



PART 70 PERMIT TO OPERATE

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to operate the air contaminant source(s) described below, in accordance with the laws, rules, and conditions set forth here in.

Operating Permit Number: OP2008-028A
Expiration Date: June 6, 2013
Installation ID: 047-0002
Project Number: 2009-11-036

Installation Name and Address

National Starch LLC
1001 Bedford Avenue
North Kansas City, MO 64116
Clay County, Township 50N, Range 33W, Section 23

Parent Company's Name and Address

National Starch LLC
10 FINDERNE AVENUE
BRIDGEWATER, NJ 08807

Installation Description:

National Starch and Chemical Company-North Kansas City plant is a specialty installation that produces modified corn starches, gluten meal, gluten feed, germ and high-solids steepwater.

The National Starch and Chemical Company North Kansas City site was formerly occupied by CPC International, Inc., a manufacturer of corn sweetener products. In December of 1985, the National Starch and Chemical Company purchased this North Kansas City facility from CPC International. A product conversion project was undertaken in 1984 and 1985 to manufacture corn starch products instead of corn sweetener products. A sodium sulfate unloading process, eight Reineveld Centrifuge processes, three groups of reaction tanks, and several storage tanks have been added. DSM screens, the west bag dump, and various storage tanks that were constructed between 1998 and 1992.

AUG 12 2011

Effective Date


Director or Designee
Department of Natural Resources

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I. Installation Description and Equipment Listing

INSTALLATION DESCRIPTION

The installation is a specialty starch plant in North Kansas City that produces modified corn starches, gluten meal, gluten feed, germ and high-solids steepwater.

The National Starch and Chemical Company North Kansas City site was formerly occupied by CPC International, Inc., a manufacturer of corn sweetener products. In December of 1985, the National Starch and Chemical Company purchased this North Kansas City facility from CPC International. A product conversion project was undertaken in 1984 and 1985 to manufacture corn starch products instead of corn sweetener products. A sodium sulfate unloading process, eight Reineveld Centrifuge processes, three groups of reaction tanks, and several storage tanks have been added. DSM screens, the west bag dump, and various storage tanks that were constructed between 1998 and 1992.

Reported Air Pollutant Emissions, tons per year							
Year	Particulate Matter ≤ Ten Microns (PM-10)	Sulfur Oxides (SO _x)	Nitrogen Oxides (NO _x)	Volatile Organic Compounds (VOC)	Carbon Monoxide (CO)	Lead (Pb)	Hazardous Air Pollutants (HAPs)
2006	139.91	82.84	31.77	72.96	26.68	-	3.60
2005	134.64	110.75	33.47	94.57	28.11	-	3.60
2004	161.68	121.96	46.29	109.31	38.88	-	3.60
2003	162.76	115.26	49.88	114.81	41.93	-	6.85
2002	141.07	105.01	43.00	100.12	36.14	-	6.85
2001	134.72	81.90	39.75	92.89	33.39	-	3.62

Emission Units with Limitations

The following list provides a description of the equipment at this installation, which emits air pollutants and which is identified as having unit-specific emission limitations.

Emission Unit #	Description of Emission Unit
EU0010	Corn Cleaning and Storage
EU0020	Germ Drying/Cooling
EU0030	First Pass Feed Dryer
EU0040	Second Pass Feed Dryer
EU0050	Feed Cooling
EU0060	Feed Loading Storage
EU0070	Feed Loading
EU0080	Corn Cleaning Storage
EU0090	Gluten Dryer
EU0100	Gluten Cooling
EU0110	Starch Flash Dryer #1
EU0120	Starch Flash Dryer #2
EU0130	Starch Flash Dryer #3
EU0140	Starch Flash Dryer #4
EU0150	Steep Tank Vent for Steep Tanks 1A & 2A
EU0160	Steep Tank Vent for Steep Tanks 1 & 1C
EU0170	Steep Tank Vent for Steep Tanks 2C

EU0180	Steep Tank Vent for Steep Tanks 3A & 4A
EU0190	Steep Tank Vent for Steep Tanks 3C & 4C
EU0200	Steep Tank Vent for Steep Tanks 5A
EU0210	Steep Tank Vent for Steep Tanks 5C & 6C
EU0220	Steep Tank Vent for Steep Tanks 7C & 8C
EU0230	Steep Tank Vent for Steep Tanks 9C & 10C
EU0270	DSM Screens
EU0280	Building 5 Tank Vent # 1
EU0290	Building 5 Tank Vent # 2
EU0300	Corn Slurry Tank Vent
EU0310	Light Gluten Tank Vent
EU0320	Diesel Fire Pump
EU0330	Reineveld Centrifuge Vent 1 W
EU0340	Reineveld Centrifuge Vent 1 E
EU0350	Reineveld Centrifuge Vent 2 W
EU0360	Reineveld Centrifuge Vent 2 E
EU0370	Reineveld Centrifuge Vent 3 W
EU0380	Reineveld Centrifuge Vent 3 E
EU0390	Reineveld Centrifuge Vent 4 W
EU0400	Reineveld Centrifuge Vent 4 E
EU0410	Germ Dewatering Screens
EU0420	Corn Surge Hopper
EU0430	Gasoline SCAT Tank
EU0440	Solvent Use, Fugitive

Emission Units without Limitations

The following list provides a description of the equipment, which does not have unit specific limitations at the time of permit issuance.

Description of Emission Source

Corn Unloading
Germ Loading
Gluten Loading
Starch Storage Hopper # 1
Starch Storage Hopper # 2
Starch Storage Hopper # 3
Starch Storage Hopper # 4
Starch Storage Hopper # 5
Starch Storage Hopper # 6
Starch Storage Hopper # 7
Starch Storage Hopper # 8
Starch Storage Hopper # 9
Starch Storage Hopper # 10
East Bulk Load Out (EBLO)
West Bulk Load Out (WBLO)
EBLO Aspirator Dust Collection
WBLO Aspirator Dust Collection
1 Bag Pack
1 Bag Pack Aspirator Dust Collection

Sodium Sulfate Unloading
Dust Vacuum
Phosphate Solution Tank
Amphoteric Feed Hopper
Amphoteric Cookers
2 Bag Pack
2 Equipment Dust Collection
2 Aspiration Dust Collection
Waste Water Building; Lab Hood
Vacuum Pumps 1 & 2 Discharges
NKC Sump
Gluten Filter Vent # 1
Gluten Filter Vent # 2
Gluten Filter Vent # 3
Gluten Filter Vent # 4
East Wet Fiber Vapor Vent
West Wet Fiber Vapor Vent
Sample Transfer Lab Hood
Grp. 1 Reaction Tank Vents
Grp. 2 Reaction Tank Vents
Grp. 3 Reaction Tank Vents
Sludge Haul Road
Gluten Feed Loading Dust Collection
Bulk Transfer Loadout
East Bag Dump
West Bag Dump
East and West Bag Dump Fugitives
East HCl Tank
West HCl Tank
Hydrogen Peroxide Tank
Sulfuric Acid Tank
Acetic Anhydride Tank
Adipic Acid Tanks
East Caustic Tank
West Caustic Tank
Propylene Oxide Tank
Liquid Nitrogen Tank
Sodium Hypochlorite Tank
Sodium Hypochlorite Tank
Quat 188 Tank (out of service)
WW Treatment Clarifier Tank
WW Treatment Basins
Diesel Fuel SCAT Tank
Wastewater Defoamer Tank
Starch Filtrate Clarifiers (2)
Firepump Diesel Tank
HCl Tank on Building 100
Waste Oil SCAT Tank
North Raw Starch Tank

South Raw Starch Tank
East Raw Starch Tank
Fiber Water Tank
Piping Losses, Fugitive
Solvent Use, Fugitive

Documents Incorporated by Reference

The Department has incorporated these documents into this permit by reference.

- 1) Test Protocol¹
- 2) Settlement Agreement between Department of Natural Resources, Missouri Attorney General's Office and National Starch & Chemical Company dated October 26, 2007. This document is not federally enforceable.²

¹ The Air Pollution Control Program and National Starch & Chemical will develop this document shortly after the permit is issued. The Department may incorporate changes to the test protocol into the permit as an administrative amendment.

² The Department may incorporate status report updates to this settlement agreement into the permit as administrative amendments.

II. Plant Wide Emission Limitations

The installation shall comply with each of the following emission limitations. Consult the appropriate sections in the Code of Federal Regulations (CFR) and Code of State Regulations (CSR) for the full text of the applicable requirements. All citations, unless otherwise noted, are to the regulations in effect as of the date that this permit is issued.

Permit Condition PW001

Test Protocol

Monitoring:

- 1) The permittee shall develop, submit and implement a test protocol within 90 days of permit issuance. The permittee shall correct any deficiencies in the test protocol the Department brings to the permittee's attention. The permittee will include in the test protocol all emissions units required to be tested by the permit. All required testing shall be completed within three (3) years of permit issuance³. This permit incorporates the test protocol by reference. The permittee may use the administrative amendment process to update the protocol.
- 2) Typical elements required by the test protocol⁴:
 - a) written notice to the Missouri Department of Natural Resources, not less than 30 days before the required stack test;
 - b) results of the test shall be submitted in writing to the Missouri Department of Natural Resources in the form of a comprehensive report within 6 weeks of the completion of the testing;
 - c) if the test demonstrates noncompliance with emission limits, then the installation, within 60 days, shall propose a schedule to implement corrective action to bring the source into compliance and demonstrate compliance.

Permit Condition PW002

Settlement Agreement⁵

Applies to Gluten Dryer and Wastewater Treatment

This requirement is not federally enforceable.

Odor Compliance Plan Elements Specific to Primary Equalization Basin (PE)⁶:

- 1) Element 1 "Evaluation of Odor Absorption System"
 - a) If operation of the technology through 1B or 1C of the plan demonstrates consistent improvement, the permittee will install a permanent system for PE/Secondary Equalization Basin (SE) and possibly Sequential Biological Reactors (SBRs) odor control.
 - b) Element 1D (expansion to SE and possibly SBRs) remains open to a mutually agreed upon completion date set within two (2) months of evaluation of the assessment report by the Air Pollution Control Program and permittee.

³ The permittee may use appropriate AP-42 emission factors for recordkeeping until the results of the testing have been completed.

⁴ This is not an exhaustive list, but included giving the reader some guidance.

⁵ Refer to Attachment C for a complete copy of the settlement agreement. Attachment C also contains status updates of the compliance plan. The permittee may use the Administrative Amendment procedure to incorporate status updates into Attachment C.

⁶ Only pertinent parts of the compliance plan are shown here. This list primarily contains items yet to be completed. Please refer to the complete compliance plan for details.

- 2) Element 2 “Evaluation of PE Enclosure”
 - a) (3D) The permittee will install the system based on the above (3A, 3B and 3C plan activities) encapsulation solutions should alternatives 1 and 2 fail to produce acceptable results.
- 3) Element 3 is an alternative developed on February 25, 2008 for Elements 1 through 3 and is submitted to the Air Pollution Control Program.
 - a) The permittee will convert the PE from a lightly aerated holding basin to an activated sludge biological reactor that has the potential to vastly improve the odor output. (4B) The permittee will investigate potential to convert PE to a biological treatment basin.
 - b) (4C) The permittee will investigate potential to operate the existing PE and two SBRs as a mixed activated sludge process feeding the second two SBRs. The permittee will evaluate making the second two SBRs as the polishing steps. The potential advantage is increased capacity, cleaner effluent and the ability to handle higher loads and process upsets over the existing system.
 - c) (4D) Evaluate other alternatives developed by the 3rd party operation once actual running experience is established.

III. Emission Unit Specific Emission Limitations

The installation shall comply with each of the following emission limitations. Consult the appropriate sections in the Code of Federal Regulations (CFR) and Code of State Regulations (CSR) for the full text of the applicable requirements. All citations, unless otherwise noted, are to the regulations in effect as of the date that this permit is issued.

EU0010 Corn Cleaning and Storage

General Description:	Corn Cleaning and Storage
Manufacturer/Model #:	Flex-Kleen / 100-WMWC-420-III
EIQ Reference # (Year):	EP#2 (1997)

Permit Condition EU0010-001 10 CSR 10-6.400 Restriction of Emission of Particulate Matter from Industrial Processes
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Emission Limitation:

The permittee shall not emit particulate matter in excess of 54.7 lbs/hr from this emission unit.

