, this shall be reported as a deviation.
29.0		CD	Minn. R. 7007.0800, subps. 4 and 5	Recordkeeping of Number of Fields On Line. Once each day while in operation, the Permittee shall monitor and record the number of fields on line. The Permittee shall record the time and date of each reading and whether or not the recorded measurement was within the range specified in this permit.
30.0		CD	Minn. R. 7007.0800, subps. 4, 5, and 14	Quarterly Inspections: At least once per calendar quarter, the Permittee shall inspect the control equipment's external system components. The Permittee shall maintain a written record of the inspection and any corrective actions taken resulting from the inspection.
31.0		CD	Minn. R. 7007.0800, subps. 4, 5, and 14	Annual Inspections: At least once per calendar year, the Permittee shall inspect the control equipment's internal system components. The Permittee shall maintain a written record of the inspection and any corrective actions taken resulting from the inspection.
32.0		CD	Minn. R. 7007.0800, subps. 4, 5, and 14	Corrective Actions: If the ESP or any of its components are found during the inspections to need repair, the Permittee shall take corrective actions as soon as possible. Corrective actions shall 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.
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	hdr	PERFORMANCE TESTING
35.0		S/A	Title I Condition: Monitoring for Title I limits and Minn. R. 7007.3000; Minn. R. 7017.2020, subp. 1	Performance Test: due before end of each 60 months starting 04/28/2010 to measure total particulate matter, PM < 10 microns, volatile organic compounds and carbon monoxide emissions. VOC emissions shall be measured in accordance with the draft Oregon "Guidance for Evaluating VOC Emissions from Drying and Hot-Pressing Activities Common to the Wood Products Industry" (attached as Appendix D to this permit). The next performance test is due April 28, 2015.
36.0		S/A	Title I Condition: Monitoring for Title I limits and Minn. R. 7007.3000; Minn. R. 7017.2020, subp. 1	Performance Test: due before end of each 36 months starting 04/28/2010 to measure nitrogen oxides emissions. The next performance test is due April 28, 2013.
37.0		CD	hdr	COMS
38.0		CD	40 CFR Section 60.47c(a); Minn. R. 7011.0570; Minn. R. 7017.1006	The owner or operator shall install, calibrate, maintain, and operate a COMS for measuring the opacity of emissions discharged to the atmosphere, and record the output of the system. The COMS is used to measure opacity from EU 003 (Wellons Burner).
39.0		CD	40 CFR Section 60.47c(b); Minn. R. 7011.0570	The span value of the COMS shall be between 60 and 80 percent.
40.0		CD	Minn. R. 7017.1210, subp. 2; 40 CFR Section 60.13(d)	COMS Daily Calibration Drift (CD) Check: The CD shall be quantified and recorded at zero (low-level) and upscale (high-level) opacity at least once daily. The COMS must be adjusted whenever the calibration drift (CD) exceeds twice the specification of PS-1 of 40 CFR 60, Appendix B.
41.0		S/A	Minn. R. 7017.1110, subp. 1; 40 CFR Section 60.7(c)	Excess Emissions/Downtime Reports (EER's): due 30 days after end of each calendar quarter starting 05/11/2004 (Submit Deviations Reporting Form DRF-1 as amended). The EER shall indicate all periods of monitor bypass and all periods of exceedances of the limit including exceedances allowed by an applicable standard, i.e. during startup, shutdown, and malfunctions.
42.0		CD	Minn. R. 7017.1210, subp. 3	COMS Calibration Error Audit: due before end of each calendar half-year following Permit Issuance. Conduct three point calibration error audits at least 3 months apart but no greater than 8 months apart. Filter values used shall correspond to approximately 11%, 20%, and 37% opacity.
43.0		CD	Minn. R. 7017.1210, subp. 4	Attenuator Calibration: The Permittee shall have an independent testing company conduct calibrations of each of the neutral density filters used in the calibration error audit according to the procedure in Code of Federal Regulations, Title 40, Part 60, Appendix B, Section 7.



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44.0		CD	Minn. R. 7017.1220	COMS Calibration Error Audit Results Summary: due 30 days after end of each calendar half-year following COMS Calibration Error Audit.
45.0		CD	Minn. R. 7017.1200, subps. 1, 2 & 3; 40 CFR Section 60.13(e)(1); 40 CFR Section 60.13(h)	All COMS shall complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data for each successive 6-minute period.
46.0		CD	Minn. R. 7017.1130	Recordkeeping: The owner or operator must retain records of all COMS monitoring data and support information for a period of five years from the date of the monitoring sample, measurement or report. Records shall be kept at the source.
47.0		CD	Minn. R. 7017.1210	QA Plan Required: Develop and implement a written quality assurance plan which covers each COMS. The plan shall be on site and available for inspection within 30 days after monitor certification. The plan shall contain the written procedures listed in Minn. R. 7017.1210, subp. 1.
48.0		CD	hdr	RECORDKEEPING
49.0		CD	Title I Condition: Monitoring for Title I Condition (40 CFR 52.21) and Minn. R. 7007.3000; Minn. R. 7007.0800. subps. 4 and 5	Daily Recordkeeping: On each day of operation, the Permittee shall calculate, record, and maintain records of, the total weight of manufacturing residue, absorbent material or biomass fed to the burner fuel stream.
50.0		CD	Minn. R. 7007.0800, subps. 4 and 5	Monthly Recordkeeping - Within 15 days of the end of each month, the Permittee shall calculate and record the average hourly feed rate of manufacturing residue and absorbent material burned in the boilers for the previous month. This feed rate in lb/hr shall be compared to the limit to determine compliance.



COMPLIANCE PLAN **CD-01**

Facility Name: Norbord Minnesota

Permit Number: 00700019 - 007

Subject Item: GP 004 Baghouses

Associated Items: CE 004 Fabric Filter - Low Temperature, i.e., T<180 Degrees F
CE 005 Fabric Filter - Low Temperature, i.e., T<180 Degrees F
CE 006 Fabric Filter - Low Temperature, i.e., T<180 Degrees F
CE 008 Fabric Filter - Low Temperature, i.e., T<180 Degrees F
CE 009 Fabric Filter - Low Temperature, i.e., T<180 Degrees F
CE 010 Fabric Filter - Low Temperature, i.e., T<180 Degrees F
CE 016 Fabric Filter - Low Temperature, i.e., T<180 Degrees F
CE 027 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

	NC/ CA	Type	Citation	Requirement
1.0		CD	hdr	LIMITS
2.0		LIMIT	Title I Condition: 40 CFR Section 52.21(j) (BACT); Minn. R. 7007.3000	Total Particulate Matter: less than or equal to 0.004 grains/dry standard cubic foot . This applies separately to each baghouse/stack. This is more stringent than limit in Minn. R. 7011.0715, subp. 1(A), which also applies to each individual emission unit.
3.0		LIMIT	Title I Condition: 40 CFR Section 52.21(j) (BACT) and 40 CFR Section 52.21(m) (modeling); Minn. R. 7007.3000	PM < 10 micron: less than or equal to 0.004 grains/dry standard cubic foot . This applies separately to each baghouse/stack. In addition, the following limit applies to each emission unit/baghouse/stack: CE 004: 1.5 lb/hr CE 005: 1.5 lb/hr CE 006: 0.091 lb/hr CE 008: 0.78 lb/hr CE 009: 0.65 lb/hr CE 010: 0.16 lb/hr CE 016: 0.16 lb/hr CE 027: 1.37 lb/hr
4.0		LIMIT	Minn. R. 7011.0715, subp. 1(B)	Opacity: less than or equal to 20 percent opacity
5.0		CD	hdr	MONITORING
6.0		CD	Title I Condition: Monitoring for BACT Limit (40 CFR Section 52.21 and Minn. R. 7007.3000); Minn. R. 7007.0800, subps. 4 and 5	Visible Emissions: The Permittee shall check each fabric filter stack (SV 004, SV 005, SV 006, SV 007, SV 008, SV 009, SV 010 and SV 011) 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, in lieu of the visible emissions observation.
7.0		CD	Title I Condition: Monitoring for BACT Limit (40 CFR Section 52.21 and Minn. R. 7007.3000); Minn. R. 7007.0800, subps. 4 and 5	Recordkeeping of Visible Emissions and Pressure Drop. The Permittee shall record the time and date of each visible emission inspection and whether or not any visible emissions were observed or each pressure drop reading and whether or not the observed pressure drop was greater than or equal to 0.1" water.
8.0		CD	hdr	CONTROL EQUIPMENT
9.0		LIMIT	Title I Condition: 40 CFR Section 52.21; Minn. R. 7007.3000	The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for Total Particulate Matter and PM < 10 micron: greater than or equal to 99 percent control efficiency
10.0		CD	Title I Condition: BACT Limit (40 CFR Section 52.21 and Minn. R. 7007.3000); 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.
11.0		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; - the recorded pressure drop is outside the required operating range; or - the fabric filter or any of its components are found during the inspections to need repair. Corrective actions shall return the pressure drop 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 fabric filter. The Permittee shall keep a record of the type and date of any corrective action taken for each filter.



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12.0		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.
13.0		CD	hdr	PERFORMANCE TESTING
14.0		S/A	Minn. R. 7017.2020, subp. 1	Performance Test: due before end of each 60 months starting 10/29/2004 to measure total particulate matter, PM < 10 microns, and opacity. The Permittee shall select three representative stacks/baghouses for testing. The next test is due October 29, 2009, and every 60 months thereafter. A new limit may be set pursuant to Minn. R. 7017.2025, subp. 3 based on results from the most recent MPCA-approved performance test where compliance was demonstrated regardless of the pollutant being tested. The MPCA also reserves the right to select additional surrogate parameters as operating limits if deemed necessary to correctly regulate a given pollutant.



COMPLIANCE PLAN **CD-01**

Facility Name: Norbord Minnesota

Permit Number: 00700019 - 007

Subject Item: GP 006 Regenerative Thermal Oxidizers (RTO)

Associated Items: CE 020 Thermal Oxidizer

CE 024 Thermal Oxidizer

CE 025 Thermal Oxidizer

	NC/ CA	Type	Citation	Requirement
1.0		CD	hdr	CONTROL EQUIPMENT - REGENERATIVE THERMAL OXIDIZERS (RTO) NORMAL OPERATION is three RTO's operating at the same time. ALTERNATE OPERATION is two RTO's operating at the same time.
2.0		LIMIT	Title I Condition: To meet BACT limit; Minn. R. 7007.0800, subps. 2 and 14	Temperature: greater than or equal to 1525 degrees F using 3-hour Average (block) for each individual RTO at the Combustion Chamber with three RTO's (3 RTO's operating at 1525 degrees F is considered normal operation) operating unless a new minimum is set pursuant to Minn. R. 7017.2025, subp. 3, based on the average temperature recorded during the most recent MPCA approved performance test where compliance for VOC emissions was demonstrated. If the three-hour block average temperature drops below the minimum temperature limit, this shall be reported as a deviation.
3.0		LIMIT	Title I Condition: To meet BACT limit; Minn. R. 7007.0800, subps. 2 and 14	Temperature: greater than or equal to 1470 degrees F (block) for each individual RTO at the Combustion Chamber with three RTO's operating (3 RTO's, at 1470 degrees F is considered an acceptable operating alternative) unless a new minimum is set pursuant to Minn. R. 7017.2025, subp. 3, based on the average temperature recorded during the most recent MPCA approved performance test where compliance for VOC emissions was demonstrated. If the three-hour block average temperature drops below the minimum temperature limit, this shall be reported as a deviation.
4.0		LIMIT	Title I Condition: To meet BACT limit; Minn. R. 7007.0800, subps. 2 and 14	Temperature: greater than or equal to 1585 degrees F using 3-hour Average (block) for each individual RTO at the Combustion Chamber with two RTO's operating (2 RTO's, at 1585 degrees F is considered an acceptable operating alternative) unless a new minimum is set pursuant to Minn. R. 7017.2025, subp. 3, based on the average temperature recorded during the most recent MPCA approved performance test where compliance for VOC emissions was demonstrated. If the three-hour block average temperature drops below the minimum temperature limit, this shall be reported as a deviation.
5.0		CD	hdr	CONTROL EQUIPMENT REQUIREMENTS
6.0		CD	40 CFR Section 63.2269	Temperature Monitoring: For each temperature monitoring device, the Permittee shall meet the requirements in paragraphs (a) and (b)(1) through (6) of Section 63.2269. (a) The Permittee must install, operate, and maintain each continuous parameter monitoring system (CPMS) according to paragraphs (a)(1) through (3) of Section 63.2269. (1) The CPMS must be capable of completing a minimum of one cycle of operation (sampling, analyzing, and recording) for each successive 15-minute period. (2) At all times, the Permittee must maintain the monitoring equipment including, but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment. (3) Record the results of each inspection, calibration, and validation check. (continued)
7.0		CD	40 CFR Section 63.2269	Temperature Monitoring (cont.): (b) (1) Locate the temperature sensor in a position that provides a representative temperature. (2) Use a temperature sensor with a minimum accuracy of 4 °F or 0.75 percent of the temperature value, whichever is larger. (3) If a chart recorder is used, it must have a sensitivity with minor divisions not more than 20 °F. (continued)



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8.0		CD	40 CFR Section 63.2269	<p>Temperature Monitoring (cont.):</p> <p>(4) Perform an electronic calibration at least semiannually according to the procedures in the manufacturer's owners manual. Following the electronic calibration, the Permittee shall conduct a temperature sensor validation check in which a second or redundant temperature sensor placed nearby the process temperature sensor must yield a reading within 30 °F of the process temperature sensor's reading.</p> <p>(5) Conduct calibration and validation checks any time the sensor exceeds the manufacturer's specified maximum operating temperature range or install a new temperature sensor.</p> <p>(6) At least quarterly, inspect all components for integrity and all electrical connections for continuity, oxidation, and galvanic corrosion.</p>
9.0		CD	40 CFR Section 63.2270	<p>(a) Monitor and collect data according to Section 63.2270.</p> <p>(b) Except for, as appropriate, monitor malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the Permittee must conduct all monitoring in continuous operation at all times that the process unit is operating. For purposes of calculating data averages, you must not use data recorded during monitoring malfunctions, associated repairs, out-of-control periods, or required quality assurance or control activities. The Permittee must use all the data collected during all other periods in assessing compliance.</p> <p>(continued)</p>
10.0		CD	40 CFR Section 63.2270	<p>(continued from above)</p> <p>A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions. Any period for which the monitoring system is out-of-control and data are not available for required calculations constitutes a deviation from the monitoring requirements.</p>
11.0		CD	40 CFR Section 63.2270	<p>(c) The Permittee may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities; data recorded during periods of startup, shutdown, and malfunction; or data recorded during periods of control device downtime covered in any approved routine control device maintenance exemption in data averages and calculations used to report emission or operating levels, nor may such data be used in fulfilling a minimum data availability requirement, if applicable. The Permittee must use all the data collected during all other periods in assessing the operation of the control system.</p> <p>(d) Determine the 3-hour block average of all recorded readings, calculated after every 3 hours of operation as the average of the evenly spaced recorded readings in the previous 3 operating hours (excluding periods described in paragraphs (b) and (c) of Section 63.2270).</p>
12.0		CD	40 CFR Section 63.2270	<p>(f) To calculate the data averages for each 3-hour or 24-hour averaging period, the Permittee must have at least 75 percent of the required recorded readings for that period using only recorded readings that are based on valid data (i.e., not from periods described in paragraphs (b) and (c) of Section 63.2270).</p>
13.0		CD	40 CFR Section 63.2271	<p>(a) The Permittee must demonstrate continuous compliance with the compliance options, operating requirements, and work practice requirements in Sections 63.2240 and 63.2241 that apply according to the methods specified in Tables 7 and 8 to subpart DDDD.</p> <p>(b) The Permittee must report each instance in which the applicable compliance option, operating requirement, and work practice requirement in Tables 7 and 8 to subpart DDDD were not met. This includes periods of startup, shutdown, and malfunction and periods of control device maintenance specified in paragraphs (b)(1) through (3) of Section 63.2271. These instances are deviations from the compliance options, operating requirements, and work practice requirements in subpart DDDD. These deviations must be reported according to the requirements in Section 63.2281.</p>



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14.0		CD	40 CFR Section 63.2271	<p>(b)(1) [Reserved]</p> <p>(2) Consistent with Sections 63.6(e) and 63.7(e)(1), deviations that occur during a period of startup, shutdown, or malfunction are not violations if the Permittee demonstrates to the EPA Administrator's satisfaction that the Permittee was operating in accordance with Section 63.6(e)(1). The EPA Administrator will determine whether deviations that occur during a period of startup, shutdown, or malfunction are violations, according to the provisions in Section 63.6(e).</p> <p>(3) Deviations that occur during periods of control device maintenance covered by any approved routine control device maintenance exemption are not violations if the Permittee demonstrates to the EPA Administrator's satisfaction that the Permittee was operating in accordance with the approved routine control device maintenance exemption.</p>
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COMPLIANCE PLAN **CD-01**

Facility Name: Norbord Minnesota

Permit Number: 00700019 - 007

Subject Item: GP 007 NESHAP subp. JJJJJJ Burners

Associated Items: CE 002 Electrostatic Precipitator - High Efficiency

CE 014 Electrified Filter Bed

CE 015 Electrified Filter Bed

EU 003 Wellons Burner

EU 007 Konus Burner 1

EU 008 Konus Burner 2

SV 002 GP003 Conveyor Dryer System

SV 003 GP002 Konus Burners

	NC/ CA	Type	Citation	Requirement
1.0		CD	hdr	The following requirements of 40 CFR pt. 63, subp. JJJJJJ, apply to each of the existing burners (EU003, EU007 and EU008).
2.0		CD	40 CFR Section 63.11205(a)	At all times the Permittee must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, 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 that 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.
3.0		S/A	40 CFR Sections 63.11196(a)(3), 63.11201(b), 63.11210(c), 63.11214(c) and 63.11225(a)(4)(ii)	Demonstration Completion: due before 03/21/2014. Must have a one-time energy assessment in accordance with Table 2 to Subpart JJJJJJ of 40 CFR pt. 63. Must submit a signed statement in the Notification of Compliance Status report that indicates that an energy assessment for each burner and their energy use systems was completed. The certification of compliance must be as required at 40 CFR Section 63.11225(a)(4)(ii). Upon request, submit the energy assessment report to the Administrator or the MPCA Commissioner.
4.0		CD	40 CFR Sections 63.11196(a)(3), 63.11201(b), 63.11210(c) and Table 2 to Subpart JJJJJJ of Part 63	The one-time energy assessment must be performed by a qualified energy assessor, no later than 3/21/14. An energy assessment completed on or after 1/1/08, that meets or is amended to meet the energy assessment requirements below satisfies the energy assessment requirement. The energy assessment must include: (1) A visual inspection of the boiler system, (2) An evaluation of operating characteristics of the facility, specifications of energy using systems, operating and maintenance procedures, and unusual operating constraints, (3) Inventory of major systems consuming energy from affected boiler(s), (4) A review of available architectural and engineering plans, facility operation and maintenance procedures and logs, and fuel usage, (5) A list of major energy conservation measures, (6) A list of the energy savings potential of the energy conservation measures identified, (continued below)
5.0		CD	40 CFR Sections 63.11196(a)(3), 63.11201(b), 63.11210(c) and Table 2 to Subpart JJJJJJ of Part 63	(continued from above) (7) A comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those improvements.
6.0		CD	40 CFR Sections 63.11214(b) and 63.11223(b)	Biennial tune-up includes the following: (1) As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may delay the burner inspection until the next scheduled unit shutdown, but you must inspect each burner at least once every 36 months). (2) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available. (3) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly. (4) Optimize total emissions of carbon monoxide. This optimization should be consistent with the manufacturer's specifications, if available. (continued below)



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7.0		CD	40 CFR Sections 63.11214(b) and 63.11223(b)	<p>(continued from above)</p> <p>(5) Measure the concentrations in the effluent stream of carbon monoxide in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made).</p> <p>(6) Maintain onsite and submit, if requested by the Administrator, a biennial report containing the following:</p> <p>(i) the concentrations of CO in the effluent stream in parts per million, by volume, and oxygen in volume percent, measured before and after the tune-up of the boiler.</p> <p>(ii) a description of any corrective actions taken as a part of the tune-up of the boiler</p> <p>(iii) the type and amount of fuel used over the 12 months prior to the biennial tune-up of the boiler.</p> <p>(7) If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within one week of startup.</p>
8.0		CD	40 CFR Section 63.11223(a) and (b)	Biennial Performance Tune-Up. Must be conducted in compliance with 40 CFR Section 63.11223(b). Each biennial tune-up must be conducted no more than 25 months after the previous tune-up.
9.0		CD	40 CFR Section 63.11225(a)(2) and (4)	<p>The Permittee shall submit the Notification of Compliance Status in accordance with Section 63.9(h) no later than 120 days after the applicable compliance date specified in Section 63.11196 unless the Permittee must conduct a performance stack test. If the Permittee must conduct a performance stack test, they must submit the Notification of Compliance Status within 60 days of completing the performance stack test. In addition to the information required in Section 63.9(h)(2), the notification must include the following certification(s) of compliance, as applicable, and signed by a responsible official:</p> <p>(i) "This facility complies with the requirements of Section 63.11214 to conduct an initial tune-up of the boiler."</p> <p>(ii) "This facility has had an energy assessment performed according to Section 63.11214(c)</p> <p>(continued below)</p>
10.0		CD	40 CFR Section 63.11225(a)(2) and (4)	<p>(continued from above)</p> <p>(iii) For an owner or operator that installs bag leak detection systems: "This facility has prepared a bag leak detection system monitoring plan in accordance with Section 63.11224 and will operate each bag leak detection system according to the plan."</p> <p>(iv) For units that do not qualify for a statutory exemption as provided in Section 129(g)(1) of the Clean Air Act: "No secondary materials that are solid waste were combusted in any affected unit."</p>
11.0		CD	40 CFR Section 63.11235; Table 8 to Subpart JJJJJ of Part 63	<p>The Permittee must comply with the following General Provisions as noted:</p> <p>40 CFR Section 63.1</p> <p>40 CFR Section 63.2 and additional items at 40 CFR Section 63.11237</p> <p>40 CFR Section 63.3</p> <p>40 CFR Section 63.4</p> <p>40 CFR Section 63.6(a), 63.6(c), 63.6(f)(1), 63.6(f)(2)(ii), 63.6(f)(2)(iv) and (v), 63.6(f)(3), 63.6(i), 63.6(j)</p> <p>40 CFR Section 63.9</p> <p>40 CFR Section 63.10(a), 63.10(b)(1), 63.10(d)(1), 63.10(f)</p> <p>40 CFR Section 63.12</p> <p>40 CFR Section 63.13</p> <p>40 CFR Section 63.14</p> <p>40 CFR Section 63.15</p> <p>40 CFR Section 63.16</p>
12.0		CD	40 CFR Section 63.11225(b)	<p>The Permittee shall prepare a biennial compliance report including:</p> <p>(1) Company name and address.</p> <p>(2) Statement by a responsible official, with the official's name, title, phone number, e-mail address, and signature, certifying the truth, accuracy and completeness of the notification and a statement of whether the source has complied with all the relevant standards and other requirements of this subpart.</p> <p>(3) If the source experiences any deviations from the applicable requirements during the reporting period, include a description of deviations, the time periods during which the deviations occurred and the corrective actions taken.</p> <p>(4) The total fuel use by each affected burner subject to an emission limit, for each calendar month within the reporting period, including, a description of the fuel and the total fuel usage amount with units of measure.</p>



