

**AIR EMISSION PERMIT NO. 03700280-004**

**IS ISSUED TO**

Endres Processing LLC

**ENDRES PROCESSING LLC**  
13420 Courthouse Boulevard  
Rosemount, Dakota County, MN 55068

The emission units, control equipment and emission stacks at the stationary source authorized in this permit are as described in the following permit application(s):

Permit Type	Application Date
Total Facility Operating Permit	02/25/2002
Total Facility Permit / Major Amendment	04/08/2005

This permit authorizes the Permittee to operate and modify the stationary source at the address listed above unless otherwise noted in Table A. The Permittee must comply with all the conditions of the permit. Any changes or modifications to the stationary source must be performed in compliance with Minn. R. 7007.1150 to 7007.1500. Terms used in the permit are as defined in the state air pollution control rules unless the term is explicitly defined in the permit.

**Permit Type:** State; Limits to Avoid Part 70 and New Source Review

**Issue Date:** June 8, 2007

**Expiration:** Permit Does Not Expire  
All Title I Conditions Do Not Expire

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Richard J. Sandberg, Manager  
Air Quality Permits Section  
Industrial Division

for Brad Moore  
Commissioner  
Minnesota Pollution Control Agency

## **TABLE OF CONTENTS**

**Notice to the Permittee**

**Permit Shield**

**Facility Description**

**Table A: Limits and Other Requirements**

**Table B: Submittals**

**Appendix A: Emission Factors for Hazardous Air Pollutants**

**Appendix B: Standard Operating Procedure for Composite Sawdust Sampling**

**Appendix C: Standard Operating Procedure for Composite Sawdust Analysis**

**Appendix D: Facility Description Forms**

**Appendix E: Manufacturer's Recommendations for Optimization of Perlite  
Injection System's Operation**

**NOTICE TO THE PERMITTEE:**

Your stationary source may be subject to the requirements of the Minnesota Pollution Control Agency's (MPCA) solid waste, hazardous waste, and water quality programs. If you wish to obtain information on these programs, including information on obtaining any required permits, please contact the MPCA general information number at:

Metro Area	651-296-6300
Outside Metro Area	1-800-657-3864
TTY	651-282-5332

The rules governing these programs are contained in Minn. R. chs. 7000-7105. Written questions may be sent to: Minnesota Pollution Control Agency, 520 Lafayette Road North, St. Paul, Minnesota 55155-4194.

Questions about this air emission permit or about air quality requirements can also be directed to the telephone numbers and address listed above.

**PERMIT SHIELD:**

Subject to the limitations in Minn. R. 7007.1800, compliance with the conditions of this permit shall be deemed compliance with the specific provision of the applicable requirement identified in the permit as the basis of each condition.

Subject to the limitations of Minn. R. 7007.1800 and 7017.0100, subp. 2, notwithstanding the conditions of this permit specifying compliance practices for applicable requirements, any person (including the Permittee) may also use other credible evidence to establish compliance or noncompliance with applicable requirements.

**FACILITY DESCRIPTION:**

This permit is for a state total facility operating permit. The facility is an animal feed production plant which uses off specification or outdated bakery, dairy, and other food production materials. The materials are mixed and dried into animal feed which is shipped in bulk. The facility consists of material handling equipment, a rotary dryer, control equipment, truck loading and unloading areas, storage tanks, a diesel fired generator (1.5 MW) for emergency and curtailment use purposes, and paved drive areas.

In addition to limiting the facility to below major source thresholds for federal new source review and Title V permitting, this total facility permit authorizes the use of petroleum coke to supplement the sawdust and refuse derived fuel currently combusted by the burner and includes a pre-authorized list of biomass fuels that the facility will be allowed to conduct test burns of and combust them on a continuous basis upon written approval from the Minnesota Pollution Control Agency.

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: Endres Processing LLC  
 Permit Number: 03700280 - 004

Table A contains limits and other requirements with which your facility must comply. The limits are located in the first column of the table (What To do). The limits can be emission limits or operational limits. This column also contains the actions that you must take and the records you must keep to show that you are complying with the limits. The second column of Table A (Why to do it) lists the regulatory basis for these limits. Appendices included as conditions of your permit are listed in Table A under total facility requirements.

Subject Item: Total Facility

What to do	Why to do it
OPERATIONAL LIMITS	hdr
Total Particulate Matter: less than or equal to 95 tons/year using 12-month Rolling Sum	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 70.2 and Minn. R. 7007.0200
Particulate Matter < 10 micron: less than or equal to 95 tons/year using 12-month Rolling Sum	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 70.2 and Minn. R. 7007.0200
Nitrogen Oxides: less than or equal to 95 tons/year using 12-month Rolling Sum	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 70.2 and Minn. R. 7007.0200
Carbon Monoxide: less than or equal to 95 tons/year using 12-month Rolling Sum	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 70.2 and Minn. R. 7007.0200
Sulfur Dioxide: less than or equal to 95 tons/year using 12-month Rolling Sum	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 70.2 and Minn. R. 7007.0200
Volatile Organic Compounds: less than or equal to 95 tons/year using 12-month Rolling Sum	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 70.2 and Minn. R. 7007.0200
Any HAP-Single: less than or equal to 9 tons/year using 12-month Rolling Sum	Title I Condition: To avoid major source classification under 40 CFR Section 63.2 and under 40 CFR Section 70.2 and Minn. R. 7007.0200
HAPs - Total: less than or equal to 24 tons/year using 12-month Rolling Sum	Title I Condition: To avoid major source classification under 40 CFR Section 63.2 and under 40 CFR Section 70.2 and Minn. R. 7007.0200
RECORDKEEPING	hdr
Calculate and record the 12-month Rolling Sums for each month by the 15th of the following month.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 63.2 and under 40 CFR Section 70.2 and Minn. R. 7007.0200
<p>Daily record and for each month by the 15th of the following month calculate and record:</p> <ol style="list-style-type: none"> <li>1) Tons of sawdust burned in EU011;</li> <li>2) Tons of RDF burned in EU011;</li> <li>3) Tons of petroleum coke burned in EU011;</li> <li>4) Gallons of diesel fuel burned in EU016;</li> <li>5) MCF natural gas burned facility-wide;</li> <li>6) Amount of raw product received and dried;</li> <li>7) Amount of sawdust received;</li> <li>8) Amount of sawdust and raw materials conveyed to storage;</li> <li>9) Amount of petroleum coke received and its sulfur content; and</li> <li>10) Amount of other MPCA-approved biomass fuel burned.</li> </ol> <p>For each month by the 15th of the following month calculate and record:</p> <p>Previous month's emissions of criteria pollutants (NOx, SO2, PM, PM10, VOC, CO), Single HAP and HAPs - Total, using the methods described in Groups 002 - 008.</p>	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 63.2 and under 40 CFR Section 70.2 and Minn. R. 7007.0200
Recordkeeping: 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	Minn. R. 7007.0800 subp. 5(C)

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: Endres Processing LLC

Permit Number: 03700280 - 004

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.	Minn. R. 7007.0800, subp. 5(B)
<b>OPERATIONAL REQUIREMENTS</b>	hdr
Air Pollution Control Equipment: Operate all pollution control equipment, and associated monitoring equipment, whenever the corresponding process equipment and emission units are operated, unless otherwise noted in Table A. Pollution Control equipment must be started within 90 days of permit issuance.	Minn. R. 7007.0800, subp. 16(J)
Operation and Maintenance Plan: Within 90 days of emission unit or pollution control equipment startup, prepare an O&M plan and retain at the stationary source for all pollution control equipment.	Minn. R. 7007.0800, subp. 14 Minn. R. 7007.0800, subp. 16(j)
Ash Testing Plan: Within 90 days of permit issuance submit ash testing plan and amendments to the plan to the Municipal Division; Policy, Local Government Assistance, and Solid Waste Section; Solid Waste Permitting Unit for approval. The plan must contain the information in Minn. R. 7035.2910, subp. 6(A) - (H). This is a state only requirement and not enforceable by EPA or citizens under the Clean Air Act.	Minn. R. 7035.2910, subp. 6
Monitoring Equipment: Install or make needed repairs to monitoring equipment within 60 days of issuance of the permit if monitoring equipment is not installed and operational on the date the permit is issued.	Minn. R. 7007.0800, subp. 4(C)
Monitoring Equipment Calibration: Annually calibrate all required monitoring equipment (any requirements applying to continuous emission monitors are listed separately in this permit).	Minn. R. 7007.0800, subp. 4(C)
Operation of Monitoring Equipment: Unless otherwise noted in Tables A, B and/or C, monitoring process or control equipment connected to that process is not necessary during periods when the process is shutdown, such as for system breakdowns, repairs, calibration checks, and zero and span adjustments (as applicable). Monitoring record should reflect any such periods of process shutdown.	Minn. R. 7007.0800, subp. 4(C)
Operation Changes: In any shutdown, breakdown, or deviation 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 emission of air pollutants. No emissions units that have an unreasonable shutdown or breakdown frequency of process or control equipment shall be permitted to operate.	Minn. R. 7019.1000 subp. 4
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.	Minn. R. 7011.0020
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.	Minn. R. 7011.0150
Keep on site and implement a written training procedure for all dryer system operators. This training will cover all aspects of dryer operation and include training regarding start-up and shut-down of equipment and the environmental requirements applicable to dryer equipment. All dryer operators must comply with the written training procedure. This is a state only requirement and not enforceable by the EPA or citizens under the Clean Air Act.	Minn. R. 7007.0800, subp. 2
Noise: Comply with noise standards set forth in Minn. R. 7030.0010 to 7030.0080 at all times during operation of any emission units. This is a state requirement only and not enforceable by EPA or citizens under the Clean Air Act.	Minn. R. 7030.0010-7030.0080
Inspections: Upon presentation of credential and other document as may be required by law, allow the Agency, or its representative, to enter the Permittees premises, to have access to and copy any records required by this permit, to inspect at reasonable times (which include any time the source is operating) any facilities, equipment, practices or operations, and to sample or monitor any substances or parameters at any location.	Minn. R. 7007.0800, subp. 9(A)
General Conditions: Comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16.	Minn. R. 7007.0800, subp. 16
<b>PERFORMANCE TESTING</b>	hdr
Performance Testing: Conduct all performance tests in accordance with Minn. R. ch. 7017 unless otherwise noted in Tables A, B, and/or C.	Minn. R. 7017

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: Endres Processing LLC

Permit Number: 03700280 - 004

<p>Performance Test Notifications and Submittals:</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 day before each Performance Test                  Performance Test Report: due 45 days after each Performance Test                  Performance Test Report: Microfiche Copy or CD: due 105 days after each Performance Test.</p> <p>The Notification, Test Plan, and Test report may be submitted in alternate format as allowed by Minn. R. 7017.2018.</p>	<p>Minn. R. 7017.2030, subp. 1-4 and Minn. R. 7017.2035, subp. 1-2</p>
<p>Limits set as a result of a performance test apply until superseded as specified in Minn. R. 7017.2025 following formal review of a subsequent performance test on the same unit.</p>	<p>Minn. R. 7017.2025</p>
<p>The owner or operator of an emission facility shall arrange to conduct a performance test to determine the characteristics and amount of emissions of air pollutants from any emission facility at the times required by an applicable requirement or compliance document and at additional times if the commissioner requests a performance test under Minn. R. 7017.2020, subp. 1</p>	<p>Minn. R. 7017.2020, subp. 1</p>
<p><b>OTHER TESTING</b></p>	<p>hdr</p>
<p>Ash Testing: Conduct ash sampling at least quarterly in accordance with Minn. R. 7035.2910 to form an annual composite sample. The permittee shall analyze the annual composite sample in accordance with Minn. R. 7035.2910, subp. 4, item A, tables 1 and 2. This is a state only requirement and not enforceable by EPA or citizens under the Clear Air Act.</p>	<p>Minn. R. 7035.2910, subp. 3</p>
<p><b>REPORTING/SUBMITTALS</b></p>	<p>hdr</p>
<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>	<p>Minn. R. 7019.1000, subp.3</p>
<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>	<p>Minn. R. 7019.1000, subp.2</p>
<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>	<p>Minn. R. 7019.1000, subp. 1</p>
<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"> <li>1. the cause of the deviation;</li> <li>2. the exact dates of the period of the deviation, if the deviation has been corrected;</li> <li>3. whether or not the deviation has been corrected;</li> <li>4. the anticipated time by which the deviation is expected to be corrected, if not yet corrected; and</li> <li>5. steps taken or planned to reduce, eliminate, and prevent reoccurrence of the deviation.</li> </ol>	<p>Minn. R. 7019.1000, subp. 1</p>
<p>Application for Permit Amendment: If you need a permit amendment, submit 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>	<p>Minn. R. 7007.1150 through Minn. R. 7007.1500</p>
<p>Extension Requests: The Permittee may apply for and 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)</p>	<p>Minn. R. 7007.1400, subp. 1(H)</p>

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

A-4

06/08/07

Facility Name: Endres Processing LLC

Permit Number: 03700280 - 004

Emission Inventory Report: due 91 days after end of each calendar year following permit issuance (April 1). To be submitted on a form approved by the Commissioner.	Minn. R. 7019.3000 through Minn. R. 7019.3100
Emission Fees: due 60 days after receipt of an MPCA bill.	Minn. R. 7007.0800, subp. 9(A)
Inapplicable Requirement: Minn. R. 7011.1201-1285 regarding waste combustors. The facility is defined as a "cofired facility" under Minn. R. 7011.1215 subp. 2. since it combusts primarily wood and is limited under this permit to burn less than 30% of refuse derived fuel or mixed municipal solid waste.	Minn. R. 7007.1800
Inapplicable Requirement: The facility is not subject to Minn. R. 7011.1000 regarding bulk agricultural facilities. The facility primarily receives already processed food by-products and liquid material and is not a dry bulk agricultural commodity facility.	Minn. R. 7007.1800
Inapplicable Requirement: The facility is not subject to the requirements under 40 CFR Part 63, Subpart DDDDD (process heater MACT) because the facility is not a major source of hazardous air pollutants. The process heater MACT will apply if the facility does not comply with HAPS emissions limits in this permit.	Minn. R. 7007.1800