Monitoring:

Baghouse operation and maintenance⁷:

- 1) Check and document the baghouse pressure drop monthly. If the pressure drop falls out of the normal operating range, specified by the manufacturer, the permittee shall take corrective action within eight (8) hours to return the pressure drop to normal.
- 2) Check the cleaning sequence of the baghouse monthly.
- 3) Thoroughly inspect clean air plenum to determine bag failure (leaks and wear) quarterly.
- 4) Inspect every month all components that are not subject to wear or plugging, including structural components, housing, ducts and hoods.
- 5) If leaks or abnormal conditions are detected, corrective actions shall be initiated as soon as practical but within eight (8) hours. Permittee will document bag replacement. Maintain a written record of the inspection and any action resulting from the inspection. The permittee shall calibrate, maintain and operate all instruments and control equipment according to the manufacture specifications.

Recordkeeping:

The permittee shall maintain a written or electronic record of all inspections and any action resulting from the inspection. These records shall be made available immediately for inspection to the Department of Natural Resources' personnel upon request.

⁷ The monitoring described here shall also be done whenever a violation of Permit Condition EU0010-002 is observed. Refer to Permit Condition EU0010-002 for the specifics.

<p style="text-align: center;">Permit Condition EU0010-002 10 CSR 10-6.220 Restriction of Emission of Visible Air Contaminants</p>

Emission Limitation:

- 1) No owner or other person shall cause or permit to be discharged into the atmosphere from any source any visible emissions with an opacity greater than 20%.
- 2) Exception: A person may discharge into the atmosphere from any source of emissions for a period(s) aggregating not more than six (6) minutes in any sixty (60) minutes air contaminants with an opacity up to 60%.

Equipment Specifications:

None

Operation Limitation:

None

Monitoring:

- 1) The permittee shall conduct opacity readings on this emission unit using the procedures contained in U.S. EPA Test Method 22. Readings are only required when the emission unit is operating and when the weather conditions allow. If no visible or other significant emissions are observed using these procedures, then no further observations would be required. For emission units with visible emissions perceived or believed to exceed the applicable opacity standard, the source representative would then conduct a Method 9 observation.
- 2) The following monitoring schedule must be maintained:
 - a) Weekly observations shall be conducted for a minimum of eight (8) consecutive weeks after permit issuance.
 - b) Should no violation of this regulation be observed during this eight week period then observations must be made once every two weeks for a period of eight (8) weeks. If a violation is noted, monitoring reverts to weekly.
 - c) Should no violation of this regulation be observed during this period then observations must be made once per month. If a violation is noted, monitoring reverts to weekly.
 - d) If the source reverts to weekly monitoring at any time, monitoring frequency will progress in an identical manner from the initial monitoring frequency.
 - e) The permittee shall conduct an annual opacity measurement on the emission unit by U.S. EPA Test Method 9 with a certified Method 9 observer.
 - f) If a violation is observed at any time, the permittee will conduct the typical monthly baghouse monitoring according to Permit Condition EU0010-001 immediately.

Recordkeeping:

The permittee shall maintain records of all observation results (see Attachment A), noting:

- 1) Whether any air emissions (except for water vapor) were visible from the emission units,
- 2) All emission units from which visible emissions occurred, and
- 3) Whether the visible emissions were normal for the process.
- 4) The permittee shall maintain records of any equipment malfunctions.
- 5) The permittee shall maintain records of the annual U.S. EPA Method 9 opacity test and any other Method 9 test performed in accordance with this permit condition.

Reporting:

The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any exceedance of the opacity limit established by 10 CSR 10-6.220, or any malfunction which could cause an opacity exceedance.

**EU0020
Germ Drying / Cooling**

General Description:	Germ Drying / Cooling
Manufacturer/Model #:	Davenport / NA
EIQ Reference # (Year):	EP#8 (1997)

**Permit Condition EU0020-001
10 CSR 10-6.400
Restriction of Emission of Particulate Matter from Industrial Processes**

Emission Limitation:

The permittee shall equip all existing corn wet milling drying processes with gas cleaning devices operated: to remove not less than ninety-nine and one-half percent (99.5%) by weight of all particulate matter in the dryer discharge gases; or release not more than one one-hundredth grain of particulate matter per dry standard cubic foot (0.01 gr/dscf) of discharge gas.

Monitoring:

- 1) The permittee shall parametrically monitor the throughput by recording the daily grind and multiplying by the yield for the product in this emission unit.
- 2) The permittee shall conduct a stack test to determine the efficiency of the device removing the particulate matter from the dryer discharge gases.
- 3) Scrubber Operational and Maintenance Plan:
 - a) The permittee shall read the liquid flow rate and the total static pressure drop across the scrubber once per working day when the process is in operation. The pressure drop across the scrubber shall be maintained within the range specified by the manufacturer. If the test demonstrates compliance with new indicator ranges (liquid flow rate and pressure drop) then the new ranges must be set for monitoring and the new ranges must be incorporated in the operating permit.
 - b) The permittee shall file with the Department the instrument methods they will use for monitoring, within sixty (60) days of permit issuance. The permittee shall identify what they will do to insure the instrument readings are accurate, timely and complete.
 - c) Every calendar quarter, an inspection shall be performed on the scrubber. A record shall be kept of the results of the inspection.
 - d) The scrubber shall be run under proper operation when material is being processed through the source.

Recordkeeping:

The permittee shall maintain an accurate record, updated monthly within 30 days of the end of each month, of emission factors and actual emissions of particulate matter emitted into the atmosphere from this emission unit. These records shall be made available immediately for inspection to the Department of Natural Resources' personnel upon request.

Reporting:

The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than 15 days after any exceedance of 10 CSR 10-6.400.

Permit Condition EU0020-002

10 CSR 10-6.220

Restriction of Emission of Visible Air Contaminants

Emission Limitation:

- 1) No owner or other person shall cause or permit to be discharged into the atmosphere from any source any visible emissions with an opacity greater than 20%.
- 2) Exception: A person may discharge into the atmosphere from any source of emissions for a period(s) aggregating not more than six (6) minutes in any sixty (60) minutes air contaminants with an opacity up to 60%.

Equipment Specifications:

None

Operation Limitation:

None

Monitoring:

- 1) The permittee shall conduct opacity readings on this emission unit using the procedures contained in U.S. EPA Test Method 22. Readings are only required when the emission unit is operating and when the weather conditions allow. If no visible or other significant emissions are observed using these procedures, then no further observations would be required. For emission units with visible emissions perceived or believed to exceed the applicable opacity standard, the source representative would then conduct a Method 9 observation.
- 2) The following monitoring schedule must be maintained:
 - a) Weekly observations shall be conducted for a minimum of eight (8) consecutive weeks after permit issuance.
 - b) Should no violation of this regulation be observed during this eight week period then observations must be made once every two weeks for a period of eight (8) weeks. If a violation is noted, monitoring reverts to weekly.
 - c) Should no violation of this regulation be observed during this period then observations must be made once per month. If a violation is noted, monitoring reverts to weekly.
 - d) If the source reverts to weekly monitoring at any time, monitoring frequency will progress in an identical manner from the initial monitoring frequency.
 - e) The permittee shall conduct an annual opacity measurement on the emission unit by U.S. EPA Test Method 9 with a certified Method 9 observer.

Recordkeeping:

The permittee shall maintain records of all observation results (see Attachment A), noting:

- 1) Whether any air emissions (except for water vapor) were visible from the emission units,
- 2) All emission units from which visible emissions occurred, and
- 3) Whether the visible emissions were normal for the process.
- 4) The permittee shall maintain records of any equipment malfunctions.

- 5) The permittee shall maintain records of the annual U.S. EPA Method 9 opacity test and any other Method 9 test performed in accordance with this permit condition.

Reporting:

The permittee shall report to the Air Pollution Control Program’s Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any exceedance of the opacity limit established by 10 CSR 10-6.220, or any malfunction which could cause an opacity exceedance.

Permit Condition EU0020–003
 10 CSR 10-6.260
Restriction of Emission of Sulfur Compounds

Emission Limitation:

- 1) Emissions from any new source operation shall not contain more five hundred parts per million by volume (500 ppmv) of sulfur dioxide.
- 2) Emissions from any new source operation shall not contain more thirty-five milligrams (35 mg) per cubic meter of sulfuric acid or sulfur trioxide or any combination of those gases averaged on any consecutive three hour time period.
- 3) No person shall cause or permit the emission of sulfur compounds from any source which causes or contributes to concentrations exceeding those specified in 10 CSR 10-6.010 Ambient Air Quality Standards. [\[10 CSR 10-6.260\(4\) of August 30, 1996 version, 10 CSR 10-6.260\(3\)\(B\) of May 30, 2004 version & 10 CSR 10-6.010 Ambient Air Quality Standards\]](#)

Pollutant	Concentration by Volume	Remarks
Sulfur Dioxide (SO ₂)	0.03 parts per million (ppm) (80 micrograms per cubic meter (µg/m ³))	Annual arithmetic mean
	0.14 ppm (365 µg/m ³)	24-hour average not to be exceeded more than once per year
	0.5 ppm (1300 µg/m ³)	3-hour average not to be exceeded more than once per year
Hydrogen Sulfide (H ₂ S)	0.05 ppm (70 µg/m ³)	½-hour average not to be exceeded over 2 times per year
	0.03 ppm (42 µg/m ³)	½-hour average not to be exceeded over 2 times in any 5 consecutive days
Sulfuric Acid (H ₂ SO ₄)	10 µg/m ³	24-hour average not to be exceeded more than once in any 90 consecutive days

Monitoring:

The permittee shall conduct a stack test to determine sulfur emissions. Compliance shall be determined by source testing as specified in 10 CSR 10-6.030(6) for emissions and 10 CSR 10-6.040 for measuring ambient sulfur compound concentrations.

Recordkeeping:

The results of the stack test shall be kept on file and presented to Department personnel upon request.

Reporting:

The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than 15 days after any exceedance of 10 CSR 10-6.260 demonstrated by the appropriate recordkeeping forms.

**EU0030⁸
First Pass Feed Dryer
Alternate Operating Scenario**

General Description:	First Pass Feed Dryer
Manufacturer/Model #:	Bartlett-Snow / NA
EIQ Reference # (Year):	EP#11

**Permit Condition EU0030-001
10 CSR 10-6.400
Restriction of Emission of Particulate Matter from Industrial Processes**

Emission Limitation:

The permittee shall equip all existing corn wet milling drying processes with gas cleaning devices operated: to remove not less than ninety-nine and one-half percent (99.5%) by weight of all particulate matter in the dryer discharge gases; or release not more than one one-hundredth grain of particulate matter per dry standard cubic foot (0.01 gr/dscf) of discharge gas.

Monitoring:

Cyclone operation and maintenance plan:

- 1) The permittee shall continuously monitor the operation of the rotary valve;
- 2) Quarterly inspect the structural components including the cyclone ductwork and hoods for leaks and component failure;
- 3) Maintain a written record of the observations, deficiencies, and any action resulting from the inspection; and,
- 4) If leaks or abnormal conditions are detected the appropriate measures for remediation shall be implemented within eight (8) hours.

Recordkeeping:

The permittee shall maintain an accurate record, updated monthly within 30 days of the end of each month, of emission factors and actual emissions of particulate matter emitted into the atmosphere from this emission unit. These records shall be made available immediately for inspection to the Department of Natural Resources' personnel upon request.

Reporting:

The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than 15 days after any exceedance of 10 CSR 10-6.400.

⁸ EU0030, EU0040, EU0050, EU0060 and EU0070 are not currently operating. The conditions expressed for these emission units are for the alternate operating scenario, when the emission units are being operated. The permittee should only report that the units did not operate in the previous reporting period if they have not operated. The permittee is subject to the reporting requirements in these alternate operating scenarios when the emission units have been operated.

Permit Condition EU0030-002
10 CSR 10-6.220
Restriction of Emission of Visible Air Contaminants

Emission Limitation:

- 1) No owner or other person shall cause or permit to be discharged into the atmosphere from any source any visible emissions with an opacity greater than 20%.
- 2) Exception: A person may discharge into the atmosphere from any source of emissions for a period(s) aggregating not more than six (6) minutes in any sixty (60) minutes air contaminants with an opacity up to 60%.