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13.0		CD	40 CFR Sections 63.11225(c), 63.10(b)(1) and 63.10(b)(2)(xiv)	<p>The Permittee shall maintain the records specified below:</p> <p>(1) As required in 40 CFR Section 63.10(b)(2)(xiv), you must keep a copy of each notification and report that you submitted to comply with this subpart and all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted.</p> <p>(2) You must keep records to document conformance with the work practices, emission reduction measures, and management practices required by Section 63.11214 as specified in paragraphs (c)(2)(i) and (ii) of Section 63.11225.</p> <p>(3) Records of the occurrence and duration of each malfunction of the burner.</p> <p>(4) Records of actions taken during a malfunction to minimize emissions in accordance with the general duty to minimize emissions, including corrective actions to restore the malfunctioning burner to its normal or usual manner of operation.</p>
14.0		CD	40 CFR Section 63.11225(d)	<p>Records must be in a form suitable and readily available for expeditious review, according to 40 CFR Section 63.10(b)(1). You must keep each record for 5 years following the date of each recorded action.</p>



COMPLIANCE PLAN **CD-01**

Facility Name: Norbord Minnesota

Permit Number: 00700019 - 007

Subject Item: GP 008 Total Facility Synthetic Minor HAPs Limit

Associated Items:

- CE 002 Electrostatic Precipitator - High Efficiency
- CE 005 Fabric Filter - Low Temperature, i.e., T<180 Degrees F
- CE 006 Fabric Filter - Low Temperature, i.e., T<180 Degrees F
- CE 008 Fabric Filter - Low Temperature, i.e., T<180 Degrees F
- CE 014 Electrified Filter Bed
- CE 015 Electrified Filter Bed
- CE 017 Electrified Filter Bed
- CE 018 Electrified Filter Bed
- CE 020 Thermal Oxidizer
- CE 021 Centrifugal Collector - High Efficiency
- CE 022 Centrifugal Collector - High Efficiency
- CE 024 Thermal Oxidizer
- CE 025 Thermal Oxidizer
- CE 026 Biofilter
- CE 027 Fabric Filter - Low Temperature, i.e., T<180 Degrees F
- EU 001 Face Dryer/Lamb Burner
- EU 002 Core Dryer/Lamb Burner
- EU 003 Wellons Burner
- EU 004 Face Burner 1 (backup burner)
- EU 005 Core Burner 2 (backup burner)
- EU 007 Konus Burner 1
- EU 008 Konus Burner 2
- EU 010 Final Trim Saw
- EU 012 Board Press
- EU 013 Board Forming
- EU 020 Conveyor Zone 1, 2 & 3
- SV 001 GP001 Lamb Burners & Dryers
- SV 002 GP003 Conveyor Dryer System
- SV 003 GP002 Konus Burners
- SV 007 GP005 Final Trim Saw
- SV 008 GP005 Rough Cut/Final Trim Saws
- SV 009 GP005 Tongue & Groove/Sander/Final Trim
- SV 011 GP005 Board Forming
- SV 012 CE 026 Biofilter
- SV 017 GP003 Conveyor Dryer System
- SV 018 GP003 Conveyor Dryer System

	NC/ CA	Type	Citation	Requirement
1.0		CD	hdr	OPERATIONAL LIMITS
2.0		CD	hdr	The total facility synthetic minor HAPs limits apply to process equipment (EU001, EU002, EU003, EU004, EU005, EU007, EU008, EU010, EU012, EU013 and EU020). Combustion HAPs emissions are not included.



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3.0		LIMIT	Title I Condition: To avoid classification as a major source under 40 CFR Section 63.2; Minn. R. 7007.0200	HAP-Single: less than or equal to 9.0 tons/year using 12-month Rolling Sum . This limit applies facility-wide to all sources of process HAP emissions, including affected sources under 40 CFR pt. 63, subp. DDDD.
4.0		LIMIT	Title I Condition: To avoid classification as a major source under 40 CFR Section 63.2; Minn. R. 7007.0200	HAPs - Total: less than or equal to 21.5 tons/year using 12-month Rolling Sum . This limit applies facility-wide to all sources of process HAP emissions, including affected sources under 40 CFR pt. 63, subp. DDDD.
5.0		CD	Title I Condition: To avoid classification as a major source under 40 CFR Section 63.2; Minn. R. 7007.0200	Air Pollution Control Equipment: Operate and maintain control equipment (CE020, CE024 and CE025) at all times that emission units (EU001 and EU002) are operated. The Permittee shall document periods of non-operation of the thermal oxidizers.
6.0		CD	hdr	RECORDKEEPING REQUIREMENTS
7.0		CD	Title I Condition: To avoid classification as a major source under 40 CFR Section 63.2; Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 5	Daily Recordkeeping: On each day of operation, the Permittee shall record the hours of operation for each HAP-emitting process unit (EU001, EU002, EU003, EU004, EU005, EU007, EU008, EU010, EU012, EU013 and EU020) at the facility. For each unit, this shall include date, start time, end time, and number of hours operated.
8.0		CD	Title I Condition: To avoid classification as a major source under 40 CFR Section 63.2; Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 5	Monthly Recordkeeping - Process HAP Emissions: By the 15th of the month, the Permittee shall calculate, record and maintain the following using the formulas specified below in this permit: 1) The total and individual process HAP emissions for the previous month using the formulas specified in this permit; and 2) The 12-month rolling sum total and individual process HAP emissions for the previous 12-month period by summing the monthly emissions data for the previous 12 months.
9.0		CD	Title I Condition: To avoid classification as a major source under 40 CFR Section 63.2; Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 5	Monthly Calculation Process HAP Emissions. The Permittee shall calculate each individual and total process HAP emissions using the following equation: Process HAP Emissions (tons/month) = (A1 x B1)/2000 + (A2 x B2)/2000 + (A3 x B3)/2000 + ... Where: A# = Emission factor for individual HAPs in lb/hr for each process HAP source. B# = Hours of operation of each process HAP source for the month. Process HAP sources are: EU001, EU002, EU003, EU004, EU005, EU007, EU008, EU010, EU012, EU013 and EU020.
10.0		CD	Title I Condition: To avoid classification as a major source under 40 CFR Section 63.2; Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 4	Process HAPs Emission Factors to calculate monthly and 12-month rolling sums: Acetaldehyde Emission Factors 0.15 lb/hr (EU001/EU002/EU004/EU005, September 12-14, 2006 stack test (ST)) 0.018 lb/hr (EU003, NCASI 2008 (N)) 0.0066 lb/hr (EU007/EU008, N) 0.0084 lb/hr (EU012, ST) 0.10804 lb/hr (EU020, ST) Acrolein Emission Factors 0.091 lb/hr (EU001/EU002/EU004/EU005, ST) 0.03148 lb/hr (EU003, N) 0.0114 lb/hr (EU007/EU008, N) 0.0297 lb/hr (EU012, ST) 0.21127 lb/hr (EU020, ST) continued below



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11.0		CD	Title I Condition: To avoid classification as a major source under 40 CFR Section 63.2; Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 4	<p>continued from above</p> <p>Formaldehyde Emission Factors 0.3363 lb/hr (EU001/EU002/EU004/EU005, ST) 0.02816 lb/hr (EU003, N) 0.01026 lb/hr (EU007/EU008, N) 0.04104 lb/hr (EU010, engineering test (ET)) 0.42647 lb/hr (EU012, ST) 0.0228 lb/hr (EU013, ET) 0.03648 lb/hr (EU020, ST)</p> <p>Methanol Emission Factors 0.1197 lb/hr (EU001/EU002/EU004/EU005, ST) 0.07092 lb/hr (EU003, N) 0.02576 lb/hr (EU007/EU008, N) 0.1254 lb/hr (EU010, ET) 1.1081 lb/hr (EU012, ST) 0.114 lb/hr (EU013, ET) 0.4435 lb/hr (EU020, ST)</p> <p>continued below</p>
12.0		CD	Title I Condition: To avoid classification as a major source under 40 CFR Section 63.2; Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 4	<p>continued from above</p> <p>Phenol Emission Factors 0.075 lb/hr (EU001/EU002/EU004/EU005, ST) 0.001523 lb/hr (EU003, N) 0.0006 lb/hr (EU007/EU008, N) 0.095 lb/hr (EU012, ST) 0.02095 lb/hr (EU020, ST)</p> <p>Propionaldehyde Emission Factors 0.055 lb/hr (EU001/EU002/EU004/EU005, ST) 0.0024 lb/hr (EU003, N) 0.0008 lb/hr (EU007/EU008, N) 0.0297 lb/hr (EU012, ST) 0.21127 lb/hr (EU020, ST)</p>
13.0		CD	Title I Condition: To avoid classification as a major source under 40 CFR Section 63.2; Minn. R. 7007.0200	<p>Revision of HAPs Emission Factors based on stack tests: HAPs emission factors shall be revised for units that are tested based on the results of each performance test. The most recent performance test for each pollutant shall be used to develop emission factors. The use of the updated emission factor shall commence upon receipt of written MPCA notification that the performance test results were valid. For the interim period prior to receipt of written MPCA notification after the first performance test, use the factors defined above for HAPs in this permit. Stack test-based emission factors are valid for ten (10) years from the date of the test and are set to expire September 14, 2016.</p>



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Facility Name: Norbord Minnesota

Permit Number: 00700019 - 007

Subject Item: EU 012 Board Press

Associated Items: CE 026 Biofilter

GP 008 Total Facility Synthetic Minor HAPs Limit

SV 012 CE 026 Biofilter

	NC/ CA	Type	Citation	Requirement
1.0		CD	hdr	LIMITS
2.0		LIMIT	Title I Condition: 40 CFR Section 52.21(j) (BACT); Minn. R. 7007.3000	Total Particulate Matter: less than or equal to 15 lbs/hour . This is more stringent than limit in Minn. R. 7011.0715, subp. 1(A), which also applies.
3.0		LIMIT	Title I Condition: 40 CFR Section 52.21(j) (BACT) and 40 CFR Section 52.21(m) (modeling); Minn. R. 7007.3000	PM < 10 micron: less than or equal to 15 lbs/hour
4.0		LIMIT	Minn. R. 7011.0715, subp. 1(B)	Opacity: less than or equal to 20 percent opacity
5.0		LIMIT	Title I Condition: 40 CFR Section 52.21(j) (BACT); Minn. R. 7007.3000	Volatile Organic Compounds: less than or equal to 30.9 lbs/hour . The VOC limit is on an "as VOC basis", and is to be measured using the draft Oregon "Guidance for Evaluating VOC Emissions from Drying and Hot-Pressing Activities Common to the Wood Products Industry" (attached as Appendix D to this permit).
6.0		CD	hdr	PERFORMANCE TESTING
7.0		S/A	Title I Condition: Monitoring for BACT limits; Minn. R. 7017.2020, subp. 1	Performance Test: due before end of each calendar 36 months starting 03/15/2012 to measure volatile organic compounds emissions. VOC emissions shall be measured in accordance with the draft Oregon "Guidance for Evaluating VOC Emissions from Drying and Hot-Pressing Activities Common to the Wood Products Industry" (attached as Appendix D to this permit). The hardwood and softwood percentage used as furnish during VOC testing shall be reported in the test report. The next performance test is due March 15, 2015, and every 36 months thereafter, unless a new testing frequency is established on the test results.
8.0		CD	Minn. R. 7017.2025, subp. 3	This facility has a facility limit for process throughput of greater than or equal to an average of 90 percent hardwood as furnished per calendar week. If the facility chooses to test at a hardwood percentage greater than 90 percent and the performance test shows compliance, then the hardwood percentage used during testing will be the new facility operating limit for process throughput. This operating limit may be changed by subsequent compliant performance testing.
9.0		S/A	Title I Condition: Monitoring for BACT limits; Minn. R. 7017.2020, subp. 1	Performance Test: due before end of each 36 months starting 03/15/2012 to measure total particulate matter. The next performance test is due March 15, 2015, and every 36 months thereafter.
10.0		S/A	Title I Condition: Monitoring for BACT limits; Minn. R. 7017.2020, subp. 1	Performance Test: due before end of each calendar 36 months starting 03/15/2012 to measure PM < 10 microns. The next performance test is due March 15, 2015, and every 36 months thereafter.
11.0		CD	hdr	NESHAP REQUIREMENTS: 40 CFR PART 63, SUBPART DDDD, Plywood and Composite Wood Products (also called the Plywood MACT)
12.0		CD	40 CFR Section 63.2233, 40 CFR Section 63.6(i)(4)(i)(A)	Compliance Date: EU 012 Board Press must comply with 40 CFR pt. 63, subp. DDDD (referred to as "subpart DDDD" in this portion of the permit) no later than October 1, 2008. A one year extension from the October 1, 2007 date was granted by the MPCA for the addition of control equipment (a biofilter) for the Board Press.
13.0		LIMIT	40 CFR Section 63.2240(b); Table 1B to Subpart DDDD of Part 63	Methanol: greater than or equal to 90 percent control efficiency ; reduce emissions of Methanol by 90 percent. This limit is based on the compliance option, specified in Table 1B to Subpart DDDD of Part 63, chosen by the Permittee based on current operations. If the Permittee later chooses to switch to a different compliance option allowed in the standard, the Permittee shall comply with all applicable portions of 40 CFR pt. 63, subp. DDDD, for that option.
14.0		CD	40 CFR Section 63.2240(b); Table 1B to Subpart DDDD of Part 63	The Permittee shall install, operate and maintain a biofilter to meet the Methanol emissions reduction required. Additional requirements from NESHAP can be found under CE 026.
15.0		S/A	40 CFR Section 63.2267	Install: due before 10/01/2008, a wood products enclosure as defined in 40 CFR Section 63.2292. Requirement completed.
16.0		CD	hdr	NESHAP PERFORMANCE TESTING



COMPLIANCE PLAN **CD-01**

Facility Name: Norbord Minnesota

Permit Number: 00700019 - 007

17.0		S/A	40 CFR Section 63.2280; meets requirements of Minn. R. 7017.2030, subp. 1	Performance Test Notification (written): due 60 days before Performance Test for determining methanol reduction efficiency. The notification shall meet the requirements specified in Section 63.7(b)(1).
18.0		S/A	40 CFR Section 63.2260; 40 CFR Section 63.2261; 40 CFR Section 63.2262(a) through (g)	Initial Performance Test: due 180 days after 10/01/2008 to measure Methanol emissions reduction. The Permittee shall conduct performance tests and establish each site-specific operating requirement in Table 2 of subpart DDDD according to the requirements in Section 63.2262 and Table 4 of subpart DDDD.
19.0		S/A	40 CFR Section 63.2260; 40 CFR Section 63.2262(m)	Initial Performance Test: due 180 days after 10/01/2008 to establish the 24-hour block biofilter bed temperature range according to 40 CFR Section 63.2262(m).
20.0		CD	40 CFR Part 63 subpart DDDD table 5 item (4)	Compliance Demonstration: Initial compliance has been demonstrated for Methanol Destruction Efficiency if: the Methanol emissions, measured using the methods in Table 4 to subpart DDDD over the 3-hour performance test, are reduced by at least 90 percent; AND the Permittee has a record of the biofilter bed operating temperatures as required by Table 2 of subpart DDDD over the performance test during which emissions were reduced by at least 90 percent.
21.0		S/A	40 CFR Section 63.2280	Notification of compliance status: due 60 days after Performance Test required by subpart DDDD according to 40 CFR Section 63.9(h)(2)(ii) and Section 63.2280(d). For each initial compliance demonstration, the Permittee must submit the NOCS, including all performance test results, according to 40 CFR Section 63.10(d)(2).
22.0		S/A	Minn. R. 7017.2035, subp. 2; meets requirements of 40 CFR Section 63.7(g)(1)	Performance Test Report: due 45 days after Performance Test for determining methanol reduction efficiency.



COMPLIANCE PLAN **CD-01**

Facility Name: Norbord Minnesota

Permit Number: 00700019 - 007

Subject Item: EU 021 Edge Seal

	NC/ CA	Type	Citation	Requirement
1.0		CD	40 CFR Section 63.2233(b)	EU 021 are Group 1 miscellaneous coating operations as defined at 40 CFR Section 63.2292. The Permittee must comply with the work practice requirements by October 1, 2007 for the EU 021 Group 1 miscellaneous coating operations.
2.0		CD	40 CFR Section 63.2241(a) and Part 63 Subpart DDDD Table 3 item 5	Use non-HAP coatings as defined in 40 CFR Section 63.2292.
3.0		CD	40 CFR Section 63.2260(b) and Part 63 Subpart DDDD Table 6 item 5	<p>Initial Compliance Demonstrations for Work Practice Requirements:</p> <p>The Permittee shall demonstrate initial compliance with work practice requirements by meeting all of the following requirements:</p> <ol style="list-style-type: none">1. meet the work practice requirement at Section 63.2241(a);2. submit a signed statement with the Notification of Compliance Status indicating that only non-HAP coatings are used;3. maintain a record showing that only non-HAP coatings are used.
4.0		CD	40 CFR Section 63.2271(a) and Part 63 Subpart DDDD Table 8 item 5	<p>Continuous Compliance With the Work Practice Requirements:</p> <p>The Permittee must continue to use non-HAP coatings and keep records showing that they are using non-HAP coatings.</p>



COMPLIANCE PLAN **CD-01**

Facility Name: Norbord Minnesota

Permit Number: 00700019 - 007

Subject Item: CE 014 Electrified Filter Bed

Associated Items: EU 007 Konus Burner 1

GP 002 Konus Burners

GP 007 NESHAP subp. JJJJJ Burners

GP 008 Total Facility Synthetic Minor HAPs Limit

	NC/ CA	Type	Citation	Requirement
1.0		CD	hdr	CONTROL EQUIPMENT - EFB
2.0		LIMIT	Title I Condition: To meet BACT limit; Minn. R. 7007.0800, subps. 2 and 14	Pressure Drop: greater than or equal to 1.0 inches of water column and less than or equal to 6.0 inches of water column across the EFB, unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3, based on the range recorded during the most recent MPCA approved performance test where compliance for PM and/or PM10 emissions was demonstrated. The Permittee shall record the pressure drop once every 24 hours when in operation. This is the pressure drop across the bed of the EFB. If the pressure drop falls outside the range, this shall be reported as a deviation.
3.0		CD	Title I Condition: To meet BACT limit; Minn. R. 7007.0800, subps. 2 and 14	EFB Bed Voltage: greater than or equal to 22.0 kV, unless a new minimum is set pursuant to Minn. R. 7017.2025, subp. 3, based on the minimum bed voltage recorded during the most recent MPCA approved performance test where compliance for PM and/or PM10 emissions was demonstrated. If the EFB bed voltage falls below the minimum, this shall be reported as a deviation.
4.0		CD	Title I Condition: To meet BACT limit; Minn. R. 7007.0800, subps. 2 and 14	EFB Ionizer Voltage: greater than or equal to 25.0 kV, unless a new minimum is set pursuant to Minn. R. 7017.2025, subp. 3, based on the minimum EFB ionizer voltage recorded during the most recent MPCA approved performance test where compliance for PM and/or PM10 emissions was demonstrated. If the EFB ionizer voltage falls below the minimum, this shall be reported as a deviation.
5.0		CD	Title I Condition: Monitoring for BACT limit; Minn. R. 7007.0800, subps. 4 and 5	Recordkeeping of Pressure Drop and EFB Bed Voltage and EFB Ionizer Voltage. Once each day while in operation, the Permittee shall monitor and record the pressure drop, bed voltage and ionizer voltage. The Permittee shall record the time and date of each pressure drop, bed voltage, and ionizer voltage reading and whether or not the recorded measurement was within the range specified in this permit.



COMPLIANCE PLAN **CD-01**

Facility Name: Norbord Minnesota

Permit Number: 00700019 - 007

Subject Item: CE 015 Electrified Filter Bed

Associated Items: EU 008 Konus Burner 2

GP 002 Konus Burners

GP 007 NESHAP subp. JJJJJ Burners

GP 008 Total Facility Synthetic Minor HAPs Limit

	NC/ CA	Type	Citation	Requirement
1.0		CD	hdr	CONTROL EQUIPMENT - EFB
2.0		LIMIT	Title I Condition: To meet BACT limit; Minn. R. 7007.0800, subps. 2 and 14	Pressure Drop: greater than or equal to 1.0 inches of water column and less than or equal to 6.0 inches of water column across the EFB, unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3, based on the range recorded during the most recent MPCA approved performance test where compliance for PM and/or PM10 emissions was demonstrated. The Permittee shall record the pressure drop once every 24 hours when in operation. This is the pressure drop across the bed of the EFB. If the pressure drop falls outside the range, this shall be reported as a deviation.
3.0		CD	Title I Condition: To meet BACT limit; Minn. R. 7007.0800, subps. 2 and 14	EFB Bed Voltage: greater than or equal to 17.0 kV, unless a new minimum is set pursuant to Minn. R. 7017.2025, subp. 3, based on the minimum bed voltage recorded during the most recent MPCA approved performance test where compliance for PM and/or PM10 emissions was demonstrated. If the EFB bed voltage falls below the minimum, this shall be reported as a deviation.
4.0		CD	Title I Condition: To meet BACT limit; Minn. R. 7007.0800, subps. 2 and 14	EFB Ionizer Voltage: greater than or equal to 20.0 kV, unless a new minimum is set pursuant to Minn. R. 7017.2025, subp. 3, based on the minimum EFB ionizer voltage recorded during the most recent MPCA approved performance test where compliance for PM and/or PM10 emissions was demonstrated. If the EFB ionizer voltage falls below the minimum, this shall be reported as a deviation.
5.0		CD	Title I Condition: Monitoring for BACT limit; Minn. R. 7007.0800, subps. 4 and 5	Recordkeeping of Pressure Drop and EFB Bed Voltage and EFB Ionizer Voltage. Once each day while in operation, the Permittee shall monitor and record the pressure drop, bed voltage and ionizer voltage. The Permittee shall record the time and date of each pressure drop, bed voltage, and ionizer voltage reading and whether or not the recorded measurement was within the range specified in this permit.