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: Endres Processing LLC  
 Permit Number: 03700280 - 004

**Subject Item: GP 001 Indirect Heating Equipment**

- Associated Items:** CE 012 Centrifugal Collector - High Efficiency  
 CE 013 Centrifugal Collector - High Efficiency  
 CE 017 Fabric Filter - High Temperature, i.e., T>250 Degrees F  
 EU 011 Solid Fuel Burner w/ Natural Gas-Fired Startup  
 EU 012 Rotary Kiln Dryer  
 EU 018 Raw Material and Sawdust Storage  
 EU 019 Petroleum Coke Handling  
 SV 011 Burner and Dryer Stack

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.4 lbs/million Btu heat input	Minn. R. 7011.0510 subp. 1, This limit is more stringent than the 0.3 grains/dscf contained in Minn. R. 7011.0715
Sulfur Dioxide: less than or equal to 4.0 lbs/million Btu heat input	Minn. R. 7011.0510 subp. 1
Opacity: less than or equal to 20 percent opacity	Minn. R. 7011.0715 subp. 1 (B) This limit is more stringent than the opacity limited contained in Minn. R.7011.0510 subp. 2
FUEL USAGE CONDITIONS and RECORDKEEPING	hdr
Fuels Allowed: Natural gas; sawdust from untreated wood; petroleum coke; refuse derived fuel (RDF), as defined by Minn. R. 7035.0300 subp. 91; mixed municipal solid waste (MMSW) limited to packaging material, plastics and paper; and MPCA-approved biomass fuels.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 63.2 and under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7011.0551, subp. 1-4
Refuse Derived and Mixed Municipal Solid Waste Fuel Usage: less than or equal to 30 percent by weight using a 24-hour block average. The extraneous matter fraction of the primary sawdust fuel that is included as part of the 30% limit is provided monthly by lab analysis and is used in the subsequent month's determination of 24-hour block averages.	40 CFR Section 60.1020(g)(1); Minn. R. 7011.0551, subp. 1-4
Fuel Usage: less than or equal to 10 percent by weight of saw dust shall consist of extraneous materials, such as resins, coatings, plastics and/or laminate remnants. The sawdust composition shall be determined using a monthly analysis of a composite sample of sawdust deliveries analyzed by stereomicroscopy (following the sampling and analysis protocol) or supplier certification. The protocol defines: <ul style="list-style-type: none"> <li>· sawdust delivery sampling,</li> <li>· sample compositing,</li> <li>· analysis by stereomicroscopy,</li> <li>· separation of bound wood and laminate, and</li> <li>· reporting</li> </ul> The percentage of extraneous material present in the composite sample shall count towards the RDF/MMSW fuel usage limit for the following month.	Minn. R. 7011.0551, subp. 1-4
Startup Fuel Usage: During startup of EU 011, use natural gas to achieve chamber operating temperature before the addition of other fuels.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 63.2 and under 40 CFR Section 70.2 and Minn. R. 7007.0200
Obtain and retain on site fuel supplier certifications indicating the sulfur content of each petroleum coke delivery.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 70.2 and Minn. R. 7007.0200
Recordkeeping: Keep daily records of: - weight of sawdust combusted; - weight of RDF combusted (and calculate and record the percentage of RDF in the fuel mix by weight); and - weight of petroleum coke combusted	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 63.2 and under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7011.0551, subp. 1-4
Bypass Event Recordkeeping: Record and maintain records of the time, date, duration, cause, and corrective action of sorbent injection and fabric filter bypass events.	Minn. R. 7007.0800. subp. 5
PERFORMANCE TESTING	hdr



**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: Endres Processing LLC

Permit Number: 03700280 - 004

<p>Initial Performance Test: due 180 days after Initial Startup of EU011 (the burner) to measure emissions of Total Particulate Matter.</p>	<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 63.2 and under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7017.2020, subp. 1</p>
<p>Initial Performance Test: due 180 days after Initial Startup of EU011 (the burner) to measure emissions of Particulate Matter &lt;10 micron.</p>	<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 63.2 and under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7017.2020, subp. 1</p>
<p>Initial Performance Test: due 180 days after Initial Startup of EU011 (the burner) to measure Opacity.</p>	<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 63.2 and under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7017.2020, subp. 1</p>
<p>Initial Performance Test: due 180 days after Initial Startup of EU011 (the burner) to measure emissions of Carbon Monoxide.</p>	<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 63.2 and under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7017.2020, subp. 1</p>
<p>Initial Performance Test: due 180 days after Initial Startup of EU011 (the burner) to measure emissions of Nitrogen Oxides.</p>	<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 63.2 and under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7017.2020, subp. 1</p>
<p>Initial Performance Test: due 180 days after Initial Startup of EU011 (the burner) to measure emissions of Hydrogen Chloride.</p>	<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 63.2 and under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7017.2020, subp. 1</p>
<p>Initial Performance Test: due 180 days after Initial Startup of EU011 (the burner) to measure emissions of Sulfur Dioxide.</p>	<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 63.2 and under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7017.2020, subp. 1</p>
<p>Initial Performance Test: due 180 days after Initial Startup of EU011 (the burner) to measure emissions of Volatile Organic Compounds.</p>	<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 63.2 and under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7017.2020, subp. 1</p>
<p>Initial Performance Test: due 180 days after Initial Startup of EU011 (the burner) to measure emissions of Hazardous Air Pollutants (Method 18 targeted to quantify as many of the following as feasible: aldehydes [including acrolein, benzaldehyde, crotonaldehyde and gluteraldehyde], organic acids [including formic and acetic acid], nitrosamines, acrylamide and acrylonitrile).</p>	<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 63.2 and under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7017.2020, subp. 1</p>
<p>Testing shall be performed for sawdust/RDF blend and sawdust/petroleum coke blend. To the extent that petroleum coke is not in use as a fuel at the facility at the time of the initial performance testing required by this permit, the Permittee shall conduct testing within 90 days of the start of petroleum coke use. The tested emission rates will establish the emission factors to be used to calculate the monthly and 12-month Rolling Sum of emissions. After the initial performance testing has been completed, additional testing for these parameters is not required unless the permittee wants to revise an emission factor or operating condition, or unless requested by MPCA. Total PM and opacity which shall be tested based on MPCA guidance and the testing frequency plan.</p>	<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 63.2 and under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7017.2020, subp. 1</p>
<p>ALTERNATIVE FUEL TESTING</p>	<p>hdr</p>

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: Endres Processing LLC  
 Permit Number: 03700280 - 004

<p>Pre-Authorized Biomass Fuel Testing Authorization: The Permittee is pre-authorized to conduct test burns of the following biomass fuels:</p> <p>agricultural crops;              herbs, nuts, by-products or waste;              vegetable oils, by-products or waste;              crop field residue or field processing by-products;              shells, husks, seed, dust, screenings and other agricultural by-products;              cultivated grasses or grass by-products;              wood, wood waste including wood processing by-products; and              leaves.</p> <p>Acceptable biomass fuels do not include 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, animal manures and wastes, or any material meeting the definition of a hazardous waste.</p>	<p>Minn. R. 7007.0800, subp. 2</p>
<p>Biomass Test Burn Notification: 3 days prior to the start of a test burn, the Permittee shall notify the MPCA in writing that the test burn is taking place. This written notification shall include the type of material being test burned.</p>	<p>Minn. Stat. 115.04; Minn. Stat. 116.07, subd. 9(b); and Minn. Stat. 116.091</p>
<p>Any MPCA-approved biomass fuel must be accomodated with existing equipment at the facility. In no case does this permit authorize the Permittee to make any physical or operational changes that would trigger applicability of a New Source Performance Standard, a Maximum Achievable Control Technology Standard or Prevention of Significant Deterioration.</p>	<p>40 CFR Sections 52.21, 60 and 63</p>
<p>Biomass Fuel Testing Restrictions: Test burns shall be done in accordance with an MPCA-approved test plan and limited to no more than 14 days of operation and a test period not to exceed 90 days.</p>	<p>Minn. R. 7007.0800, subp. 2</p>
<p>Biomass Fuel Testing Requirements: Test burns shall be conducted to measure emissions of PM, PM10, Opacity, CO, NOx, SO2, HCl, VOCs, HAPs and other chemicals of potential interest as determined by the MPCA for the purpose of developing emission factors.</p>	<p>Minn. R. 7007.0800, subp. 2</p>
<p>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:</p> <ol style="list-style-type: none"> <li>1) meet the requirements of Minn. R. 7017.2030,</li> <li>2) describe which above pre-authorized category the fuels to be burned are part of, and</li> <li>3) include the type and estimated amount of fuels to be tested; operating parameters and anticipated fuel mixes during the test; air pollutants and other chemicals of potential interest as determined by the MPCA that will be measured during testing; results of the MPCA-approved analysis that was used to determine that the material to be burned does not meet the definition of a hazardous waste; and, a testing schedule.</li> </ol>	<p>Minn. R. 7017.2030, subp. 1-4; Minn. R. 7017.2018</p>
<p>Risk Assessment Screening Analysis: When burning treated seed or materials that may result in emissions of chemicals of potential interest as determined through the MPCA-approved test plan, the Permittee shall complete a Risk Assessment Screening Analysis. The Permittee shall use the emission factors developed during the above testing as input data for use of the MPCA's Risk Assessment Screening Spreadsheet available at: <a href="http://www.pca.state.mn.us/air/aera-risk.html">http://www.pca.state.mn.us/air/aera-risk.html</a>. The Permittee may also choose to use a more refined dispersion model for the analysis.</p> <p>The results of this analysis shall be included with the test report required below.</p>	<p>Minn. R. 7007.0800, subp. 2</p>
<p>Biomass Fuel Testing Notifications and Submittals:</p> <p>Performance Test Pre-Test Meeting: due 7 day before each Performance Test              Performance Test Report: due 45 days after each Performance Test              Performance Test Report: Microfiche Copy or CD: due 105 days after each Performance Test.</p> <p>The Notification, Test Plan, and Test report may be submitted in alternate format as allowed by Minn. R. 7017.2018.</p>	<p>Minn. R. 7017.2030, subp. 1-4; Minn. R. 7017.2018 and Minn. R. 7017.2035, subp. 1-2</p>

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: Endres Processing LLC

Permit Number: 03700280 - 004

<p>Authorization to Burn Biomass Fuels Tested Below Existing Permit Limits: Within 45 days of completion of the biomass fuel test, the Permittee shall submit a written test report to the MPCA that characterizes emissions from the tested biomass fuel. Specifically, the report will describe whether use of the fuel can be accomplished while the Permittee remains under existing permit limits for criteria and hazardous air pollutants. Upon written approval from the MPCA, and receipt of the appropriate permit amendment when necessary where there may be an increase in criteria pollutant emissions in pounds per hour, the Permittee may commence use of the tested biomass fuel. For any tested biomass fuel where compliance with existing permit limits cannot be demonstrated during its use, the Permittee may not use such a fuel until it has complied with the permit amendment requirements in Minn. R. 7007.1150 through 7007.1500.</p>	<p>Minn. R. 7007.0800, subp. 2</p>
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**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: Endres Processing LLC  
 Permit Number: 03700280 - 004

**Subject Item: GP 002 Nitrogen Oxides (NOx) Group**

- Associated Items:** EU 011 Solid Fuel Burner w/ Natural Gas-Fired Startup  
 EU 012 Rotary Kiln Dryer  
 EU 016 Generator  
 EU 017 Comfort Heating  
 SV 011 Burner and Dryer Stack  
 SV 017 Generator Stack  
 SV 018 Generator Stack

What to do	Why to do it
OPERATING LIMITATION	hdr
Calculate monthly Nitrogen Oxides (NOx) emissions based on fuel usage records and material throughput data and emission factors developed for each fuel combination (sawdust/RDF blend or sawdust/petroleum coke blend) from the most recent performance test of SV011. If emission factors are not developed through performance testing the emission factors in this permit, which are based on U.S. EPA AP-42 published factors, shall take precedence. Monthly facility-wide NOx emissions shall also be based on the operating hours of the generator and appropriate emission factors for the generator (either stack test data or U.S. EPA AP-42 emission factors). In addition, the facility wide cap must include NOx emissions from natural gas combustion.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 70.2 and Minn. R. 7007.0200
For each month by the 15th of the following month calculate and record the monthly NOx emissions using Equation 1:  EQUATION 1: $\text{NOx emissions} = \text{EF1s}(A) + \text{EF1rdf}(B) + \text{EF1pc}(C) + \text{EF6d}(D) + \text{EFng}(E) + \text{EFab}(F)$ EF1s = 7.84 (EU011 emission factor for sawdust; lbs NOx/ton sawdust combusted) EF1rdf = 2 (EU011 emission factor for RDF; lbs NOx/ton combusted) EF1pc = 14 (EU011 emission factor for petroleum coke; lbs NOx/ton combusted) EF6d = 0.45 (EU016 emission factor for diesel fuel; lbs NOx/gallon combusted) EFng = 100 (comfort heating emission factor for natural gas; lbs NOx/mmcf natural gas combusted) EFab = emission factor for MPCA-approved biomass fuel combusted based on most recent MPCA-approved performance test; lbs NOx/ton of biomass fuel combusted	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 70.2 and Minn. R. 7007.0200
A = tons of sawdust burned in EU011 during the month B = tons of RDF burned in EU011 during the month C = tons of petroleum coke burned in EU011 during the month D = gallons diesel fuel burned in EU016 during the month E = mmcf natural gas burned in the facility-wide during the month F = tons of MPCA-approved biomass fuel burned in EU 011 during the month	(continued from above)
Revision of Equation 1 Emission Factors: Equation 1 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 Equation 1 in this permit.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 70.2 and Minn. R. 7007.0200