Equipment Specifications:

None

Operation Limitation:

None

Monitoring:

- 1) The permittee shall conduct opacity readings on this emission unit using the procedures contained in U.S. EPA Test Method 22. Readings are only required when the emission unit is operating and when the weather conditions allow. If no visible or other significant emissions are observed using these procedures, then no further observations would be required. For emission units with visible emissions perceived or believed to exceed the applicable opacity standard, the source representative would then conduct a Method 9 observation.
- 2) The following monitoring schedule must be maintained:
 - a) Weekly observations shall be conducted for a minimum of eight (8) consecutive weeks after permit issuance.
 - b) Should no violation of this regulation be observed during this eight week period then observations must be made once every two weeks for a period of eight (8) weeks. If a violation is noted, monitoring reverts to weekly.
 - c) Should no violation of this regulation be observed during this period then observations must be made once per month. If a violation is noted, monitoring reverts to weekly.
 - d) If the source reverts to weekly monitoring at any time, monitoring frequency will progress in an identical manner from the initial monitoring frequency.
 - e) The permittee shall conduct an annual opacity measurement on the emission unit by U.S. EPA Test Method 9 with a certified Method 9 observer.

Recordkeeping:

The permittee shall maintain records of all observation results (see Attachment A), noting:

- 1) Whether any air emissions (except for water vapor) were visible from the emission units,
- 2) All emission units from which visible emissions occurred, and
- 3) Whether the visible emissions were normal for the process.
- 4) The permittee shall maintain records of any equipment malfunctions.
- 5) The permittee shall maintain records of the annual U.S. EPA Method 9 opacity test and any other Method 9 test performed in accordance with this permit condition.

Reporting:

The permittee shall report to the Air Pollution Control Program’s Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any exceedance of the opacity limit established by 10 CSR 10-6.220, or any malfunction which could cause an opacity exceedance.

Permit Condition EU0030–003
 10 CSR 10-6.260
Restriction of Emission of Sulfur Compounds

Emission Limitation:

- 1) Emissions from any existing source operation shall not contain more two thousand parts per million by volume (2,000 ppmv) of sulfur dioxide.
- 2) Emissions from any existing source operation shall not contain more seventy milligrams (70 mg) per cubic meter of sulfuric acid or sulfur trioxide or any combination of those gases averaged on any consecutive three hour time period.
- 3) No person shall cause or permit the emission of sulfur compounds from any source which causes or contributes to concentrations exceeding those specified in 10 CSR 10-6.010 Ambient Air Quality Standards. [\[10 CSR 10-6.260\(4\) of August 30, 1996 version, 10 CSR 10-6.260\(3\)\(B\) of May 30, 2004 version & 10 CSR 10-6.010 Ambient Air Quality Standards\]](#)

Pollutant	Concentration by Volume	Remarks
Sulfur Dioxide (SO ₂)	0.03 parts per million (ppm) (80 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$))	Annual arithmetic mean
	0.14 ppm (365 $\mu\text{g}/\text{m}^3$)	24-hour average not to be exceeded more than once per year
	0.5 ppm (1300 $\mu\text{g}/\text{m}^3$)	3-hour average not to be exceeded more than once per year
Hydrogen Sulfide (H ₂ S)	0.05 ppm (70 $\mu\text{g}/\text{m}^3$)	½-hour average not to be exceeded over 2 times per year
	0.03 ppm (42 $\mu\text{g}/\text{m}^3$)	½-hour average not to be exceeded over 2 times in any 5 consecutive days
Sulfuric Acid (H ₂ SO ₄)	10 $\mu\text{g}/\text{m}^3$	24-hour average not to be exceeded more than once in any 90 consecutive days

Monitoring:

- 1) Within 90 to 120 days from receipt of this permit, the permittee shall demonstrate compliance with the sulfur emission limit. Compliance shall be determined by completing one of the following options:
 - a) Source testing as specified in 10 CSR 10-6.030(6) for emissions and 10 CSR 10-6.040 for measuring ambient sulfur compound concentrations. The permittee shall provide a written notice to the Missouri Department of Natural Resources, not less than 30 days before the required stack test. Results of the test shall be submitted in writing to the Missouri Department of Natural Resources in the form of a comprehensive report within 6 weeks of the completion of the testing. If the test demonstrates noncompliance with emission limits, then the installation, within 60 days, shall propose a schedule to implement corrective action to bring the source into compliance and demonstrate compliance.

- b) The permittee may also demonstrate compliance using engineering calculations to prove the emission source is not physically capable of exceeding the emission limitation.

Recordkeeping:

The results of the stack test or engineering calculations shall be kept on file and presented to Natural Resources' personnel upon request.

Reporting:

The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than 15 days after any exceedance of 10 CSR 10-6.260 demonstrated by the appropriate recordkeeping forms.

**EU0040⁹
Second Pass Feed Dryer
Alternate Operating Scenario**

General Description:	Second Pass Feed Dryer
Manufacturer/Model #:	Bartlett-Snow / NA
EIQ Reference # (Year):	EP#12

**Permit Condition EU0040-001
10 CSR 10-6.400
Restriction of Emission of Particulate Matter from Industrial Processes**

Emission Limitation:

The permittee shall equip all existing corn wet milling drying processes with gas cleaning devices operated: to remove not less than ninety-nine and one-half percent (99.5%) by weight of all particulate matter in the dryer discharge gases; or release not more than one one-hundredth grain of particulate matter per dry standard cubic foot (0.01 gr/dscf) of discharge gas.

Monitoring:

Cyclone operation and maintenance plan:

- 1) The permittee shall continuously monitor the operation of the rotary valve;
- 2) Quarterly inspect the structural components including the cyclone ductwork and hoods for leaks and component failure;
- 3) Maintain a written record of the observations, deficiencies, and any action resulting from the inspection; and,
- 4) If leaks or abnormal conditions are detected the appropriate measures for remediation shall be implemented within eight (8) hours.

⁹ EU0030, EU0040, EU0050, EU0060 and EU0070 are not currently operating. The conditions expressed for these emission units are for the alternate operating scenario, when the emission units are being operated. The permittee should only report that the units did not operate in the previous reporting period if they have not operated. The permittee is subject to the reporting requirements in these alternate operating scenarios when the emission units have been operated.

Recordkeeping:

- 1) The permittee shall maintain an accurate record, updated monthly within 30 days of the end of each month, of emission factors and actual emissions of particulate matter emitted into the atmosphere from this emission unit.
- 2) These records shall be made available immediately for inspection to the Department of Natural Resources' personnel upon request.

Reporting:

The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than 15 days after any exceedance of 10 CSR 10-6.400.

Permit Condition EU0040-002
10 CSR 10-6.220
Restriction of Emission of Visible Air Contaminants

Emission Limitation:

- 1) No owner or other person shall cause or permit to be discharged into the atmosphere from any source any visible emissions with an opacity greater than 20%.
- 2) Exception: A person may discharge into the atmosphere from any source of emissions for a period(s) aggregating not more than six (6) minutes in any sixty (60) minutes air contaminants with an opacity up to 60%.

Equipment Specifications:

None

Operation Limitation:

None

Monitoring:

- 1) The permittee shall conduct opacity readings on this emission unit using the procedures contained in U.S. EPA Test Method 22. Readings are only required when the emission unit is operating and when the weather conditions allow. If no visible or other significant emissions are observed using these procedures, then no further observations would be required. For emission units with visible emissions perceived or believed to exceed the applicable opacity standard, the source representative would then conduct a Method 9 observation.
- 2) The following monitoring schedule must be maintained:
 - a) Weekly observations shall be conducted for a minimum of eight (8) consecutive weeks after permit issuance.
 - b) Should no violation of this regulation be observed during this eight week period then observations must be made once every two weeks for a period of eight (8) weeks. If a violation is noted, monitoring reverts to weekly.
 - c) Should no violation of this regulation be observed during this period then observations must be made once per month. If a violation is noted, monitoring reverts to weekly.
 - d) If the source reverts to weekly monitoring at any time, monitoring frequency will progress in an identical manner from the initial monitoring frequency.
 - e) The permittee shall conduct an annual opacity measurement on the emission unit by U.S. EPA Test Method 9 with a certified Method 9 observer.

Recordkeeping:

The permittee shall maintain records of all observation results (see Attachment A), noting:

- 1) Whether any air emissions (except for water vapor) were visible from the emission units,
- 2) All emission units from which visible emissions occurred, and
- 3) Whether the visible emissions were normal for the process.
- 4) The permittee shall maintain records of any equipment malfunctions.
- 5) The permittee shall maintain records of the annual U.S. EPA Method 9 opacity test and any other Method 9 test performed in accordance with this permit condition.

Reporting:

The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any exceedance of the opacity limit established by 10 CSR 10-6.220, or any malfunction which could cause an opacity exceedance.

<p>Permit Condition EU0040-003 10 CSR 10-6.260 Restriction of Emission of Sulfur Compounds</p>
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Emission Limitation:

- 1) Emissions from any existing source operation shall not contain more two thousand parts per million by volume (2,000 ppmv) of sulfur dioxide.
- 2) Emissions from any existing source operation shall not contain more seventy milligrams (70 mg) per cubic meter of sulfuric acid or sulfur trioxide or any combination of those gases averaged on any consecutive three hour time period.
- 3) No person shall cause or permit the emission of sulfur compounds from any source which causes or contributes to concentrations exceeding those specified in 10 CSR 10-6.010 Ambient Air Quality Standards. [\[10 CSR 10-6.260\(4\) of August 30, 1996 version, 10 CSR 10-6.260\(3\)\(B\) of May 30, 2004 version & 10 CSR 10-6.010 Ambient Air Quality Standards\]](#)

Pollutant	Concentration by Volume	Remarks
Sulfur Dioxide (SO ₂)	0.03 parts per million (ppm) (80 micrograms per cubic meter (µg/m ³))	Annual arithmetic mean
	0.14 ppm (365 µg/m ³)	24-hour average not to be exceeded more than once per year
	0.5 ppm (1300 µg/m ³)	3-hour average not to be exceeded more than once per year
Hydrogen Sulfide (H ₂ S)	0.05 ppm (70 µg/m ³)	½-hour average not to be exceeded over 2 times per year
	0.03 ppm (42 µg/m ³)	½-hour average not to be exceeded over 2 times in any 5 consecutive days
Sulfuric Acid (H ₂ SO ₄)	10 µg/m ³	24-hour average not to be exceeded more than once in any 90 consecutive days

Monitoring:

- 1) Within 90 to 120 days from receipt of this permit, the permittee shall demonstrate compliance with the sulfur emission limit. Compliance shall be determined by completing one of the following options:
 - a) Source testing as specified in 10 CSR 10-6.030(6) for emissions and 10 CSR 10-6.040 for measuring ambient sulfur compound concentrations. The permittee shall provide a written notice to the Missouri Department of Natural Resources, not less than 30 days before the required stack test. Results of the test shall be submitted in writing to the Missouri Department of Natural Resources in the form of a comprehensive report within 6 weeks of the completion of the testing. If the test demonstrates noncompliance with emission limits, then the installation, within 60 days, shall propose a schedule to implement corrective action to bring the source into compliance and demonstrate compliance.
 - b) The permittee may also demonstrate compliance using engineering calculations to prove the emission source is not physically capable of exceeding the emission limitation.

Recordkeeping:

The results of the stack test or engineering calculations shall be kept on file and presented to Natural Resources' personnel upon request.

Reporting:

The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than 15 days after any exceedance of 10 CSR 10-6.260 demonstrated by the appropriate recordkeeping forms.

EU0050¹⁰ Feed Cooling Alternate Operating Scenario
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General Description:	Feed Cooling
Manufacturer/Model #:	NA / NA
EQ Reference # (Year):	EP#13

Permit Condition EU0050-001 10 CSR 10-6.400 Restriction of Emission of Particulate Matter from Industrial Processes
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Emission Limitation:

The permittee shall not emit particulate matter in excess of 25.2 lbs/hr from this emission unit.

Monitoring:

Cyclone operation and maintenance plan:

- 1) The permittee shall continuously monitor the operation of the rotary valve;
- 2) Quarterly inspect the structural components including the cyclone ductwork and hoods for leaks and component failure;

¹⁰ EU0030, EU0040, EU0050, EU0060 and EU0070 are not currently operating. The conditions expressed for these emission units are for the alternate operating scenario, when the emission units are being operated. The permittee should only report that the units did not operate in the previous reporting period if they have not operated. The permittee is subject to the reporting requirements in these alternate operating scenarios when the emission units have been operated.