COMPLIANCE PLAN **CD-01**

Facility Name: Norbord Minnesota

Permit Number: 00700019 - 007

Subject Item: CE 017 Electrified Filter Bed

Associated Items: EU 001 Face Dryer/Lamb Burner

EU 004 Face Burner 1 (backup burner)

GP 001 Lamb Burners and Dryers

GP 008 Total Facility Synthetic Minor HAPs Limit

	NC/ CA	Type	Citation	Requirement
1.0		CD	hdr	CONTROL EQUIPMENT - EFB
2.0		LIMIT	Title I Condition: To meet BACT limit; Minn. R. 7007.0800, subps. 2 and 14	Pressure Drop: greater than or equal to 1.0 inches of water column and less than or equal to 9.0 inches of water column across the EFB, unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3, based on the range recorded during the most recent MPCA approved performance test where compliance for PM and/or PM10 emissions was demonstrated. If the pressure drop falls outside the range, this shall be reported as a deviation.
3.0		CD	Title I Condition: To meet BACT limit; Minn. R. 7007.0800, subps. 2 and 14	EFB Bed Voltage: greater than or equal to 15.0 kV, unless a new minimum is set pursuant to Minn. R. 7017.2025, subp. 3, based on the minimum bed voltage recorded during the most recent MPCA approved performance test where compliance for PM and/or PM10 emissions was demonstrated. If the EFB bed voltage falls below the minimum, this shall be reported as a deviation.
4.0		CD	Title I Condition: To meet BACT limit; Minn. R. 7007.0800, subps. 2 and 14	EFB Ionizer Voltage: greater than or equal to 30.0 kV, unless a new minimum is set pursuant to Minn. R. 7017.2025, subp. 3, based on the minimum EFB ionizer voltage recorded during the most recent MPCA approved performance test where compliance for PM and/or PM10 emissions was demonstrated. If the EFB ionizer voltage falls below the minimum, this shall be reported as a deviation.
5.0		CD	Title I Condition: Monitoring for BACT limit; Minn. R. 7007.0800, subps. 4 and 5	Recordkeeping of Pressure Drop and EFB Bed Voltage and EFB Ionizer Voltage. Once each day while in operation, the Permittee shall monitor and record the pressure drop, bed voltage and ionizer voltage. The Permittee shall record the time and date of each pressure drop, bed voltage, and ionizer voltage reading and whether or not the recorded measurement was within the range specified in this permit.



COMPLIANCE PLAN **CD-01**

Facility Name: Norbord Minnesota

Permit Number: 00700019 - 007

Subject Item: CE 018 Electrified Filter Bed

Associated Items: EU 002 Core Dryer/Lamb Burner

EU 005 Core Burner 2 (backup burner)

GP 001 Lamb Burners and Dryers

GP 008 Total Facility Synthetic Minor HAPs Limit

	NC/ CA	Type	Citation	Requirement
1.0		CD	hdr	CONTROL EQUIPMENT - EFB
2.0		LIMIT	Title I Condition: To meet BACT limit; Minn. R. 7007.0800, subps. 2 and 14	Pressure Drop: greater than or equal to 1.0 inches of water column and less than or equal to 9.0 inches of water column across the EFB, unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3, based on the range recorded during the most recent MPCA approved performance test where compliance for PM and/or PM10 emissions was demonstrated. If the pressure drop falls outside the range, this shall be reported as a deviation.
3.0		CD	Title I Condition: To meet BACT limit; Minn. R. 7007.0800, subps. 2 and 14	EFB Bed Voltage: greater than or equal to 15.0 kV, unless a new minimum is set pursuant to Minn. R. 7017.2025, subp. 3, based on the minimum bed voltage recorded during the most recent MPCA approved performance test where compliance for PM and/or PM10 emissions was demonstrated. If the EFB bed voltage falls below the minimum, this shall be reported as a deviation.
4.0		CD	Title I Condition: To meet BACT limit; Minn. R. 7007.0800, subps. 2 and 14	EFB Ionizer Voltage: greater than or equal to 30.0 kV, unless a new minimum is set pursuant to Minn. R. 7017.2025, subp. 3, based on the minimum EFB ionizer voltage recorded during the most recent MPCA approved performance test where compliance for PM and/or PM10 emissions was demonstrated. If the EFB ionizer voltage falls below the minimum, this shall be reported as a deviation.
5.0		CD	Title I Condition: Monitoring for BACT limit; Minn. R. 7007.0800, subps. 4 and 5	Recordkeeping of Pressure Drop and EFB Bed Voltage and EFB Ionizer Voltage. Once each day while in operation, the Permittee shall monitor and record the pressure drop, bed voltage and ionizer voltage. The Permittee shall record the time and date of each pressure drop, bed voltage, and ionizer voltage reading and whether or not the recorded measurement was within the range specified in this permit.



COMPLIANCE PLAN **CD-01**

Facility Name: Norbord Minnesota

Permit Number: 00700019 - 007

Subject Item: CE 026 Biofilter

Associated Items: EU 012 Board Press

GP 008 Total Facility Synthetic Minor HAPs Limit

	NC/ CA	Type	Citation	Requirement
1.0		CD	hdr	NESHAP REQUIREMENTS: 40 CFR PART 63, SUBPART DDDD, Plywood and Composite Wood Products (also called the Plywood MACT)
2.0		CD	hdr	Initial Notifications Related to One Year Extension for Adding Control Equipment
3.0		S/A	40 CFR Section 63.6(i)(6)(i)	Start Of Construction: due before 07/01/2008 for the CE 016 Biofilter at the EU012 Board Press. Requirement completed.
4.0		S/A	40 CFR Section 63.6(i)(6)(i)	Notification of the Date Construction Began: due 30 days after 07/01/2008 for the installation of the CE 026 Biofilter at the EU 012 Board Press along with a MACT compliant enclosure. Requirement completed.
5.0		S/A	40 CFR Section 63(i)(6)(i)	Notification of the Anticipated Date of Initial Startup: due 30 days before 10/01/2008 for the startup of the CE 026 Biofilter at the EU 012 Board Press along with a MACT compliant enclosure. Requirement completed.
6.0		S/A	40 CFR Section 63(i)(6)(i)	Notification of the Actual Date of Initial Startup: due 15 days after 10/01/2008 of the CE 026 Biofilter at the EU 012 Board Press along with a MACT compliant enclosure. Requirement completed.
7.0		CD	hdr	NESHAP COMPLIANCE OPTION AND OPERATING REQUIREMENTS
8.0		CD	40 CFR Section 63.2240; 40 CFR Section 63.2262(m)(1)	<p>Biofilter Operating Requirement: The Permittee must maintain the 24-hour block biofilter bed temperature within the range established according to the following procedure.</p> <p>The Permittee must continuously monitor the biofilter bed temperature during each of the required 1-hour test runs during the performance test. To monitor biofilter bed temperature, the Permittee may use multiple thermocouples in representative locations throughout the biofilter bed and calculate the average biofilter bed temperature across these thermocouples prior to reducing the temperature data to 15-minute averages for purposes of establishing biofilter bed temperature limits. The biofilter bed temperature range must be established as the minimum and maximum 15-minute biofilter bed temperature monitored during the three test runs.</p>
9.0		CD	40 CFR Section 63.2240; 40 CFR Section 63.2262(m)(1)	<p>Biofilter Operating Requirement (continued): The Permittee may base the biofilter bed temperature range on values recorded during previous performance tests provided that the data used to establish the temperature ranges have been obtained using the test methods in this subpart. If you use data from previous performance tests, you must certify that the biofilter and associated process unit have not been modified subsequent to the date of the performance tests. Replacement of the biofilter media with the same type of material is not considered a modification of the biofilter for purposes of this section.</p>
10.0		CD	40 CFR Section 63.2262(m)(3); 40 CFR Section 63.2280(g); Minn. R. 7007.0800, subp. 2	Expansion of Biofilter Operating Range: The Permittee may expand the biofilter temperature operating range by conducting a repeat performance test as specified in 40 CFR Section 63.2262(m)(1) that demonstrates compliance with the applicable compliance options of this subpart. The Permittee must notify the EPA Administrator and the MPCA 30 days before the new operating range is changed.
11.0		CD	hdr	CONTROL EQUIPMENT REQUIREMENTS
12.0		LIMIT	Minn. R. 7007.0800, subp. 2	Temperature: greater than or equal to 72 degrees F and less than or equal to 88 degrees F using 24-hour Block Average



COMPLIANCE PLAN **CD-01**

Facility Name: Norbord Minnesota

Permit Number: 00700019 - 007

13.0		CD	40 CFR Section 63.2269(a)	<p>Temperature Monitoring: For each temperature monitoring device, the Permittee must meet the requirements in paragraphs (a) and (b)(1) through (6) of Section 63.2269.</p> <p>(a) The Permittee must install, operate, and maintain each continuous parameter monitoring system (CPMS) according to paragraphs (a)(1) through (3) of Section 63.2269.</p> <p>(1) The CPMS must be capable of completing a minimum of one cycle of operation (sampling, analyzing, and recording) for each successive 15-minute period.</p> <p>(2) At all times, the Permittee must maintain the monitoring equipment including, but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.</p> <p>(3) Record the results of each inspection, calibration, and validation check.</p> <p>(continued)</p>
14.0		CD	40 CFR Section 63.2269(b)	<p>Temperature Monitoring (cont.):</p> <p>(b) (1) Locate the temperature sensor in a position that provides a representative temperature.</p> <p>(2) Use a temperature sensor with a minimum accuracy of 4 °F or 0.75 percent of the temperature value, whichever is larger.</p> <p>(3) If a chart recorder is used, it must have a sensitivity with minor divisions not more than 20 °F.</p> <p>(continued)</p>
15.0		CD	40 CFR Section 63.2269(b)	<p>Temperature Monitoring (cont.):</p> <p>(4) Perform an electronic calibration at least semiannually according to the procedures in the manufacturer's owners manual. Following the electronic calibration, the Permittee shall conduct a temperature sensor validation check in which a second or redundant temperature sensor placed nearby the process temperature sensor must yield a reading within 30 °F of the process temperature sensor's reading.</p> <p>(5) Conduct calibration and validation checks any time the sensor exceeds the manufacturer's specified maximum operating temperature range or install a new temperature sensor.</p> <p>(6) At least quarterly, inspect all components for integrity and all electrical connections for continuity, oxidation, and galvanic corrosion.</p>
16.0		CD	40 CFR Section 63.2270(a) and (b)	<p>(a) Monitor and collect data according to section 63.2270.</p> <p>(b) Except for, as appropriate, monitor malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the Permittee must conduct all monitoring in continuous operation at all times that the process unit is operating. For purposes of calculating data averages, do not use data recorded during monitoring malfunctions, associated repairs, out-of-control periods, or required quality assurance or control activities. The Permittee must use all the data collected during all other periods in assessing compliance.</p> <p>(continued)</p>
17.0		CD	40 CFR Section 63.2270(b)	<p>(continued from above)</p> <p>A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions. Any period for which the monitoring system is out-of-control and data are not available for required calculations constitutes a deviation from the monitoring requirements.</p>
18.0		CD	40 CFR Section 63.2270(c)	<p>(c) The Permittee may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities; data recorded during periods of startup, shutdown, and malfunction; or data recorded during periods of control device downtime covered in any approved routine control device maintenance exemption in data averages and calculations used to report emission or operating levels, nor may such data be used in fulfilling a minimum data availability requirement, if applicable. Use all the data collected during all other periods in assessing the operation of the control system.</p>



COMPLIANCE PLAN **CD-01**

Facility Name: Norbord Minnesota

Permit Number: 00700019 - 007

19.0		CD	40 CFR Section 63.2270(f)	(f) To calculate the data averages for each 3-hour or 24-hour averaging period, the Permittee must have at least 75 percent of the required recorded readings for that period using only recorded readings that are based on valid data (i.e., not from periods described in paragraphs (b) and (c) of Section 63.2270).
20.0		CD	40 CFR Section 63.2271(a) and (b)	<p>(a) The Permittee must demonstrate continuous compliance with the compliance options, operating requirements, and work practice requirements in Sections 63.2240 and 63.2241 that apply according to the methods specified in Tables 7 and 8 to subpart DDDD.</p> <p>(b) The Permittee must report each instance in which the applicable compliance option, operating requirement, and work practice requirement in Tables 7 and 8 to subpart DDDD were not met. This includes periods of startup, shutdown, and malfunction and periods of control device maintenance specified in paragraphs (b)(1) through (3) of Section 63.2271. These instances are deviations from the compliance options, operating requirements, and work practice requirements in subpart DDDD. These deviations must be reported according to the requirements in Section 63.2281.</p>

Attachment 2: Points Calculator

Points Calculator

1) AQ Facility ID No.:	1750
2) Facility Name:	Norbord Minnesota, Inc.
3) Small business? y/n?	N
4) DQ Numbers (including all rolled) :	3846, 2105, 2383, 2691, 2876, 2962, 2986, 3214, 3624
5) Date of each Application Received:	2/21/12
6) Final Permit No.	00700019-007
7) Permit Staff	Tarik Hanafy
8) "Work completed" in which .xls file (i.e. unit 2b, unit 1a, biofuels)?	NA

Total Points	70
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Application Type	DQ No.	Qty.	Points	Total Points	Details
Administrative Amendment			1	0	
Minor Amendment			4	0	
Applicability Request			10	0	
Moderate Amendment			15	0	
Major Amendment	3846	1	25	25	
Individual State Permit (not reissuance)			50	0	
Individual Part 70 Permit (not reissuance)			75	0	
Additional Points					
Modeling Review	3846	1	15	15	AERMOD SIL CO/PM10 analysis
BACT Review			15	0	
LAER Review			15	0	
CAIR/Part 75 CEM analysis			10	0	
NSPS Review			10	0	
NESHAP Review	3846	1	10	10	subp. JJJJJJ
Case-by-case MACT Review			20	0	
Netting			10	0	
Limits to remain below threshold	3846	2	10	20	see notes below
Plantwide Applicability Limit (PAL)			20	0	
AERA review			15	0	
Variance request under 7000.7000			35	0	
Confidentiality request under 7000.1300			2	0	
EAW review					
Part 4410.4300, subparts 18, item A; and 29			15	0	
Part 4410.4300, subparts 8, items A & B; 10, items A to C; 16, items A & D; 17, items A to C & E to G; and 18, items B & C			35	0	
Part 4410.4300, subparts 4; 5 items A & B; 13; 15; 16, items B & C; and 17 item D			70	0	
			Add'l Points	45	

NOTES:

Limits taken to avoid PSD major modification and to avoid major source status under 40 CFR pt. 63

Attachment 3:
SIL Analysis for PM₁₀ and CO

Norbord Minnesota PM₁₀ and CO Air Quality Analysis

Updated 7/17/2012

**David J Fox CCM
TRC Environmental
608-826-3622
July 17, 2012**

Project:

Norbord Minnesota is proposing to replace a baghouse for a process at its facility in Solway, (Beltrami County). This change will result in a higher requested emission limit for PM₁₀ due to a larger airflow volume of the baghouse. No other changes are proposed for any PM₁₀ emitting sources at the facility. The existing baghouse (unit 009) has an existing permitted emission limit for PM₁₀ of 0.75 lb/hr and 0.004 gr/scf.

The proposed baghouse will have an increased airflow(40,000 cfm vs. about 22,000 cfm). The facility has requested that the PM₁₀ emission limit be set at 1.37 lb/hr for the replacement baghouse with no change to the grain loading limit of 0.004 gr/scf (that the 1.37 lb/hr proposed limit is based on). Norbord anticipates that the stack for the new baghouse will be located in virtually the same location as the existing stack.

Norbord is also requesting an increase in the allowable emission limit for CO from an RTO stack that controls dryer/lamb burner emissions (GP001). Specifically it is requested that the CO emission limit be raised from 32.4 lb/hr to 38.9 lb/hr.

MPCA has requested modeling for PM₁₀ due to the change in hourly emission limit for the baghouse and modeling for CO due to the hourly increase from the RTO controlling the dryers and lamb burner.

The facility was previously extensively modeled in the 2002 time frame for a PSD permit. Modeling files from that analysis have been updated to create an AERMOD dispersion model input files for the facility.

Proposal to Address PM₁₀ and CO Modeling Issues for the New Baghouse

Norbord and TRC, Environmental propose that in lieu of a full facility modeling analysis for PM₁₀ that a net change impact modeling analysis be used for the project.

The predicted worst-case net change for the proposed baghouse replacement project will be compared to the PSD Significant Impact Level for PM₁₀. Such an analysis is presented here.

The pollutant CO also has defined significant impact levels that are actually significantly larger than those for PM₁₀. Consequently it will be shown that even at the full permitted emission rate of CO from the RTO the unit will not have a significant impact by modeling definitions.

Model Inputs:

- Existing Baghouse Stack: H=14', flow=22,000cfm (non vertical), Temp= 79F, PM₁₀ emissions = 0.75 lb/hr (existing limit in permit).
- Proposed Baghouse Stack: H=14', flow= 40,000cfm (vertical unobstructed), Temp= 79F, PM₁₀ rate (proposed) = 1.37 lb/hr.
- Existing baghouse stack modeled with a negative emission rate, proposed baghouse stack modeled with a positive emission rate.
- AERMOD model predicts the worst case net impact for 24-hr and annual averaging periods respectively at each receptor.
- If net impact is less than the PSD Significant Impact Level or SIL for PM₁₀ (5 ug/m³ for 24-hr and 1 ug/m³ for annual) it will be shown that the proposed change does not have a significant modeling impact, so no further modeling is required.
- For CO, the stack conditions for the GP001 stack are: height = 150', temp. = 220, flow = 110,000 acfm, diam. = 5.67'

Other Model Details:

- Use of AERMOD Version 12060 air quality model,
- Use of regulatory default model options,
- Use of BPIP-Prime and AERMAP algorithms,
- Use of PKDINLY5.SFC and PKDINLY5.PFL AERMOD met data file (met years 2006-2010) provided by the MPCA,
- Receptor spacing of 25 meters at boundary and beyond sufficient to define maximum impact points within the interior of the grid.

AERMOD Worst Case Net Impact Model Results

PM₁₀ Worst-Case Net Change Predicted Impacts

Year	24-hr Highest (ug/m3)	Annual Highest
2010	1.6	0
2009	1.3	0
2008	1.9	0
2007	1.8	0.1
2006	1.6	0.1
Worst Case	1.9	0.1
Significant Impact Level	5	1

For CO, the modeling predicted the maximum impacts over a 5-year period.

1-hr 33 ug/m³ (SIL= 2,000 ug/m³)

8-hr 20 ug/m³ (SIL = 500 ug/m³)

Conclusion:

The project does not have a significant air quality impact by PSD definitions for either PM₁₀ or CO. No further modeling is needed.

Attachment 4: Emissions Calculations

Norbord, Bemidji, Minnesota

- Project Changes:
1. A component of Rotary (Face and Core) Dryer System is being replaced. Specifically the existing rotary dryer units (two 12 x 50 units) are being replaced by two 14 x 50 units. No changes are being made to the Lamb burners that supply heat for the units.
 2. New forming heads are proposed for the forming unit. The change effectively will increase the capacity of the press by about 10%.
 3. New baghouse for sander. Increased airflow from sander (from 10,000 to 25,000 acfm), modified sander head.

Note: Lamb burner/proposed dryers all vent to RTO control system.

Project Emission Calculations

Actual Emissions from Air Emission Inventories for Lamb Burner/Dryer (tpy)

	2006	2007	2008	2009	2010
VOC	8.61	8.64	7.68	8.7	8.4
NOx	52.31	52.5	46.7	52.9	50.9
PM10	11.8	11.8	10.5	11.9	22.8
CO	62.51	62.7	55.8	63.2	60.8

Actual Emissions from Air Emission Inventories for Press

	2006	2007	2008	2009	2010
VOC	62	62.4	60.4	63.6	66.5
NOx	0	0	0	0	0
PM10	15.2	15.2	14.8	11.9	11.8
CO	0	0	0	0	0

Total Actual Emissions for Dryer and Press

	2006	2007	2008	2009	2010
VOC	70.61	71.04	68.08	72.3	74.9
NOx	52.31	52.5	46.7	52.9	50.9
PM10	27	27	25.3	23.8	34.6
CO	62.51	62.7	55.8	63.2	60.8

Baseline Actual Emissions (tpy) Lamb Burner/Dryer/Press

	2006-7	2007-8	2008-9	2009-10
VOC	70.825	69.56	70.19	73.6
NOx	52.405	49.6	49.8	51.9
PM10	27	26.15	24.55	29.2
CO	62.605	59.25	59.5	62

Highest Actual Emissions (highest 2 year average)

	TPY	Dryer/Burn Press
VOC	73.6	8.55
NOx	52.405	0
PM10	29.2	11.85
CO	62.605	0

Actual Hours/Yr Assumed Future 8330 **

Actual* Future Emissions

Lamb Burner and Dryer

	Actual (lb/hr)	Unadjust (tpy)	w/ 1.2 scaleup (tpy)
VOC	3.5	14.5775	17.493
NOx	15.4	64.141	76.9692
PM10	4.21	17.53465	21.04158
PM2.5	4.21	17.53465	21.04158
CO	38.9	162.0185	162.0185

Board Press

	Actual (lb/hr)	Unadjust (tpy)	w/ 1.2 scaleup (tpy)
VOC	16.1	67.0565	80.4678
NOx	0	0	0
PM10	3.02	12.5783	15.09396

PM2.5	3.02	12.5783	15.09396
CO	0	0	0

* All actual hourly emissions are based upon stack test data from Bemidji Facility
Note: CO actual rate for future assumed to be requested hourly limit of 38.9 lb/hr

Future Actual - Historical Actual (Dryer and Press)

	Future (tpy)	Historical (tpy)	Increase (tpy)	Threshold (tpy)
VOC	97.9608	73.6	24.3608	40
NOx	76.9692	52.405	24.5642	40
PM10	36.13554	29.2	6.93554	15
PM2.5	36.13554	29.2	6.93554	10
CO **	162.0185	62.605	99.4135	100

** Permit CO limit of ≤ 157.6 tpy will be added to dryers limiting the CO tpy increase to 95 tpy instead of the calculated 99.4 tpy increase to allow a 5% buffer below the 100 tpy significant emission rate that triggers NSR for CO

Sander Modification (additional airflow to process) Estimate Actual to Actual Increase for PM10/2.5

Base Airflow 10000 acfm from sander
 Grain Loading 0.003 gr/acf (from prior stack testing)

New Airflow 25000 acfm from sander
 Grain Loading 0.003 gr/acf
 Baghouse (SV009) flow increases from 21000 to 40000 cfm

Actual Emiss. (10K flow)	2006	2007	2008	2009	2010
Actual hrs. operation	1539	1081	740	1224	1144
PM10/PM2.5 Emiss. (tpy)	0.2	0.14	0.1	0.16	0.15
	2006-7	2007-8	2008-9	2009-10	
2 yr avg. Baseline	0.17	0.12	0.13	0.155	

Future Emissions

Assume 20% increase in max actual hrs of operation (1850 hrs) and an increase in the exhaust airflow to 25000 acfm and allowable grain loading of 0.004 gr/acf.