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: Endres Processing LLC

Permit Number: 03700280 - 004

**Subject Item: GP 003 Sulfur Dioxide (SO2) Group**

- Associated Items:** CE 018 Dry Sorbent Injection  
 EU 011 Solid Fuel Burner w/ Natural Gas-Fired Startup  
 EU 012 Rotary Kiln Dryer  
 EU 016 Generator  
 SV 011 Burner and Dryer Stack  
 SV 017 Generator Stack  
 SV 018 Generator Stack

What to do	Why to do it
OPERATING LIMITATION	hdr
<p>Calculate monthly Sulfur Dioxide (SO2) emissions based on fuel usage records and material throughput data and emission factors developed for each fuel combination (sawdust/RDF blend or sawdust/petroleum coke blend) from the most recent performance test of SV011. If emission factors are not developed through performance testing the emission factors in this permit, which are based on U.S. EPA AP-42 published factors, shall take precedence. Monthly facility-wide SO2 emissions shall also be based on the operating hours of the generator and appropriate emission factors for the generator (either stack test data or U.S. EPA AP-42 emission factors). In addition, the facility-wide cap must include SO2 emissions from natural gas combustion.</p>	<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>
<p>For each month by the 15th of the following month calculate and record the monthly SO2 emissions using Equation 2.</p>	<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>
<p>EQUATION 2:  <math>SO_2 \text{ emissions} = EF1s(A) + EF1rdf(B) + EF1pc(C) + EF6d(D) + EFng(E) + EFab(F)</math></p> <p>EF1s = 0.2 (EU011 emission factor for sawdust; lbs SO2/ton saw dust combusted)              EF1rdf = 1.2 (EU011 emission factor for RDF; lbs SO2/ton combusted)              EF1pc = 19.5S where S is the sulfur content of the petroleum coke (EU011 emission factor for petroleum coke; lbs SO2/ton combusted)              EF6d = 0.007 (EU016 emission factor for diesel fuel; lbs SO2/gallon combusted)              EFng = 0.6 lb SO2/MMcf natural gas combusted              EFab = emission factor for MPCA-approved biomass fuel combusted based on most recent MPCA-approved performance test; lbs SO2/ton of biomass fuel combusted</p>	<p>CONTINUED: Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>
<p>A = tons of sawdust burned in EU011 during the month              B = tons of RDF burned in EU011 during the month              C = tons of petroleum coke burned in EU011 during the month              D = gallons diesel fuel burned in EU016 during the month              E = mmcf natural gas burned during the month              F = ton of biomass fuel combusted burned in EU011 during the month              S = Sulfur content in weight percent of the petroleum coke</p>	<p>(continued from above)</p>
<p>Revision of Equation 2 Emission Factors: Equation 2 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 Equation 2 in this permit.</p>	<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: Endres Processing LLC

Permit Number: 03700280 - 004

**Subject Item: GP 004 Particulate Matter (PM) Group**

- Associated Items:**
- CE 012 Centrifugal Collector - High Efficiency
  - CE 013 Centrifugal Collector - High Efficiency
  - CE 014 Fabric Filter - Low Temperature, i.e., T<180 Degrees F
  - CE 015 Fabric Filter - Low Temperature, i.e., T<180 Degrees F
  - CE 016 Fabric Filter - Low Temperature, i.e., T<180 Degrees F
  - CE 017 Fabric Filter - High Temperature, i.e., T>250 Degrees F
  - CE 019 Thermal Oxidizer
  - EU 011 Solid Fuel Burner w/ Natural Gas-Fired Startup
  - EU 012 Rotary Kiln Dryer
  - EU 013 Sawdust Storage and Handling
  - EU 014 Post Dryer Materials Handling
  - EU 015 Packaging Materials Handling
  - EU 016 Generator
  - EU 018 Raw Material and Sawdust Storage
  - EU 019 Petroleum Coke Handling
  - SV 011 Burner and Dryer Stack
  - SV 012 Raw Material Receiving
  - SV 013 Packaging Material Storage
  - SV 014 Raw Material and Sawdust Storage Stack
  - SV 015 Packaging Material and Post Dryer Handling Stack
  - SV 016 Emergency Dump Stack
  - SV 017 Generator Stack
  - SV 018 Generator Stack

What to do	Why to do it
OPERATING LIMITATION	hdr
<p>Calculate monthly Total Particulate Matter (PM) emissions based on fuel usage records and material throughput data and emission factors developed for each fuel combination (sawdust/RDF blend or sawdust/petroleum coke/blend) from the most recent performance test of SV011. If emission factors are not developed through performance testing the emission factors in this permit, which are based on U.S. EPA AP-42 published factors, shall take precedence. Monthly facility-wide PM emissions shall also be based on the operating hours of the generator and appropriate emission factors for the generator (either stack test data or U.S. EPA AP-42 emission factors with application of pollution control as applicable). The PM emissions shall also include material handling and be based on emission factors and monthly throughput for the material handling processes. In addition, the facility wide cap must include PM emissions from natural gas combustion.</p>	<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>
<p>For each month by the 15th of the following month calculate and record the monthly PM emissions using Equation 3.</p>	<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: Endres Processing LLC

Permit Number: 03700280 - 004

<p>EQUATION 3:  <math>PM\ emissions = EF1s(A) + EF1rdf(B) + EF1pc(C) + EF2(D) + EF3(E) + F4(F) + EF5(G) + EF6d(H) + EF8(I) + EF9(J) + EFng(K) + EFpl(L) + EFab(M) + 1.4</math></p> <p>EF1s = 0.32 (EU011 emission factor (EF) for sawdust; lbs PM/ton sawdust burned)                  EF1rdf = 0.73 (EU011 EF for RDF; lbs PM/ton burned)                  EF1pc = 0.28 (EU011 EF for petroleum coke; lbs PM/ton burned)                  EF2 = 0.036 (EU012 EF for dryer material; lbs PM/ton dried)                  EF3 = 0.009 (EU013 EF for sawdust handling; lbs PM/ton handled)                  EF4 = 0.03 (EU014 EF for post dryer material handling; lbs PM/ton handled)                  EF5 = 0.004 (EU015 EF for packaging material handling; lbs PM/ton handled)                  EF6d = 0.01 (EU016 EF for diesel fuel; lbs PM/gal burned)                  EF8 = 0.0013 (EU018 EF for raw material and sawdust conveyed to storage; lbs PM/tons handled)                  EF9 = 0.0001 (EU019 EF for petroleum coke; lbs PM/tons handled)</p>	<p>CONTINUED: Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>
<p>EFng = 7.6 lb PM/mmcf natural gas burned                  EFpl = 0.086 (FS001 EF for product loud-out; lbs PM/ton product loaded out)                  EFab = emission factor for MPCA-approved biomass fuel combusted based on most recent MPCA-approved performance test; lbs PM/ton of biomass fuel combusted                  1.4 = tons/mo. fugitive PM due to truck traffic</p>	<p>CONTINUED: Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>
<p>A = tons of sawdust burned in EU011 during the month                  B = tons of RDF (packaging material) burned in EU011 during the month                  C = tons of petroleum coke burned in EU011 during the month                  D = tons of material dried in EU012 during the month                  E = tons of sawdust handled by EU013 during the month                  F = tons of dried material handled by EU014 during the month                  G = tons of packaging material handled by EU015 during the month                  H = gallons diesel fuel burned in EU016 during the month                  I = tons of raw material and sawdust handled by EU018 during the month                  J = tons of petroleum coke handled by EU019 during the month                  K = mmcf natural gas burned during the month                  L = tons of product loaded out monthly                  M = tons of MPCA-approved biomass fuel burned in EU011 during the month</p>	<p>CONTINUED: Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>
<p>Revision of Equation 3 Emission Factors: Equation 3 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 Equation 3 in this permit.</p>	<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: Endres Processing LLC

Permit Number: 03700280 - 004

**Subject Item: GP 005 Particulate Matter < 10 Micron (PM10) Group**

- Associated Items:**
- CE 012 Centrifugal Collector - High Efficiency
  - CE 013 Centrifugal Collector - High Efficiency
  - CE 014 Fabric Filter - Low Temperature, i.e., T<180 Degrees F
  - CE 015 Fabric Filter - Low Temperature, i.e., T<180 Degrees F
  - CE 016 Fabric Filter - Low Temperature, i.e., T<180 Degrees F
  - CE 017 Fabric Filter - High Temperature, i.e., T>250 Degrees F
  - CE 019 Thermal Oxidizer
  - EU 011 Solid Fuel Burner w/ Natural Gas-Fired Startup
  - EU 012 Rotary Kiln Dryer
  - EU 013 Sawdust Storage and Handling
  - EU 014 Post Dryer Materials Handling
  - EU 015 Packaging Materials Handling
  - EU 016 Generator
  - EU 018 Raw Material and Sawdust Storage
  - EU 019 Petroleum Coke Handling
  - SV 011 Burner and Dryer Stack
  - SV 012 Raw Material Receiving
  - SV 013 Packaging Material Storage
  - SV 014 Raw Material and Sawdust Storage Stack
  - SV 015 Packaging Material and Post Dryer Handling Stack
  - SV 017 Generator Stack
  - SV 018 Generator Stack

What to do	Why to do it
OPERATING LIMITATION	hdr
<p>Calculate monthly Particulate Matter &lt; 10 micron (PM10) emissions based on fuel usage records and material throughput data and emission factors developed for each fuel combination (sawdust/RDF blend or sawdust/petroleum coke blend) from the most recent performance test of SV011. If emission factors are not developed through performance testing the emission factors in this permit, which are based on U.S. EPA AP-42 published factors, shall take precedence. Monthly facility-wide PM10 emissions shall also be based on the operating hours of the generator and appropriate emission factors for the generator (either stack test data or U.S. EPA AP-42 emission factors with application of applicable pollution control efficiencies). The PM10 emissions shall also include material handling and be based on emission factors and monthly throughput for the material handling processes. In addition, the facility wide cap must include PM10 emissions from natural gas combustion.</p>	<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>
<p>For each month by the 15th of the following month calculate and record the monthly PM10 emissions using Equation 4.</p> <p>EQUATION 4:  <math>PM10 \text{ emissions} = EF1s(A) + EF1rdf(B) + EF1pc(C) + EF2(D) + EF3(E) + EF4(F) + EF5(G) + EF6d(H) + EF8(I) + EF9(J) + EFng(K) + EFpl(L) + EFab(M) + 0.3</math></p>	<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>



**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: Endres Processing LLC

Permit Number: 03700280 - 004

<p>EF1s = 0.29 (EU011 emission factor (EF) for sawdust; lbs PM10/ton saw dust burned)                  EF1rdf = 0.365 (EU011 EF for RDF; lbs PM10/ton burned)                  EF1pc = 0.22 (EU011 EF for petroleum coke; lbs PM10/ton burned)                  EF2 = 0.018 (EU012 EF for dryer material; lbs PM10/ton dried)                  EF3 = 0.003 (EU013 EF for sawdust handling; lbs PM10/ton handled)                  EF4 = 0.02 (EU014 EF for post dryer material handling; lbs PM10/ton handled)                  EF5 = 0.002 (EU015 EF for packaging material handling; lbs PM10/ton handled)                  EF6d = 0.008 (EU016 EF for diesel fuel; lbs PM10/gallon burned)                  EF8 = 0.0003 (EU018 EF for raw material and sawdust conveyed to storage; lbs PM10/tons handled)                  EF9 = 0.00004 (EU019 EF for petroleum coke; lbs PM10/tons handled)</p>	<p>CONTINUED: Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>
<p>EFng = 7.6 lb PM10/MMcf natural gas burned                  EFpl = 0.029 (FS001 EF for product load-out; lbs PM10/ton product loaded out)                  Efab = emission factor for MPCA-approved biomass fuel combusted based on most recent MPCA-approved performance test; lbs PM10/ton of biomass fuel combusted                  0.3 = tons/mo. fugitive PM10 due to truck traffic</p>	<p>CONTINUED: Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>
<p>A = tons of sawdust burned in EU011 during the month                  B = tons of RDF (packaging material) burned in EU011 during the month                  C = tons of petroleum coke burned in EU011 during the month                  D = tons of material dried in EU012 during the month                  E = tons of sawdust handled by EU013 during the month                  F = tons of dried material handled by EU014 during the month                  G = tons of packaging material handled by EU015 during the month                  H = gallons diesel fuel burned in EU016 during the month                  I = tons of raw material and sawdust handled by EU018 during the month                  J = tons of petroleum coke handled by EU019 during the month                  K = mmcf natural gas burned                  L = tons of product loaded out monthly                  M = tons of MPCA-approved biomass fuel burned in EU011 during the month</p>	<p>CONTINUED: Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>
<p>Revision of Equation 4 Emission Factors: Equation 4 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 Equation 4 in this permit.</p>	<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: Endres Processing LLC