- 3) Maintain a written record of the observations, deficiencies, and any action resulting from the inspection; and,
- 4) If leaks or abnormal conditions are detected the appropriate measures for remediation shall be implemented within eight (8) hours.

Recordkeeping:

The permittee shall maintain a written or electronic record of quarterly inspections and any action resulting from the inspection. These records shall be made available immediately for inspection to Department personnel upon request.

Reporting:

The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than 15 days after any exceedance of 10 CSR 10-2.030.

Permit Condition EU0050-002

10 CSR 10-6.220

Restriction of Emission of Visible Air Contaminants

Emission Limitation:

- 1) No owner or other person shall cause or permit to be discharged into the atmosphere from any source any visible emissions with an opacity greater than 20%.
- 2) Exception: A person may discharge into the atmosphere from any source of emissions for a period(s) aggregating not more than six (6) minutes in any sixty (60) minutes air contaminants with an opacity up to 60%.

Equipment Specifications:

None

Operation Limitation:

None

Monitoring:

- 1) The permittee shall conduct opacity readings on this emission unit using the procedures contained in U.S. EPA Test Method 22. Readings are only required when the emission unit is operating and when the weather conditions allow. If no visible or other significant emissions are observed using these procedures, then no further observations would be required. For emission units with visible emissions perceived or believed to exceed the applicable opacity standard, the source representative would then conduct a Method 9 observation.
- 2) The following monitoring schedule must be maintained:
 - a) Weekly observations shall be conducted for a minimum of eight (8) consecutive weeks after permit issuance.
 - b) Should no violation of this regulation be observed during this eight week period then observations must be made once every two weeks for a period of eight (8) weeks. If a violation is noted, monitoring reverts to weekly.
 - c) Should no violation of this regulation be observed during this period then observations must be made once per month. If a violation is noted, monitoring reverts to weekly.

- d) If the source reverts to weekly monitoring at any time, monitoring frequency will progress in an identical manner from the initial monitoring frequency.
- e) The permittee shall conduct an annual opacity measurement on the emission unit by U.S. EPA Test Method 9 with a certified Method 9 observer.

Recordkeeping:

The permittee shall maintain records of all observation results (see Attachment A), noting:

- 1) Whether any air emissions (except for water vapor) were visible from the emission units,
- 2) All emission units from which visible emissions occurred, and
- 3) Whether the visible emissions were normal for the process.
- 4) The permittee shall maintain records of any equipment malfunctions.
- 5) The permittee shall maintain records of the annual U.S. EPA Method 9 opacity test and any other Method 9 test performed in accordance with this permit condition.

Reporting:

The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any exceedance of the opacity limit established by 10 CSR 10-6.220, or any malfunction which could cause an opacity exceedance.

**EU0060¹¹
Feed Loading Storage
Alternate Operating Scenario**

General Description:	Feed Loading Storage
Manufacturer/Model #:	Columbia Steel Tank Co. / NA
EIQ Reference # (Year):	EP#14

**Permit Condition EU0060-001
10 CSR 10-6.400
Restriction of Emission of Particulate Matter from Industrial Processes**

Emission Limitation:

The permittee shall not emit particulate matter in excess of 25.2 lbs/hr from this emission unit.

Monitoring:

None

Recordkeeping:

None

Reporting:

None

¹¹ EU0030, EU0040, EU0050, EU0060 and EU0070 are not currently operating. The conditions expressed for these emission units are for the alternate operating scenario, when the emission units are being operated. The permittee should only report that the units did not operate in the previous reporting period if they have not operated. The permittee is subject to the reporting requirements in these alternate operating scenarios when the emission units have been operated.

Permit Condition EU0060-002
10 CSR 10-6.220
Restriction of Emission of Visible Air Contaminants

Emission Limitation:

- 1) No owner or other person shall cause or permit to be discharged into the atmosphere from any source any visible emissions with an opacity greater than 20%.
- 2) Exception: A person may discharge into the atmosphere from any source of emissions for a period(s) aggregating not more than six (6) minutes in any sixty (60) minutes air contaminants with an opacity up to 60%.

Equipment Specifications:

None

Operation Limitation:

None

Monitoring:

- 1) The permittee shall conduct opacity readings on this emission unit using the procedures contained in U.S. EPA Test Method 22. Readings are only required when the emission unit is operating and when the weather conditions allow. If no visible or other significant emissions are observed using these procedures, then no further observations would be required. For emission units with visible emissions perceived or believed to exceed the applicable opacity standard, the source representative would then conduct a Method 9 observation.
- 2) The following monitoring schedule must be maintained:
 - a) Weekly observations shall be conducted for a minimum of eight (8) consecutive weeks after permit issuance.
 - b) Should no violation of this regulation be observed during this eight week period then observations must be made once every two weeks for a period of eight (8) weeks. If a violation is noted, monitoring reverts to weekly.
 - c) Should no violation of this regulation be observed during this period then observations must be made once per month. If a violation is noted, monitoring reverts to weekly.
 - d) If the source reverts to weekly monitoring at any time, monitoring frequency will progress in an identical manner from the initial monitoring frequency.
 - e) The permittee shall conduct an annual opacity measurement on the emission unit by U.S. EPA Test Method 9 with a certified Method 9 observer.

Recordkeeping:

The permittee shall maintain records of all observation results (see Attachment A), noting:

- 1) Whether any air emissions (except for water vapor) were visible from the emission units,
- 2) All emission units from which visible emissions occurred, and
- 3) Whether the visible emissions were normal for the process.
- 4) The permittee shall maintain records of any equipment malfunctions.
- 5) The permittee shall maintain records of the annual U.S. EPA Method 9 opacity test and any other Method 9 test performed in accordance with this permit condition.

Reporting:

The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any exceedance of the opacity limit established by 10 CSR 10-6.220, or any malfunction which could cause an opacity exceedance.

EU0070¹² Feed Loading Alternate Operating Scenario
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General Description:	Feed Loading
Manufacturer/Model #:	Dynatek/Manier / NA
EIQ Reference # (Year):	EP#15

Permit Condition EU0070-001 10 CSR 10-6.400 Restriction of Emission of Particulate Matter from Industrial Processes
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Emission Limitation:

The permittee shall not emit particulate matter in excess of 44.6 lbs/hr from this emission unit.

Monitoring:

None

Recordkeeping:

None

Reporting:

None

Permit Condition EU0070-002 10 CSR 10-6.220 Restriction of Emission of Visible Air Contaminants
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Emission Limitation:

- 1) No owner or other person shall cause or permit to be discharged into the atmosphere from any source any visible emissions with an opacity greater than 20%.
- 2) Exception: A person may discharge into the atmosphere from any source of emissions for a period(s) aggregating not more than six (6) minutes in any sixty (60) minutes air contaminants with an opacity up to 60%.

Equipment Specifications:

None

¹² EU0030, EU0040, EU0050, EU0060 and EU0070 are not currently operating. The conditions expressed for these emission units are for the alternate operating scenario, when the permittee operates the emission units. The permittee should only report that the units did not operate in the previous reporting period if they have not operated. The permittee is subject to the reporting requirements in these alternate operating scenarios when they operate emission units.

Operation Limitation:

None

Monitoring:

- 1) The permittee shall conduct opacity readings on this emission unit using the procedures contained in U.S. EPA Test Method 22. Readings are only required when the emission unit is operating and when the weather conditions allow. If no visible or other significant emissions are observed using these procedures, then no further observations would be required. For emission units with visible emissions perceived or believed to exceed the applicable opacity standard, the source representative would then conduct a Method 9 observation.
- 2) The following monitoring schedule must be maintained:
 - a) Weekly observations shall be conducted for a minimum of eight (8) consecutive weeks after permit issuance.
 - b) Should no violation of this regulation be observed during this eight week period then observations must be made once every two weeks for a period of eight (8) weeks. If a violation is noted, monitoring reverts to weekly.
 - c) Should no violation of this regulation be observed during this period then observations must be made once per month. If a violation is noted, monitoring reverts to weekly.
 - d) If the source reverts to weekly monitoring at any time, monitoring frequency will progress in an identical manner from the initial monitoring frequency.
 - e) The permittee shall conduct an annual opacity measurement on the emission unit by U.S. EPA Test Method 9 with a certified Method 9 observer.

Recordkeeping:

The permittee shall maintain records of all observation results (see Attachment A), noting:

- 1) Whether any air emissions (except for water vapor) were visible from the emission units,
- 2) All emission units from which visible emissions occurred, and
- 3) Whether the visible emissions were normal for the process.
- 4) The permittee shall maintain records of any equipment malfunctions.
- 5) The permittee shall maintain records of the annual U.S. EPA Method 9 opacity test and any other Method 9 test performed in accordance with this permit condition.

Reporting:

The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any exceedance of the opacity limit established by 10 CSR 10-6.220, or any malfunction which could cause an opacity exceedance.

**EU0080
Corn Cleaning Storage**

General Description:	Corn Cleaning Storage
Manufacturer/Model #:	Columbia Steel Tank Co. / NA
EIQ Reference # (Year):	EP#16

**Permit Condition EU0080-001
10 CSR 10-6.400
Restriction of Emission of Particulate Matter from Industrial Processes**

Emission Limitation:

The permittee shall not emit particulate matter in excess of 16.5lbs/hr from this emission unit.

Monitoring:

None

Recordkeeping:

None

Reporting:

None

**Permit Condition EU0080-002
10 CSR 10-6.220
Restriction of Emission of Visible Air Contaminants**

Emission Limitation:

- 1) No owner or other person shall cause or permit to be discharged into the atmosphere from any source any visible emissions with an opacity greater than 20%.
- 2) Exception: A person may discharge into the atmosphere from any source of emissions for a period(s) aggregating not more than six (6) minutes in any sixty (60) minutes air contaminants with an opacity up to 60%.

Equipment Specifications:

None

Operation Limitation:

None

Monitoring:

- 1) The permittee shall conduct opacity readings on this emission unit using the procedures contained in U.S. EPA Test Method 22. Readings are only required when the emission unit is operating and when the weather conditions allow. If no visible or other significant emissions are observed using these procedures, then no further observations would be required. For emission units with visible emissions perceived or believed to exceed the applicable opacity standard, the source representative would then conduct a Method 9 observation.

- 2) The following monitoring schedule must be maintained:
- a) Weekly observations shall be conducted for a minimum of eight (8) consecutive weeks after permit issuance.
 - b) Should no violation of this regulation be observed during this eight week period then observations must be made once every two weeks for a period of eight (8) weeks. If a violation is noted, monitoring reverts to weekly.
 - c) Should no violation of this regulation be observed during this period then observations must be made once per month. If a violation is noted, monitoring reverts to weekly.
 - d) If the source reverts to weekly monitoring at any time, monitoring frequency will progress in an identical manner from the initial monitoring frequency.
 - e) The permittee shall conduct an annual opacity measurement on the emission unit by U.S. EPA Test Method 9 with a certified Method 9 observer.

Recordkeeping:

The permittee shall maintain records of all observation results (see Attachment A), noting:

- 1) Whether any air emissions (except for water vapor) were visible from the emission units,
- 2) All emission units from which visible emissions occurred, and
- 3) Whether the visible emissions were normal for the process.
- 4) The permittee shall maintain records of any equipment malfunctions.
- 5) The permittee shall maintain records of the annual U.S. EPA Method 9 opacity test and any other Method 9 test performed in accordance with this permit condition.

Reporting:

The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any exceedance of the opacity limit established by 10 CSR 10-6.220, or any malfunction which could cause an opacity exceedance.

EU0090 Gluten Dryer¹³

General Description:	Gluten Dryer
Manufacturer/Model #:	Bartlett-Snow / NA
EIQ Reference # (Year):	EP#17

Permit Condition EU0090-001 10 CSR 10-6.400 Restriction of Emission of Particulate Matter from Industrial Processes
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Emission Limitation:

The permittee shall equip all existing corn wet milling drying processes with gas cleaning devices operated: to remove not less than ninety-nine and one-half percent (99.5%) by weight of all particulate matter in the dryer discharge gases; or release not more than one one-hundredth grain of particulate matter per dry standard cubic foot (0.01 gr/dscf) of discharge gas.

¹³ Refer to Plant-wide Condition PW002, Odor Compliance Plan.