$1850 \text{ hr} * 25000 \text{ acfm} * 60 \text{ min} * 0.004 \text{ gr/acf} * 1\text{lb}/7000 \text{ grains} * 1\text{ton}/2000\text{lbs} = 0.792857 \text{ tpy}$

Note: historical actual from 2009-10 the years with highest actual emissions from all modified sources

PM10/2.5 increase = $0.79 \text{ tpy} - 0.15 \text{ tpy} = 0.64 \text{ tpy}$
 Total PM10/2.5 increase include Dryer/Press 7.54 tpy

Greenhouse Gas CO2e Calculations

Face Dryer/Lamb Burner

Year	Bark (tpy)	Heat (btu/lb)	Bark cons. (mmbtu/yr)	NG (cf/yr)	NG (mmbtu/yr)	CO2e EF (kg/mmbtu)	Bark CO2 (mton/yr)	CO2EF NG (kg/mmbtu)	Gas CO2 (mton/yr)
2007	41056	7690	631441.28	72000000	74016	93.8	59229.1921	53.02	3924.32832
2008	36283	7690	558032.54	72000000	74016	93.8	52343.4523	53.02	3924.32832
2009	43761	7690	673044.18	72000000	74016	93.8	63131.5441	53.02	3924.32832
2010	43738	7690	672690.44	72000000	74016	93.8	63098.3633	53.02	3924.32832
PTE (est.)	120000	7690	1845600	100000000	102800	93.8	173117.28	53.02	5450.456

Year	N2O EF (kg/mmbtu)	CO2e N2O (mton/yr)	N2OEF NG (kg/mmbtu)	Gas N2O (mton/yr)	CH4 EF (kg/mmbtu)	CO2e CH4 (mton/yr)	CH4EF NG (kg/mmbtu)	Gas CH4 (mton/yr)
2007	0.0042	822.136547	0.0001	2.294496	0.032	424.32854	0.001	1.554336
2008	0.0042	726.558367	0.0001	2.294496	0.032	374.997867	0.001	1.554336
2009	0.0042	876.303522	0.0001	2.294496	0.032	452.285689	0.001	1.554336
2010	0.0042	875.842953	0.0001	2.294496	0.032	452.047976	0.001	1.554336
PTE (est.)	0.0042	2402.9712	0.0001	3.1868	0.032	1240.2432	0.001	2.1588

CO2e Equivalents

1 ton N2O 310 tpy CO2e

1 ton CH4 21 tpy CO2e

mton = metric tons

Highest 2yr avg

Year	Total CO2e mtons	Total CO2e short tons	CO2e 2yr avg short tons
2007	64403.8343	70992.9906	67118.0134
2008	57373.1856	63243.0363	69314.0774
2009	68388.3104	75385.1185	75366.4459
2010	68354.4314	75347.7732	
PTE (est.)	182216.296		

75366.4459

15073.2892 Increase (tpy) based on 1.2 factor

Facility: Norbord Minnesota

Facility ID: 00700019

Potential to Emit: Air Toxics

Unit ID	Unit Desc	Process ID	Pollutant	Stack Testing Date and Emission Factor Comment	Throughput Amount	Throughput Units	Emission Factor	Emission Rate	
EU001	Face Dryer/Lamb Burner	EU001PD001	ACETALDEHYDE	September 12-14, 2006	8,760	HR	0.15	LB/HR	0.657 TON
EU001	Face Dryer/Lamb Burner	EU001PD001	ACROLEIN	September 12-14, 2006	8,760	HR	0.09	LB/HR	0.399 TON
EU001	Face Dryer/Lamb Burner	EU001PD001	FORMALDEHYDE	September 12-14, 2006	8,760	HR	0.34	LB/HR	1.47 TON
EU001	Face Dryer/Lamb Burner	EU001PD001	METHANOL	September 12-14, 2006	8,760	HR	0.12	LB/HR	0.52 TON
EU001	Face Dryer/Lamb Burner	EU001PD001	PHENOL	September 12-14, 2006	8,760	HR	0.08	LB/HR	0.33 TON
EU001	Face Dryer/Lamb Burner	EU001PD001	PROPIONALDEH	September 12-14, 2006	8,760	HR	0.06	LB/HR	0.24 TON
EU002	Core Dryer/Lamb Burner	EU002PD001	ACETALDEHYDE	September 12-14, 2006	8,760	HR	0.15	LB/HR	0.66 TON
EU002	Core Dryer/Lamb Burner	EU002PD001	ACROLEIN	September 12-14, 2006	8,760	HR	0.09	LB/HR	0.40 TON
EU002	Core Dryer/Lamb Burner	EU002PD001	FORMALDEHYDE	September 12-14, 2006	8,760	HR	0.34	LB/HR	1.47 TON
EU002	Core Dryer/Lamb Burner	EU002PD001	METHANOL	September 12-14, 2006	8,760	HR	0.12	LB/HR	0.52 TON
EU002	Core Dryer/Lamb Burner	EU002PD001	PHENOL	September 12-14, 2006	8,760	HR	0.08	LB/HR	0.33 TON
EU002	Core Dryer/Lamb Burner	EU002PD001	PROPIONALDEH	September 12-14, 2006	8,760	HR	0.06	LB/HR	0.24 TON
EU003	Wellons Burner	EU003PD001	ACETALDEHYDE	NCASI 2008	8,760	HR	0.02	LB/HR	0.08 TON
EU003	Wellons Burner	EU003PD001	ACROLEIN	NCASI 2008	8,760	HR	0.03	LB/HR	0.14 TON
EU003	Wellons Burner	EU003PD001	FORMALDEHYDE	NCASI 2008	8,760	HR	0.03	LB/HR	0.12 TON
EU003	Wellons Burner	EU003PD001	METHANOL	NCASI 2008	8,760	HR	0.07	LB/HR	0.31 TON
EU003	Wellons Burner	EU003PD001	PHENOL	NCASI 2008	8,760	HR	0.00	LB/HR	0.01 TON
EU003	Wellons Burner	EU003PD001	PROPIONALDEH	NCASI 2008	8,760	HR	0.00	LB/HR	0.01 TON
EU007	Konus Burner 1	EU007PD001	ACETALDEHYDE	NCASI 2008	8,760	HR	0.01	LB/HR	0.03 TON
EU007	Konus Burner 1	EU007PD001	ACROLEIN	NCASI 2008	8,760	HR	0.01	LB/HR	0.05 TON
EU007	Konus Burner 1	EU007PD001	FORMALDEHYDE	NCASI 2008	8,760	HR	0.01	LB/HR	0.04 TON
EU007	Konus Burner 1	EU007PD001	METHANOL	NCASI 2008	8,760	HR	0.03	LB/HR	0.11 TON
EU007	Konus Burner 1	EU007PD001	PHENOL	NCASI 2008	8,760	HR	0.00	LB/HR	0.00 TON
EU007	Konus Burner 1	EU007PD001	PROPIONALDEH	NCASI 2008	8,760	HR	0.00	LB/HR	0.00 TON
EU008	Konus Burner 2	EU008PD001	ACETALDEHYDE	NCASI 2008	8,760	HR	0.01	LB/HR	0.03 TON
EU008	Konus Burner 2	EU008PD001	ACROLEIN	NCASI 2008	8,760	HR	0.01	LB/HR	0.05 TON
EU008	Konus Burner 2	EU008PD001	FORMALDEHYDE	NCASI 2008	8,760	HR	0.01	LB/HR	0.04 TON
EU008	Konus Burner 2	EU008PD001	METHANOL	NCASI 2008	8,760	HR	0.03	LB/HR	0.11 TON
EU008	Konus Burner 2	EU008PD001	PHENOL	NCASI 2008	8,760	HR	0.00	LB/HR	0.00 TON
EU008	Konus Burner 2	EU008PD001	PROPIONALDEH	NCASI 2008	8,760	HR	0.00	LB/HR	0.00 TON
EU012	Board Press	EU012PD001	ACETALDEHYDE	September 12-14, 2006	8,760	HR	0.01	LB/HR	0.04 TON
EU012	Board Press	EU012PD001	ACROLEIN	September 12-14, 2006	8,760	HR	0.03	LB/HR	0.13 TON
EU010	Final Trim Saw	EU010PD001	FORMALDEHYDE	Engineering test	8,760	HR	0.04	LB/HR	0.18 TON
EU010	Final Trim Saw	EU010PD001	METHANOL	Engineering test	8,760	HR	0.13	LB/HR	0.55 TON
EU012	Board Press	EU012PD001	FORMALDEHYDE	September 12-14, 2006	8,760	HR	0.43	LB/HR	1.87 TON
EU012	Board Press	EU012PD001	METHANOL	September 12-14, 2006	8,760	HR	1.11	LB/HR	4.85 TON
EU012	Board Press	EU012PD001	PHENOL	September 12-14, 2006	8,760	HR	0.10	LB/HR	0.42 TON

EU012	Board Press	EU012PD001	PROPIONALDEH	September 12-14, 2006	8,760	HR	0.03	LB/HR	0.13	TON
EU020	Conveyor Zone 1, 2 & 3	EU020PD001	ACETALDEHYDE	September 12-14, 2006	8,760	HR	0.11	LB/HR	0.47	TON
EU020	Conveyor Zone 1, 2 & 3	EU020PD001	ACROLEIN	September 12-14, 2006	8,760	HR	0.21	LB/HR	0.93	TON
EU013	Board Forming	EU013PD001	FORMALDEHYDE	Engineering test	8,760	HR	0.02	LB/HR	0.10	TON
EU013	Board Forming	EU013PD001	METHANOL	Engineering test	8,760	HR	0.11	LB/HR	0.50	TON
EU020	Conveyor Zone 1, 2 & 3	EU020PD001	FORMALDEHYDE	September 12-14, 2006	8,760	HR	0.04	LB/HR	0.16	TON
EU020	Conveyor Zone 1, 2 & 3	EU020PD001	METHANOL	September 12-14, 2006	8,760	HR	0.44	LB/HR	1.94	TON
EU020	Conveyor Zone 1, 2 & 3	EU020PD001	PHENOL	September 12-14, 2006	8,760	HR	0.02	LB/HR	0.092	TON
EU020	Conveyor Zone 1, 2 & 3	EU020PD001	PROPIONALDEH	September 12-14, 2006	8,760	HR	0.21	LB/HR	0.925	TON

Tons per Year

ACETALDEHYDE	1.96
ACROLEIN	2.09
FORMALDEHYDE	5.47
METHANOL	9.43
PHENOL	1.18
PROPIONALDEHYDE	1.55
Total HAPs	21.68

Unit ID	Process ID	Source Classification Code	Pollutant	Throughput Amount	Throughput Units	Emission Factor	Emission Factor Numerator Units	Emission Factor Denominator Units	Stack Testing Date and Emission Factor Comment	Total Emissions (TON)
EU001	PD001	30701010	ACETALDEHYDE	7524	HR	0.15	POUNDS	HR	September 12-14, 2006	0.5643
			ACROLEIN	7524	HR	0.091	POUNDS	HR	September 12-14, 2006	0.3423
			FORMALDEHYDE	7524	HR	0.295	POUNDS	HR	September 12-14, 2006	1.11
			METHANOL	7524	HR	0.105	POUNDS	HR	September 12-14, 2006	0.395
			PHENOL	7524	HR	0.075	POUNDS	HR	September 12-14, 2006	0.2822
			PROPIONALDEH	7524	HR	0.055	POUNDS	HR	September 12-14, 2006	0.2069
EU002	PD001	30701010	ACETALDEHYDE	7630	HR	0.15	POUNDS	HR	September 12-14, 2006	0.5723
			ACROLEIN	7630	HR	0.091	POUNDS	HR	September 12-14, 2006	0.3472
			FORMALDEHYDE	7630	HR	0.295	POUNDS	HR	September 12-14, 2006	1.125
			METHANOL	7630	HR	0.105	POUNDS	HR	September 12-14, 2006	0.4006
			PHENOL	7630	HR	0.075	POUNDS	HR	September 12-14, 2006	0.2861
			PROPIONALDEH	7630	HR	0.055	POUNDS	HR	September 12-14, 2006	0.2098
EU003	PD001	10200901	ACETALDEHYDE	7876	HR	0.018	POUNDS	HR	NCASI 2008	0.07088
			ACROLEIN	7876	HR	0.03148	POUNDS	HR	NCASI 2008	0.124
			FORMALDEHYDE	7876	HR	0.0247	POUNDS	HR	NCASI 2008	0.09727
			HPCDD1234678	7876	HR	1.964E-06	POUNDS	HR	NCASI 2006	7.734E-06
			HPCDF1234678	7876	HR	4.95E-07	POUNDS	HR	NCASI 2006	1.949E-06
			HPCDF1234789	7876	HR	1.93E-07	POUNDS	HR	NCASI 2006	0.00000076
			HXCDD,123478	7876	HR	0	POUNDS	HR	NCASI 2006	0
			HXCDD,123678	7876	HR	6.9E-08	POUNDS	HR	NCASI 2006	2.717E-07
			HXCDD,123789	7876	HR	8.7E-08	POUNDS	HR	NCASI 2006	3.426E-07
			HXCDF,123478	7876	HR	2.11E-07	POUNDS	HR	NCASI 2006	8.309E-07
			HXCDF,123678	7876	HR	1.31E-07	POUNDS	HR	NCASI 2006	5.159E-07
			HXCDF,123789	7876	HR	3.71E-07	POUNDS	HR	NCASI 2006	1.461E-06
			HXCDF,234678	7876	HR	0.00000016	POUNDS	HR	NCASI 2006	6.301E-07
			LEAD	7876	HR	0.0029	POUNDS	HR	NCASI 2008	0.01142
			MANGANESE	7876	HR	0.589	POUNDS	HR	NCASI 2008	2.319
			MERCURY	7876	HR	0.482	POUNDS	HR	NCASI 2008	1.898
			METHANOL	7876	HR	0.06221	POUNDS	HR	NCASI 2008	0.245
			OCDD,TOT	7876	HR	1.0901E-05	POUNDS	HR	NCASI 2006	0.00004293
			OCDF,TOT	7876	HR	4.17E-07	POUNDS	HR	NCASI 2006	1.642E-06
			PECDD,12378	7876	HR	2.8E-08	POUNDS	HR	NCASI 2006	1.103E-07
			PECDF,12378	7876	HR	4.79E-07	POUNDS	HR	NCASI 2006	1.886E-06
			PECDF,23478	7876	HR	3.37E-07	POUNDS	HR	NCASI 2006	1.327E-06
			PHENOL	7876	HR	0.001523	POUNDS	HR	NCASI 2008	0.005998
			PROPIONALDEH	7876	HR	0.0024	POUNDS	HR	NCASI 2008	0.009451
			TCDD,2378	7876	HR	2.1E-08	POUNDS	HR	NCASI 2006	8.27E-08
			TCDF,2378	7876	HR	1.871E-06	POUNDS	HR	NCASI 2006	7.368E-06
EU007	PD001	10200902	ACETALDEHYDE	5951	HR	0.0066	POUNDS	HR	NCASI 2008	0.01964
			ACROLEIN	5951	HR	0.0114	POUNDS	HR	NCASI 2008	0.03392
			FORMALDEHYDE	5951	HR	0.009	POUNDS	HR	NCASI 2008	0.02678
			LEAD	5951	HR	0.0039	POUNDS	HR	August 29, 2006 Fuel Testing	0.0116

			MANGANESE	5951	HR	0.7796	POUNDS	HR	August 29, 2006 Fuel Testing	2.32
			MERCURY	5951	HR	0.6385	POUNDS	HR	NCASI 2008	1.9
			METHANOL	5951	HR	0.0226	POUNDS	HR	NCASI 2008	0.06725
			PHENOL	5951	HR	0.0006	POUNDS	HR	NCASI 2008	0.001785
			PROPIONALDEH	5951	HR	0.0008	POUNDS	HR	NCASI 2008	0.00238
EU008	PD001	10200902	ACETALDEHYDE	5952	HR	0.0066	POUNDS	HR	NCASI 2008	0.01964
			ACROLEIN	5952	HR	0.0114	POUNDS	HR	NCASI 2008	0.03393
			FORMALDEHYDE	5952	HR	0.009	POUNDS	HR	NCASI 2008	0.02678
			LEAD	5952	HR	0.0039	POUNDS	HR	August 29, 2006 Fuel Testing	0.01161
			MANGANESE	5952	HR	0.7795	POUNDS	HR	August 29, 2006 Fuel Testing	2.32
			MERCURY	5952	HR	0.6384	POUNDS	HR	NCASI 2008	1.9
			METHANOL	5952	HR	0.0226	POUNDS	HR	NCASI 2008	0.06726
			PHENOL	5952	HR	0.0006	POUNDS	HR	NCASI 2008	0.001786
			PROPIONALDEH	5952	HR	0.0008	POUNDS	HR	NCASI 2008	0.002381
EU012	PD001	30701053	ACETALDEHYDE	7477	HR	0.0084	POUNDS	HR	September 12-14, 2006	0.0314
			ACROLEIN	7477	HR	0.0297	POUNDS	HR	September 12-14, 2006	0.111
			FORMALDEHYDE	7477	HR	0.3741	POUNDS	HR	September 12-14, 2006	1.399
			METHANOL	7477	HR	0.972	POUNDS	HR	September 12-14, 2006	3.634
			PHENOL	7477	HR	0.095	POUNDS	HR	September 12-14, 2006	0.3552
			PROPIONALDEH	7477	HR	0.0297	POUNDS	HR	September 12-14, 2006	0.111
EU020	PD001	30701010	ACETALDEHYDE	7876	HR	0.10804	POUNDS	HR		0.4255
			ACROLEIN	7876	HR	0.21127	POUNDS	HR		0.832
			FORMALDEHYDE	7876	HR	0.032	POUNDS	HR		0.126
			METHANOL	7876	HR	0.389	POUNDS	HR		1.532
			PHENOL	7876	HR	0.020949	POUNDS	HR		0.0825
			PROPIONALDEH	7876	HR	0.21127	POUNDS	HR		0.832

Tons per Year

ACETALDEHYDE	1.70
ACROLEIN	1.82
FORMALDEHYDE	3.91
METHANOL	6.34
PHENOL	1.01
PROPIONALDEHYDE	1.37
Total HAPs	16.15

Facility: Norbord Minnesota
Facility ID: 00700019
Potential to Emit: Air Toxics from Biomass Combustion