Permit Number: 03700280 - 004

**Subject Item: GP 006 Carbon Monoxide (CO) Group**

- Associated Items:** CE 019 Thermal Oxidizer  
 EU 011 Solid Fuel Burner w/ Natural Gas-Fired Startup  
 EU 016 Generator  
 EU 017 Comfort Heating  
 SV 011 Burner and Dryer Stack  
 SV 017 Generator Stack  
 SV 018 Generator Stack

What to do	Why to do it
OPERATING LIMITATION	hdr
<p>Calculate monthly Carbon Monoxide (CO) emissions based on fuel usage records and material throughput data and emission factors developed for each fuel combination (sawdust/RDF blend or sawdust/petroleum coke blend) from the most recent performance test of SV011. If emission factors are not developed through performance testing the emission factors in this permit, which are based on U.S. EPA AP-42 published factors, shall take precedence. Monthly facility-wide CO emissions shall also be based on the operating hours of the generator and appropriate emission factors for the generator (either stack test data or U.S. EPA AP-42 emission factors). In addition, the facility wide cap must include CO emissions from natural gas combustion.</p>	<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>
<p>For each month by the 15th of the following month calculate and record the monthly CO emissions using Equation 5.</p> <p>EQUATION 5:              CO emissions = EF1s(A) + EF1rdf(B) + EF1pc(C) + EF6d(D) + EF7ng(E) + EFab(F)</p> <p>EF1s = 0.96 (EU011 emission factor for sawdust; lbs CO/ton saw dust combusted)              EF1rdf = 2 (EU011 emission factor for refuse derived fuel; lbs CO/ton combusted)              EF1pc = 0.06 (EU011 emission factor for petroleum coke; lbs CO/ton combusted)              EF6d = 0.119 (EU016 emission factor for diesel fuel; lbs CO/gallon combusted)              EFng = 84 (emission factor for natural gas; lbs CO/mmcf natural gas combusted)              EFab = emission factor for MPCA-approved biomass fuel combusted based on most recent MPCA-approved performance test; lbs CO/ton of biomass fuel combusted</p>	<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>
<p>A = tons of sawdust burned in EU011 during the month              B = tons of RDF (packaging material) burned in EU011 during the month              C = tons of petroleum coke burned in EU011 during the month              D = gallons diesel fuel burned in EU016 during the month              E = mmcf natural gas burned facility-wide during the month              F = tons of MPCA-approved biomass fuel burned in EU011 during the month</p>	<p>CONTINUED: Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>
<p>Revision of Equation 5 Emission Factors: Equation 5 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 Equation 5 in this permit.</p>	<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: Endres Processing LLC

Permit Number: 03700280 - 004

**Subject Item: GP 007 Volatile Organic Compounds (VOC) Group**

- Associated Items:** CE 019 Thermal Oxidizer  
 EU 011 Solid Fuel Burner w/ Natural Gas-Fired Startup  
 EU 012 Rotary Kiln Dryer  
 EU 016 Generator  
 SV 011 Burner and Dryer Stack  
 SV 017 Generator Stack  
 SV 018 Generator Stack

What to do	Why to do it
OPERATING LIMITATION	hdr
<p>Calculate monthly Volatile Organic Compounds (VOC) emissions based material throughput of dryer and emission factors developed for each fuel combination (sawdust/RDF blend or sawdust/petroleum coke blend) from the most recent performance test of SV011. If emission factors are not developed through performance testing the emission factors in this permit, which are based on U.S. EPA AP-42 published factors, shall take precedence. Monthly facility-wide VOC emissions shall also be based on the operating hours of the generator and appropriate emission factors for the generator (either stack test data or U.S. EPA AP-42 emission factors).</p>	<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>
<p>For each month by the 15th of the following month calculate and record the monthly VOC emissions using Equation 6.</p> <p>EQUATION 6:              VOC emissions = EF1s(A) + EF1rdf(B) + EF1pc(C) + EF2(D) + F6d(E) + EFng(F) + EFab(G)</p> <p>EF1s = 0.0272 (EU011 emission factor for sawdust; lbs VOC/ton saw dust combusted)              EF1rdf = 1.5 (EU011 emission factor for RDF; lbs VOC/ton combusted)              EF1pc = 0.007 (EU011 emission factor for petroleum coke; lbs VOC/ton combusted)              EF2 = 0.11 (EU012 emission factor for dryer material; lbs VOC/ton dried)              EF6d = 0.011 (EU016 emission factor for diesel fuel; lbs VOC/gallon combusted)              EFng = 5.5 lb/mmcf (emission factor for natural gas)              EFab = emission factor for MPCA-approved biomass fuel combusted based on most recent MPCA-approved performance test; lbs VOC/ton of biomass fuel combusted</p>	<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>
<p>A = tons of sawdust burned in EU011 during the month              B = tons of RDF (packaging material) burned in EU011 during the month              C = tons of petroleum coke burned in EU011 during the month              D = tons of dried material              E = gallons diesel fuel burned in EU016 during the month              F = mmcf natural gas burned facility-wide during the month              G = tons of MPCA-approved biomass fuel burned in EU011 during the month</p>	<p>CONTINUED: Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>
<p>Revision of Equation 6 Emission Factors: Equation 6 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 Equation 6 in this permit.</p>	<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: Endres Processing LLC

Permit Number: 03700280 - 004

**Subject Item: GP 008 Hazardous Air Pollutants (HAP) Group**

- Associated Items:**
- CE 012 Centrifugal Collector - High Efficiency
  - CE 013 Centrifugal Collector - High Efficiency
  - CE 017 Fabric Filter - High Temperature, i.e., T>250 Degrees F
  - CE 018 Dry Sorbent Injection
  - CE 019 Thermal Oxidizer
  - EU 011 Solid Fuel Burner w/ Natural Gas-Fired Startup
  - EU 012 Rotary Kiln Dryer
  - EU 016 Generator
  - EU 017 Comfort Heating
  - SV 011 Burner and Dryer Stack
  - SV 017 Generator Stack
  - SV 018 Generator Stack

What to do	Why to do it
OPERATING LIMITATION	hdr
<p>Calculate monthly Hazardous Air Pollutants (HAP) emissions based on fuel usage records and material throughput of dryer and emission factors developed for each fuel combination (sawdust/RDF blend or sawdust/petroleum coke blend) from the most recent performance test of SV011. If emission factors are not developed through performance testing the emission factors in Appendix I of this permit, which are based on U.S. EPA AP-42 published factors, shall take precedence. Monthly facility-wide HAP emissions shall also be based on the operating hours of the generator and appropriate emission factors for the generator (either stack test data or U.S. EPA AP-42 emission factors). The largest single HAP from natural gas combustion is formaldehyde, therefore only the formaldehyde emissions from natural gas combustion needs to be included as part of this calculation. The remaining HAP emissions from natural gas are considered negligible.</p>	<p>Title I Condition: To avoid major source classification under 40 CFR Section 63.2 and under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>
<p>For each month by the 15th of the following month calculate and record the monthly HAP emissions using Equation 7.</p> <p>EQUATION 7:  <math>HAP\ emissions = EF1s(A) + EF1rdf(B) + EF1pc(C) + EF2(D) + F6d(E) + EFng(F) + EFab(G)</math></p> <p>EF1s = EU011 emission factor for sawdust;                      EF1rdf = EU011 emission factor for RDF;                      EF1pc = EU011 emission factor for petroleum coke;                      EF2 = EU012 emission factor for dryer material;                      EF6d = EU016 emission factor for diesel fuel; and                      EFng = .075 (emission factor for natural gas; lbs formaldehyde/mmcf natural gas)                      EFab = emission factor for MPCA-approved biomass fuel combusted based on most recent MPCA-approved performance test; lbs HAP/ton of biomass fuel combusted</p>	<p>Title I Condition: To avoid major source classification under 40 CFR Section 63.2 and under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>
<p>A = tons of sawdust burned in EU011 during the month                      B = tons of RDF (packaging material) burned in EU011 during the month                      C = tons of petroleum coke burned in EU011 during the month                      D = tons of dried material                      E = gallons diesel fuel burned in EU016 during the month                      F = mmcf natural gas burned facility-wide during the month                      G = tons of MPCA-approved biomass fuel burned in EU011 during the month</p>	<p>CONTINUED: Title I Condition: To avoid major source classification under 40 CFR Section 63.2 and under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>
<p>Repeat equation 7 for each individual HAP to determine compliance with the single HAP limit. Sum the results for each individual HAP to determine the facility's total HAPs emission to determine compliance with the total HAPs limit.</p>	<p>CONTINUED: Title I Condition: To avoid major source classification under 40 CFR Section 63.2 and under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>
<p>Revision of Equation 7 Emission Factors: Equation 7 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 Equation 7 in this permit.</p>	<p>Title I Condition: To avoid major source classification under 40 CFR Section 63.2 and under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

A-18

06/08/07

Facility Name: Endres Processing LLC

Permit Number: 03700280 - 004

**Subject Item: GP 009 Material Handling**

**Associated Items:** CE 013 Centrifugal Collector - High Efficiency  
 CE 014 Fabric Filter - Low Temperature, i.e., T<180 Degrees F  
 CE 015 Fabric Filter - Low Temperature, i.e., T<180 Degrees F  
 CE 016 Fabric Filter - Low Temperature, i.e., T<180 Degrees F  
 EU 013 Sawdust Storage and Handling  
 EU 014 Post Dryer Materials Handling  
 EU 015 Packaging Materials Handling  
 EU 018 Raw Material and Sawdust Storage  
 EU 019 Petroleum Coke Handling  
 SV 013 Packaging Material Storage  
 SV 014 Raw Material and Sawdust Storage Stack  
 SV 015 Packaging Material and Post Dryer Handling Stack

<b>What to do</b>	<b>Why to do it</b>
Total Particulate Matter: less than or equal to 0.3 grains/dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011. 0735.	Minn. R. 7011.0715, subp. 1(A)
Opacity: less than or equal to 20 percent opacity	Minn. R. 7011.0715, subp. 1(B)

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: Endres Processing LLC

Permit Number: 03700280 - 004

**Subject Item: GP 010 Fabric Filters**

- Associated Items:**
- CE 014 Fabric Filter - Low Temperature, i.e., T<180 Degrees F
  - CE 015 Fabric Filter - Low Temperature, i.e., T<180 Degrees F
  - CE 016 Fabric Filter - Low Temperature, i.e., T<180 Degrees F
  - CE 017 Fabric Filter - High Temperature, i.e., T>250 Degrees F
  - EU 011 Solid Fuel Burner w/ Natural Gas-Fired Startup
  - EU 012 Rotary Kiln Dryer
  - EU 013 Sawdust Storage and Handling
  - EU 015 Packaging Materials Handling
  - EU 018 Raw Material and Sawdust Storage
  - EU 019 Petroleum Coke Handling
  - SV 011 Burner and Dryer Stack
  - SV 012 Raw Material Receiving
  - SV 013 Packaging Material Storage
  - SV 014 Raw Material and Sawdust Storage Stack

What to do	Why to do it
The Permittee shall operate and maintain the fabric filters at all times that any emission unit controlled by the fabric filters is in operation. The Permittee shall document periods of non-operation of the control equipment.	Title I Condition: Limit taken to avoid classification as a major source and modification under 40 CFR Section 52.21; to avoid classification as a major source under 40 CFR Section 70.2; Minn. R. 7007.0800, subp. 2 and 14
Within 90 days of permit issuance develop and implement an Operation and Maintenance (O&M) Plan, and operate and maintain the fabric filter in accordance with it.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 63.2 and under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 2 and 14
Pressure Drop: greater than or equal to 3.5 inches of water column and less than or equal to 6.5 inches of water column until new values are set pursuant to Minn. R. 7017.2025, subp. 3, based on the values recorded during the most recent MPCA-approved performance test where compliance was demonstrated.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 63.2 and under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 2 and 14
Check the pressure drop once every 24 hours when in operation. Effective once a particular fabric filter (CE014, 015, 016, 017) has started up.	Minn. R. 7007.0800, subp. 2 and 14
Visible Emissions: Check the fabric filter stacks for any visible emissions once each day of operation during daylight hours, except during inclement weather. Effective once a particular fabric filter (CE014, 015, 016, 017) has started up.	Minn. R. 7007.0800, subp. 2 and 14
Recordkeeping of Visible Emissions and Pressure Drop: Record the time and date of each visible emissions inspection and pressure drop reading, and whether or not any visible emissions were observed, and whether or not the observed pressure drop was within the range specified in this permit. Effective once a particular fabric filter (CE014, 015, 016, 017) has started up.	Minn. R. 7007.0800, subp. 2 and 14
Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, inspect the control equipment components. Maintain a written record of these inspections.	Minn. R. 7007.0800, subp. 4, 5 and 14
Corrective Actions: 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, eliminate visible emissions, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O&M Plan for the fabric filter. Keep a record of the type and date of any corrective action taken for each filter.	Minn. R. 7007.0800, subp. 4, 5 and 14

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

**A-20**

06/08/07

Facility Name: Endres Processing LLC

Permit Number: 03700280 - 004

The Permittee shall operate and maintain the fabric filters 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.	Minn. R. 7007.0800, subp. 14
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**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: Endres Processing LLC

Permit Number: 03700280 - 004

**Subject Item: GP 011 Cyclones**

- Associated Items:** CE 012 Centrifugal Collector - High Efficiency  
 CE 013 Centrifugal Collector - High Efficiency  
 EU 012 Rotary Kiln Dryer  
 EU 014 Post Dryer Materials Handling  
 SV 011 Burner and Dryer Stack  
 SV 015 Packaging Material and Post Dryer Handling Stack