Monitoring:

- 1) The permittee shall parametrically monitor the daily throughput of material for this emission unit by recording the daily grind and multiplying by the yield for the product.
- 2) The permittee shall conduct a stack test to determine the efficiency of the device removing the particulate matter from the dryer discharge gases.
- 3) Cyclone operation and maintenance plan:
 - a) The facility shall continuously monitor the operation of the rotary valve.
 - b) Quarterly inspect the structural components including the cyclone ductwork and hoods for leaks and component failure. Maintain a written record of the observations, deficiencies and any action resulting from the inspection.
 - c) Maintain a written record of the observations, deficiencies, and any action resulting from the inspection.
 - d) If leaks or abnormal conditions are detected, corrective actions shall be initiated as soon as practical but within eight (8) hours.

Recordkeeping:

The permittee shall maintain an accurate record, updated monthly within 30 days of the end of each month, of emission factors and actual emissions of particulate matter emitted into the atmosphere from this emission unit. These records shall be made available immediately for inspection to the Department of Natural Resources' personnel upon request.

Reporting:

The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than 15 days after any exceedance of 10 CSR 10-6.400.

Permit Condition EU0090-002

10 CSR 10-6.220

Restriction of Emission of Visible Air Contaminants

Emission Limitation:

- 1) No owner or other person shall cause or permit to be discharged into the atmosphere from any source any visible emissions with an opacity greater than 20%.
- 2) Exception: A person may discharge into the atmosphere from any source of emissions for a period(s) aggregating not more than six (6) minutes in any sixty (60) minutes air contaminants with an opacity up to 60%.

Equipment Specifications:

None

Operation Limitation:

None

Monitoring:

- 1) The permittee shall conduct opacity readings on this emission unit using the procedures contained in U.S. EPA Test Method 22. Readings are only required when the emission unit is operating and when the weather conditions allow. If no visible or other significant emissions are observed using these procedures, then no further observations would be required. For emission units with visible emissions perceived or believed to exceed the applicable opacity standard, the source representative would then conduct a Method 9 observation.

- 2) The following monitoring schedule must be maintained:
 - a) Weekly observations shall be conducted for a minimum of eight (8) consecutive weeks after permit issuance.
 - b) Should no violation of this regulation be observed during this eight week period then observations must be made once every two weeks for a period of eight (8) weeks. If a violation is noted, monitoring reverts to weekly.
 - c) Should no violation of this regulation be observed during this period then observations must be made once per month. If a violation is noted, monitoring reverts to weekly.
 - d) If the source reverts to weekly monitoring at any time, monitoring frequency will progress in an identical manner from the initial monitoring frequency.
 - e) The permittee shall conduct an annual opacity measurement on the emission unit by U.S. EPA Test Method 9 with a certified Method 9 observer.

Recordkeeping:

The permittee shall maintain records of all observation results (see Attachment A), noting:

- 1) Whether any air emissions (except for water vapor) were visible from the emission units,
- 2) All emission units from which visible emissions occurred, and
- 3) Whether the visible emissions were normal for the process.
- 4) The permittee shall maintain records of any equipment malfunctions.
- 5) The permittee shall maintain records of the annual U.S. EPA Method 9 opacity test and any other Method 9 test performed in accordance with this permit condition.

Reporting:

The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any exceedance of the opacity limit established by 10 CSR 10-6.220, or any malfunction which could cause an opacity exceedance.

Permit Condition EU0090-003 10 CSR 10-6.260 Restriction of Emission of Sulfur Compounds

Emission Limitation:

- 1) Emissions from any existing source operation shall not contain more two thousand parts per million by volume (2000 ppmv) of sulfur dioxide.
- 2) Emissions from any existing source operation shall not contain more than seventy milligrams (70 mg) per cubic meter of sulfuric acid or sulfur trioxide or any combination of those gases averaged on any consecutive three hour time period.
- 3) No person shall cause or permit the emission of sulfur compounds from any source which causes or contributes to concentrations exceeding those specified in 10 CSR 10-6.010 Ambient Air Quality Standards. [\[10 CSR 10-6.260\(4\) of August 30, 1996 version, 10 CSR 10-6.260\(3\)\(B\) of May 30, 2004 version & 10 CSR 10-6.010 Ambient Air Quality Standards\]](#)

Pollutant	Concentration by Volume	Remarks
Sulfur Dioxide (SO ₂)	0.03 parts per million (ppm) (80 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$))	Annual arithmetic mean
	0.14 ppm (365 $\mu\text{g}/\text{m}^3$)	24-hour average not to be exceeded more than once per year
	0.5 ppm (1300 $\mu\text{g}/\text{m}^3$)	3-hour average not to be exceeded more than once per year
Hydrogen Sulfide (H ₂ S)	0.05 ppm (70 $\mu\text{g}/\text{m}^3$)	½-hour average not to be exceeded over 2 times per year
	0.03 ppm (42 $\mu\text{g}/\text{m}^3$)	½-hour average not to be exceeded over 2 times in any 5 consecutive days
Sulfuric Acid (H ₂ SO ₄)	10 $\mu\text{g}/\text{m}^3$	24-hour average not to be exceeded more than once in any 90 consecutive days

Recordkeeping:

The results of any stack tests or engineering calculations shall be kept on file and presented to Department personnel upon request.

Reporting:

The permittee shall report to the Air Pollution Control Program’s Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than 15 days after any exceedance of 10 CSR 10-6.260 demonstrated by the appropriate recordkeeping forms.

Permit Condition EU0090-004
 10 CSR 10-2.070 Restriction of Emission of Odors
 This requirement is not federally enforceable.

Emission Limitation:

No person may cause, permit or allow the emission of odorous matter in concentrations and frequencies or for durations that odor can be perceived when one volume of odorous air is diluted with seven volumes of odor-free air for two separate trials not less than 15 minutes apart within the period of one hour.

Monitoring:

- 1) The permittee shall run a Float-Sink Brine test on the germ filtrate every Monday to confirm that milling operations are operating correctly.
- 2) If the Float-Sink Brine test fails (12 Floaters (typical); 1 Sinker (Maximum allowed)), then the permittee shall adjust the mills and retest the filtrate using the Float-Sink Brine test. Corrective actions shall be initiated as soon as practical, but within eight (8) hours. The permittee shall make testing and adjustment until the germ filtrate passes the test.
- 3) If the mills are readjusted or if maintenance is done on the mills, the permittee shall conduct the Float-Sink Brine test within eight (8) hour of the mills returning to operation. All conditions in 2) above shall apply to this testing.

Recordkeeping:

The permittee shall record all of the Float-Sink Brine test results using the format of Attachment B. Any necessary adjustments resulting from the testing will be recorded in free format. The permittee shall make these records available immediately for inspection to the Department of Natural Resources' personnel upon request.

Reporting:

The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than 15 days after any Float-Sink Brine test failure demonstrated by the appropriate recordkeeping forms.

**EU0100
Gluten Cooling**

General Description:	Gluten Cooling
Manufacturer/Model #:	Flex-Kleen / 100-CTCW-114-III
IEQ Reference # (Year):	EP#18

**Permit Condition EU0100-001
10 CSR 10-6.400
Restriction of Emission of Particulate Matter from Industrial Processes**

Emission Limitation:

The permittee shall not emit particulate matter in excess of 10.4 lbs/hr from this emission unit.

Monitoring:

None

Recordkeeping:

None

Reporting:

None

**Permit Condition EU0100-002
10 CSR 10-6.220
Restriction of Emission of Visible Air Contaminants**

Emission Limitation:

- 1) No owner or other person shall cause or permit to be discharged into the atmosphere from any source any visible emissions with an opacity greater than 20%.
- 2) Exception: A person may discharge into the atmosphere from any source of emissions for a period(s) aggregating not more than six (6) minutes in any sixty (60) minutes air contaminants with an opacity up to 60%.

Equipment Specifications:

None

Operation Limitation:

None

Monitoring:

- 1) The permittee shall conduct opacity readings on this emission unit using the procedures contained in U.S. EPA Test Method 22. Readings are only required when the emission unit is operating and when the weather conditions allow. If no visible or other significant emissions are observed using these procedures, then no further observations would be required. For emission units with visible emissions perceived or believed to exceed the applicable opacity standard, the source representative would then conduct a Method 9 observation.
- 2) The following monitoring schedule must be maintained:
 - a) Weekly observations shall be conducted for a minimum of eight (8) consecutive weeks after permit issuance.
 - b) Should no violation of this regulation be observed during this eight week period then observations must be made once every two weeks for a period of eight (8) weeks. If a violation is noted, monitoring reverts to weekly.
 - c) Should no violation of this regulation be observed during this period then observations must be made once per month. If a violation is noted, monitoring reverts to weekly.
 - d) If the source reverts to weekly monitoring at any time, monitoring frequency will progress in an identical manner from the initial monitoring frequency.
 - e) The permittee shall conduct an annual opacity measurement on the emission unit by U.S. EPA Test Method 9 with a certified Method 9 observer.

Recordkeeping:

The permittee shall maintain records of all observation results (see Attachment A), noting:

- 1) Whether any air emissions (except for water vapor) were visible from the emission units,
- 2) All emission units from which visible emissions occurred, and
- 3) Whether the visible emissions were normal for the process.
- 4) The permittee shall maintain records of any equipment malfunctions.
- 5) The permittee shall maintain records of the annual U.S. EPA Method 9 opacity test and any other Method 9 test performed in accordance with this permit condition.

Reporting:

The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any exceedance of the opacity limit established by 10 CSR 10-6.220, or any malfunction which could cause an opacity exceedance.

EU0110
Starch Flash Dryer #1

General Description:	Starch Flash Dryer #1
Manufacturer/Model #:	Barr & Murphy / NA
EIQ Reference # (Year):	EP#20

Permit Condition EU0110-001
10 CSR 10-6.400
Restriction of Emission of Particulate Matter from Industrial Processes

Emission Limitation:

The permittee shall not emit particulate matter in excess of 30.5 lbs/hr from this emission unit.

Monitoring:

None

Recordkeeping:

None

Reporting:

None

Permit Condition EU0110-002
10 CSR 10-6.220
Restriction of Emission of Visible Air Contaminants

Emission Limitation:

No owner or other person shall cause or permit to be discharged into the atmosphere from any source any visible emissions with an opacity greater than 20%.

Exception: A person may discharge into the atmosphere from any source of emissions for a period(s) aggregating not more than six (6) minutes in any sixty (60) minutes air contaminants with an opacity up to 60%.

Equipment Specifications:

None

Operation Limitation:

None

Monitoring:

- 1) The permittee shall conduct opacity readings on this emission unit using the procedures contained in U.S. EPA Test Method 22. Readings are only required when the emission unit is operating and when the weather conditions allow. If no visible or other significant emissions are observed using these procedures, then no further observations would be required. For emission units with visible emissions perceived or believed to exceed the applicable opacity standard, the source representative would then conduct a Method 9 observation.

- 2) The following monitoring schedule must be maintained:
 - a) Weekly observations shall be conducted for a minimum of eight (8) consecutive weeks after permit issuance.
 - b) Should no violation of this regulation be observed during this eight week period then observations must be made once every two weeks for a period of eight (8) weeks. If a violation is noted, monitoring reverts to weekly.
 - c) Should no violation of this regulation be observed during this period then observations must be made once per month. If a violation is noted, monitoring reverts to weekly.
 - d) If the source reverts to weekly monitoring at any time, monitoring frequency will progress in an identical manner from the initial monitoring frequency.
 - e) The permittee shall conduct an annual opacity measurement on the emission unit by U.S. EPA Test Method 9 with a certified Method 9 observer.

Recordkeeping:

The permittee shall maintain records of all observation results (see Attachment A), noting:

- 1) Whether any air emissions (except for water vapor) were visible from the emission units,
- 2) All emission units from which visible emissions occurred, and
- 3) Whether the visible emissions were normal for the process.
- 4) The permittee shall maintain records of any equipment malfunctions.
- 5) The permittee shall maintain records of the annual U.S. EPA Method 9 opacity test and any other Method 9 test performed in accordance with this permit condition.

Reporting:

The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any exceedance of the opacity limit established by 10 CSR 10-6.220, or any malfunction which could cause an opacity exceedance.