Unit ID	Unit Desc	Process ID	Pollutant	Stack Testing Date and Emission Factor Comment	Throughput Amount	Throughput Units	Emission Factor	PTE for Biomass
EU003	Wellons Burner	EU003PD001	ACENAPHTHENE	AP-42, TABLE 1.6-3	88	MMBTU/HR	9.10E-07	LB/MMBTU 4.00E-08 TON
EU003	Wellons Burner	EU003PD001	ACENAPHTHYLENE	AP-42, TABLE 1.6-3	88	MMBTU/HR	5.00E-06	LB/MMBTU 2.20E-07 TON
EU003	Wellons Burner	EU003PD001	ACETALDEHYDE	NCASI 2008	88	MMBTU/HR	2.40E-04	LB/MMBTU 1.06E-05 TON
EU003	Wellons Burner	EU003PD001	ACETONE	AP-42, TABLE 1.6-3	88	MMBTU/HR	1.90E-04	LB/MMBTU 8.36E-06 TON
EU003	Wellons Burner	EU003PD001	ACETOPHENONE	AP-42, TABLE 1.6-3	88	MMBTU/HR	3.20E-09	LB/MMBTU 1.41E-10 TON
EU003	Wellons Burner	EU003PD001	ACROLEIN	NCASI 2008	88	MMBTU/HR	4.20E-04	LB/MMBTU 1.85E-05 TON
EU003	Wellons Burner	EU003PD001	ANTHRACENE	AP-42, TABLE 1.6-3	88	MMBTU/HR	3.00E-06	LB/MMBTU 1.32E-07 TON
EU003	Wellons Burner	EU003PD001	BENZALDEHYDE	AP-42, TABLE 1.6-3	88	MMBTU/HR	8.50E-07	LB/MMBTU 3.74E-08 TON
EU003	Wellons Burner	EU003PD001	BENZENE	AP-42, TABLE 1.6-3	88	MMBTU/HR	4.20E-03	LB/MMBTU 1.85E-04 TON
EU003	Wellons Burner	EU003PD001	BENZO(A)ANTHRACENE	AP-42, TABLE 1.6-3	88	MMBTU/HR	6.50E-08	LB/MMBTU 2.86E-09 TON
EU003	Wellons Burner	EU003PD001	BENZO(A)PYRENE	AP-42, TABLE 1.6-3	88	MMBTU/HR	2.60E-06	LB/MMBTU 1.14E-07 TON
EU003	Wellons Burner	EU003PD001	BENZO(B)FLUORANTHENE	AP-42, TABLE 1.6-3	88	MMBTU/HR	1.00E-07	LB/MMBTU 4.40E-09 TON
EU003	Wellons Burner	EU003PD001	BENZO(E)PYRENE	AP-42, TABLE 1.6-3	88	MMBTU/HR	2.60E-09	LB/MMBTU 1.14E-10 TON
EU003	Wellons Burner	EU003PD001	BENZO(G,H,I)PERYLENE	AP-42, TABLE 1.6-3	88	MMBTU/HR	9.30E-08	LB/MMBTU 4.09E-09 TON
EU003	Wellons Burner	EU003PD001	BENZO(J,K)FLUORANTHENE	AP-42, TABLE 1.6-3	88	MMBTU/HR	1.60E-07	LB/MMBTU 7.04E-09 TON
EU003	Wellons Burner	EU003PD001	BENZO(K)FLUORANTHENE	AP-42, TABLE 1.6-3	88	MMBTU/HR	3.60E-08	LB/MMBTU 1.58E-09 TON
EU003	Wellons Burner	EU003PD001	BENZOIC ACID	AP-42, TABLE 1.6-3	88	MMBTU/HR	4.70E-08	LB/MMBTU 2.07E-09 TON
EU003	Wellons Burner	EU003PD001	BIS(2-ETHYLHEXYL)PHTHALATE	AP-42, TABLE 1.6-3	88	MMBTU/HR	4.70E-08	LB/MMBTU 2.07E-09 TON
EU003	Wellons Burner	EU003PD001	BROMOMETHANE	AP-42, TABLE 1.6-3	88	MMBTU/HR	1.50E-05	LB/MMBTU 6.60E-07 TON
EU003	Wellons Burner	EU003PD001	2-BUTANONE (MEK)	AP-42, TABLE 1.6-3	88	MMBTU/HR	5.40E-06	LB/MMBTU 2.38E-07 TON
EU003	Wellons Burner	EU003PD001	CARBAZOLE	AP-42, TABLE 1.6-3	88	MMBTU/HR	1.80E-06	LB/MMBTU 7.92E-08 TON
EU003	Wellons Burner	EU003PD001	CARBON TETRACHLORIDE	AP-42, TABLE 1.6-3	88	MMBTU/HR	4.50E-05	LB/MMBTU 1.98E-06 TON
EU003	Wellons Burner	EU003PD001	CHLORINE	AP-42, TABLE 1.6-3	88	MMBTU/HR	7.90E-04	LB/MMBTU 3.48E-05 TON
EU003	Wellons Burner	EU003PD001	CHLOROBENZENE	AP-42, TABLE 1.6-3	88	MMBTU/HR	3.30E-05	LB/MMBTU 1.45E-06 TON
EU003	Wellons Burner	EU003PD001	CHLOROFORM	AP-42, TABLE 1.6-3	88	MMBTU/HR	2.80E-05	LB/MMBTU 1.23E-06 TON
EU003	Wellons Burner	EU003PD001	CHLOROMETHANE	AP-42, TABLE 1.6-3	88	MMBTU/HR	2.30E-05	LB/MMBTU 1.01E-06 TON
EU003	Wellons Burner	EU003PD001	2-CHLORONAPHTHALENE	AP-42, TABLE 1.6-3	88	MMBTU/HR	2.40E-09	LB/MMBTU 1.06E-10 TON
EU003	Wellons Burner	EU003PD001	2-CHLOROPHENOL	AP-42, TABLE 1.6-3	88	MMBTU/HR	2.40E-08	LB/MMBTU 1.06E-09 TON
EU003	Wellons Burner	EU003PD001	CHRYSENE	AP-42, TABLE 1.6-3	88	MMBTU/HR	3.80E-08	LB/MMBTU 1.67E-09 TON
EU003	Wellons Burner	EU003PD001	CROTONALDEHYDE	AP-42, TABLE 1.6-3	88	MMBTU/HR	9.90E-06	LB/MMBTU 4.36E-07 TON
EU003	Wellons Burner	EU003PD001	DECACHLOROBIPHENYL	AP-42, TABLE 1.6-3	88	MMBTU/HR	2.70E-10	LB/MMBTU 1.19E-11 TON
EU003	Wellons Burner	EU003PD001	DIBENZON(A,H)ANTHRACENE	AP-42, TABLE 1.6-3	88	MMBTU/HR	9.10E-09	LB/MMBTU 4.00E-10 TON
EU003	Wellons Burner	EU003PD001	1,2-DIBROMOETHENE	AP-42, TABLE 1.6-3	88	MMBTU/HR	5.50E-05	LB/MMBTU 2.42E-06 TON
EU003	Wellons Burner	EU003PD001	DICHLOROBIPHENYL	AP-42, TABLE 1.6-3	88	MMBTU/HR	7.40E-10	LB/MMBTU 3.26E-11 TON
EU003	Wellons Burner	EU003PD001	1,2-DICHLOROETHANE	AP-42, TABLE 1.6-3	88	MMBTU/HR	2.90E-05	LB/MMBTU 1.28E-06 TON
EU003	Wellons Burner	EU003PD001	DICHLOROMETHANE	AP-42, TABLE 1.6-3	88	MMBTU/HR	2.90E-04	LB/MMBTU 1.28E-05 TON
EU003	Wellons Burner	EU003PD001	1,2-DICHLOROPROPANE	AP-42, TABLE 1.6-3	88	MMBTU/HR	3.30E-05	LB/MMBTU 1.45E-06 TON
EU003	Wellons Burner	EU003PD001	2,4-DINITROPHENOL	AP-42, TABLE 1.6-3	88	MMBTU/HR	1.80E-07	LB/MMBTU 7.92E-09 TON
EU003	Wellons Burner	EU003PD001	ETHYLBENZENE	AP-42, TABLE 1.6-3	88	MMBTU/HR	3.10E-05	LB/MMBTU 1.36E-06 TON
EU003	Wellons Burner	EU003PD001	FLUORANTHENE	AP-42, TABLE 1.6-3	88	MMBTU/HR	1.60E-06	LB/MMBTU 7.04E-08 TON
EU003	Wellons Burner	EU003PD001	FLURENE	AP-42, TABLE 1.6-3	88	MMBTU/HR	3.40E-06	LB/MMBTU 1.50E-07 TON
EU003	Wellons Burner	EU003PD001	FORMALDEHYDE	NCASI 2008	88	MMBTU/HR	3.30E-04	LB/MMBTU 1.45E-05 TON
EU003	Wellons Burner	EU003PD001	HEPTACHLOROBIPHENYL	AP-42, TABLE 1.6-3	88	MMBTU/HR	6.60E-11	LB/MMBTU 2.90E-12 TON
EU003	Wellons Burner	EU003PD001	HEXACHLOROBIPHENYL	AP-42, TABLE 1.6-3	88	MMBTU/HR	5.50E-10	LB/MMBTU 2.42E-11 TON
EU003	Wellons Burner	EU003PD001	HEXANAL	AP-42, TABLE 1.6-3	88	MMBTU/HR	7.00E-06	LB/MMBTU 3.08E-07 TON
EU003	Wellons Burner	EU003PD001	HEPTACHLORODIBENZO-P-DIOXINS	AP-42, TABLE 1.6-3	88	MMBTU/HR	2.00E-09	LB/MMBTU 8.80E-11 TON
EU003	Wellons Burner	EU003PD001	HEPTACHLORODIBENZO-P-FURANS	AP-42, TABLE 1.6-3	88	MMBTU/HR	2.40E-10	LB/MMBTU 1.06E-11 TON
EU003	Wellons Burner	EU003PD001	HEXACHLORODIBENZO-P-DIOXINS	AP-42, TABLE 1.6-3	88	MMBTU/HR	1.60E-06	LB/MMBTU 7.04E-08 TON
EU003	Wellons Burner	EU003PD001	HEXACHLORODIBENZO-P-FURANS	AP-42, TABLE 1.6-3	88	MMBTU/HR	2.80E-10	LB/MMBTU 1.23E-11 TON
EU003	Wellons Burner	EU003PD001	HYDROGEN CHLORIDE	AP-42, TABLE 1.6-3	88	MMBTU/HR	1.90E-02	LB/MMBTU 8.36E-04 TON
EU003	Wellons Burner	EU003PD001	INDENO(1,2,3,C,D)PYRENE	AP-42, TABLE 1.6-3	88	MMBTU/HR	8.70E-08	LB/MMBTU 3.83E-09 TON
EU003	Wellons Burner	EU003PD001	ISOBUTYRALDEHYDE	AP-42, TABLE 1.6-3	88	MMBTU/HR	1.20E-05	LB/MMBTU 5.28E-07 TON
EU003	Wellons Burner	EU003PD001	METHANE	AP-42, TABLE 1.6-3	88	MMBTU/HR	2.10E-02	LB/MMBTU 9.24E-04 TON
EU003	Wellons Burner	EU003PD001	METHANOL	NCASI 2008	88	MMBTU/HR	8.30E-04	LB/MMBTU 3.65E-05 TON
EU003	Wellons Burner	EU003PD001	2-METHYLNAPHTHALENE	AP-42, TABLE 1.6-3	88	MMBTU/HR	1.60E-07	LB/MMBTU 7.04E-09 TON
EU003	Wellons Burner	EU003PD001	MONOCHLOROBIPHENYL	AP-42, TABLE 1.6-3	88	MMBTU/HR	2.20E-10	LB/MMBTU 9.68E-12 TON
EU003	Wellons Burner	EU003PD001	NAPHTHALENE	AP-42, TABLE 1.6-3	88	MMBTU/HR	9.70E-05	LB/MMBTU 4.27E-06 TON
EU003	Wellons Burner	EU003PD001	2-NITROPHENOL	AP-42, TABLE 1.6-3	88	MMBTU/HR	2.40E-07	LB/MMBTU 1.06E-08 TON
EU003	Wellons Burner	EU003PD001	4-NITROPHENOL	AP-42, TABLE 1.6-3	88	MMBTU/HR	1.10E-07	LB/MMBTU 4.84E-09 TON
EU003	Wellons Burner	EU003PD001	OCTACHLORODIBENZO-P-DIOXINS	AP-42, TABLE 1.6-3	88	MMBTU/HR	6.60E-08	LB/MMBTU 2.90E-09 TON
EU003	Wellons Burner	EU003PD001	OCTACHLORODIBENZO-P-FURANS	AP-42, TABLE 1.6-3	88	MMBTU/HR	8.80E-11	LB/MMBTU 3.87E-12 TON
EU003	Wellons Burner	EU003PD001	PENTACHLORODIBENZO-P-DIOXINS	AP-42, TABLE 1.6-3	88	MMBTU/HR	1.50E-09	LB/MMBTU 6.60E-11 TON
EU003	Wellons Burner	EU003PD001	PENTACHLORODIBENZO-P-FURANS	AP-42, TABLE 1.6-3	88	MMBTU/HR	4.20E-10	LB/MMBTU 1.85E-11 TON
EU003	Wellons Burner	EU003PD001	PENTACHLOROBIPHENYL	AP-42, TABLE 1.6-3	88	MMBTU/HR	1.20E-09	LB/MMBTU 5.28E-11 TON
EU003	Wellons Burner	EU003PD001	PENTACHLOROPHENOL	AP-42, TABLE 1.6-3	88	MMBTU/HR	5.10E-08	LB/MMBTU 2.24E-09 TON
EU003	Wellons Burner	EU003PD001	PERYLENE	AP-42, TABLE 1.6-3	88	MMBTU/HR	5.20E-10	LB/MMBTU 2.29E-11 TON
EU003	Wellons Burner	EU003PD001	PHENANTHRENE	AP-42, TABLE 1.6-3	88	MMBTU/HR	7.00E-06	LB/MMBTU 3.08E-07 TON
EU003	Wellons Burner	EU003PD001	PHENOL	NCASI 2008	88	MMBTU/HR	2.00E-05	LB/MMBTU 8.80E-07 TON
EU003	Wellons Burner	EU003PD001	PROPANAL	AP-42, TABLE 1.6-3	88	MMBTU/HR	3.20E-06	LB/MMBTU 1.41E-07 TON
EU003	Wellons Burner	EU003PD001	PROPIONALDEH	NCASI 2008	88	MMBTU/HR	3.30E-05	LB/MMBTU 1.45E-06 TON
EU003	Wellons Burner	EU003PD001	PYRENE	AP-42, TABLE 1.6-3	88	MMBTU/HR	3.70E-06	LB/MMBTU 1.63E-07 TON
EU003	Wellons Burner	EU003PD001	STYRENE	AP-42, TABLE 1.6-3	88	MMBTU/HR	1.90E-03	LB/MMBTU 8.36E-05 TON
EU003	Wellons Burner	EU003PD001	2,3,7,8-TETRACHLORODIBENZO-P-DIOXINS	AP-42, TABLE 1.6-3	88	MMBTU/HR	8.60E-12	LB/MMBTU 3.78E-13 TON
EU003	Wellons Burner	EU003PD001	TETRACHLORODIBENZO-P-DIOXINS	AP-42, TABLE 1.6-3	88	MMBTU/HR	4.70E-10	LB/MMBTU 2.07E-11 TON
EU003	Wellons Burner	EU003PD001	2,3,7,8-TETRACHLORODIBENZO-P-FURANS	AP-42, TABLE 1.6-3	88	MMBTU/HR	9.00E-11	LB/MMBTU 3.96E-12 TON
EU003	Wellons Burner	EU003PD001	TETRACHLORODIBENZO-P-FURANS	AP-42, TABLE 1.6-3	88	MMBTU/HR	7.50E-10	LB/MMBTU 3.30E-11 TON
EU003	Wellons Burner	EU003PD001	TETRACHLOROBIPHENYL	AP-42, TABLE 1.6-3	88	MMBTU/HR	2.50E-09	LB/MMBTU 1.10E-10 TON
EU003	Wellons Burner	EU003PD001	TETRACHLOROETHENE	AP-42, TABLE 1.6-3	88	MMBTU/HR	3.80E-05	LB/MMBTU 1.67E-06 TON
EU003	Wellons Burner	EU003PD001	O-TOLUALDEHYDE	AP-42, TABLE 1.6-3	88	MMBTU/HR	7.20E-06	LB/MMBTU 3.17E-07 TON
EU003	Wellons Burner	EU003PD001	P-TOLUALDEHYDE	AP-42, TABLE 1.6-3	88	MMBTU/HR	1.10E-05	LB/MMBTU 4.84E-07 TON
EU003	Wellons Burner	EU003PD001	TOLUENE	AP-42, TABLE 1.6-3	88	MMBTU/HR	9.20E-04	LB/MMBTU 4.05E-05 TON
EU003	Wellons Burner	EU003PD001	TRICHLOROBIPHENYL	AP-42, TABLE 1.6-3	88	MMBTU/HR	2.60E-09	LB/MMBTU 1.14E-10 TON
EU003	Wellons Burner	EU003PD001	1,1,1-TRICHLOROETHANE	AP-42, TABLE 1.6-3	88	MMBTU/HR	3.10E-05	LB/MMBTU 1.36E-06 TON
EU003	Wellons Burner	EU003PD001	TRICHLOROETHENE	AP-42, TABLE 1.6-3	88	MMBTU/HR	2.20E-08	LB/MMBTU 9.68E-10 TON

EU003	Wellons Burner	EU003PD001	TRICHLOROFLUOROMETHANE	AP-42, TABLE 1.6-3	88	MMBTU/HR	4.10E-05	LB/MMBTU	1.80E-06	TON
EU003	Wellons Burner	EU003PD001	2,4,6-TRICHLOROPHENOL	AP-42, TABLE 1.6-3	88	MMBTU/HR	6.60E-03	LB/MMBTU	2.90E-04	TON
EU007	Konus Burner 1	EU007PD001	ACENAPHTHENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	9.10E-07	LB/MMBTU	1.05E-08	TON
EU007	Konus Burner 1	EU007PD001	ACENAPHTHYLENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	5.00E-06	LB/MMBTU	5.75E-08	TON
EU007	Konus Burner 1	EU007PD001	ACETALDEHYDE	NCASI 2008	23	MMBTU/HR	2.40E-04	LB/MMBTU	2.76E-06	TON
EU007	Konus Burner 1	EU007PD001	ACETONE	AP-42, TABLE 1.6-3	23	MMBTU/HR	1.90E-04	LB/MMBTU	2.19E-06	TON
EU007	Konus Burner 1	EU007PD001	ACETOPHENONE	AP-42, TABLE 1.6-3	23	MMBTU/HR	3.20E-09	LB/MMBTU	3.68E-11	TON
EU007	Konus Burner 1	EU007PD001	ACROLEIN	NCASI 2008	23	MMBTU/HR	4.20E-04	LB/MMBTU	4.83E-06	TON
EU007	Konus Burner 1	EU007PD001	ANTHRACENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	3.00E-06	LB/MMBTU	3.45E-08	TON
EU007	Konus Burner 1	EU007PD001	BENZALDEHYDE	AP-42, TABLE 1.6-3	23	MMBTU/HR	8.50E-07	LB/MMBTU	9.78E-09	TON
EU007	Konus Burner 1	EU007PD001	BENZENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	4.20E-03	LB/MMBTU	4.83E-05	TON
EU007	Konus Burner 1	EU007PD001	BENZO(A)ANTHRACENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	6.50E-08	LB/MMBTU	7.48E-10	TON
EU007	Konus Burner 1	EU007PD001	BENZO(A)PYRENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	2.60E-06	LB/MMBTU	2.99E-08	TON
EU007	Konus Burner 1	EU007PD001	BENZO(B)FLUORANTHENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	1.00E-07	LB/MMBTU	1.15E-09	TON
EU007	Konus Burner 1	EU007PD001	BENZO(E)PYRENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	2.60E-09	LB/MMBTU	2.99E-11	TON
EU007	Konus Burner 1	EU007PD001	BENZO(G,H,I)PERYLENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	9.30E-08	LB/MMBTU	1.07E-09	TON
EU007	Konus Burner 1	EU007PD001	BENZO(J,K)FLUORANTHENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	1.60E-07	LB/MMBTU	1.84E-09	TON
EU007	Konus Burner 1	EU007PD001	BENZO(K)FLUORANTHENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	3.60E-08	LB/MMBTU	4.14E-10	TON
EU007	Konus Burner 1	EU007PD001	BENZOIC ACID	AP-42, TABLE 1.6-3	23	MMBTU/HR	4.70E-08	LB/MMBTU	5.41E-10	TON
EU007	Konus Burner 1	EU007PD001	BIS(2-ETHYLHEXYL)PHTHALATE	AP-42, TABLE 1.6-3	23	MMBTU/HR	4.70E-08	LB/MMBTU	5.41E-10	TON
EU007	Konus Burner 1	EU007PD001	BROMOMETHANE	AP-42, TABLE 1.6-3	23	MMBTU/HR	1.50E-05	LB/MMBTU	1.73E-07	TON
EU007	Konus Burner 1	EU007PD001	2-BUTANONE (MEK)	AP-42, TABLE 1.6-3	23	MMBTU/HR	5.40E-06	LB/MMBTU	6.21E-08	TON
EU007	Konus Burner 1	EU007PD001	CARBAZOLE	AP-42, TABLE 1.6-3	23	MMBTU/HR	1.80E-06	LB/MMBTU	2.07E-08	TON
EU007	Konus Burner 1	EU007PD001	CARBON TETRACHLORIDE	AP-42, TABLE 1.6-3	23	MMBTU/HR	4.50E-05	LB/MMBTU	5.18E-07	TON
EU007	Konus Burner 1	EU007PD001	CHLORINE	AP-42, TABLE 1.6-3	23	MMBTU/HR	7.90E-04	LB/MMBTU	9.09E-06	TON
EU007	Konus Burner 1	EU007PD001	CHLOROBENZENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	3.30E-05	LB/MMBTU	3.80E-07	TON
EU007	Konus Burner 1	EU007PD001	CHLOROFORM	AP-42, TABLE 1.6-3	23	MMBTU/HR	2.80E-05	LB/MMBTU	3.22E-07	TON
EU007	Konus Burner 1	EU007PD001	CHLOROMETHANE	AP-42, TABLE 1.6-3	23	MMBTU/HR	2.30E-05	LB/MMBTU	2.65E-07	TON
EU007	Konus Burner 1	EU007PD001	2-CHLORONAPHTHALENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	2.40E-09	LB/MMBTU	2.76E-11	TON
EU007	Konus Burner 1	EU007PD001	2-CHLOROPHENOL	AP-42, TABLE 1.6-3	23	MMBTU/HR	2.40E-08	LB/MMBTU	2.76E-10	TON
EU007	Konus Burner 1	EU007PD001	CHRYSENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	3.80E-08	LB/MMBTU	4.37E-10	TON
EU007	Konus Burner 1	EU007PD001	CROTONALDEHYDE	AP-42, TABLE 1.6-3	23	MMBTU/HR	9.90E-06	LB/MMBTU	1.14E-07	TON
EU007	Konus Burner 1	EU007PD001	DECACHLOROBIPHENYL	AP-42, TABLE 1.6-3	23	MMBTU/HR	2.70E-10	LB/MMBTU	3.11E-12	TON
EU007	Konus Burner 1	EU007PD001	DIBENZON(A,H)ANTHRACENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	9.10E-09	LB/MMBTU	1.05E-10	TON
EU007	Konus Burner 1	EU007PD001	1,2-DIBROMOETHENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	5.50E-05	LB/MMBTU	6.33E-07	TON
EU007	Konus Burner 1	EU007PD001	DICHLOROBIPHENYL	AP-42, TABLE 1.6-3	23	MMBTU/HR	7.40E-10	LB/MMBTU	8.51E-12	TON
EU007	Konus Burner 1	EU007PD001	1,2-DICHLOROETHANE	AP-42, TABLE 1.6-3	23	MMBTU/HR	2.90E-05	LB/MMBTU	3.34E-07	TON
EU007	Konus Burner 1	EU007PD001	DICHLOROMETHANE	AP-42, TABLE 1.6-3	23	MMBTU/HR	2.90E-04	LB/MMBTU	3.34E-06	TON
EU007	Konus Burner 1	EU007PD001	1,2-DICHLOROPROPANE	AP-42, TABLE 1.6-3	23	MMBTU/HR	3.30E-05	LB/MMBTU	3.80E-07	TON
EU007	Konus Burner 1	EU007PD001	2,4-DINITROPHENOL	AP-42, TABLE 1.6-3	23	MMBTU/HR	1.80E-07	LB/MMBTU	2.07E-09	TON
EU007	Konus Burner 1	EU007PD001	ETHYLBENZENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	3.10E-05	LB/MMBTU	3.57E-07	TON
EU007	Konus Burner 1	EU007PD001	FLUORANTHENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	1.60E-06	LB/MMBTU	1.84E-08	TON
EU007	Konus Burner 1	EU007PD001	FLURENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	3.40E-06	LB/MMBTU	3.91E-08	TON
EU007	Konus Burner 1	EU007PD001	FORMALDEHYDE	NCASI 2008	23	MMBTU/HR	3.30E-04	LB/MMBTU	3.80E-06	TON
EU007	Konus Burner 1	EU007PD001	HEPTACHLOROBIPHENYL	AP-42, TABLE 1.6-3	23	MMBTU/HR	6.60E-11	LB/MMBTU	7.59E-13	TON
EU007	Konus Burner 1	EU007PD001	HEXACHLOROBIPHENYL	AP-42, TABLE 1.6-3	23	MMBTU/HR	5.50E-10	LB/MMBTU	6.33E-12	TON
EU007	Konus Burner 1	EU007PD001	HEXANAL	AP-42, TABLE 1.6-3	23	MMBTU/HR	7.00E-06	LB/MMBTU	8.05E-08	TON
EU007	Konus Burner 1	EU007PD001	HEPTACHLORODIBENZO-P-DIOXINS	AP-42, TABLE 1.6-3	23	MMBTU/HR	2.00E-09	LB/MMBTU	2.30E-11	TON
EU007	Konus Burner 1	EU007PD001	HEPTACHLORODIBENZO-P-FURANS	AP-42, TABLE 1.6-3	23	MMBTU/HR	2.40E-10	LB/MMBTU	2.76E-12	TON
EU007	Konus Burner 1	EU007PD001	HEXACHLORODIBENZO-P-DIOXINS	AP-42, TABLE 1.6-3	23	MMBTU/HR	1.60E-06	LB/MMBTU	1.84E-08	TON
EU007	Konus Burner 1	EU007PD001	HEXACHLORODIBENZO-P-FURANS	AP-42, TABLE 1.6-3	23	MMBTU/HR	2.80E-10	LB/MMBTU	3.22E-12	TON
EU007	Konus Burner 1	EU007PD001	HYDROGEN CHLORIDE	AP-42, TABLE 1.6-3	23	MMBTU/HR	1.90E-02	LB/MMBTU	2.19E-04	TON
EU007	Konus Burner 1	EU007PD001	INDENO(1,2,3,C,D)PYRENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	8.70E-08	LB/MMBTU	1.00E-09	TON
EU007	Konus Burner 1	EU007PD001	ISOBUTYRALDEHYDE	AP-42, TABLE 1.6-3	23	MMBTU/HR	1.20E-05	LB/MMBTU	1.38E-07	TON
EU007	Konus Burner 1	EU007PD001	METHANE	AP-42, TABLE 1.6-3	23	MMBTU/HR	2.10E-02	LB/MMBTU	2.42E-04	TON
EU007	Konus Burner 1	EU007PD001	METHANOL	NCASI 2008	23	MMBTU/HR	8.30E-04	LB/MMBTU	9.55E-06	TON
EU007	Konus Burner 1	EU007PD001	2-METHYLNAPHTHALENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	1.60E-07	LB/MMBTU	1.84E-09	TON
EU007	Konus Burner 1	EU007PD001	MONOCHLOROBIPHENYL	AP-42, TABLE 1.6-3	23	MMBTU/HR	2.20E-10	LB/MMBTU	2.53E-12	TON
EU007	Konus Burner 1	EU007PD001	NAPHTHALENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	9.70E-05	LB/MMBTU	1.12E-06	TON
EU007	Konus Burner 1	EU007PD001	2-NITROPHENOL	AP-42, TABLE 1.6-3	23	MMBTU/HR	2.40E-07	LB/MMBTU	2.76E-09	TON
EU007	Konus Burner 1	EU007PD001	4-NITROPHENOL	AP-42, TABLE 1.6-3	23	MMBTU/HR	1.10E-07	LB/MMBTU	1.27E-09	TON
EU007	Konus Burner 1	EU007PD001	OCTACHLORODIBENZO-P-DIOXINS	AP-42, TABLE 1.6-3	23	MMBTU/HR	6.60E-08	LB/MMBTU	7.59E-10	TON
EU007	Konus Burner 1	EU007PD001	OCTACHLORODIBENZO-P-FURANS	AP-42, TABLE 1.6-3	23	MMBTU/HR	8.80E-11	LB/MMBTU	1.01E-12	TON
EU007	Konus Burner 1	EU007PD001	PENTACHLORODIBENZO-P-DIOXINS	AP-42, TABLE 1.6-3	23	MMBTU/HR	1.50E-09	LB/MMBTU	1.73E-11	TON
EU007	Konus Burner 1	EU007PD001	PENTACHLORODIBENZO-P-FURANS	AP-42, TABLE 1.6-3	23	MMBTU/HR	4.20E-10	LB/MMBTU	4.83E-12	TON
EU007	Konus Burner 1	EU007PD001	PENTACHLOROBIPHENYL	AP-42, TABLE 1.6-3	23	MMBTU/HR	1.20E-09	LB/MMBTU	1.38E-11	TON
EU007	Konus Burner 1	EU007PD001	PENTACHLOROPHENOL	AP-42, TABLE 1.6-3	23	MMBTU/HR	5.10E-08	LB/MMBTU	5.87E-10	TON
EU007	Konus Burner 1	EU007PD001	PERYLENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	5.20E-10	LB/MMBTU	5.98E-12	TON
EU007	Konus Burner 1	EU007PD001	PHENANTHRENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	7.00E-06	LB/MMBTU	8.05E-08	TON
EU007	Konus Burner 1	EU007PD001	PHENOL	NCASI 2008	23	MMBTU/HR	2.00E-05	LB/MMBTU	2.30E-07	TON
EU007	Konus Burner 1	EU007PD001	PROPANAL	AP-42, TABLE 1.6-3	23	MMBTU/HR	3.20E-06	LB/MMBTU	3.68E-08	TON
EU007	Konus Burner 1	EU007PD001	PROPIONALDEH	NCASI 2008	23	MMBTU/HR	3.30E-05	LB/MMBTU	3.80E-07	TON
EU007	Konus Burner 1	EU007PD001	PYRENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	3.70E-06	LB/MMBTU	4.26E-08	TON
EU007	Konus Burner 1	EU007PD001	STYRENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	1.90E-03	LB/MMBTU	2.19E-05	TON
EU007	Konus Burner 1	EU007PD001	2,3,7,8-TETRACHLORODIBENZO-P-DIOXINS	AP-42, TABLE 1.6-3	23	MMBTU/HR	8.60E-12	LB/MMBTU	9.89E-14	TON
EU007	Konus Burner 1	EU007PD001	TETRACHLORODIBENZO-P-DIOXINS	AP-42, TABLE 1.6-3	23	MMBTU/HR	4.70E-10	LB/MMBTU	5.41E-12	TON
EU007	Konus Burner 1	EU007PD001	2,3,7,8-TETRACHLORODIBENZO-P-FURANS	AP-42, TABLE 1.6-3	23	MMBTU/HR	9.00E-11	LB/MMBTU	1.04E-12	TON
EU007	Konus Burner 1	EU007PD001	TETRACHLORODIBENZO-P-FURANS	AP-42, TABLE 1.6-3	23	MMBTU/HR	7.50E-10	LB/MMBTU	8.63E-12	TON
EU007	Konus Burner 1	EU007PD001	TETRACHLOROBIPHENYL	AP-42, TABLE 1.6-3	23	MMBTU/HR	2.50E-09	LB/MMBTU	2.88E-11	TON
EU007	Konus Burner 1	EU007PD001	TETRACHLOROETHENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	3.80E-05	LB/MMBTU	4.37E-07	TON
EU007	Konus Burner 1	EU007PD001	O-TOLUALDEHYDE	AP-42, TABLE 1.6-3	23	MMBTU/HR	7.20E-06	LB/MMBTU	8.28E-08	TON
EU007	Konus Burner 1	EU007PD001	P-TOLUALDEHYDE	AP-42, TABLE 1.6-3	23	MMBTU/HR	1.10E-05	LB/MMBTU	1.27E-07	TON
EU007	Konus Burner 1	EU007PD001	TOLUENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	9.20E-04	LB/MMBTU	1.06E-05	TON
EU007	Konus Burner 1	EU007PD001	TRICHLOROBIPHENYL	AP-42, TABLE 1.6-3	23	MMBTU/HR	2.60E-09	LB/MMBTU	2.99E-11	TON
EU007	Konus Burner 1	EU007PD001	1,1,1-TRICHLOROETHANE	AP-42, TABLE 1.6-3	23	MMBTU/HR	3.10E-05	LB/MMBTU	3.57E-07	TON
EU007	Konus Burner 1	EU007PD001	TRICHLOROETHENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	2.20E-08	LB/MMBTU	2.53E-10	TON
EU007	Konus Burner 1	EU007PD001	TRICHLOROFLUOROMETHANE	AP-42, TABLE 1.6-3	23	MMBTU/HR	4.10E-05	LB/MMBTU	4.72E-07	TON
EU007	Konus Burner 1	EU007PD001	2,4,6-TRICHLOROPHENOL	AP-42, TABLE 1.6-3	23	MMBTU/HR	2.20E-08	LB/MMBTU	2.53E-10	TON
EU008	Konus Burner 2	EU008PD001	ACENAPHTHENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	9.10E-07	LB/MMBTU	1.05E-08	TON
EU008	Konus Burner 2	EU008PD001	ACENAPHTHYLENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	5.00E-06	LB/MMBTU	5.75E-08	TON
EU008	Konus Burner 2	EU008PD001	ACETALDEHYDE	NCASI 2008	23	MMBTU/HR	2.40E-04	LB/MMBTU	2.76E-06	TON
EU008	Konus Burner 2	EU008PD001	ACETONE	AP-42, TABLE 1.6-3	23	MMBTU/HR	1.90E-04	LB/MMBTU	2.19E-06	TON