What to do	Why to do it
Within 90 days of permit issuance develop and implement an Operation and Maintenance (O&M) Plan, and operate and maintain the cyclone in accordance with it.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 63.2 and under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 2 and 14
Pressure Drop: greater than or equal to 1.5 inches of water column and less than or equal to 5.0 inches of water column until a new range is set pursuant to Minn. R. 7017.2025, subp. 3, based on the values recorded during the most recent MPCA approved performance test where compliance was demonstrated and the emission factors were determined for the monthly calculations.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 63.2 and under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 2 and 14
Check the pressure drop once every 24 hours when in operation. Effective once a particular cyclone (CE012, 013) has started up.	Minn. R. 7007.0800, subp. 2 and 14
Visible Emissions: Check the CE013 stack for any visible emissions once each day of operation during daylight hours, except during inclement weather. Effective once a particular cyclone (CE012, 013) has started up.	Minn. R. 7007.0800, subp. 2 and 14
Recordkeeping of Visible Emissions and Pressure Drop: Record the time and date of each visible emissions inspection and pressure drop reading, and whether or not any visible emissions were observed, and whether or not the observed pressure drop was within the range specified in this permit. Effective once a particular cyclone (CE012, 013) has started up.	Minn. R. 7007.0800, subp. 2 and 14
Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, inspect the control equipment components. Maintain a written record of these inspections.	Minn. R. 7007.0800, subp. 4, 5 and 14
Corrective Actions: 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 control equipment 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, eliminate visible emissions, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O&M Plan. Keep a record of the type and date of any corrective action taken.	Minn. R. 7007.0800, subp. 4, 5 and 14



**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: Endres Processing LLC

Permit Number: 03700280 - 004

**Subject Item: EU 016 Generator**

- Associated Items:**
- GP 002 Nitrogen Oxides (NOx) Group
  - GP 003 Sulfur Dioxide (SO2) Group
  - GP 004 Particulate Matter (PM) Group
  - GP 005 Particulate Matter < 10 Micron (PM10) Group
  - GP 006 Carbon Monoxide (CO) Group
  - GP 007 Volatile Organic Compounds (VOC) Group
  - GP 008 Hazardous Air Pollutants (HAP) Group

What to do	Why to do it
Fuels Allowed: Distillate oil with a maximum of 0.05% sulfur by weight.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 63.2 and under 40 CFR Section 70.2 and Minn. R. 7007.0200
Sulfur Dioxide: less than or equal to 0.5 lbs/million Btu heat input fuel oil	Minn. R. 7011.2300, subp.2
Opacity: less than or equal to 20 percent opacity once operating temperatures have been attained	Minn. R. 7011.2300 subp. 1
Visible Emissions: Check for any visible emissions once each day of operation during daylight hours.	Minn. R. 7007.0800, subp. 2 and 14
Recordkeeping of Visible Emissions. Record the time and date of each visible emissions inspection, the result, and any corrective actions taken.	Minn. R. 7007.0800, subp. 2 and 14
Obtain and retain on site fuel supplier certifications indicating the sulfur content of each distillate oil delivery.	Minn. R. 7007.0800, subp. 2 and 14
Recordkeeping: For each month by the 15th of the following month calculate and record the monthly hour of operation for the generator.	Minn. R. 7007.0800, subp. 2 and 14

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: Endres Processing LLC

Permit Number: 03700280 - 004

**Subject Item:** CE 018 Dry Sorbent Injection

**Associated Items:** GP 003 Sulfur Dioxide (SO2) Group

GP 008 Hazardous Air Pollutants (HAP) Group

What to do	Why to do it
The Permittee shall operate and maintain the dry sorbent injection at all times that any emission unit controlled by the dry sorbent injection is in operation. The Permittee shall document periods of non-operation of the control equipment.	Title I Condition: Limit taken to avoid classification as a major source and modification under 40 CFR Section 52.21; to avoid classification as a major source under 40 CFR Section 70.2; Minn. R. 7007.0800, subp. 2 and 14
Within 90 days of startup of CE018 develop and implement an Operation and Maintenance (O&M) Plan, and operate and maintain the sorbent injection system in accordance with it.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 63.2 and under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 2 and 14
Trona Injection Rate: greater than or equal to 35.9 lbs/hr using a 3-Hour Rolling Average. Down time of 15 or more minutes is not to be included as operating time.  A new value may be set pursuant to Minn. R. 7017.2025, subp. 3, based on the value recorded during the most recent MPCA approved performance test where compliance was demonstrated. The type of sorbent injection used shall remain consistent with the sorbent used for the most recent performance test. The sorbent type may be changed if a new performance test is conducted within 90 days after switching to the new sorbent.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 63.2 and under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 2 and 14
Perlite Injection: The Permittee shall operate the perlite injection system at all times CE 018 is in operation.	Minn. R. 7007.0800, subp. 2
Sorbent and perlite injection rates shall be monitored using a weigh belt, weigh hopper, or hopper flow measurement device located in a position that provides a representative measurement of the total sorbent and perlite injection rates. The monitor(s) shall be installed, calibrated and operated in accordance with the manufacturers specifications. Monitoring is required upon startup of CE018.	Minn. R. 7007.0800, subp. 4
Continuously collect the sorbent and perlite injection rate monitoring system data and reduce the data to 3-hour Rolling Averages. Use all recorded readings except during monitoring malfunctions, associated repairs, out of control periods, or required quality assurance or control activities. Use all the data collected during all other periods in assessing compliance. Any period for which the monitoring system is out-of-control and data are not available for required calculations constitute a deviation from the monitoring requirement. Data collection to commence upon startup of CE018.	Minn. R. 7007.0800, subp. 4 and 5
Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, inspect the control equipment components. Maintain a written record of these inspections.	Minn. R. 7007.0800, subp. 4, 5 and 14
Corrective Actions: If the sorbent injection rate is below the minimum specified by this permit or if the sorbent injection system or any of its components are found during the inspections to need repair, take corrective actions as soon as possible. Corrective actions shall return the sorbent injection rate 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 sorbent injection system. Keep a record of the type and date of any corrective action taken.	Minn. R. 7007.0800, subp. 4, 5 and 14
The Permittee shall operate and maintain the dry sorbent injection system in accordance with the manufacturer's specifications and its Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and review by MPCA staff.	Minn. R. 7007.0800, subp. 14
The Permittee shall operate and maintain the perlite injection system in accordance with the manufacturer's recommendations included in Appendix E. However, the optimization of Perlite use is at the facility's discretion based on experience; therefore changes to the manufacturer's recommendations can be made following written notification to the MPCA.	Minn. R. 7007.0800, subp. 14

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: Endres Processing LLC

Permit Number: 03700280 - 004

**Subject Item:** CE 019 Thermal Oxidizer

- Associated Items:** GP 004 Particulate Matter (PM) Group  
 GP 005 Particulate Matter < 10 Micron (PM10) Group  
 GP 006 Carbon Monoxide (CO) Group  
 GP 007 Volatile Organic Compounds (VOC) Group  
 GP 008 Hazardous Air Pollutants (HAP) Group

What to do	Why to do it
The Permittee shall operate and maintain the thermal oxidizer any time that any process equipment controlled by the thermal oxidizer is in operation. The Permittee shall document periods of non-operation of the control equipment.	Title I Condition: Limit taken to avoid classification as a major source and modification under 40 CFR Section 52.21; to avoid classification as a major source under 40 CFR Section 70.2; Minn. R. 7007.0800, subp. 2 and 14
Within 90 days of startup of CE019 develop and implement an Operation and Maintenance (O&M) Plan, and operate and maintain the thermal oxidizer in accordance with it.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 63.2 and under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 2 and 14
Temperature: greater than or equal to 1250 degrees F using 3-hour Rolling Average . This temperature requirement does not apply during periods of startup and shutdown.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and under 40 CFR Section 63.2 and under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 2 and 14
Maintain and operate a thermocouple monitoring device that continuously indicates and records the combustion chamber temperature of the thermal oxidizer. The monitoring device shall have a margin of error less than the greater of +/-0.75 percent of the temperature being measured or +/-2.5 degrees Celsius. The recording device shall also calculate the 3-hour Rolling Average combustion chamber temperature. Effective upon startup of CE019.	Minn. R. 7007.0800, subp. 4 and 5
Maintain a continuous hard copy readout or computer disk file of the temperature readings and calculated three hour rolling average temperatures for the thermal oxidizer. Effective upon startup of CE019.	Minn. R. 7007.0800, subp. 2 and 14
Daily Monitoring: Physically check the temperature recording device at least once each operating day to verify that it is working and recording properly. Effective upon startup of CE019.	Minn. R. 7007.0800, subp. 4 and 5
Quarterly Inspections: At least once per calendar quarter, inspect the control equipment external system components, including but not limited to the heat exchanger, and electrical systems. Maintain a written record of the inspection and any corrective actions taken resulting from the inspection.  Inspect the control equipment internal components during all planned shutdowns and no less than annually, including but not limited to, the refractory.	Minn. R. 7007.0800, subp. 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, take corrective actions 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. Keep a record of the type and date of any corrective action taken.	Minn. R. 7007.0800, subp. 4, 5 and 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.	Minn. R. 7007.0800, subp. 14

**TABLE B: SUBMITTALS**

B-1 06/08/07

Facility Name: Endres Processing LLC  
Permit Number: 03700280 - 004

Also, where required by an applicable rule or permit condition, send to the Permit Technical Advisor notices of:

- accumulated insignificant activities,
- installation of control equipment,
- replacement of an emissions unit, and
- changes that contravene a permit term.

Send submittals that are required to be submitted to the U.S. EPA regional office to:

Mr. George Czerniak  
Air and Radiation Branch  
EPA Region V  
77 West Jackson Boulevard  
Chicago, Illinois 60604

Each submittal must be postmarked or received by the date specified in the applicable Table. Those submittals required by parts 7007.0100 to 7007.1850 must be certified by a responsible official, defined in Minn. R. 7007.0100, subp. 21. Other submittals shall be certified as appropriate if certification is required by an applicable rule or permit condition.

Table B lists most of the submittals required by this permit. Please note that some submittal requirements may appear in Table A or, if applicable, within a compliance schedule located in Table C. Table B is divided into two sections in order to separately list one-time only and recurrent submittal requirements.

Send submittals that are required by the Acid Rain Program to:

U.S. Environmental Protection Agency  
Clean Air Markets Division  
1200 Pennsylvania Avenue NW (6204N)  
Washington, D.C. 20460

Send any application for a permit or permit amendment to:

AQ Permit Technical Advisor  
Industrial Division  
Minnesota Pollution Control Agency  
520 Lafayette Road North  
St. Paul, Minnesota 55155-4194

Unless another person is identified in the applicable Table, send all other submittals to:

AQ Compliance Tracking Coordinator  
Industrial Division  
Minnesota Pollution Control Agency  
520 Lafayette Road North  
St. Paul, Minnesota 55155-4194

**TABLE B: ONE TIME SUBMITTALS OR NOTIFICATIONS**

Facility Name: Endres Processing LLC

Permit Number: 03700280 - 004

What to send	When to send	Portion of Facility Affected
Application for Permit Reissuance	due 180 days before expiration of Existing Permit	Total Facility
Notification of the Actual Date of Initial Startup	due 15 days after Initial Startup of EU 011. This is a state only requirement not enforceable by EPA or citizens under the Clean Air Act.	GP001
Submittal	due 30 days after Permit Issuance describing sampling and analysis protocol for the monthly analysis of a saw dust composite to determine percent by weight of extraneous materials.	GP001
Testing Frequency Plan	due 60 days after Initial Performance Test for emissions of Total Particulate Matter, Particulate Matter <10 micron, Opacity, Carbon Monoxide, Nitrogen Oxides, Hydrogen Chloride, Sulfur Dioxide, Volatile Organic Compounds, and Hazardous Air Pollutants. The plan shall specify a testing frequency based on the test data and MPCA guidance. Future performance tests based on one-year (12 month), 36 month, and 60 month intervals, or as applicable, shall be required upon written approval of the MPCA.	GP001

**TABLE B: RECURRENT SUBMITTALS**

B-3 06/08/07

Facility Name: Endres Processing LLC

Permit Number: 03700280 - 004

<b>What to send</b>	<b>When to send</b>	<b>Portion of Facility Affected</b>
Quarterly Report	due 30 days after end of each calendar quarter following Permit Issuance and containing the date, weight of refuse-derived fuel, and the weight of each other fuel combusted each day during the quarter.	GP001

**APPENDIX A:**

**EMISSION FACTORS FOR HAZARDOUS AIR POLLUTANTS**

**Summary of Hazardous Emission Factors for Use in Cap Calculation**

<b>Unit ID</b>	<b>Unit Name</b>	<b>Pollutant</b>	<b>Controlled Emission Factor (lb/unit)</b>	
EU011	Burner (Sawdust)	Acetaldehyde	0.001328	ton
EU011	Burner (Sawdust)	Acrolein	0.0064	ton
EU011	Burner (Sawdust)	Formaldehyde	0.00704	ton
EU011	Burner (Sawdust)	Acetophenone	5.12E-09	ton
EU011	Burner (Sawdust)	bis(2-Ethylhexyl)phthalate	7.52E-08	ton
EU011	Burner (Sawdust)	Bromomethane	0.000024	ton
EU011	Burner (Sawdust)	2-Butanone (methyl ethyl ketone)	8.64E-06	ton
EU011	Burner (Sawdust)	Carbon tetrachloride	0.000072	ton
EU011	Burner (Sawdust)	Chlorine	0.00316	ton
EU011	Burner (Sawdust)	Chlorobenzene	5.28E-05	ton
EU011	Burner (Sawdust)	Chloroform	4.48E-05	ton
EU011	Burner (Sawdust)	Chloromethane	3.68E-05	ton
EU011	Burner (Sawdust)	1,2 Dichloroethane	4.64E-05	ton
EU011	Burner (Sawdust)	Dichloromethane	0.000464	ton
EU011	Burner (Sawdust)	1,2 Dichloropropane	5.28E-05	ton
EU011	Burner (Sawdust)	2,4 Dinitrophenol	2.88E-07	ton
EU011	Burner (Sawdust)	Ethylbenzene	4.96E-05	ton
EU011	Burner (Sawdust)	Hydrogen Chloride (HCl acid)	0.076	ton
EU011	Burner (Sawdust)	Naphthalene	0.000155	ton
EU011	Burner (Sawdust)	4-Nitrophenol	1.76E-07	ton
EU011	Burner (Sawdust)	Pentachlorophenol	8.16E-08	ton
EU011	Burner (Sawdust)	Phenol	8.16E-05	ton
EU011	Burner (Sawdust)	Phosphorus	0.000432	ton
EU011	Burner (Sawdust)	Propionaldehyde	9.76E-05	ton
EU011	Burner (Sawdust)	CDD/CDF	1.58E-09	ton