Permit Condition EU0110-003

10 CSR 10-6.260

Restriction of Emission of Sulfur Compounds

Emission Limitation:

- 1) Emissions from any new source operation shall not contain more five hundred parts per million by volume (500 ppmv) of sulfur dioxide.
- 2) Emissions from any new source operation shall not contain more thirty-five milligrams (35 mg) per cubic meter of sulfuric acid or sulfur trioxide or any combination of those gases averaged on any consecutive three hour time period.
- 3) No person shall cause or permit the emission of sulfur compounds from any source which causes or contributes to concentrations exceeding those specified in 10 CSR 10-6.010 Ambient Air Quality Standards. [\[10 CSR 10-6.260\(4\) of August 30, 1996 version, 10 CSR 10-6.260\(3\)\(B\) of May 30, 2004 version & 10 CSR 10-6.010 Ambient Air Quality Standards\]](#)

Pollutant	Concentration by Volume	Remarks
Sulfur Dioxide (SO ₂)	0.03 parts per million (ppm) (80 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$))	Annual arithmetic mean
	0.14 ppm (365 $\mu\text{g}/\text{m}^3$)	24-hour average not to be exceeded more than once per year
	0.5 ppm (1300 $\mu\text{g}/\text{m}^3$)	3-hour average not to be exceeded more than once per year
Hydrogen Sulfide (H ₂ S)	0.05 ppm (70 $\mu\text{g}/\text{m}^3$)	½-hour average not to be exceeded over 2 times per year
	0.03 ppm (42 $\mu\text{g}/\text{m}^3$)	½-hour average not to be exceeded over 2 times in any 5 consecutive days
Sulfuric Acid (H ₂ SO ₄)	10 $\mu\text{g}/\text{m}^3$	24-hour average not to be exceeded more than once in any 90 consecutive days

Recordkeeping:

The results of any stack tests or engineering calculations shall be kept on file and presented to Natural Resources' personnel upon request.

Reporting:

The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than 15 days after any exceedance of 10 CSR 10-6.260 demonstrated by the appropriate recordkeeping forms.

EU0120 Starch Flash Dryer #2
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General Description:	Starch Flash Dryer #2
Manufacturer/Model #:	Barr & Murphy / NA
EIQ Reference # (Year):	EP#21

Permit Condition EU0120-001 10 CSR 10-6.400 Restriction of Emission of Particulate Matter from Industrial Processes
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Emission Limitation:

The permittee shall not emit particulate matter in excess of 30.5 lbs/hr from this emission unit.

Monitoring:

None

Recordkeeping:

None

Reporting:

None

<p style="text-align: center;">Permit Condition EU0120-002 10 CSR 10-6.220 Restriction of Emission of Visible Air Contaminants</p>

Emission Limitation:

- 1) No owner or other person shall cause or permit to be discharged into the atmosphere from any source any visible emissions with an opacity greater than 20%.
- 2) Exception: A person may discharge into the atmosphere from any source of emissions for a period(s) aggregating not more than six (6) minutes in any sixty (60) minutes air contaminants with an opacity up to 60%.

Equipment Specifications:

None

Operation Limitation:

None

Monitoring:

- 1) The permittee shall conduct opacity readings on this emission unit using the procedures contained in U.S. EPA Test Method 22. Readings are only required when the emission unit is operating and when the weather conditions allow. If no visible or other significant emissions are observed using these procedures, then no further observations would be required. For emission units with visible emissions perceived or believed to exceed the applicable opacity standard, the source representative would then conduct a Method 9 observation.
- 2) The following monitoring schedule must be maintained:
 - a) Weekly observations shall be conducted for a minimum of eight (8) consecutive weeks after permit issuance.
 - b) Should no violation of this regulation be observed during this eight week period then observations must be made once every two weeks for a period of eight (8) weeks. If a violation is noted, monitoring reverts to weekly.
 - c) Should no violation of this regulation be observed during this period then observations must be made once per month. If a violation is noted, monitoring reverts to weekly.
 - d) If the source reverts to weekly monitoring at any time, monitoring frequency will progress in an identical manner from the initial monitoring frequency.
 - e) The permittee shall conduct an annual opacity measurement on the emission unit by U.S. EPA Test Method 9 with a certified Method 9 observer.

Recordkeeping:

The permittee shall maintain records of all observation results (see Attachment A), noting:

- 1) Whether any air emissions (except for water vapor) were visible from the emission units,
- 2) All emission units from which visible emissions occurred, and
- 3) Whether the visible emissions were normal for the process.
- 4) The permittee shall maintain records of any equipment malfunctions.
- 5) The permittee shall maintain records of the annual U.S. EPA Method 9 opacity test and any other Method 9 test performed in accordance with this permit condition.

Reporting:

The permittee shall report to the Air Pollution Control Program’s Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any exceedance of the opacity limit established by 10 CSR 10-6.220, or any malfunction which could cause an opacity exceedance.

Permit Condition EU0120–003
 10 CSR 10-6.260
 Restriction of Emission of Sulfur Compounds

Emission Limitation:

- 1) Emissions from any new source operation shall not contain more five hundred parts per million by volume (500 ppmv) of sulfur dioxide.
- 2) Emissions from any new source operation shall not contain more thirty-five milligrams (35 mg) per cubic meter of sulfuric acid or sulfur trioxide or any combination of those gases averaged on any consecutive three hour time period.
- 3) No person shall cause or permit the emission of sulfur compounds from any source which causes or contributes to concentrations exceeding those specified in 10 CSR 10-6.010 Ambient Air Quality Standards. [10 CSR 10-6.260(4) of August 30, 1996 version, 10 CSR 10-6.260(3)(B) of May 30, 2004 version & 10 CSR 10-6.010 Ambient Air Quality Standards]

Pollutant	Concentration by Volume	Remarks
Sulfur Dioxide (SO ₂)	0.03 parts per million (ppm) (80 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$))	Annual arithmetic mean
	0.14 ppm (365 $\mu\text{g}/\text{m}^3$)	24-hour average not to be exceeded more than once per year
	0.5 ppm (1300 $\mu\text{g}/\text{m}^3$)	3-hour average not to be exceeded more than once per year
Hydrogen Sulfide (H ₂ S)	0.05 ppm (70 $\mu\text{g}/\text{m}^3$)	½-hour average not to be exceeded over 2 times per year
	0.03 ppm (42 $\mu\text{g}/\text{m}^3$)	½-hour average not to be exceeded over 2 times in any 5 consecutive days
Sulfuric Acid (H ₂ SO ₄)	10 $\mu\text{g}/\text{m}^3$	24-hour average not to be exceeded more than once in any 90 consecutive days

Recordkeeping:

The results of any stack tests or engineering calculations shall be kept on file and presented to Natural Resources' personnel upon request.

Reporting:

The permittee shall report to the Air Pollution Control Program’s Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than 15 days after any exceedance of 10 CSR 10-6.260 demonstrated by the appropriate recordkeeping forms.

EU0130
Starch Flash Dryer #3

General Description:	Starch Flash Dryer #3
Manufacturer/Model #:	Barr & Murphy / NA
EIQ Reference # (Year):	EP#22

Permit Condition EU0130-001
10 CSR 10-6.400
Restriction of Emission of Particulate Matter from Industrial Processes

Emission Limitation:

The permittee shall not emit particulate matter in excess of 30.5 lbs/hr from this emission unit.

Monitoring:

None

Recordkeeping:

None

Reporting:

None

Permit Condition EU0130-002
10 CSR 10-6.220
Restriction of Emission of Visible Air Contaminants

Emission Limitation:

- 1) No owner or other person shall cause or permit to be discharged into the atmosphere from any source any visible emissions with an opacity greater than 20%.
- 2) Exception: A person may discharge into the atmosphere from any source of emissions for a period(s) aggregating not more than six (6) minutes in any sixty (60) minutes air contaminants with an opacity up to 60%.

Equipment Specifications:

None

Operation Limitation:

None

Monitoring:

- 1) The permittee shall conduct opacity readings on this emission unit using the procedures contained in U.S. EPA Test Method 22. Readings are only required when the emission unit is operating and when the weather conditions allow. If no visible or other significant emissions are observed using these procedures, then no further observations would be required. For emission units with visible emissions perceived or believed to exceed the applicable opacity standard, the source representative would then conduct a Method 9 observation.

- 2) The following monitoring schedule must be maintained:
 - a) Weekly observations shall be conducted for a minimum of eight (8) consecutive weeks after permit issuance.
 - b) Should no violation of this regulation be observed during this eight week period then observations must be made once every two weeks for a period of eight (8) weeks. If a violation is noted, monitoring reverts to weekly.
 - c) Should no violation of this regulation be observed during this period then observations must be made once per month. If a violation is noted, monitoring reverts to weekly.
 - d) If the source reverts to weekly monitoring at any time, monitoring frequency will progress in an identical manner from the initial monitoring frequency.
 - e) The permittee shall conduct an annual opacity measurement on the emission unit by U.S. EPA Test Method 9 with a certified Method 9 observer.

Recordkeeping:

The permittee shall maintain records of all observation results (see Attachment A), noting:

- 1) Whether any air emissions (except for water vapor) were visible from the emission units,
- 2) All emission units from which visible emissions occurred, and
- 3) Whether the visible emissions were normal for the process.
- 4) The permittee shall maintain records of any equipment malfunctions.
- 5) The permittee shall maintain records of the annual U.S. EPA Method 9 opacity test and any other Method 9 test performed in accordance with this permit condition.

Reporting:

The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any exceedance of the opacity limit established by 10 CSR 10-6.220, or any malfunction which could cause an opacity exceedance.

Permit Condition EU0130-003

10 CSR 10-6.260

Restriction of Emission of Sulfur Compounds

Emission Limitation:

- 1) Emissions from any new source operation shall not contain more five hundred parts per million by volume (500 ppmv) of sulfur dioxide.
- 2) Emissions from any new source operation shall not contain more thirty-five milligrams (35 mg) per cubic meter of sulfuric acid or sulfur trioxide or any combination of those gases averaged on any consecutive three hour time period.
- 3) No person shall cause or permit the emission of sulfur compounds from any source which causes or contributes to concentrations exceeding those specified in 10 CSR 10-6.010 Ambient Air Quality Standards. [\[10 CSR 10-6.260\(4\) of August 30, 1996 version, 10 CSR 10-6.260\(3\)\(B\) of May 30, 2004 version & 10 CSR 10-6.010 Ambient Air Quality Standards\]](#)

Pollutant	Concentration by Volume	Remarks
Sulfur Dioxide (SO ₂)	0.03 parts per million (ppm) (80 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$))	Annual arithmetic mean
	0.14 ppm (365 $\mu\text{g}/\text{m}^3$)	24-hour average not to be exceeded more than once per year
	0.5 ppm (1300 $\mu\text{g}/\text{m}^3$)	3-hour average not to be exceeded more than once per year
Hydrogen Sulfide (H ₂ S)	0.05 ppm (70 $\mu\text{g}/\text{m}^3$)	1/2-hour average not to be exceeded over 2 times per year
	0.03 ppm (42 $\mu\text{g}/\text{m}^3$)	1/2-hour average not to be exceeded over 2 times in any 5 consecutive days
Sulfuric Acid (H ₂ SO ₄)	10 $\mu\text{g}/\text{m}^3$	24-hour average not to be exceeded more than once in any 90 consecutive days

Recordkeeping:

The results of any stack tests or engineering calculations shall be kept on file and presented to Natural Resources' personnel upon request.

Reporting:

The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than 15 days after any exceedance of 10 CSR 10-6.260 demonstrated by the appropriate recordkeeping forms.

EU0140
 Starch Flash Dryer #4

General Description:	Starch Flash Dryer #4
Manufacturer/Model #:	Barr & Murphy / NA
EIQ Reference # (Year):	EP#23

Permit Condition EU0140-001
 10 CSR 10-6.400
 Restriction of Emission of Particulate Matter from Industrial Processes

Emission Limitation:

The permittee shall not emit particulate matter in excess of 30.5 lbs/hr from this emission unit.

Monitoring:

None

Recordkeeping:

None

Reporting:

None

Permit Condition EU0140-002
10 CSR 10-6.220
Restriction of Emission of Visible Air Contaminants

Emission Limitation:

- 1) No owner or other person shall cause or permit to be discharged into the atmosphere from any source any visible emissions with an opacity greater than 20%.
- 2) Exception: A person may discharge into the atmosphere from any source of emissions for a period(s) aggregating not more than six (6) minutes in any sixty (60) minutes air contaminants with an opacity up to 60%.