EU008	Konus Burner 2	EU008PD001	ACETOPHENONE	AP-42, TABLE 1.6-3	23	MMBTU/HR	3.20E-09	LB/MMBTU	3.68E-11	TON
EU008	Konus Burner 2	EU008PD001	ACROLEIN	NCASI 2008	23	MMBTU/HR	4.20E-04	LB/MMBTU	4.83E-06	TON
EU008	Konus Burner 2	EU008PD001	ANTHRACENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	3.00E-06	LB/MMBTU	3.45E-08	TON
EU008	Konus Burner 2	EU008PD001	BENZALDEHYDE	AP-42, TABLE 1.6-3	23	MMBTU/HR	8.50E-07	LB/MMBTU	9.78E-09	TON
EU008	Konus Burner 2	EU008PD001	BENZENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	4.20E-03	LB/MMBTU	4.83E-05	TON
EU008	Konus Burner 2	EU008PD001	BENZO(A)ANTHRACENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	6.50E-08	LB/MMBTU	7.48E-10	TON
EU008	Konus Burner 2	EU008PD001	BENZO(A)PYRENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	2.60E-06	LB/MMBTU	2.99E-08	TON
EU008	Konus Burner 2	EU008PD001	BENZO(B)FLUORANTHENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	1.00E-07	LB/MMBTU	1.15E-09	TON
EU008	Konus Burner 2	EU008PD001	BENZO(E)PYRENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	2.60E-09	LB/MMBTU	2.99E-11	TON
EU008	Konus Burner 2	EU008PD001	BENZO(G,H,I)PERYLENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	9.30E-08	LB/MMBTU	1.07E-09	TON
EU008	Konus Burner 2	EU008PD001	BENZO(J,K)FLUORANTHENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	1.60E-07	LB/MMBTU	1.84E-09	TON
EU008	Konus Burner 2	EU008PD001	BENZO(K)FLUORANTHENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	3.60E-08	LB/MMBTU	4.14E-10	TON
EU008	Konus Burner 2	EU008PD001	BENZOIC ACID	AP-42, TABLE 1.6-3	23	MMBTU/HR	4.70E-08	LB/MMBTU	5.41E-10	TON
EU008	Konus Burner 2	EU008PD001	BIS(2-ETHYLHEXYL)PHTHALATE	AP-42, TABLE 1.6-3	23	MMBTU/HR	4.70E-08	LB/MMBTU	5.41E-10	TON
EU008	Konus Burner 2	EU008PD001	BROMOMETHANE	AP-42, TABLE 1.6-3	23	MMBTU/HR	1.50E-05	LB/MMBTU	1.73E-07	TON
EU008	Konus Burner 2	EU008PD001	2-BUTANONE (MEK)	AP-42, TABLE 1.6-3	23	MMBTU/HR	5.40E-06	LB/MMBTU	6.21E-08	TON
EU008	Konus Burner 2	EU008PD001	CARBAZOLE	AP-42, TABLE 1.6-3	23	MMBTU/HR	1.80E-06	LB/MMBTU	2.07E-08	TON
EU008	Konus Burner 2	EU008PD001	CARBON TETRACHLORIDE	AP-42, TABLE 1.6-3	23	MMBTU/HR	4.50E-05	LB/MMBTU	5.18E-07	TON
EU008	Konus Burner 2	EU008PD001	CHLORINE	AP-42, TABLE 1.6-3	23	MMBTU/HR	7.90E-04	LB/MMBTU	9.09E-06	TON
EU008	Konus Burner 2	EU008PD001	CHLOROBENZENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	3.30E-05	LB/MMBTU	3.80E-07	TON
EU008	Konus Burner 2	EU008PD001	CHLOROFORM	AP-42, TABLE 1.6-3	23	MMBTU/HR	2.80E-05	LB/MMBTU	3.22E-07	TON
EU008	Konus Burner 2	EU008PD001	CHLOROMETHANE	AP-42, TABLE 1.6-3	23	MMBTU/HR	2.30E-05	LB/MMBTU	2.65E-07	TON
EU008	Konus Burner 2	EU008PD001	2-CHLORONAPHTHALENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	2.40E-09	LB/MMBTU	2.76E-11	TON
EU008	Konus Burner 2	EU008PD001	2-CHLOROPHENOL	AP-42, TABLE 1.6-3	23	MMBTU/HR	2.40E-08	LB/MMBTU	2.76E-10	TON
EU008	Konus Burner 2	EU008PD001	CHRYSENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	3.80E-08	LB/MMBTU	4.37E-10	TON
EU008	Konus Burner 2	EU008PD001	CROTONALDEHYDE	AP-42, TABLE 1.6-3	23	MMBTU/HR	9.90E-06	LB/MMBTU	1.14E-07	TON
EU008	Konus Burner 2	EU008PD001	DECACHLOROBIPHENYL	AP-42, TABLE 1.6-3	23	MMBTU/HR	2.70E-10	LB/MMBTU	3.11E-12	TON
EU008	Konus Burner 2	EU008PD001	DIBENZON(A,H)ANTHRACENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	9.10E-09	LB/MMBTU	1.05E-10	TON
EU008	Konus Burner 2	EU008PD001	1,2-DIBROMOETHENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	5.50E-05	LB/MMBTU	6.33E-07	TON
EU008	Konus Burner 2	EU008PD001	DICHLOROBIPHENYL	AP-42, TABLE 1.6-3	23	MMBTU/HR	7.40E-10	LB/MMBTU	8.51E-12	TON
EU008	Konus Burner 2	EU008PD001	1,2-DICHLOROETHANE	AP-42, TABLE 1.6-3	23	MMBTU/HR	2.90E-05	LB/MMBTU	3.34E-07	TON
EU008	Konus Burner 2	EU008PD001	DICHLOROMETHANE	AP-42, TABLE 1.6-3	23	MMBTU/HR	2.90E-04	LB/MMBTU	3.34E-06	TON
EU008	Konus Burner 2	EU008PD001	1,2-DICHLOROPROPANE	AP-42, TABLE 1.6-3	23	MMBTU/HR	3.30E-05	LB/MMBTU	3.80E-07	TON
EU008	Konus Burner 2	EU008PD001	2,4-DINITROPHENOL	AP-42, TABLE 1.6-3	23	MMBTU/HR	1.80E-07	LB/MMBTU	2.07E-09	TON
EU008	Konus Burner 2	EU008PD001	ETHYLBENZENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	3.10E-05	LB/MMBTU	3.57E-07	TON
EU008	Konus Burner 2	EU008PD001	FLUORANTHENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	1.60E-06	LB/MMBTU	1.84E-08	TON
EU008	Konus Burner 2	EU008PD001	FLURENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	3.40E-06	LB/MMBTU	3.91E-08	TON
EU008	Konus Burner 2	EU008PD001	FORMALDEHYDE	NCASI 2008	23	MMBTU/HR	3.30E-04	LB/MMBTU	3.80E-06	TON
EU008	Konus Burner 2	EU008PD001	HEPTACHLOROBIPHENYL	AP-42, TABLE 1.6-3	23	MMBTU/HR	6.60E-11	LB/MMBTU	7.59E-13	TON
EU008	Konus Burner 2	EU008PD001	HEXACHLOROBIPHENYL	AP-42, TABLE 1.6-3	23	MMBTU/HR	5.50E-10	LB/MMBTU	6.33E-12	TON
EU008	Konus Burner 2	EU008PD001	HEXANAL	AP-42, TABLE 1.6-3	23	MMBTU/HR	7.00E-06	LB/MMBTU	8.05E-08	TON
EU008	Konus Burner 2	EU008PD001	HEPTACHLORODIBENZO-P-DIOXINS	AP-42, TABLE 1.6-3	23	MMBTU/HR	2.00E-09	LB/MMBTU	2.30E-11	TON
EU008	Konus Burner 2	EU008PD001	HEPTACHLORODIBENZO-P-FURANS	AP-42, TABLE 1.6-3	23	MMBTU/HR	2.40E-10	LB/MMBTU	2.76E-12	TON
EU008	Konus Burner 2	EU008PD001	HEXACHLORODIBENZO-P-DIOXINS	AP-42, TABLE 1.6-3	23	MMBTU/HR	1.60E-06	LB/MMBTU	1.84E-08	TON
EU008	Konus Burner 2	EU008PD001	HEXACHLORODIBENZO-P-FURANS	AP-42, TABLE 1.6-3	23	MMBTU/HR	2.80E-10	LB/MMBTU	3.22E-12	TON
EU008	Konus Burner 2	EU008PD001	HYDROGEN CHLORIDE	AP-42, TABLE 1.6-3	23	MMBTU/HR	1.90E-02	LB/MMBTU	2.19E-04	TON
EU008	Konus Burner 2	EU008PD001	INDENO(1,2,3,C,D)PYRENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	8.70E-08	LB/MMBTU	1.00E-09	TON
EU008	Konus Burner 2	EU008PD001	ISOBUTYRALDEHYDE	AP-42, TABLE 1.6-3	23	MMBTU/HR	1.20E-05	LB/MMBTU	1.38E-07	TON
EU008	Konus Burner 2	EU008PD001	METHANE	AP-42, TABLE 1.6-3	23	MMBTU/HR	2.10E-02	LB/MMBTU	2.42E-04	TON
EU008	Konus Burner 2	EU008PD001	METHANOL	NCASI 2008	23	MMBTU/HR	8.30E-04	LB/MMBTU	9.55E-06	TON
EU008	Konus Burner 2	EU008PD001	2-METHYLNAPHTHALENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	1.60E-07	LB/MMBTU	1.84E-09	TON
EU008	Konus Burner 2	EU008PD001	MONOCHLOROBIPHENYL	AP-42, TABLE 1.6-3	23	MMBTU/HR	2.20E-10	LB/MMBTU	2.53E-12	TON
EU008	Konus Burner 2	EU008PD001	NAPHTHALENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	9.70E-05	LB/MMBTU	1.12E-06	TON
EU008	Konus Burner 2	EU008PD001	2-NITROPHENOL	AP-42, TABLE 1.6-3	23	MMBTU/HR	2.40E-07	LB/MMBTU	2.76E-09	TON
EU008	Konus Burner 2	EU008PD001	4-NITROPHENOL	AP-42, TABLE 1.6-3	23	MMBTU/HR	1.10E-07	LB/MMBTU	1.27E-09	TON
EU008	Konus Burner 2	EU008PD001	OCTACHLORODIBENZO-P-DIOXINS	AP-42, TABLE 1.6-3	23	MMBTU/HR	6.60E-08	LB/MMBTU	7.59E-10	TON
EU008	Konus Burner 2	EU008PD001	OCTACHLORODIBENZO-P-FURANS	AP-42, TABLE 1.6-3	23	MMBTU/HR	8.80E-11	LB/MMBTU	1.01E-12	TON
EU008	Konus Burner 2	EU008PD001	PENTACHLORODIBENZO-P-DIOXINS	AP-42, TABLE 1.6-3	23	MMBTU/HR	1.50E-09	LB/MMBTU	1.73E-11	TON
EU008	Konus Burner 2	EU008PD001	PENTACHLORODIBENZO-P-FURANS	AP-42, TABLE 1.6-3	23	MMBTU/HR	4.20E-10	LB/MMBTU	4.83E-12	TON
EU008	Konus Burner 2	EU008PD001	PENTACHLOROBIPHENYL	AP-42, TABLE 1.6-3	23	MMBTU/HR	1.20E-09	LB/MMBTU	1.38E-11	TON
EU008	Konus Burner 2	EU008PD001	PENTACHLOROPHENOL	AP-42, TABLE 1.6-3	23	MMBTU/HR	5.10E-08	LB/MMBTU	5.87E-10	TON
EU008	Konus Burner 2	EU008PD001	PERYLENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	5.20E-10	LB/MMBTU	5.98E-12	TON
EU008	Konus Burner 2	EU008PD001	PHENANTHRENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	7.00E-06	LB/MMBTU	8.05E-08	TON
EU008	Konus Burner 2	EU008PD001	PHENOL	NCASI 2008	23	MMBTU/HR	2.00E-05	LB/MMBTU	2.30E-07	TON
EU008	Konus Burner 2	EU008PD001	PROPANAL	AP-42, TABLE 1.6-3	23	MMBTU/HR	3.20E-06	LB/MMBTU	3.68E-08	TON
EU008	Konus Burner 2	EU008PD001	PROPIONALDEH	NCASI 2008	23	MMBTU/HR	3.30E-05	LB/MMBTU	3.80E-07	TON
EU008	Konus Burner 2	EU008PD001	PYRENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	3.70E-06	LB/MMBTU	4.26E-08	TON
EU008	Konus Burner 2	EU008PD001	STYRENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	1.90E-03	LB/MMBTU	2.19E-05	TON
EU008	Konus Burner 2	EU008PD001	2,3,7,8-TETRACHLORODIBENZO-P-DIOXINS	AP-42, TABLE 1.6-3	23	MMBTU/HR	8.60E-12	LB/MMBTU	9.89E-14	TON
EU008	Konus Burner 2	EU008PD001	TETRACHLORODIBENZO-P-DIOXINS	AP-42, TABLE 1.6-3	23	MMBTU/HR	4.70E-10	LB/MMBTU	5.41E-12	TON
EU008	Konus Burner 2	EU008PD001	2,3,7,8-TETRACHLORODIBENZO-P-FURANS	AP-42, TABLE 1.6-3	23	MMBTU/HR	9.00E-11	LB/MMBTU	1.04E-12	TON
EU008	Konus Burner 2	EU008PD001	TETRACHLORODIBENZO-P-FURANS	AP-42, TABLE 1.6-3	23	MMBTU/HR	7.50E-10	LB/MMBTU	8.63E-12	TON
EU008	Konus Burner 2	EU008PD001	TETRACHLOROBIPHENYL	AP-42, TABLE 1.6-3	23	MMBTU/HR	2.50E-09	LB/MMBTU	2.88E-11	TON
EU008	Konus Burner 2	EU008PD001	TETRACHLOROETHENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	3.80E-05	LB/MMBTU	4.37E-07	TON
EU008	Konus Burner 2	EU008PD001	O-TOLUALDEHYDE	AP-42, TABLE 1.6-3	23	MMBTU/HR	7.20E-06	LB/MMBTU	8.28E-08	TON
EU008	Konus Burner 2	EU008PD001	P-TOLUALDEHYDE	AP-42, TABLE 1.6-3	23	MMBTU/HR	1.10E-05	LB/MMBTU	1.27E-07	TON
EU008	Konus Burner 2	EU008PD001	TOLUENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	9.20E-04	LB/MMBTU	1.06E-05	TON
EU008	Konus Burner 2	EU008PD001	TRICHLOROBIPHENYL	AP-42, TABLE 1.6-3	23	MMBTU/HR	2.60E-09	LB/MMBTU	2.99E-11	TON
EU008	Konus Burner 2	EU008PD001	1,1,1-TRICHLOROETHANE	AP-42, TABLE 1.6-3	23	MMBTU/HR	3.10E-05	LB/MMBTU	3.57E-07	TON
EU008	Konus Burner 2	EU008PD001	TRICHLOROETHENE	AP-42, TABLE 1.6-3	23	MMBTU/HR	2.20E-08	LB/MMBTU	2.53E-10	TON
EU008	Konus Burner 2	EU008PD001	TRICHLOROFLUOROMETHANE	AP-42, TABLE 1.6-3	23	MMBTU/HR	4.10E-05	LB/MMBTU	4.72E-07	TON
EU008	Konus Burner 2	EU008PD001	2,4,6-TRICHLOROPHENOL	AP-42, TABLE 1.6-3	23	MMBTU/HR	2.20E-08	LB/MMBTU	2.53E-10	TON
									3.69E-03	TON