EU011	Burner (Sawdust)	Tetrachloroethene (tetrachloroethylene )	6.08E-05	ton
EU011	Burner (Sawdust)	Toluene	0.00147 2	ton
EU011	Burner (Sawdust)	1,1,1 Trichloroethane	4.96E-05	ton
EU011	Burner (Sawdust)	Trichloroethene (trichloroethylene)	0.00004 8	ton
EU011	Burner (Sawdust)	2,4,6 Trichlorophenol	3.52E-08	ton
EU011	Burner (Sawdust)	Vinyl Chloride	2.88E-05	ton
EU011	Burner (Sawdust)	Xylene	0.00004	ton
EU011	Burner (Sawdust)	POM	4.45E-05	ton
EU011	Burner (Sawdust)	Antimony	0.00012 6	ton
EU011	Burner (Sawdust)	Arsenic	0.00035 2	ton
EU011	Burner (Sawdust)	Beryllium	1.76E-05	ton
EU011	Burner (Sawdust)	Cadmium	6.56E-05	ton
EU011	Burner (Sawdust)	Chromium, total	0.00033 6	ton
EU011	Burner (Sawdust)	Cobalt	0.00010 4	ton
EU011	Burner (Sawdust)	Lead	0.00076 8	ton
EU011	Burner (Sawdust)	Manganese	0.0256	ton
EU011	Burner (Sawdust)	Mercury	0.00005 6	ton
EU011	Burner (Sawdust)	Nickel	0.00052 8	ton
EU011	Burner (Sawdust)	Selenium	4.48E-05	ton
EU011	Burner (Packaging Mat'l)	Arsenic	0.00425 6	ton
EU011	Burner (Packaging Mat'l)	Cadmium	0.01061 7	ton
EU011	Burner (Packaging Mat'l)	Chromium, total	0.00873 7	ton
EU011	Burner (Packaging Mat'l)	Mercury	0.00545 5	ton
EU011	Burner (Packaging Mat'l)	Nickel	0.00764 6	ton
EU011	Burner (Packaging Mat'l)	Lead	0.20746 8	ton
EU011	Burner (Packaging Mat'l)	HCl	1.55844 2	ton
EU011	Burner (Packaging Mat'l)	CDD/CDF	2.86E-06	ton
EU011	Burner (Petroleum Coke)	Beryllium	3.2E-09	ton
EU011	Burner (Petroleum Coke)	Cadmium	4.7E-08	ton
EU011	Burner (Petroleum Coke)	Chromium	0.00001 5	ton



EU011	Burner (Petroleum Coke)	Nickel	5.4E-06	ton
EU001	Dryer	Acetaldehyde	0.018	lbs/ton
EU001	Dryer	Acrolein	0.0012	lbs/ton
EU001	Dryer	Benzene	0.00058	lbs/ton
EU001	Dryer	Formaldehyde	0.0011	lbs/ton
EU001	Dryer	Styrene	0.0019	lbs/ton
EU016	Generator	Benzene	0.00010 9	lbs/gal
EU016	Generator	Toluene	3.93E-05	lbs/gal
EU016	Generator	Xylene	2.7E-05	lbs/gal
EU016	Generator	Propylene	0.00039 1	lbs/gal
EU016	Generator	Formaldehyde	1.1E-05	lbs/gal
EU016	Generator	Acetaldehyde	3.53E-06	lbs/gal
EU016	Generator	Acrolein	1.1E-06	lbs/gal
EU016	Generator	PAH total	2.97E-05	lbs/gal
EU017	Natural gas combustion	Formaldehyde	0.075	lbs/mmcf

**APPENDIX B:**

**STANDARD OPERATING PROCEDURE FOR COMPOSITE SAWDUST SAMPLING**

**APPENDIX C:**

**STANDARD OPERATING PROCEDURE FOR COMPOSITE SAWDUST ANALYSIS**

**APPENDIX D:  
FACILITY DESCRIPTION FORMS**

**APPENDIX E:**

**MANUFACTURER'S RECOMMENDATIONS FOR PERLITE INJECTION**



Acrobat Document

**TECHNICAL SUPPORT DOCUMENT**  
**For**  
**AIR EMISSION PERMIT NO. 03700280-004**  
**Endres Processing, LLC**  
**Rosemount Production Facility**

This Technical Support Document (TSD) is intended for all parties interested in the 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 permit.

## **1. General Information**

### **1.1. Applicant and Stationary Source Location**

<b>Owner and Stationary Source Address and Contact Information (SIC Code: 2048)</b>
Endres Processing, LLC 13420 Courthouse Boulevard Rosemount, MN 55068  Contact: Leon Endres Phone: (651) 438-3113

### **1.2. Description of the Permit Action**

This permit is for a state total facility operating permit. The facility is an animal feed production plant which uses waste bakery, dairy and other food production materials. The waste materials are mixed and dried into animal feed which is shipped in bulk. The facility consists of material handling equipment, a rotary dryer, control equipment, truck loading and unloading areas, storage tanks, diesel fired generator (1.5 MW) for emergency and curtailment use purposes and paved drive areas.

### **1.3. Description of any Changes Allowed with this Permit Issuance**

This permit allows installation of the following:

- Heat exchanger to improve energy efficiency,
- Replacement of the dryer burner to improve combustion of solid fuel and accommodate a thermal oxidizer,
- Addition of a natural gas burner for startup to preheat system prior to the addition of solid fuel in order to reduce particulate emissions resulting during startup,
- Thermal oxidizer for control of Carbon Monoxide (CO), Volatile Organic Compound (VOC) emissions, dryer particulate in the form of starch. The oxidizer will have the added benefit of reducing odors from the dryer exhaust.

- Baghouse for particulate control.
- Dry sorbent injection for acid gas control.

The proposed installations will not increase the production capacity of the facility but will serve to decrease the emissions due to the installation of the emission control equipment. The emissions will be reduced to below federal permitting thresholds but a State Operating permit will still be required.

In order to reduce the emissions to below federal permitting thresholds in addition to the installation of control equipment, Endres will be accepting fuel and other usage limitations and additional monitoring requirements to demonstrate that the annual emission limits for the entire facility will not be exceeded.

The fuels allowed under this permit are shown below in Table 1.

**Table 1 -- Allowable Fuels under Permit Action 004**

Emission Unit	Allowable Fuels	
	Previous Permitted Fuels	This Permit Action 004
Product Dryer Burner (EU011)	Sawdust and refuse derived fuel , or RDF (packaging material)	Sawdust, petroleum coke, RDF, as defined by Minn. R. 7035.0300 subp. 91, and mixed municipal solid waste (MSW) limited to packaging material, plastics and paper, and MPCA-approved biomass
Generator (EU016)	N/A	Distillate oil with a maximum of 0.05% sulfur by weight

The burner capacity is rated at 60 MMBtu (Million British thermal units) per hour. The fuel feed conditions to the burner are presented in Table 2.

**Table 2 -- Summary of Fuel Use Limits under this Permit Action**

<b>Emission Unit</b>	<b>Allowable Fuel</b>	<b>Limitation</b>
Burner (EU011)	Sawdust	Fuel use limited to untreated wood, such as, but not limited to untreated residuals from manufacturing processes, logging waste, trees, brush, etc. Untreated wood is defined as any wood that has not been treated with copper containing preservatives. The exception is for an allowance of up to 10 percent by weight of extraneous materials such as resins, coatings, plastics and laminates and laminate remnants. The extraneous materials that may be contained in the sawdust are considered RDF/MSW and does count toward the 30% limitation for RDF/MSW.
	RDF and MSW (packaging materials which consists of paper and plastic)	Limited to no more than 30% by weight of fuel combusted in a 24 hour period.
	Natural gas	A natural gas burner will be used to preheat the system and to start the solid fuel combustion.
	MPCA-approved biomass	Not to exceed 14 days of operation and a test period not to exceed 90 days.
Generator (EU016)	Distillate fuel oil (No.1 and No. 2)	Limited to distillate fuel oil with a sulfur content not to exceed 0.05% by weight.

#### 1.4. Permit History

The facility was originally operating under a State Registration D permit for air emissions.

**Amendment No. 1, Action No. 2:** (Second permit action) When actual emissions were noted to be approaching 50 percent of the federal permitting threshold (50 tpy), the facility applied for a Title V total facility air emission permit to replace its existing registration permit. The permit application was submitted in February 2002 but was not reviewed prior to receiving the major amendment request in April 2005. A new operating permit was not issued.

**Amendment No. 2, Action No. 3:** Initially the drying, cooling and screening processes were exhausted through two wet scrubber stacks. As part of an energy efficiency project, one of the existing wet scrubber stacks was eliminated by incorporating a recycle gas stream. This change in the stack configuration was amendment no. 2 to the facility permit. A later supplement to the stack configuration change was to increase the wet scrubber stack from 70 to 106 feet to improve air dispersion. The stack height increase was not issued a separate action item number.

**Table 3 -- Summary of Permit Actions**

Permit Type	Action Number	Application Date	Issue Date
Option D Registration Permit	001	4/14/1997	4/18/1997
Application Withdrawn	002	3/31/2004	NA
Option D Registration Permit	003	10/17/2000	11/16/2000
Part 70 Total Facility Operating Permit* (current permit action)	004	2/22/2002	NA
Major Amendment	004 (rolled in)	4/8/2005, 2/3/2006	NA

\* - stack testing showed that facility qualifies for a Federally Enforceable State Operating Permit, which is what will be issued



## 1.5. Facility Emissions

Table 4 presents the facility's potential emissions compared to the proposed limited potential emissions and the 2004 actual emissions.

**Table 4 -- Total Facility Potential to Emit Summary**

	<b>PM tpy</b>	<b>PM<sub>10</sub> tpy</b>	<b>SO<sub>2</sub> tpy</b>	<b>NO<sub>x</sub> tpy</b>	<b>CO tpy</b>	<b>VOC tpy</b>	<b>Single HAP tpy</b>	<b>All HAPs tpy</b>
Total Facility Potential Emissions	273.5	130.4	2053.2	406.7	223.1	246.9	5.0	56.4
Total Facility Limited Potential Emissions	95	95	95	95	95	95	9	24
Total Facility Actual Emissions (2004)	45.86	22.79	0.24	15.75	10.41	68.09	Not reported	

Table Notes: Actual emissions were taken from emission inventory report submitted to MPCA for 2004.

HAPs are primarily acetaldehyde from the drying process and hydrogen chloride from the combustion of sawdust.

Table 5 shows the facilities classification to federal permitting and regulatory requirements.

**Table 5 -- Facility Classification**

<b>Classification</b>	<b>Major/Affected Source</b>	<b>Synthetic Minor</b>	<b>Minor</b>
PSD		PM, SO <sub>2</sub> and NO <sub>x</sub>	PM <sub>10</sub> , CO and VOC
Part 70 Permit Program		PM, PM <sub>10</sub> , SO <sub>2</sub> , NO <sub>x</sub> , CO and VOC	
Part 63 NESHAP		HAPs	

## **2. Regulatory and/or Statutory Basis**

### **2.1. New Source Review**

The facility is not an existing major source under New Source Review because it is not a listed source nor does it have limited potential emissions of any of the criteria pollutants above 250 tons per year.

### **2.2. Part 70 Permit Program**

This permit action is to limit the potential emissions to below Part 70 permit threshold by use of fuel limitations and installation of emission controls.

### **2.3. New Source Performance Standards (NSPS)**

No New Source Performance Standards apply.

### **2.4. National Emission Standards for Hazardous Air Pollutants (NESHAP)**

With the installation of the pollution control equipment as authorized by this permit action this facility will be a minor source of hazardous air pollutants and not subject to any of the NESHAP standards. (Note to reader: Subpart DDDDD (Industrial, Commercial and Institutional Boiler and Process Heater MACT) would apply without the synthetic minor limits for HAPs. The compliance date is 9/13/2007).

### **2.5. Minnesota State Rules**

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

- Minn. R. 7011.0515 Standards of Performance for Existing Indirect Heating Equipment
- Minn. R. 7011.2300 Standards of Performance for Stationary Internal Combustion Engines (Generators)
- Minn. R. 7011.0710 Standards of Performance for Post -1969 Industrial Process Equipment

### **2.6. Compliance Assurance Monitoring (CAM) 40 CFR Part 64**

The Compliance Assurance Monitoring (CAM) rule 40 CFR pt. 64, applies to emission units at Part 70 sources (major source) that have pre-controlled potential emissions of a regulated air pollutant that are equal or greater than 100 percent of the Part 70 major source level for that pollutant and uses an add-on control device to meet a state (as long as it is a part of the SIP) or federal regulation. Since this permit action reduces the facility's potential to emit to below the Part 70 threshold, CAM does not apply to the burner and rotary dryer.