Equipment Specifications:

None

Operation Limitation:

None

Monitoring:

- 1) The permittee shall conduct opacity readings on this emission unit using the procedures contained in U.S. EPA Test Method 22. Readings are only required when the emission unit is operating and when the weather conditions allow. If no visible or other significant emissions are observed using these procedures, then no further observations would be required. For emission units with visible emissions perceived or believed to exceed the applicable opacity standard, the source representative would then conduct a Method 9 observation.
- 2) The following monitoring schedule must be maintained:
 - a) Weekly observations shall be conducted for a minimum of eight (8) consecutive weeks after permit issuance.
 - b) Should no violation of this regulation be observed during this eight week period then observations must be made once every two weeks for a period of eight (8) weeks. If a violation is noted, monitoring reverts to weekly.
 - c) Should no violation of this regulation be observed during this period then observations must be made once per month. If a violation is noted, monitoring reverts to weekly.
 - d) If the source reverts to weekly monitoring at any time, monitoring frequency will progress in an identical manner from the initial monitoring frequency.
 - e) The permittee shall conduct an annual opacity measurement on the emission unit by U.S. EPA Test Method 9 with a certified Method 9 observer.

Recordkeeping:

The permittee shall maintain records of all observation results (see Attachment A), noting:

- 1) Whether any air emissions (except for water vapor) were visible from the emission units,
- 2) All emission units from which visible emissions occurred, and
- 3) Whether the visible emissions were normal for the process.
- 4) The permittee shall maintain records of any equipment malfunctions.
- 5) The permittee shall maintain records of the annual U.S. EPA Method 9 opacity test and any other Method 9 test performed in accordance with this permit condition.

Reporting:

The permittee shall report to the Air Pollution Control Program’s Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any exceedance of the opacity limit established by 10 CSR 10-6.220, or any malfunction which could cause an opacity exceedance.

Permit Condition EU0140-003
 10 CSR 10-6.260
 Restriction of Emission of Sulfur Compounds

Emission Limitation:

- 1) Emissions from any new source operation shall not contain more five hundred parts per million by volume (500 ppmv) of sulfur dioxide.
- 2) Emissions from any new source operation shall not contain more thirty-five milligrams (35 mg) per cubic meter of sulfuric acid or sulfur trioxide or any combination of those gases averaged on any consecutive three hour time period.
- 3) No person shall cause or permit the emission of sulfur compounds from any source which causes or contributes to concentrations exceeding those specified in 10 CSR 10-6.010 Ambient Air Quality Standards. [10 CSR 10-6.260(4) of August 30, 1996 version, 10 CSR 10-6.260(3)(B) of May 30, 2004 version & 10 CSR 10-6.010 Ambient Air Quality Standards]

Pollutant	Concentration by Volume	Remarks
Sulfur Dioxide (SO ₂)	0.03 parts per million (ppm) (80 micrograms per cubic meter (µg/m ³))	Annual arithmetic mean
	0.14 ppm (365 µg/m ³)	24-hour average not to be exceeded more than once per year
	0.5 ppm (1300 µg/m ³)	3-hour average not to be exceeded more than once per year
Hydrogen Sulfide (H ₂ S)	0.05 ppm (70 µg/m ³)	½-hour average not to be exceeded over 2 times per year
	0.03 ppm (42 µg/m ³)	½-hour average not to be exceeded over 2 times in any 5 consecutive days
Sulfuric Acid (H ₂ SO ₄)	10 µg/m ³	24-hour average not to be exceeded more than once in any 90 consecutive days

Recordkeeping:

The results of any stack tests or engineering calculations shall be kept on file and presented to Natural Resources' personnel upon request.

Reporting:

The permittee shall report to the Air Pollution Control Program’s Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than 15 days after any exceedance of 10 CSR 10-6.260 demonstrated by the appropriate recordkeeping forms.

EU0150-EU0230
Steep Tank Vent #1 - #9

General Description:	Vents for sixteen (16) Steep Tanks
Manufacturer/Model #:	NA / NA
EIQ Reference # (Year):	EP#49

Permit Condition EU0150-EU0230-001
10 CSR 10-6.260
Restriction of Emission of Sulfur Compounds

Emission Limitation:

- 1) Emissions from any new source operation shall not contain more five hundred parts per million by volume (500 ppmv) of sulfur dioxide.
- 2) Emissions from any new source operation shall not contain more thirty-five milligrams (35 mg) per cubic meter of sulfuric acid or sulfur trioxide or any combination of those gases averaged on any consecutive three hour time period.
- 3) No person shall cause or permit the emission of sulfur compounds from any source which causes or contributes to concentrations exceeding those specified in 10 CSR 10-6.010 Ambient Air Quality Standards. [\[10 CSR 10-6.260\(4\) of August 30, 1996 version, 10 CSR 10-6.260\(3\)\(B\) of May 30, 2004 version & 10 CSR 10-6.010 Ambient Air Quality Standards\]](#)

Pollutant	Concentration by Volume	Remarks
Sulfur Dioxide (SO ₂)	0.03 parts per million (ppm) (80 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$))	Annual arithmetic mean
	0.14 ppm (365 $\mu\text{g}/\text{m}^3$)	24-hour average not to be exceeded more than once per year
	0.5 ppm (1300 $\mu\text{g}/\text{m}^3$)	3-hour average not to be exceeded more than once per year
Hydrogen Sulfide (H ₂ S)	0.05 ppm (70 $\mu\text{g}/\text{m}^3$)	½-hour average not to be exceeded over 2 times per year
	0.03 ppm (42 $\mu\text{g}/\text{m}^3$)	½-hour average not to be exceeded over 2 times in any 5 consecutive days
Sulfuric Acid (H ₂ SO ₄)	10 $\mu\text{g}/\text{m}^3$	24-hour average not to be exceeded more than once in any 90 consecutive days

Monitoring:

- 1) The permittee shall conduct stack testing for the Steep Tank Vents (EU0150 – EU0230). As the vents are similar in design and operation, the permittee shall select and propose a representative vent to be stack tested for compliance demonstration. Reference permit condition PW001.
- 2) The permittee shall conduct a stack test on the vent agreed upon for testing to determine sulfur emissions. Compliance shall be determined by source testing as specified in 10 CSR 10-6.030(6) for emissions and 10 CSR 10-6.040 for measuring ambient sulfur compound concentrations. If the test(s) demonstrates noncompliance with emission limits, then the installation, within 60 days, shall propose a schedule to

implement corrective action to bring the source into compliance and demonstrate compliance, to include testing of additional Steep Tank Vents.

Recordkeeping:

The results of the stack test shall be kept on file and presented to Natural Resources' personnel upon request.

Reporting:

The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than 15 days after any exceedance of 10 CSR 10-6.260 demonstrated by the appropriate recordkeeping forms.

EU0270 DSM Screens

General Description:	DSM Screens
Manufacturer/Model #:	NA / NA
EQ Reference # (Year):	EP#50

Permit Condition EU0270-001 10 CSR 10-6.260 Restriction of Emission of Sulfur Compounds
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Emission Limitation:

- 1) Emissions from any new source operation shall not contain more five hundred parts per million by volume (500 ppmv) of sulfur dioxide.
- 2) Emissions from any new source operation shall not contain more thirty-five milligrams (35 mg) per cubic meter of sulfuric acid or sulfur trioxide or any combination of those gases averaged on any consecutive three hour time period.
- 3) No person shall cause or permit the emission of sulfur compounds from any source which causes or contributes to concentrations exceeding those specified in 10 CSR 10-6.010 Ambient Air Quality Standards. [\[10 CSR 10-6.260\(4\) of August 30, 1996 version, 10 CSR 10-6.260\(3\)\(B\) of May 30, 2004 version & 10 CSR 10-6.010 Ambient Air Quality Standards\]](#)

Pollutant	Concentration by Volume	Remarks
Sulfur Dioxide (SO ₂)	0.03 parts per million (ppm) (80 micrograms per cubic meter (µg/m ³))	Annual arithmetic mean
	0.14 ppm (365 µg/m ³)	24-hour average not to be exceeded more than once per year
	0.5 ppm (1300 µg/m ³)	3-hour average not to be exceeded more than once per year
Hydrogen Sulfide (H ₂ S)	0.05 ppm (70 µg/m ³)	½-hour average not to be exceeded over 2 times per year
	0.03 ppm (42 µg/m ³)	½-hour average not to be exceeded over 2 times in any 5 consecutive days

Pollutant	Concentration by Volume	Remarks
Sulfuric Acid (H ₂ SO ₄)	10 µg/m ³	24-hour average not to be exceeded more than once in any 90 consecutive days

Monitoring:

The permittee shall conduct stack test(s) to determine sulfur emissions. Compliance shall be determined by source testing as specified in 10 CSR 10-6.030(6) for emissions and 10 CSR 10-6.040 for measuring ambient sulfur compound concentrations. Reference permit condition PW001.

Recordkeeping:

The results of the stack test shall be kept on file and presented to Natural Resources' personnel upon request.

Reporting:

The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than 15 days after any exceedance of 10 CSR 10-6.260 demonstrated by the appropriate recordkeeping forms.

EU0280-EU0310 Building 5 Tank Vent #1 Building 5 Tank Vent #2 Corn Slurry Tank Vent Light Gluten Tank Vent

General Description:	Building 5 Tank Vent #1&2, Corn Slurry Tank, Light Gluten Tank
Manufacturer/Model #:	NA / NA
EIQ Reference # (Year):	EP#51,52,54,55

Permit Condition EU0280-001 through EU0310-001 10 CSR 10-6.260 Restriction of Emission of Sulfur Compounds

Emission Limitation:

- 1) Emissions from any existing source operation shall not contain more two thousand parts per million by volume (2000 ppmv) of sulfur dioxide.
- 2) Emissions from any existing source operation shall not contain more than seventy milligrams (70 mg) per cubic meter of sulfuric acid or sulfur trioxide or any combination of those gases averaged on any consecutive three hour time period.
- 3) No person shall cause or permit the emission of sulfur compounds from any source which causes or contributes to concentrations exceeding those specified in 10 CSR 10-6.010 Ambient Air Quality Standards. [\[10 CSR 10-6.260\(4\) of August 30, 1996 version, 10 CSR 10-6.260\(3\)\(B\) of May 30, 2004 version & 10 CSR 10-6.010 Ambient Air Quality Standards\]](#)

Pollutant	Concentration by Volume	Remarks
Sulfur Dioxide (SO ₂)	0.03 parts per million (ppm) (80 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$))	Annual arithmetic mean
	0.14 ppm (365 $\mu\text{g}/\text{m}^3$)	24-hour average not to be exceeded more than once per year
	0.5 ppm (1300 $\mu\text{g}/\text{m}^3$)	3-hour average not to be exceeded more than once per year
Hydrogen Sulfide (H ₂ S)	0.05 ppm (70 $\mu\text{g}/\text{m}^3$)	1/2-hour average not to be exceeded over 2 times per year
	0.03 ppm (42 $\mu\text{g}/\text{m}^3$)	1/2-hour average not to be exceeded over 2 times in any 5 consecutive days
Sulfuric Acid (H ₂ SO ₄)	10 $\mu\text{g}/\text{m}^3$	24-hour average not to be exceeded more than once in any 90 consecutive days

Recordkeeping:

The results of any stack tests or engineering calculations shall be kept on file and presented to Department personnel upon request.

Reporting:

The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than 15 days after any exceedance of 10 CSR 10-6.260 demonstrated by the appropriate recordkeeping forms.