Air Toxics	PTE (Tons per Year)
ACENAPHTHENE	1.08E-07
ACENAPHTHYLENE	3.04E-06
ACETALDEHYDE	1.55E-05
ACETONE	1.05E-05
ACETOPHENONE	4.83E-06
ACROLEIN	2.33E-05

ANTHRACENE	1.76E-07
BENZALDEHYDE	4.83E-05
BENZENE	2.33E-04
BENZO(A)ANTHRACENE	3.35E-08
BENZO(A)PYRENE	1.45E-07
BENZO(B)FLUORANTHENE	5.58E-09
BENZO(E)PYRENE	1.21E-09
BENZO(G,H,I)PERYLENE	7.00E-09
BENZO(J,K)FLUORANTHENE	9.29E-09
BENZO(K)FLUORANTHENE	2.54E-09
BENZOIC ACID	3.15E-09
BIS(2-ETHYLHEXYL)PHTHALATE	1.75E-07
BROMOMETHANE	8.95E-07
2-BUTANONE (MEK)	3.20E-07
CARBAZOLE	6.17E-07
CARBON TETRACHLORIDE	1.16E-05
CHLORINE	4.42E-05
CHLOROBENZENE	2.15E-06
CHLOROFORM	1.82E-06
CHLOROMETHANE	1.28E-06
2-CHLORONAPHTHALENE	4.09E-10
2-CHLOROPHENOL	1.77E-09
CHRYSENE	1.16E-07
CROTONALDEHYDE	5.49E-07
DECACHLOROBIPHENYL	1.20E-10
DIBENZON(A,H)ANTHRACENE	6.33E-07
1,2-DIBROMOETHENE	3.05E-06
DICHLOROBIPHENYL	3.34E-07
1,2-DICHLOROETHANE	4.94E-06
DICHLOROMETHANE	1.65E-05
1,2-DICHLOROPROPANE	1.83E-06
2,4-DINITROPHENOL	3.66E-07
ETHYLBENZENE	1.74E-06
FLUORANTHENE	1.28E-07
FLURENE	3.98E-06
FORMALDEHYDE	1.83E-05
HEPTACHLOROBIPHENYL	9.99E-12
HEXACHLOROBIPHENYL	8.05E-08
HEXANAL	3.89E-07
HEPTACHLORODIBENZO-P-DIOXINS	1.14E-10
HEPTACHLORODIBENZO-P-FURANS	1.84E-08
HEXACHLORODIBENZO-P-DIOXINS	8.88E-08
HEXACHLORODIBENZO-P-FURANS	2.19E-04
HYDROGEN CHLORIDE	1.05E-03
INDENO(1,2,3,C,D)PYRENE	1.43E-07
ISOBUTYRALDEHYDE	2.42E-04
METHANE	1.18E-03
METHANOL	4.61E-05
2-METHYLNAPHTHALENE	8.88E-09
MONOCHLOROBIPHENYL	1.12E-06
NAPHTHALENE	5.39E-06
2-NITROPHENOL	1.46E-08
4-NITROPHENOL	6.86E-09
OCTACHLORODIBENZO-P-DIOXINS	3.66E-09
OCTACHLORODIBENZO-P-FURANS	2.21E-11
PENTACHLORODIBENZO-P-DIOXINS	8.81E-11
PENTACHLORODIBENZO-P-FURANS	3.71E-11
PENTACHLOROBIPHENYL	6.53E-10
PENTACHLOROPHENOL	2.84E-09
PERYLENE	8.05E-08
PHENANTHRENE	6.19E-07
PHENOL	1.15E-06
PROPANAL	5.57E-07
PROPIONALDEH	1.87E-06
PYRENE	2.21E-05
STYRENE	1.05E-04
2,3,7,8-TETRACHLORODIBENZO-P-DIOXINS	5.88E-12
TETRACHLORODIBENZO-P-DIOXINS	2.71E-11
2,3,7,8-TETRACHLORODIBENZO-P-FURANS	1.36E-11
TETRACHLORODIBENZO-P-FURANS	7.04E-11
TETRACHLOROBIPHENYL	4.37E-07
TETRACHLOROETHENE	2.19E-06
O-TOLUALDEHYDE	5.26E-07
P-TOLUALDEHYDE	1.12E-05
TOLUENE	5.11E-05
TRICHLOROBIPHENYL	3.57E-07
1,1,1-TRICHLOROETHANE	1.72E-06
TRICHLOROETHENE	4.73E-07
TRICHLOROFLUOROMETHANE	2.28E-06
2,4,6-TRICHLOROPHENOL	2.90E-04
Total	3.69E-03

Facility: Norbord Minnesota
Facility ID: 00700019
Potential to Emit: Air Toxics

Unit ID	Unit Desc	Process ID	Pollutant	Stack Testing Date and Emission	Throughput	Throughput	Converted Emission		PTE from Natural
				Factor Comment	Amount	Units	Emission Factor	Factor	Gas
EU001	RTOs		2-Methylnaphthalene	AP-42, Table 1.4-3	55.8	MMBtu/hr	2.45E-05 lb/10 ³ scf	2.40E-08 lb/MMBtu	6.70E-10 tons
EU001	RTOs		3-Methylchloranthrene	AP-42, Table 1.4-3	55.8	MMBtu/hr	1.80E-06 lb/10 ³ scf	1.76E-09 lb/MMBtu	4.92E-11 tons
EU001	RTOs		7,12 - Dimethylbenz(a)anthracene	AP-42, Table 1.4-3	55.8	MMBtu/hr	1.60E-05 lb/10 ³ scf	1.57E-08 lb/MMBtu	4.38E-10 tons
EU001	RTOs		Acenaphthene	AP-42, Table 1.4-3	55.8	MMBtu/hr	1.80E-06 lb/10 ³ scf	1.76E-09 lb/MMBtu	4.92E-11 tons
EU001	RTOs		Acenaphthylene	AP-42, Table 1.4-3	55.8	MMBtu/hr	1.80E-06 lb/10 ³ scf	1.76E-09 lb/MMBtu	4.92E-11 tons
EU001	RTOs		Anthracene	AP-42, Table 1.4-3	55.8	MMBtu/hr	2.40E-06 lb/10 ³ scf	1.76E-09 lb/MMBtu	4.92E-11 tons
EU001	RTOs		Benz(a)anthracene	AP-42, Table 1.4-3	55.8	MMBtu/hr	1.80E-06 lb/10 ³ scf	2.35E-09 lb/MMBtu	6.56E-11 tons
EU001	RTOs		Benzene	AP-42, Table 1.4-3	55.8	MMBtu/hr	2.10E-03 lb/10 ³ scf	1.76E-09 lb/MMBtu	4.92E-11 tons
EU001	RTOs		Benzo(a)pyrene	AP-42, Table 1.4-3	55.8	MMBtu/hr	1.20E-06 lb/10 ³ scf	2.06E-06 lb/MMBtu	5.74E-08 tons
EU001	RTOs		Benzo(b)fluoranthene	AP-42, Table 1.4-3	55.8	MMBtu/hr	1.80E-06 lb/10 ³ scf	1.18E-09 lb/MMBtu	3.28E-11 tons
EU001	RTOs		Benz(g,h,i)perylene	AP-42, Table 1.4-3	55.8	MMBtu/hr	1.20E-06 lb/10 ³ scf	1.76E-09 lb/MMBtu	4.92E-11 tons
EU001	RTOs		Benzo(k)fluoranthene	AP-42, Table 1.4-3	55.8	MMBtu/hr	1.80E-06 lb/10 ³ scf	1.18E-09 lb/MMBtu	3.28E-11 tons
EU001	RTOs		Butane	AP-42, Table 1.4-3	55.8	MMBtu/hr	2.10E+00 lb/10 ³ scf	1.76E-09 lb/MMBtu	4.92E-11 tons
EU001	RTOs		Chrysene	AP-42, Table 1.4-3	55.8	MMBtu/hr	1.80E-06 lb/10 ³ scf	2.06E-03 lb/MMBtu	5.74E-05 tons
EU001	RTOs		Dibenzo(a,h)anthracene	AP-42, Table 1.4-3	55.8	MMBtu/hr	1.20E-06 lb/10 ³ scf	1.76E-09 lb/MMBtu	4.92E-11 tons
EU001	RTOs		Dichlorobenzene	AP-42, Table 1.4-3	55.8	MMBtu/hr	1.20E-03 lb/10 ³ scf	1.18E-09 lb/MMBtu	3.28E-11 tons
EU001	RTOs		Ethane	AP-42, Table 1.4-3	55.8	MMBtu/hr	3.10E+00 lb/10 ³ scf	3.04E-03 lb/MMBtu	8.48E-05 tons
EU001	RTOs		Fluoranthene	AP-42, Table 1.4-3	55.8	MMBtu/hr	3.00E-06 lb/10 ³ scf	2.94E-09 lb/MMBtu	8.21E-11 tons
EU001	RTOs		Fluorene	AP-42, Table 1.4-3	55.8	MMBtu/hr	2.80E-06 lb/10 ³ scf	2.75E-09 lb/MMBtu	7.66E-11 tons
EU001	RTOs		Formaldehyde	AP-42, Table 1.4-3	55.8	MMBtu/hr	7.50E-02 lb/10 ³ scf	7.35E-05 lb/MMBtu	2.05E-06 tons
EU001	RTOs		Hexane	AP-42, Table 1.4-3	55.8	MMBtu/hr	1.80E+00 lb/10 ³ scf	1.76E-03 lb/MMBtu	4.92E-05 tons
EU001	RTOs		Indeno(1,2,3-cd)pyrene	AP-42, Table 1.4-3	55.8	MMBtu/hr	1.80E-06 lb/10 ³ scf	1.76E-09 lb/MMBtu	4.92E-11 tons
EU001	RTOs		Naphthalene	AP-42, Table 1.4-3	55.8	MMBtu/hr	6.10E-04 lb/10 ³ scf	5.98E-07 lb/MMBtu	1.67E-08 tons
EU001	RTOs		Pentane	AP-42, Table 1.4-3	55.8	MMBtu/hr	2.60E+00 lb/10 ³ scf	2.55E-03 lb/MMBtu	7.11E-05 tons
EU001	RTOs		Phenanthrene	AP-42, Table 1.4-3	55.8	MMBtu/hr	1.70E-05 lb/10 ³ scf	1.67E-08 lb/MMBtu	4.65E-10 tons
EU001	RTOs		Propane	AP-42, Table 1.4-3	55.8	MMBtu/hr	1.60E+00 lb/10 ³ scf	1.57E-03 lb/MMBtu	4.38E-05 tons
EU001	RTOs		Pyrene	AP-42, Table 1.4-3	55.8	MMBtu/hr	5.00E-06 lb/10 ³ scf	4.90E-09 lb/MMBtu	1.37E-10 tons
EU001	RTOs		Toluene	AP-42, Table 1.4-3	55.8	MMBtu/hr	3.40E-03 lb/10 ³ scf	3.33E-06 lb/MMBtu	9.30E-08 tons
EU004	Face Burner / Back up	PD001	2-Methylnaphthalene	AP-42, Table 1.4-3	45	MMBtu/hr	2.45E-05 lb/10 ³ scf	2.40E-08 lb/MMBtu	5.40E-10 tons
EU004	Face Burner / Back up	PD001	3-Methylchloranthrene	AP-42, Table 1.4-3	45	MMBtu/hr	1.80E-06 lb/10 ³ scf	1.76E-09 lb/MMBtu	3.97E-11 tons
EU004	Face Burner / Back up	PD001	7,12 - Dimethylbenz(a)anthracene	AP-42, Table 1.4-3	45	MMBtu/hr	1.60E-05 lb/10 ³ scf	1.57E-08 lb/MMBtu	3.53E-10 tons
EU004	Face Burner / Back up	PD001	Acenaphthene	AP-42, Table 1.4-3	45	MMBtu/hr	1.80E-06 lb/10 ³ scf	1.76E-09 lb/MMBtu	3.97E-11 tons
EU004	Face Burner / Back up	PD001	Acenaphthylene	AP-42, Table 1.4-3	45	MMBtu/hr	1.80E-06 lb/10 ³ scf	1.76E-09 lb/MMBtu	3.97E-11 tons
EU004	Face Burner / Back up	PD001	Anthracene	AP-42, Table 1.4-3	45	MMBtu/hr	2.40E-06 lb/10 ³ scf	1.76E-09 lb/MMBtu	3.97E-11 tons
EU004	Face Burner / Back up	PD001	Benz(a)anthracene	AP-42, Table 1.4-3	45	MMBtu/hr	1.80E-06 lb/10 ³ scf	2.35E-09 lb/MMBtu	5.29E-11 tons
EU004	Face Burner / Back up	PD001	Benzene	AP-42, Table 1.4-3	45	MMBtu/hr	2.10E-03 lb/10 ³ scf	1.76E-09 lb/MMBtu	3.97E-11 tons
EU004	Face Burner / Back up	PD001	Benzo(a)pyrene	AP-42, Table 1.4-3	45	MMBtu/hr	1.20E-06 lb/10 ³ scf	2.06E-06 lb/MMBtu	4.63E-08 tons
EU004	Face Burner / Back up	PD001	Benzo(b)fluoranthene	AP-42, Table 1.4-3	45	MMBtu/hr	1.80E-06 lb/10 ³ scf	1.18E-09 lb/MMBtu	2.65E-11 tons
EU004	Face Burner / Back up	PD001	Benz(g,h,i)perylene	AP-42, Table 1.4-3	45	MMBtu/hr	1.20E-06 lb/10 ³ scf	1.76E-09 lb/MMBtu	3.97E-11 tons
EU004	Face Burner / Back up	PD001	Benzo(k)fluoranthene	AP-42, Table 1.4-3	45	MMBtu/hr	1.80E-06 lb/10 ³ scf	1.18E-09 lb/MMBtu	2.65E-11 tons
EU004	Face Burner / Back up	PD001	Butane	AP-42, Table 1.4-3	45	MMBtu/hr	2.10E+00 lb/10 ³ scf	1.76E-09 lb/MMBtu	3.97E-11 tons
EU004	Face Burner / Back up	PD001	Chrysene	AP-42, Table 1.4-3	45	MMBtu/hr	1.80E-06 lb/10 ³ scf	2.06E-03 lb/MMBtu	4.63E-05 tons
EU004	Face Burner / Back up	PD001	Dibenzo(a,h)anthracene	AP-42, Table 1.4-3	45	MMBtu/hr	1.20E-06 lb/10 ³ scf	1.76E-09 lb/MMBtu	3.97E-11 tons
EU004	Face Burner / Back up	PD001	Dichlorobenzene	AP-42, Table 1.4-3	45	MMBtu/hr	1.20E-03 lb/10 ³ scf	1.18E-09 lb/MMBtu	2.65E-11 tons
EU004	Face Burner / Back up	PD001	Ethane	AP-42, Table 1.4-3	45	MMBtu/hr	3.10E+00 lb/10 ³ scf	3.04E-03 lb/MMBtu	6.84E-05 tons
EU004	Face Burner / Back up	PD001	Fluoranthene	AP-42, Table 1.4-3	45	MMBtu/hr	3.00E-06 lb/10 ³ scf	2.94E-09 lb/MMBtu	6.62E-11 tons
EU004	Face Burner / Back up	PD001	Fluorene	AP-42, Table 1.4-3	45	MMBtu/hr	2.80E-06 lb/10 ³ scf	2.75E-09 lb/MMBtu	6.18E-11 tons
EU004	Face Burner / Back up	PD001	Formaldehyde	AP-42, Table 1.4-3	45	MMBtu/hr	7.50E-02 lb/10 ³ scf	7.35E-05 lb/MMBtu	1.65E-06 tons
EU004	Face Burner / Back up	PD001	Hexane	AP-42, Table 1.4-3	45	MMBtu/hr	1.80E+00 lb/10 ³ scf	1.76E-03 lb/MMBtu	3.97E-05 tons
EU004	Face Burner / Back up	PD001	Indeno(1,2,3-cd)pyrene	AP-42, Table 1.4-3	45	MMBtu/hr	1.80E-06 lb/10 ³ scf	1.76E-09 lb/MMBtu	3.97E-11 tons
EU004	Face Burner / Back up	PD001	Naphthalene	AP-42, Table 1.4-3	45	MMBtu/hr	6.10E-04 lb/10 ³ scf	5.98E-07 lb/MMBtu	1.35E-08 tons
EU004	Face Burner / Back up	PD001	Pentane	AP-42, Table 1.4-3	45	MMBtu/hr	2.60E+00 lb/10 ³ scf	2.55E-03 lb/MMBtu	5.74E-05 tons
EU004	Face Burner / Back up	PD001	Phenanthrene	AP-42, Table 1.4-3	45	MMBtu/hr	1.70E-05 lb/10 ³ scf	1.67E-08 lb/MMBtu	3.75E-10 tons
EU004	Face Burner / Back up	PD001	Propane	AP-42, Table 1.4-3	45	MMBtu/hr	1.60E+00 lb/10 ³ scf	1.57E-03 lb/MMBtu	3.53E-05 tons
EU004	Face Burner / Back up	PD001	Pyrene	AP-42, Table 1.4-3	45	MMBtu/hr	5.00E-06 lb/10 ³ scf	4.90E-09 lb/MMBtu	1.10E-10 tons
EU004	Face Burner / Back up	PD001	Toluene	AP-42, Table 1.4-3	45	MMBtu/hr	3.40E-03 lb/10 ³ scf	3.33E-06 lb/MMBtu	7.50E-08 tons
EU005	Core Burner/ Back up	PD001	2-Methylnaphthalene	AP-42, Table 1.4-3	45	MMBtu/hr	2.45E-05 lb/10 ³ scf	2.40E-08 lb/MMBtu	5.40E-10 tons
EU005	Core Burner/ Back up	PD001	3-Methylchloranthrene	AP-42, Table 1.4-3	45	MMBtu/hr	1.80E-06 lb/10 ³ scf	1.76E-09 lb/MMBtu	3.97E-11 tons
EU005	Core Burner/ Back up	PD001	7,12 - Dimethylbenz(a)anthracene	AP-42, Table 1.4-3	45	MMBtu/hr	1.60E-05 lb/10 ³ scf	1.57E-08 lb/MMBtu	3.53E-10 tons
EU005	Core Burner/ Back up	PD001	Acenaphthene	AP-42, Table 1.4-3	45	MMBtu/hr	1.80E-06 lb/10 ³ scf	1.76E-09 lb/MMBtu	3.97E-11 tons
EU005	Core Burner/ Back up	PD001	Acenaphthylene	AP-42, Table 1.4-3	45	MMBtu/hr	1.80E-06 lb/10 ³ scf	1.76E-09 lb/MMBtu	3.97E-11 tons
EU005	Core Burner/ Back up	PD001	Anthracene	AP-42, Table 1.4-3	45	MMBtu/hr	2.40E-06 lb/10 ³ scf	2.35E-09 lb/MMBtu	5.29E-11 tons
EU005	Core Burner/ Back up	PD001	Benz(a)anthracene	AP-42, Table 1.4-3	45	MMBtu/hr	1.80E-06 lb/10 ³ scf	1.76E-09 lb/MMBtu	3.97E-11 tons
EU005	Core Burner/ Back up	PD001	Benzene	AP-42, Table 1.4-3	45	MMBtu/hr	2.10E-03 lb/10 ³ scf	2.06E-06 lb/MMBtu	4.63E-08 tons
EU005	Core Burner/ Back up	PD001	Benzo(a)pyrene	AP-42, Table 1.4-3	45	MMBtu/hr	1.20E-06 lb/10 ³ scf	1.18E-09 lb/MMBtu	2.65E-11 tons
EU005	Core Burner/ Back up	PD001	Benzo(b)fluoranthene	AP-42, Table 1.4-3	45	MMBtu/hr	1.80E-06 lb/10 ³ scf	1.76E-09 lb/MMBtu	3.97E-11 tons
EU005	Core Burner/ Back up	PD001	Benz(g,h,i)perylene	AP-42, Table 1.4-3	45	MMBtu/hr	1.20E-06 lb/10 ³ scf	1.18E-09 lb/MMBtu	2.65E-11 tons
EU005	Core Burner/ Back up	PD001	Benzo(k)fluoranthene	AP-42, Table 1.4-3	45	MMBtu/hr	1.80E-06 lb/10 ³ scf	1.76E-09 lb/MMBtu	3.97E-11 tons
EU005	Core Burner/ Back up	PD001	Butane	AP-42, Table 1.4-3	45	MMBtu/hr	2.10E+00 lb/10 ³ scf	2.06E-03 lb/MMBtu	4.63E-05 tons
EU005	Core Burner/ Back up	PD001	Chrysene	AP-42, Table 1.4-3	45	MMBtu/hr	1.80E-06 lb/10 ³ scf	1.76E-09 lb/MMBtu	3.97E-11 tons
EU005	Core Burner/ Back up	PD001	Dibenzo(a,h)anthracene	AP-42, Table 1.4-3	45	MMBtu/hr	1.20E-06 lb/10 ³ scf	1.18E-09 lb/MMBtu	2.65E-11 tons
EU005	Core Burner/ Back up	PD001	Dichlorobenzene	AP-42, Table 1.4-3	45	MMBtu/hr	1.20E-03 lb/10 ³ scf	1.18E-06 lb/MMBtu	2.65E-08 tons
EU005	Core Burner/ Back up	PD001	Ethane	AP-42, Table 1.4-3	45	MMBtu/hr	3.10E+00 lb/10 ³ scf	3.04E-03 lb/MMBtu	6.84E-05 tons
EU005	Core Burner/ Back up	PD001	Fluoranthene	AP-42, Table 1.4-3	45	MMBtu/hr	3.00E-06 lb/10 ³ scf	2.94E-09 lb/MMBtu	6.62E-11 tons
EU005	Core Burner/ Back up	PD001	Fluorene	AP-42, Table 1.4-3	45	MMBtu/hr	2.80E-06 lb/10 ³ scf	2.75E-09 lb/MMBtu	6.18E-11 tons
EU005	Core Burner/ Back up	PD001	Formaldehyde	AP-42, Table 1.4-3	45	MMBtu/hr	7.50E-02 lb/10 ³ scf	7.35E-05 lb/MMBtu	1.65E-06 tons
EU005	Core Burner/ Back up	PD001	Hexane	AP-42, Table 1.4-3	45	MMBtu/hr	1.80E+00 lb/10 ³ scf	1.76E-03 lb/MMBtu	3.97E-05 tons
EU005	Core Burner/ Back up	PD001	Indeno(1,2,3-cd)pyrene	AP-42, Table 1.4-3	45	MMBtu/hr	1.80E-06 lb/10 ³ scf	1.76E-09 lb/MMBtu	3.97E-11 tons
EU005	Core Burner/ Back up	PD001	Naphthalene	AP-42, Table 1.4-3	45	MMBtu/hr	6.10E-04 lb/10 ³ scf	5.98E-07 lb/MMBtu	1.35E-08 tons
EU005	Core Burner/ Back up	PD001	Pentane	AP-42, Table 1.4-3	45	MMBtu/hr	2.60E+00 lb/10 ³ scf	2.55E-03 lb/MMBtu	5.74E-05 tons
EU005	Core Burner/ Back up	PD001	Phenanthrene	AP-42, Table 1.4-3	45	MMBtu/hr	1.70E-05 lb/10 ³ scf	1.67E-08 lb/MMBtu	3.75E-10 tons
EU005	Core Burner/ Back up	PD001	Propane	AP-42, Table 1.4-3	45	MMBtu/hr	1.60E+00 lb/10 ³ scf	1.57E-03 lb/MMBtu	3.53E-05 tons
EU005	Core Burner/ Back up	PD001	Pyrene	AP-42, Table 1.4-3	45	MMBtu/hr	5.00E-06 lb/10 ³ scf	4.90E-09 lb/MMBtu	1.10E-10 tons
EU005	Core Burner/ Back up	PD001	Toluene	AP-42, Table 1.4-3	45	MMBtu/hr	3.40E-03 lb/10 ³ scf	3.33E-06 lb/MMBtu	7.50E-08 tons
EU007	Konus Burner 1	PD002	2-Methylnaphthalene	AP-42, Table 1.4-3	23	MMBtu/hr	2.45E-05 lb/10 ³ scf	2.40E-08 lb/MMBtu	2.76E-10 tons
EU007	Konus Burner 1	PD002	3-Methylchloranthrene	AP-42, Table 1.4-3	23	MMBtu/hr	1.80E-06 lb/10 ³ scf	1.76E-09 lb/MMBtu	2.03E-11 tons
EU007	Konus Burner 1	PD002	7,12 - Dimethylbenz(a)anthracene	AP-42, Table 1.4-3	23	MMBtu/hr	1.60E-05 lb/10 ³ scf	1.57E-08 lb/MMBtu	1.80E-10 tons
EU007	Konus Burner 1	PD002	Acenaphthene	AP-42, Table 1.4-3	23	MMBtu/hr	1.80E-06 lb/10 ³ scf	1.76E-09 lb/MMBtu	2.03E-11 tons
EU007	Konus Burner 1	PD002	Acenaphthylene	AP-42, Table 1.4-3	23	MMBtu/hr	1.80E-06 lb/10 ³ scf	1.76E-09 lb/MMBtu	2.03E-11 tons
EU007	Konus Burner 1	PD002	Anthracene	AP-42, Table 1.4-3	23	MMBtu/hr	2.40E-06 lb/10 ³ scf	2.35E-09 lb/MMBtu	2.71E-11 tons
EU007	Konus Burner 1	PD002	Benz(a)anthracene	AP-42, Table 1.4-3	23	MMBtu/hr	1.80E-06 lb/10 ³ scf	1.76E-09 lb/MMBtu	2.03E-11 tons
EU007	Konus Burner 1	PD002	Benzene	AP-42, Table 1.4-3	23	MMBtu/hr	2.10E-03 lb/10 ³ scf	2.06E-06 lb/MMBtu	2.37E-08 tons