**Table 6 -- Regulatory Overview of Facility**

GP, EU, or SV	Applicable Regulations	Comments:
Total Facility	Title I Condition: To avoid major source classification under 40 CFR § 52.21 and Minn. R. 7007.3000 and under 40 CFR § 63.2 and under 40 CFR § 70.2 and Minn. R. 7007.0200	The facility-wide air emissions are limited to 95 tpy for criteria pollutants (PM/PM <sub>10</sub> , NO <sub>x</sub> , CO, SO <sub>2</sub> , VOC); 24 tons for total HAPs and 9 tpy for single HAPs. Endres will maintain a 12 month rolling sum to demonstrate compliance with these limits.
	Minn. R. 7011.0150	Preventing PM from becoming airborne
	This facility is not subject to Minn. R. 7011.1000 for dry bulk commodities handling	Endres Processing is not a dry bulk agricultural commodity facility. Endres primarily receives already processed food by-products, 30-40% of which is liquid material.
Group 001 Indirect Heating Equipment	Minn. R. 7011.0510	Standards of Performance for New Indirect Heating Equipment. Determination of applicable limit from rule.  The PM limit is more stringent than the grain loading limit contained in Minn. R. 7011.0715. The more stringent requirement applies.
	Minn. R. 7011.0715	Standard of Performance for Post -1969 Industrial Process Equipment  The Opacity limit is more stringent than the opacity limit in 7011.0510. The more stringent requirement applies.
	Minn. R. 7011.0551	Record Keeping and Reporting for Indirect Heating Units Combusting Solid Waste  Refuse-derived fuel shall not exceed 30% by weight of the fuel feed stream to be determined on a 24-hour basis, and quarterly reports shall be submitted.

GP, EU, or SV	Applicable Regulations	Comments:
	Minn. R. 7011.0551	Fraction of sawdust received that contains extraneous materials shall be determined by monthly analysis of a composite sample or by a certification of each delivery by the fuel supplier. Extraneous material shall not exceed ten percent by weight to be averaged on a monthly basis.
Group 010 Material Handling	Minn. R. 7011.0715	Standard of Performance for Post -1969 Industrial Process Equipment
EU016 Generator	Minn. R. 7011.2300	Standards of Performance for Stationary Internal Combustion Engines (Generators)
EU017 Comfort heating and dryer startup burner	Minn. R. 7007.1300, subp.3(B)(2)	The combined capacity of the comfort heating units is greater than 2 MMBtu per hour so they are not considered insignificant.
FS002 Truck Traffic	Minn. R. 7011.0150	Dust control measures
FS003 Petroleum Coke Receiving	Minn. R. 7011.0150	Dust control measures

### 3. Technical Information

#### 3.1. Calculations of Potential to Emit

Potential emissions were calculated by using emission limits combined with full capacity operation for those pollutants with emission limits, and emission factors combined with full capacity operation for those pollutants without emissions limits. Attachment 1 to this TSD contains the emission calculations which summarize potential and expected actual emissions of the Facility. This spreadsheet also contains the supporting information prepared by the MPCA and the Permittee.

The data base used for factors for the burner came from multiple sources depending on the fuel being burned. For sawdust combustion the emission factors came from U.S. Environmental Protection Agency's (EPA) Section 1.6 of AP-42, Wood Residue Combustion. Emission factors for food packaging combustion were taken from AP-42 Section 2.1 Refuse Combustion. AP-42 emission factors are not available for petroleum coke combustion. Criteria pollutant emission

factors for operating the burner on Petroleum Coke were taken from EPA's Air Facility Subsystem Source Classification Codes and Emission Factor Listing for Criteria Air Pollutants dated March 1990. Emission factors for hazardous air pollutants for petroleum coke combustion were taken from CHIEF (Clearing House for Inventories and Emission Factors), Version 11 (EPA 454/C-04-001), April 2004.

The dryer emissions exhaust through the same stack and control equipment as the combustion gases from the burner. Emissions produced from the drying and handling of the product will be limited to Particulate Matter (PM), PM<sub>10</sub>, VOCs and HAPs. Since no emission factors were found for a similar process, emission testing that was completed on the dryer exhaust were used as the basis for emission factors from the drying process. Using the test data over predicts the emissions from drying since the tested values also include the fraction of these pollutants from the combustion of fuels. Additional testing to be completed as part of the requirements of the operating permit will involve testing of the proposed fuel combinations which are sawdust/RDF/MSW (packaging material) and sawdust/petroleum coke. It is not possible to operate the burner without product being dried because the system could not handle the thermal load. Therefore the performance testing will include the combustion emissions as well as any emissions from the drying process. Until such time that the testing is completed, the emission factors used to determine the 12 month rolling sum for the drying process for PM, PM<sub>10</sub>, VOCs and HAPs will be as listed in the operating permit.

Likewise, Endres completed specific testing for individual VOCs that are summarized in a March 26, 2003 test results report. The tested emission rates have been used to develop emission factors for these particular pollutants which are acetaldehyde, benzene, styrene, acrolein, and formaldehyde for the dryer.

EPA's AP-42 Section 9.9.1, Grain Elevators and Processes, was used with the caveat that PM<sub>10</sub> is half of PM as indicated on Table 9.9.1-2. The AIRS database for SCC 3-02-005-30 was used to calculate particulate emissions from post dryer internal product handling. Post dryer internal product handling includes a cooling drum, two screeners, and the finished product hammermill, which all are vented through a cyclone (CE013).

EPA's AP-42 Section 9.9.2, Grain Elevators and Processes, was used with the caveat that PM<sub>10</sub> is half of PM to calculate particulate emissions from packaging material storage, petroleum coke storage, and raw material/sawdust storage. Sawdust and raw materials are received in the same area which is vented through a fabric filter (CE015). Once received the raw material and sawdust are conveyed to a second area and stored in separate bins which are vented to a common exhaust point via a fabric filter (CE016). Petroleum coke storage shares a common exhaust point with packaging material storage via a fabric filter (CE014).

Endres uses natural gas fired space heaters for comfort heating and will use a 15 MMBtu/hr natural gas burner to assist with dryer startup. Combined the rated capacity of the heaters is not considered insignificant per Minn. R. 7007.1300 Subp.3 B. (2). Collectively the heating units are referenced as EU017 in the operating permit. The identification, location and rated heat input of the comfort heating units are listed in Table 7. Emissions from the comfort heating units and the startup burner for the dryer were calculated from U.S. EPA AP-42, Section 1.4 Natural Gas Combustion; Tables 1.4-1 and 1.4-2.

**Table 7 -- List of Comfort Heating Units**

Identification	Location	Rated Capacity mmBtu/hour
MAU-1	Production Area	2,376
MAU-2	Finish Product Warehouse	832
MAU-3	Maintenance	713
MAU-4	Production Ceiling Space	594
MAU-5	Production Area	2,160
MAU-6	Raw Product Warehouse	1,512
MAU-7	Finish Product Warehouse	1,512
8	Wash Room Space Heater	100

For paved roads fugitive particulate emissions, AP-42 equations from Section 13.2.1, Paved Roads, were used to calculate emissions. The number of raw product delivery trucks, sawdust trucks, and finished products trucks was determined by the amount of product required and generated when operating at full capacity. The number of trucks equated to 14,170 loaded trucks, 14,170 empty trucks, and 12,700 small vehicles.

Potential emissions do not include application of control technology. To obtain the limited potential emission from Endres the removal efficiency of the control equipment for a particular pollutant and emission unit needs to be applied. Table 8 presents the control technology by emission source and affected pollutant. The table also lists the emission limit for the emission source.

**Table 8 -- Summary of Emission Limits and Control Technology**

Emission Unit	Pollutant	Emission Limit	Control Technology
EU011 (burner), EU012 (dryer), EU016 (generator), and EU017 (natural gas combustion).	NO <sub>x</sub>	95 tons on a 12 month rolling sum.	None
	SO <sub>2</sub>	95 tons on a 12 month rolling sum	Sorbent injection for burner and dryer, fuel sulfur content limit for generator fuel.
	CO	95 tons on a 12 month rolling sum	Sorbent injection for burner and dryer nothing for generator.
	VOC	95 tons on a 12 month rolling sum	Thermal oxidation for burner and dryer, nothing for generator.
EU011 (burner), EU012 (dryer), EU016 (generator), and EU017 (natural gas combustion).	HCl, and other single HAP	9 tons on a 12 month rolling sum	Thermal oxidizer, sorbent injection and fabric filter for burner and dryer, nothing for generator.

<b>Emission Unit</b>	<b>Pollutant</b>	<b>Emission Limit</b>	<b>Control Technology</b>
EU011 (burner), EU012 (dryer), EU016 (generator), and EU017 (natural gas combustion).	Total HAPs	24 tons on a 12 month rolling sum	Thermal oxidizer, sorbent injection and fabric filter for burner and dryer, nothing for generator.
EU011 (burner), EU012 (dryer), EU013 (sawdust), EU014 (post dryer), EU015 (packaging materials), EU016 (generator), EU017 (natural gas combustion), EU048 (raw material and sawdust storage bins), and EU019 (petroleum coke storage).	PM	95 tons on a 12 month rolling average sum	Fabric filter for burner, cyclone for post dryer material handling, fabric filter for packaging material storage, fabric filter for sawdust/raw material receiving, fabric filter for raw material and sawdust storage bins, fabric filter for petroleum coke storage, and nothing for generator or natural gas combustion.
EU011 (burner), EU012 (dryer), EU003 (sawdust), EU014 (post dryer), EU015 (packaging materials), EU016 (generator), EU017 (natural gas combustion), EU018 (raw material and sawdust storage bins), and EU019 (petroleum coke storage).	PM <sub>10</sub>	95 tons on a 12 month rolling sum	Fabric filter for burner, cyclone for post dryer material handling, fabric filter for packaging material storage, fabric filter for sawdust/raw material receiving, fabric filter for raw material and sawdust storage bins, fabric filter for petroleum coke storage, and nothing for generator or natural gas combustion.
EU011 (burner) and EU012 (dryer)	SO <sub>2</sub>	4.0 lb/mmBtu	Sorbent Injection
	PM	0.4 lb/mmBtu	Fabric Filter
	Opacity	Shall not exhibit greater than 20 percent opacity. This limit is more stringent than the opacity limit contained in Minn. R. 7011.0510 subp. 2.	Fabric Filter

<b>Emission Unit</b>	<b>Pollutant</b>	<b>Emission Limit</b>	<b>Control Technology</b>
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EU013 (sawdust and raw material receiving), EU014 (post dryer material handling) EU015 (packaging materials handling), EU018 (Raw Material and Sawdust Storage Bins), and EU019 (Petroleum Coke Storage).	PM	Shall not exceed 0.3 grains per standard cubic foot.	Cyclone and Fabric Filters
	Opacity	Shall not exhibit greater than 20 percent opacity.	Cyclone and Fabric Filters
EU016 (generator)	SO <sub>2</sub>	SO <sub>2</sub> limited to 0.5 lbs/mmBtu	Tracking sulfur content of fuel.
	Opacity	Opacity may not exhibit greater than 20 percent once operating temperatures have been met.	None

A major reason for this permit action is to install additional pollution control on the existing process. The controls to be installed on the burner and dryer combined exhaust SV011 consist of a thermal oxidizer, sorbent injection and a fabric filter. Table 9 presents the control technology, emissions controlled, expected efficiencies, and monitoring parameters used to demonstrate compliance with emission limitations. The removal efficiencies for the dry sorbent injection for SO<sub>2</sub> and HCl are based on manufacturer's guarantees. EPA's own data supports the higher removal efficiency for HCl since HCl is preferentially removed over SO<sub>2</sub>.

**Table 9 -- Summary of Pollution Control Equipment on Burner/Dryer Exhaust**

Control Technology	Affected Pollutant	Removal Efficiency %	Basis for Efficiency	Parameters to be monitored
Thermal oxidizer	VOC	90	Minn. R. 7011.0070 Control Equipment Rule for an afterburner	The thermal oxidizer chamber temperature is to be maintained at the no less than demonstrated at most recent performance test.
	CO	90	Manufacturer's guarantee	
Sorbent Injection	SO <sub>2</sub>	50	Manufacturer's guarantee	Sorbent injection rate to be maintained at the rate demonstrated at the
	HCl	75		



Control Technology	Affected Pollutant	Removal Efficiency %	Basis for Efficiency	Parameters to be monitored
				most recent performance test.
Fabric Filter	PM	95	Minn. R. 7011.0070 Control Equipment Rule for a Fabric Filter	Pressure drop shall be maintained in the range demonstrated at the most recent performance test, and visible emissions.
	PM <sub>10</sub>			
Cyclone (CE013)	PM	50	Minn. R. 7011.0070 Control Equipment Rule for a Cyclone of Medium Efficiency	Pressure drop and visible emissions.
	PM <sub>10</sub>			

The control equipment identification of CE011 was used to identify a wet scrubber serving the burner and dryer exhaust. The existing wet scrubber (CE011) will be replaced by the new emission control equipment as authorized by this permit action. The cyclone that is identified as CE012 is for air cleanup prior to dryer air being routed through the heat exchanger. No particulate control efficiency has been attributed to CE012 for purposes of calculating potential emissions or compliance with the emission cap.

### 3.2. Emission Factors

Emission calculations to demonstrate compliance with the emission caps will be based on emission factors contained in the permit. The emission factors for the dryer and burner are to be revised through performance testing. Emission calculations for the material handling system will be based on material throughput and U.S. EPA AP-42 emission factors, unless revised through performance testing. Emissions from the generator and comfort heating units will be based on operating hours or fuel throughput and U.S. EPA AP-42 emission factors unless actual test data become available.