EU007	Konus Burner 1	PD002	Benzo(a)pyrene	AP-42, Table 1.4-3	23	MMBtu/hr	1.20E-06	lb/10 ³ scf	1.18E-09	lb/MMBtu	1.35E-11	tons
EU007	Konus Burner 1	PD002	Benzo(b)fluoranthene	AP-42, Table 1.4-3	23	MMBtu/hr	1.80E-06	lb/10 ³ scf	1.76E-09	lb/MMBtu	2.03E-11	tons
EU007	Konus Burner 1	PD002	Benz(g,h,i)perylene	AP-42, Table 1.4-3	23	MMBtu/hr	1.20E-06	lb/10 ³ scf	1.18E-09	lb/MMBtu	1.35E-11	tons
EU007	Konus Burner 1	PD002	Benzo(k)fluoranthene	AP-42, Table 1.4-3	23	MMBtu/hr	1.80E-06	lb/10 ³ scf	1.76E-09	lb/MMBtu	2.03E-11	tons
EU007	Konus Burner 1	PD002	Butane	AP-42, Table 1.4-3	23	MMBtu/hr	2.10E+00	lb/10 ³ scf	2.06E-03	lb/MMBtu	2.37E-05	tons
EU007	Konus Burner 1	PD002	Chrysene	AP-42, Table 1.4-3	23	MMBtu/hr	1.80E-06	lb/10 ³ scf	1.76E-09	lb/MMBtu	2.03E-11	tons
EU007	Konus Burner 1	PD002	Dibenzo(a,h)anthracene	AP-42, Table 1.4-3	23	MMBtu/hr	1.20E-06	lb/10 ³ scf	1.18E-09	lb/MMBtu	1.35E-11	tons
EU007	Konus Burner 1	PD002	Dichlorobenzene	AP-42, Table 1.4-3	23	MMBtu/hr	1.20E-03	lb/10 ³ scf	1.18E-06	lb/MMBtu	1.35E-08	tons
EU007	Konus Burner 1	PD002	Ethane	AP-42, Table 1.4-3	23	MMBtu/hr	3.10E+00	lb/10 ³ scf	3.04E-03	lb/MMBtu	3.50E-05	tons
EU007	Konus Burner 1	PD002	Fluoranthene	AP-42, Table 1.4-3	23	MMBtu/hr	3.00E-06	lb/10 ³ scf	2.94E-09	lb/MMBtu	3.38E-11	tons
EU007	Konus Burner 1	PD002	Fluorene	AP-42, Table 1.4-3	23	MMBtu/hr	2.80E-06	lb/10 ³ scf	2.75E-09	lb/MMBtu	3.16E-11	tons
EU007	Konus Burner 1	PD002	Formaldehyde	AP-42, Table 1.4-3	23	MMBtu/hr	7.50E-02	lb/10 ³ scf	7.35E-05	lb/MMBtu	8.46E-07	tons
EU007	Konus Burner 1	PD002	Hexane	AP-42, Table 1.4-3	23	MMBtu/hr	1.80E+00	lb/10 ³ scf	1.76E-03	lb/MMBtu	2.03E-05	tons
EU007	Konus Burner 1	PD002	Indeno(1,2,3-cd)pyrene	AP-42, Table 1.4-3	23	MMBtu/hr	1.80E-06	lb/10 ³ scf	1.76E-09	lb/MMBtu	2.03E-11	tons
EU007	Konus Burner 1	PD002	Naphthalene	AP-42, Table 1.4-3	23	MMBtu/hr	6.10E-04	lb/10 ³ scf	5.98E-07	lb/MMBtu	6.88E-09	tons
EU007	Konus Burner 1	PD002	Pentane	AP-42, Table 1.4-3	23	MMBtu/hr	2.60E+00	lb/10 ³ scf	2.55E-03	lb/MMBtu	2.93E-05	tons
EU007	Konus Burner 1	PD002	Phenanthrene	AP-42, Table 1.4-3	23	MMBtu/hr	1.70E-05	lb/10 ³ scf	1.67E-08	lb/MMBtu	1.92E-10	tons
EU007	Konus Burner 1	PD002	Propane	AP-42, Table 1.4-3	23	MMBtu/hr	1.60E+00	lb/10 ³ scf	1.57E-03	lb/MMBtu	1.80E-05	tons
EU007	Konus Burner 1	PD002	Pyrene	AP-42, Table 1.4-3	23	MMBtu/hr	5.00E-06	lb/10 ³ scf	4.90E-09	lb/MMBtu	5.64E-11	tons
EU007	Konus Burner 1	PD002	Toluene	AP-42, Table 1.4-3	23	MMBtu/hr	3.40E-03	lb/10 ³ scf	3.33E-06	lb/MMBtu	3.83E-08	tons
EU008	Konus Burner 2	PD002	2-Methylnaphthalene	AP-42, Table 1.4-3	23	MMBtu/hr	2.45E-05	lb/10 ³ scf	2.40E-08	lb/MMBtu	2.76E-10	tons
EU008	Konus Burner 2	PD002	3-Methylchloranthrene	AP-42, Table 1.4-3	23	MMBtu/hr	1.80E-06	lb/10 ³ scf	1.76E-09	lb/MMBtu	2.03E-11	tons
EU008	Konus Burner 2	PD002	7,12 - Dimethylbenz(a)anthracene	AP-42, Table 1.4-3	23	MMBtu/hr	1.60E-05	lb/10 ³ scf	1.57E-08	lb/MMBtu	1.80E-10	tons
EU008	Konus Burner 2	PD002	Acenaphthene	AP-42, Table 1.4-3	23	MMBtu/hr	1.80E-06	lb/10 ³ scf	1.76E-09	lb/MMBtu	2.03E-11	tons
EU008	Konus Burner 2	PD002	Acenaphthylene	AP-42, Table 1.4-3	23	MMBtu/hr	1.80E-06	lb/10 ³ scf	1.76E-09	lb/MMBtu	2.03E-11	tons
EU008	Konus Burner 2	PD002	Anthracene	AP-42, Table 1.4-3	23	MMBtu/hr	2.40E-06	lb/10 ³ scf	2.35E-09	lb/MMBtu	2.71E-11	tons
EU008	Konus Burner 2	PD002	Benz(a)anthracene	AP-42, Table 1.4-3	23	MMBtu/hr	1.80E-06	lb/10 ³ scf	1.76E-09	lb/MMBtu	2.03E-11	tons
EU008	Konus Burner 2	PD002	Benzene	AP-42, Table 1.4-3	23	MMBtu/hr	2.10E-03	lb/10 ³ scf	2.06E-06	lb/MMBtu	2.37E-08	tons
EU008	Konus Burner 2	PD002	Benzo(a)pyrene	AP-42, Table 1.4-3	23	MMBtu/hr	1.20E-06	lb/10 ³ scf	1.18E-09	lb/MMBtu	1.35E-11	tons
EU008	Konus Burner 2	PD002	Benzo(b)fluoranthene	AP-42, Table 1.4-3	23	MMBtu/hr	1.80E-06	lb/10 ³ scf	1.76E-09	lb/MMBtu	2.03E-11	tons
EU008	Konus Burner 2	PD002	Benz(g,h,i)perylene	AP-42, Table 1.4-3	23	MMBtu/hr	1.20E-06	lb/10 ³ scf	1.18E-09	lb/MMBtu	1.35E-11	tons
EU008	Konus Burner 2	PD002	Benzo(k)fluoranthene	AP-42, Table 1.4-3	23	MMBtu/hr	1.80E-06	lb/10 ³ scf	1.76E-09	lb/MMBtu	2.03E-11	tons
EU008	Konus Burner 2	PD002	Butane	AP-42, Table 1.4-3	23	MMBtu/hr	2.10E+00	lb/10 ³ scf	2.06E-03	lb/MMBtu	2.37E-05	tons
EU008	Konus Burner 2	PD002	Chrysene	AP-42, Table 1.4-3	23	MMBtu/hr	1.80E-06	lb/10 ³ scf	1.76E-09	lb/MMBtu	2.03E-11	tons
EU008	Konus Burner 2	PD002	Dibenzo(a,h)anthracene	AP-42, Table 1.4-3	23	MMBtu/hr	1.20E-06	lb/10 ³ scf	1.18E-09	lb/MMBtu	1.35E-11	tons
EU008	Konus Burner 2	PD002	Dichlorobenzene	AP-42, Table 1.4-3	23	MMBtu/hr	1.20E-03	lb/10 ³ scf	1.18E-06	lb/MMBtu	1.35E-08	tons
EU008	Konus Burner 2	PD002	Ethane	AP-42, Table 1.4-3	23	MMBtu/hr	3.10E+00	lb/10 ³ scf	3.04E-03	lb/MMBtu	3.50E-05	tons
EU008	Konus Burner 2	PD002	Fluoranthene	AP-42, Table 1.4-3	23	MMBtu/hr	3.00E-06	lb/10 ³ scf	2.94E-09	lb/MMBtu	3.38E-11	tons
EU008	Konus Burner 2	PD002	Fluorene	AP-42, Table 1.4-3	23	MMBtu/hr	2.80E-06	lb/10 ³ scf	2.75E-09	lb/MMBtu	3.16E-11	tons
EU008	Konus Burner 2	PD002	Formaldehyde	AP-42, Table 1.4-3	23	MMBtu/hr	7.50E-02	lb/10 ³ scf	7.35E-05	lb/MMBtu	8.46E-07	tons
EU008	Konus Burner 2	PD002	Hexane	AP-42, Table 1.4-3	23	MMBtu/hr	1.80E+00	lb/10 ³ scf	1.76E-03	lb/MMBtu	2.03E-05	tons
EU008	Konus Burner 2	PD002	Indeno(1,2,3-cd)pyrene	AP-42, Table 1.4-3	23	MMBtu/hr	1.80E-06	lb/10 ³ scf	1.76E-09	lb/MMBtu	2.03E-11	tons
EU008	Konus Burner 2	PD002	Naphthalene	AP-42, Table 1.4-3	23	MMBtu/hr	6.10E-04	lb/10 ³ scf	5.98E-07	lb/MMBtu	6.88E-09	tons
EU008	Konus Burner 2	PD002	Pentane	AP-42, Table 1.4-3	23	MMBtu/hr	2.60E+00	lb/10 ³ scf	2.55E-03	lb/MMBtu	2.93E-05	tons
EU008	Konus Burner 2	PD002	Phenanthrene	AP-42, Table 1.4-3	23	MMBtu/hr	1.70E-05	lb/10 ³ scf	1.67E-08	lb/MMBtu	1.92E-10	tons
EU008	Konus Burner 2	PD002	Propane	AP-42, Table 1.4-3	23	MMBtu/hr	1.60E+00	lb/10 ³ scf	1.57E-03	lb/MMBtu	1.80E-05	tons
EU008	Konus Burner 2	PD002	Pyrene	AP-42, Table 1.4-3	23	MMBtu/hr	5.00E-06	lb/10 ³ scf	4.90E-09	lb/MMBtu	5.64E-11	tons
EU008	Konus Burner 2	PD002	Toluene	AP-42, Table 1.4-3	23	MMBtu/hr	3.40E-03	lb/10 ³ scf	3.33E-06	lb/MMBtu	3.83E-08	tons

Air Toxic	PTE Tons per Year
2-Methylnaphthalene	2.30E-09
3-Methylchloranthrene	1.69E-10
7,12 - Dimethylbenz(a)anthracene	1.50E-09
Acenaphthene	1.69E-10
Acenaphthylene	1.69E-10
Anthracene	1.96E-10
Benz(a)anthracene	1.99E-10
Benzene	9.38E-08
Benzo(a)pyrene	1.04E-07
Benzo(b)fluoranthene	1.40E-10
Benz(g,h,i)perylene	1.42E-10
Benzo(k)fluoranthene	1.40E-10
Butane	9.37E-05
Chrysene	1.04E-04
Dibenzo(a,h)anthracene	1.42E-10
Dichlorobenzene	5.36E-08
Ethane	2.91E-04
Fluoranthene	2.82E-10
Fluorene	2.63E-10
Formaldehyde	7.05E-06
Hexane	1.69E-04
Indeno(1,2,3-cd)pyrene	1.69E-10
Naphthalene	5.74E-08
Pentane	2.44E-04
Phenanthrene	1.60E-09
Propane	1.50E-04
Pyrene	4.70E-10
Toluene	3.20E-07
Total	1.06E-03

Natural Gas Combustion

Air Toxic	TPY
Acenaphthylene	1.69E-10
Anthracene	1.96E-10
Benzene	9.38E-08
Benz(a)anthracene	1.99E-10
Benzo(a)pyrene	1.04E-07
Benzo(b)fluoranthene	1.40E-10
Benz(g,h,i)perylene	1.42E-10
Benzo(k)fluoranthene	1.40E-10
Butane	9.37E-05
Chrysene	1.04E-04
Dibenzo(a,h)anthracene	1.42E-10
Dichlorobenzene	5.36E-08
7,12 - Dimethylbenz(a)anthracene	1.50E-09
Ethane	2.91E-04
Fluoranthene	2.82E-10
Fluorene	2.63E-10
Formaldehyde	7.05E-06
Hexane	1.69E-04
Indeno(1,2,3-cd)pyrene	1.69E-10
2-Methylnaphthalene	2.30E-09
3-Methylchloranthrene	1.69E-10
Naphthalene	5.74E-08
Pentane	2.44E-04
Phenanthrene	1.60E-09
Propane	1.50E-04

Biomass Combustion

Air Toxic	TPY
ACENAPHTHENE	1.08E-07
ACENAPHTHYLENE	3.04E-06
ACETALDEHYDE	1.55E-05
ACETONE	1.05E-05
ACETOPHENONE	4.83E-06
ACROLEIN	2.33E-05
ANTHRACENE	1.76E-07
BENZALDEHYDE	4.83E-05
BENZENE	2.33E-04
BENZO(A)ANTHRACENE	3.35E-08
BENZO(A)PYRENE	1.45E-07
BENZO(B)FLUORANTHENE	5.58E-09
BENZO(E)PYRENE	1.21E-09
BENZO(G,H,I)PERYLENE	7.00E-09
BENZO(J,K)FLUORANTHENE	9.29E-09
BENZO(K)FLUORANTHENE	2.54E-09
BENZOIC ACID	3.15E-09
BIS(2-ETHYLHEXYL)PHTHALATE	1.75E-07
BROMOMETHANE	8.95E-07
2-BUTANONE (MEK)	3.20E-07
CARBAZOLE	6.17E-07
CARBON TETRACHLORIDE	1.16E-05
CHLORINE	4.42E-05
CHLOROBENZENE	2.15E-06
CHLOROFORM	1.82E-06
CHLOROMETHANE	1.28E-06
2-CHLORONAPHTHALENE	4.09E-10
2-CHLOROPHENOL	1.77E-09
CHRYSENE	1.16E-07
CROTONALDEHYDE	5.49E-07
DECACHLOROBIPHENYL	1.20E-10
DIBENZON(A,H)ANTHRACENE	6.33E-07
1,2-DIBROMOETHENE	3.05E-06
DICHLOROBIPHENYL	3.34E-07
1,2-DICHLOROETHANE	4.94E-06
DICHLOROMETHANE	1.65E-05
1,2-DICHLOROPROPANE	1.83E-06
7,12 - Dimethylbenz(a)anthracene	
2,4-DINITROPHENOL	3.66E-07
ETHYLBENZENE	1.74E-06
FLUORANTHENE	1.28E-07
FLURENE	3.98E-06
FORMALDEHYDE	1.83E-05
HEPTACHLOROBIPHENYL	9.99E-12
HEXACHLOROBIPHENYL	8.05E-08
HEXANAL	3.89E-07
HEPTACHLORODIBENZO-P-DIOXINS	1.14E-10
HEPTACHLORODIBENZO-P-FURANS	1.84E-08
HEXACHLORODIBENZO-P-DIOXINS	8.88E-08
HEXACHLORODIBENZO-P-FURANS	2.19E-04
HYDROGEN CHLORIDE	1.05E-03
INDENO(1,2,3,C,D)PYRENE	1.43E-07
ISOBUTYRALDEHYDE	2.42E-04
METHANE	1.18E-03
METHANOL	4.61E-05
2-METHYLNAPHTHALENE	8.88E-09
MONOCHLOROBIPHENYL	1.12E-06
NAPHTHALENE	5.39E-06
2-NITROPHENOL	1.46E-08
4-NITROPHENOL	6.86E-09
OCTACHLORODIBENZO-P-DIOXINS	3.66E-09
OCTACHLORODIBENZO-P-FURANS	2.21E-11
PENTACHLORODIBENZO-P-DIOXINS	8.81E-11
PENTACHLORODIBENZO-P-FURANS	3.71E-11
PENTACHLOROBIPHENYL	6.53E-10
PENTACHLOROPHENOL	2.84E-09
PERYLENE	8.05E-08
PHENANTHRENE	6.19E-07
PHENOL	1.15E-06
PROPANAL	5.57E-07
PROPIONALDEH	1.87E-06

Maximum PTE Rate

TPY
1.08E-07
3.04E-06
1.55E-05
1.05E-05
4.83E-06
2.33E-05
1.76E-07
4.83E-05
2.33E-04
3.35E-08
1.45E-07
5.58E-09
1.21E-09
7.00E-09
9.29E-09
2.54E-09
3.15E-09
1.75E-07
8.95E-07
3.20E-07
9.37E-05
6.17E-07
1.16E-05
4.42E-05
2.15E-06
1.82E-06
1.28E-06
4.09E-10
1.77E-09
1.04E-04
5.49E-07
1.20E-10
6.33E-07
3.05E-06
5.36E-08
3.34E-07
4.94E-06
1.65E-05
1.83E-06
1.50E-09
2.91E-04
3.66E-07
1.74E-06
1.28E-07
3.98E-06
1.83E-05
9.99E-12
8.05E-08
3.89E-07
1.69E-04
1.14E-10
1.84E-08
8.88E-08
2.19E-04
1.05E-03
1.43E-07
2.42E-04
1.18E-03
4.61E-05
8.88E-09
1.69E-10
1.12E-06
5.39E-06
1.46E-08
6.86E-09
3.66E-09
2.21E-11
8.81E-11
3.71E-11
6.53E-10
2.84E-09
2.44E-04
8.05E-08
6.19E-07
1.15E-06
1.50E-04
5.57E-07
1.87E-06