The permit contains the default emission factors and calculation method to be used to demonstrate compliance with the emission cap for the pollutants until performance testing is completed. Due to the large number, the HAP emission factors are included in the permit's appendix. These factors remain in place until they are superseded by performance testing. Emission calculations will be required to be performed and recorded by the 15th of each month.

### 3.3. Alternative Fuel Testing

The permit authorizes test burns for certain biomass fuels. The intent is for the Permittee to develop emissions factors for biomass fuels and with that data will eventually allow for permanent use of that fuel. The permit allows for 14 days of operation with the biomass fuel

over a period no longer than 90 days. Performance testing must also be conducted during this time to establish emission factors.

The permit also requires that in addition to performance testing, the Permittee may be required to use the emission factors developed during testing as input data for use of the MPCA's Risk Assessment Screening Spreadsheet when burning any material that may result in emissions of chemicals of potential interest as determined through the MPCA-approved test plan. The results of the analysis must be included with the test report.

Upon written approval from the MPCA, and receipt of the appropriate permit amendment when necessary where there may be an increase in criteria pollutant emissions in pounds per hour, the Permittee may start using the tested biomass fuel on a permanent basis.

### **3.4. Diesel Generator**

Refined air dispersion modeling was completed by Endres to determine the air quality impact of operating the generator. MPCA modeling staff reviewed the modeling data and completed an independent analysis of the generator. The MPCA determined that Nitrogen Dioxide (NO<sub>2</sub>) concentrations, as a result of operating the generator, would be maintained below any of the target concentration thresholds established by the MPCA.

### **3.5. 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 considers the following:

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

Table 10 summarizes the periodic monitoring requirements for those emission units for which the monitoring required by the applicable requirement is nonexistent or inadequate.

**Table 10 -- Periodic Monitoring**

<b>Unit or Group</b>	<b>Requirement (basis)</b>	<b>Additional Monitoring</b>	<b>Discussion</b>
<p>GP 001 Indirect Heating Equipment</p> <p>(CE017 Fabric Filter, CE018 Sorbent Injection, CE019 Thermal Oxidizer.)</p>	<p>Title I Condition: To avoid major source classification under 40 CFR § 52.21 and Minn. R. 7007.3000 and under 40 CFR § 63.2 and under 40 CFR § 70.2 and Minn. R. 7007.0200; Minn. R. 7011.0510; Minn. R. 7011.0551 (Refuse-derived fuel shall not exceed 30% by weight of the fuel feed stream to be determined on a 24-hour basis); and Minn. R. 7011.0551, subp. 1-4</p> <p>The percentage of the sawdust received that is composed of extraneous materials shall be determined by monthly composite testing or through supplier certification. Sawdust shall contain less than 10% by weight of extraneous material.</p>	<p>Initial stack testing, O&amp;M plan, control equipment monitoring including: daily pressure drop reading, sorbent injection flow rate, temperature. Daily tracking and recording of fuels and monthly sawdust composite analysis.</p>	<p>Installation of a fabric filter should adequately control PM to below emission limit. A pressure drop monitor will indicate the operation of the fabric filter. At the time of initial stack testing the sorbent injection rate will need to be documented and accepted as an operating condition to continuously demonstrate compliance with the SO<sub>2</sub> limit.</p>
<p>GP 002 – Nitrogen Oxide (NO<sub>x</sub>) Group</p>	<p>Title I Condition: To avoid major source classification under 40 CFR § 52.21 and Minn. R. 7007.3000 and under 40 CFR § 70.2 and Minn. R. 7007.0200</p>	<p>Initial stack testing and monthly calculations.</p>	<p>Facility will calculate monthly NO<sub>x</sub> emissions based on factors developed for each fuel combination from the most recent performance test of SV011. Monthly NO<sub>x</sub> emissions will also be based on the operating hours of the generator and amount of natural gas combusted.</p>

<b>Unit or Group</b>	<b>Requirement (basis)</b>	<b>Additional Monitoring</b>	<b>Discussion</b>
GP 003 – Sulfur Dioxide (SO <sub>2</sub> ) Group	Title I Condition: To avoid major source classification under 40 CFR § 52.21 and Minn. R. 7007.3000 and under 40 CFR § 70.2 and Minn. R. 7007.0200	Initial stack testing, sorbent injection recording, and monthly calculations.	Facility will calculate monthly SO <sub>2</sub> emissions based on factors developed for each fuel combination from the most recent performance test of SV011. Monthly SO <sub>2</sub> emissions will also be based on the operating hours of the generator and amount of natural gas combusted.
GP 004 – Particulate Matter (PM) Group	Title I Condition: To avoid major source classification under 40 CFR § 52.21 and Minn. R. 7007.3000 and under 40 CFR § 70.2 and Minn. R. 7007.0200	Initial stack testing, control equipment monitoring including: daily pressure drop readings, monthly calculations.	Facility will calculate monthly PM emissions based on factors developed for each fuel combination from the most recent performance test of SV011. Monthly PM emissions will also be based on material throughput and operating hours of the generator and amount of natural gas combusted. Fugitive PM emissions will also be included under the cap.
GP 004 – Particulate Matter Less Than 10 Microns (PM <sub>10</sub> )	Title I Condition: To avoid major source classification under 40 CFR § 52.21 and Minn. R. 7007.3000 and under 40 CFR § 70.2 and Minn. R. 7007.0200	Initial stack testing, control equipment monitoring including: daily pressure drop readings, monthly calculations.	Facility will calculate monthly PM <sub>10</sub> based on factors developed for each fuel combination from the most recent performance test of SV011. Monthly PM <sub>10</sub> emissions will also be based on material throughput and operating hours of the generator and amount of natural gas combusted. Fugitive PM <sub>10</sub> emissions will also be included under the cap.

<b>Unit or Group</b>	<b>Requirement (basis)</b>	<b>Additional Monitoring</b>	<b>Discussion</b>
GP 006 – Carbon Monoxide (CO) Group	Title I Condition: To avoid major source classification under 40 CFR § 52.21 and Minn. R. 7007.3000 and under 40 CFR § 70.2 and Minn. R. 7007.0200	Initial stack testing, monthly calculations, monitoring and recording of the thermal oxidizer chamber temperature	Facility will calculate monthly carbon monoxide emissions based on factors developed for each combination fuel from the most recent performance test of SV011. Monthly CO emissions will also be based on the operating hours of the generator and amount of natural gas combusted. The thermal oxidizer chamber temperature will be required to be no less than the temperature of the chamber of the last performance test.
GP 007 – Volatile Organic Compounds (VOC) Group	Title I Condition: To avoid major source classification under 40 CFR § 52.21 and Minn. R. 7007.3000 and under 40 CFR § 70.2 and Minn. R. 7007.0200	Initial stack testing, monthly calculations, monitoring and recording of the thermal oxidizer chamber temperature.	Facility will calculate monthly volatile organic compound emissions based on factors developed for each fuel combination from the most recent performance test of SV011. Monthly VOC emissions will also be based on the operating hours of the generator and amount of natural gas combusted. The thermal oxidizer chamber temperature will be required to be no less than the temperature of the chamber of the last performance test.
GP 008 – Hazardous Air Pollutants (HAP) Group	Title I Condition: To avoid major source classification under 40 CFR § 52.21 and Minn. R. 7007.3000 and under 40 CFR § 63.2 and under 40 CFR § 70.2 and Minn. R. 7007.0200	Initial stack testing, sorbent injection recording, pressure drop and temperature, and monthly calculations.	Facility will calculate monthly HAP emissions based on factors developed for each fuel combination from the most recent performance test of SV011. Monthly HAP emissions will also be based on the operating hours of the generator and amount of natural gas combusted.
Group 009 Material Handling (CE013 Cyclone, and CE014-017 Fabric Filters)	Minn. R. 7011.0715	Monitoring contained as conditions of Group 10 (Fabric Filters) and Group 11 (Cyclones).	Group 9 does not contain requirements for periodic monitoring because monitoring for these emission units is required as conditions of Group 010 Fabric Filters and Group 011 Cyclones.

<b>Unit or Group</b>	<b>Requirement (basis)</b>	<b>Additional Monitoring</b>	<b>Discussion</b>
GP 010 Fabric Filters (CE014-017)	Minn. R. 7007.0800, subp. 2 and 14.	Daily visible emission checks and pressure drop recording.	Visible emissions not required during inclement weather.
GP 011 Cyclones (CE012 and CE013)	Minn. R. 7007.0800, subp. 2 and 14.	Daily visible emission checks and pressure drop recording. Pressure drop range between 1.5 to 5 inches of water.	Visible emissions not required during inclement weather. Visible emissions of CE012 not required since this cyclone does not exhaust directly to the atmosphere but exhausts to a fabric filter.
EU016 (generator)	Minn. R. 7011.2300	Daily visible emissions checks when operating and fuel sulfur content limit of 0.05% by weight.	The sulfur content of each fuel delivery will be certified and recorded for compliance with the sulfur content limit.
EU017 (natural gas combustion)	State general standards.	None	Units are fired by natural gas and therefore the likelihood of violating any emission standard is very small.

The permit requires that performance testing for specific pollutants emitted from SV011 be completed within 180 days of startup. The permit specifies the test methodology and the specific HAPs that should be targeted. This detail has been incorporated into the permit to document the intent of the testing at the time the permit was written. This should remove any ambiguity concerning original intent for MPCA staff assigned to review future testing protocols for the facility. However, this requirement should in no way be interpreted as limiting the MPCA's ability to require more extensive testing as allowed by rule.

### **3.6. Insignificant Activities**

Endres has the following above ground tanks:

- 1,500 gallon diesel tank for truck refueling (~172,000 gallons annual throughput).
- 500 gallon gasoline tank (~1,000 gallons annual throughput).
- 1,000 gallon diesel reservoir incorporated into the base of the generator system.

Endres is considering adding an 8,000 gallon diesel tank but it is not in place at the time of this permit action. The existing and the proposed storage tank are considered insignificant by 7007.1300 Subpart 2 (E) (3) and are not required to be listed in the permit.

### **3.7. Perlite Injection System**

The performance testing conducted in April and October 2006 included several Trona/Perlite mix ratios to assess the performance of the sorbent metering and injection system. Perlite is injected into the gas stream in advance of the baghouse to create a protective coating on the bags at startup and after pulsing and to help promote the development of a cake on the bags. During normal operations, the Perlite injection rate is set according to the need to maintain the protective coating. Perlite is an inert material and does not act as an acid gas sorbent. The testing demonstrated that the distinct differences in density between Trona and Perlite require these materials to be metered into the gas stream separately, which is now standard operating procedure. Given that Perlite injection varies with the need to maintain a bag coating at startup and after pulsing, the permit does not specify a Perlite injection rate.

The permit does specify a baghouse pressure drop and the use of Perlite when the baghouse is in operation in accordance with the manufacturer's recommendations. Those recommendations were included as part of the permit. Compliance with the baghouse pressure drop implies that sufficient Perlite is being used.

### **3.8. Permit Organization**

The permit follows the MPCA Delta Guidance for ordering and grouping of requirements. Groups were assigned to each pollutant to be capped. For instance, GP 003 details the calculation method to limit SO<sub>2</sub> to 95 tons per year based on a 12-month rolling sum.

### **3.9. Public Comments**

First Public Notice Period: June 24, 2006 through July 24, 2006

Second Public Notice Period: July 1, 2006 through July 31, 2006

(this period replaced the first notice period)

Copies of both Public Notice forms dated June 21, 2006 and June 26, 2006 were returned stamped “The Lac Vieux Desert Band of Lake Superior Chippewa Indians have no interest in this project”.

MPCA staff received a letter from Dakota County’s Environmental Management Department’s Waste Regulation Supervisor dated July 21, 2006 expressing concern regarding emissions from the facility and requested that the MPCA address combined health impacts from the Permittee, other area industries and unregulated sources when setting limits for this permit. While such a request is outside the MPCA’s permitting authority, MPCA staff believe the performance testing Risk Assessment Screening requirements added to this version of the permit are protective of human health and the environment.

MPCA staff also received a letter from the Permittee’s attorney requesting that the permit be brought before the MPCA Citizen’s Board and that a Contested Case Hearing be held to resolve the Permittee’s request to test burn various biomass fuels at the facility. In response to this request, MPCA staff added a list of acceptable biomass fuels the Permittee could conduct test burns of and burn on a permanent basis after following the required procedures in the permit.

The version of the permit placed on notice during June and July 2006 was not issued. Since the addition of a list of acceptable biomass fuels provided additional operational flexibility to the Permittee, the change requires that the updated version of the permit be placed on another 30-day public notice.

Third Public Notice Period: May 5, 2007 through June 4, 2007

EPA 45-day Review Period: *This is a State Permit, no 45-day EPA review period is required.*

### **4. Conclusion**

Based on the information provided by Endres Processing, LLC, the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 03700280-004, and this TSD, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.



Staff Members on Permit Team:

Ann M. Curnow, Sebesta Blomberg & Associates under contract to MPCA (permit writer)

Jeff Peltola (first project manager, first peer review)

Bruce Braaten (second peer review)

Mike Westereng (second permit writer, second project manager)

Dan Sullivan (final permit writer, public notice)

Scott Parr (enforcement)

Curt Stock (performance testing)

Dennis Becker (air dispersion modeling)

Attachments:

1. Emission Calculations
2. CD-01 Forms

# **ATTACHMENT 1**

## **EMISSION CALCULATIONS**