EU0320 Diesel Fire Pump

General Description:	Diesel Fire Pump
Manufacturer/Model #:	NA / NA
EIQ Reference # (Year):	EP#60

Permit Condition EU0320-001 10 CSR 10-6.260 Restriction of Emission of Sulfur Compounds
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Emission Limitation:

- 1) Emissions from any new source operation shall not contain more five hundred parts per million by volume (500 ppmv) of sulfur dioxide.
- 2) Emissions from any new source operation shall not contain more thirty-five milligrams (35 mg) per cubic meter of sulfuric acid or sulfur trioxide or any combination of those gases averaged on any consecutive three hour time period.
- 3) No person shall cause or permit the emission of sulfur compounds from any source which causes or contributes to concentrations exceeding those specified in 10 CSR 10-6.010 Ambient Air Quality Standards. [\[10 CSR 10-6.260\(4\) of August 30, 1996 version, 10 CSR 10-6.260\(3\)\(B\) of May 30, 2004 version & 10 CSR 10-6.010 Ambient Air Quality Standards\]](#)

Pollutant	Concentration by Volume	Remarks
Sulfur Dioxide (SO ₂)	0.03 parts per million (ppm) (80 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$))	Annual arithmetic mean
	0.14 ppm (365 $\mu\text{g}/\text{m}^3$)	24-hour average not to be exceeded more than once per year
	0.5 ppm (1300 $\mu\text{g}/\text{m}^3$)	3-hour average not to be exceeded more than once per year
Hydrogen Sulfide (H ₂ S)	0.05 ppm (70 $\mu\text{g}/\text{m}^3$)	1/2-hour average not to be exceeded over 2 times per year
	0.03 ppm (42 $\mu\text{g}/\text{m}^3$)	1/2-hour average not to be exceeded over 2 times in any 5 consecutive days
Sulfuric Acid (H ₂ SO ₄)	10 $\mu\text{g}/\text{m}^3$	24-hour average not to be exceeded more than once in any 90 consecutive days

Monitoring:

None

Recordkeeping:

The permittee shall maintain a file of diesel fuel sulfur content for the fire pump. The permittee shall file with the Department within 60 days of permit issue the diesel fuel sulfur content and within 30 days if the sulfur content of the diesel fuel increases over the initial notified sulfur content.

Reporting:

The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than 15 days after any exceedance of 10 CSR 10-6.260 demonstrated by the appropriate recordkeeping forms.

EU0330-EU0400
 Reineveld Centrifuge Vents

General Description:	Reineveld Centrifuge Vents
Manufacturer/Model #:	NA / NA
IEQ Reference # (Year):	EP#62

Permit Condition EU0330-001 through EU0400-001
 10 CSR 10-6.260
 Restriction of Emission of Sulfur Compounds

Emission Limitation:

- 1) Emissions from any new source operation shall not contain more five hundred parts per million by volume (500 ppmv) of sulfur dioxide.
- 2) Emissions from any new source operation shall not contain more thirty-five milligrams (35 mg) per cubic meter of sulfuric acid or sulfur trioxide or any combination of those gases averaged on any consecutive three hour time period.
- 3) No person shall cause or permit the emission of sulfur compounds from any source which causes or contributes to concentrations exceeding those specified in 10 CSR 10-6.010 Ambient Air Quality Standards.

[10 CSR 10-6.260(4) of August 30, 1996 version, 10 CSR 10-6.260(3)(B) of May 30, 2004 version & 10 CSR 10-6.010 Ambient Air Quality Standards]

Pollutant	Concentration by Volume	Remarks
Sulfur Dioxide (SO ₂)	0.03 parts per million (ppm) (80 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$))	Annual arithmetic mean
	0.14 ppm (365 $\mu\text{g}/\text{m}^3$)	24-hour average not to be exceeded more than once per year
	0.5 ppm (1300 $\mu\text{g}/\text{m}^3$)	3-hour average not to be exceeded more than once per year
Hydrogen Sulfide (H ₂ S)	0.05 ppm (70 $\mu\text{g}/\text{m}^3$)	1/2-hour average not to be exceeded over 2 times per year
	0.03 ppm (42 $\mu\text{g}/\text{m}^3$)	1/2-hour average not to be exceeded over 2 times in any 5 consecutive days
Sulfuric Acid (H ₂ SO ₄)	10 $\mu\text{g}/\text{m}^3$	24-hour average not to be exceeded more than once in any 90 consecutive days

Recordkeeping:

The results of the engineering calculations shall be kept on file and presented to Department personnel upon request.

Reporting:

The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than 15 days after any exceedance of 10 CSR 10-6.260 demonstrated by the appropriate recordkeeping forms.

EU0410 Germ Dewatering Screens
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General Description:	Germ Dewatering Screens
Manufacturer/Model #:	NA / NA
EIQ Reference # (Year):	EP#68

Permit Condition EU0410-001 10 CSR 10-6.260 Restriction of Emission of Sulfur Compounds
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Emission Limitation:

- 1) Emissions from any existing source operation shall not contain more two thousand parts per million by volume (2000 ppmv) of sulfur dioxide.
- 2) Emissions from any existing source operation shall not contain more than seventy milligrams (70 mg) per cubic meter of sulfuric acid or sulfur trioxide or any combination of those gases averaged on any consecutive three hour time period.
- 3) No person shall cause or permit the emission of sulfur compounds from any source which causes or contributes to concentrations exceeding those specified in 10 CSR 10-6.010 Ambient Air Quality Standards.

[10 CSR 10-6.260(4) of August 30, 1996 version, 10 CSR 10-6.260(3)(B) of May 30, 2004 version & 10 CSR 10-6.010 Ambient Air Quality Standards]

Pollutant	Concentration by Volume	Remarks
Sulfur Dioxide (SO ₂)	0.03 parts per million (ppm) (80 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$))	Annual arithmetic mean
	0.14 ppm (365 $\mu\text{g}/\text{m}^3$)	24-hour average not to be exceeded more than once per year
	0.5 ppm (1300 $\mu\text{g}/\text{m}^3$)	3-hour average not to be exceeded more than once per year
Hydrogen Sulfide (H ₂ S)	0.05 ppm (70 $\mu\text{g}/\text{m}^3$)	½-hour average not to be exceeded over 2 times per year
	0.03 ppm (42 $\mu\text{g}/\text{m}^3$)	½-hour average not to be exceeded over 2 times in any 5 consecutive days
Sulfuric Acid (H ₂ SO ₄)	10 $\mu\text{g}/\text{m}^3$	24-hour average not to be exceeded more than once in any 90 consecutive days

Recordkeeping:

The results of any stack tests or engineering calculations shall be kept on file and presented to Department personnel upon request.

Reporting:

The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than 15 days after any exceedance of 10 CSR 10-6.260 demonstrated by the appropriate recordkeeping forms.

EU0420
 Corn Surge Hopper

General Description:	Corn Surge Hopper
Manufacturer/Model #:	NA / NA
EIQ Reference # (Year):	EP#73

Permit Condition EU0420-001
 10 CSR 10-6.260
 Restriction of Emission of Sulfur Compounds

Emission Limitation:

- 1) Emissions from any existing source operation shall not contain more two thousand parts per million by volume (2000 ppmv) of sulfur dioxide.
- 2) Emissions from any existing source operation shall not contain more than seventy milligrams (70 mg) per cubic meter of sulfuric acid or sulfur trioxide or any combination of those gases averaged on any consecutive three hour time period.
- 3) No person shall cause or permit the emission of sulfur compounds from any source which causes or contributes to concentrations exceeding those specified in 10 CSR 10-6.010 Ambient Air Quality Standards.

[10 CSR 10-6.260(4) of August 30, 1996 version, 10 CSR 10-6.260(3)(B) of May 30, 2004 version & 10 CSR 10-6.010 Ambient Air Quality Standards]

Pollutant	Concentration by Volume	Remarks
Sulfur Dioxide (SO ₂)	0.03 parts per million (ppm) (80 micrograms per cubic meter (µg/m ³))	Annual arithmetic mean
	0.14 ppm (365 µg/m ³)	24-hour average not to be exceeded more than once per year
	0.5 ppm (1300 µg/m ³)	3-hour average not to be exceeded more than once per year
Hydrogen Sulfide (H ₂ S)	0.05 ppm (70 µg/m ³)	½-hour average not to be exceeded over 2 times per year
	0.03 ppm (42 µg/m ³)	½-hour average not to be exceeded over 2 times in any 5 consecutive days
Sulfuric Acid (H ₂ SO ₄)	10 µg/m ³	24-hour average not to be exceeded more than once in any 90 consecutive days

Recordkeeping:

The results of any stack tests or engineering calculations shall be kept on file and presented to Department personnel upon request.

Reporting:

The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than 15 days after any exceedance of 10 CSR 10-6.260 demonstrated by the appropriate recordkeeping forms.

EU0430 Gasoline SCAT Tank

General Description:	Gasoline SCAT Tank
Manufacturer/Model #:	Ind. Environ. Supply Co. / NA
EQ Reference # (Year):	T#33

Permit Condition EU0430-001 10 CSR 10-2.260 Control of Petroleum Liquid Storage, Loading and Transfer
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Emission Limitation:

None

Monitoring:

None

Recordkeeping:

None

Reporting:

None

Operational Restriction:

The permittee shall not cause, allow or permit the operation of this source without the existence of appropriate control methods.

EU0440 Solvent Losses, Fugitive

General Description:	Machine Parts Washing
Manufacturer/Model #:	NA
EIQ Reference # (Year):	EP#71

Permit Condition EU0440-001 10 CSR 10-2.210 Control of Emissions from Solvent Metal Cleaning

Emission Limitation:

None

Equipment Specifications:

Each cold cleaner shall have:

- 1) A cover which will prevent the escape of solvent vapors from the solvent bath while in the closed position; or,
- 2) An enclosed reservoir which will prevent the escape of solvent vapors from the solvent bath whenever parts are not being processed in the cleaner.
- 3) The cover shall be such that it can be easily operated with one (1) hand and without disturbing the solvent vapors in the tank. This shall be accomplished by mechanical assistance such as spring loading or counter weighting or by power systems.
- 4) Solvent sprays shall be a solid fluid stream and operate at a pressure which does not cause any splashing above or beyond the freeboard.
- 5) A permanent conspicuous label summarizing the operating procedures shall be affixed to the equipment.
- 6) Freeboard height must give a freeboard ration equal to or greater than 0.7

Operation Limitation:

Each cold cleaner shall be operated as follows:

- 1) Cold cleaner covers shall be closed whenever parts are not being handled in the cleaners or the solvent must drain into an enclosed reservoir.
- 2) Cleaned parts shall be drained in the freeboard area for at least fifteen (15) seconds or until dripping ceases, whichever is longer.
- 3) Whenever a cold cleaner fails to perform within the operating parameters established for it by this regulation, the unit shall be shut down immediately and shall remain shut down until trained service personnel are able to restore operation within the established parameters.
- 4) Solvent leaks shall be repaired immediately or the degreaser shall be shut down until the leaks are repaired.
- 5) Any waste material removed from a cold cleaner shall be disposed of by one (1) of the following methods and in accordance with the Missouri Hazardous Waste Management Commission rules codified at 10 CSR 10-25, as applicable:

- a) Reduction of the waste material to less than twenty percent (20%) VOC solvent by distillation and proper disposal of the still bottom waste, or
- b) Stored in closed containers for transfer to a contract reclamation service or a disposal facility approved by the Director.
- 6) Waste solvent shall be stored in covered containers only.
- 7) Operators must be trained as follows:
 - a) Only persons trained in at least the operational and equipment requirements specified in this regulation for their particular solvent metal cleaning process shall be permitted to operate the equipment,
 - b) The supervisor of any person who operates a solvent metal cleaning process shall receive equal or greater operational training than the operator,
 - c) Refresher training shall be given to all solvent metal cleaning equipment operators at least once each twelve (12) month period.

Monitoring:

The permittee shall monitor the throughputs of the solvents monthly and maintain material safety data sheets of the cleanup solvents used at the installation.

Recordkeeping:

- 1) The permittee shall keep monthly inventory records of solvent types and amounts purchased and solvent consumed for a period of five (5) years. The records shall include all types and amounts of solvent containing waste material transferred to either a contract reclamation service or to a disposal installation and all amounts distilled on the premises. The record also shall include maintenance and repair logs.
- 2) Records shall be maintained of all solvent metal cleaning training for each employee for a period of five years.

Reporting:

The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten (10) days after any exceedance of 10 CSR 10-2.210 demonstrated by the appropriate recordkeeping forms.

EU0450 Waste Water Treatment¹⁴
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General Description:	Waste Water Treatment	
Manufacturer/Model #:	N/A	
EIQ Reference # (Year):		

Permit Condition EU0450-001¹⁵ 10 CSR 10-2.070 Restriction of Emission of Odors This requirement is not federally enforceable.

Emission Limitation:

No person may cause, permit or allow the emission of odorous matter in concentrations and frequencies or for durations that odor can be perceived when one volume of odorous air is diluted with seven volumes of odor-free air for two separate trials not less than 15 minutes apart within the period of one hour.

¹⁴ Refer to Plant-wide Condition PW002, Odor Compliance Plan.

¹⁵ This condition added only because there is a consent agreement associated with it. When the consent agreement is concluded, the emission unit may be removed and the Core Permit Requirement for Odor will apply to it.

IV. Core Permit Requirements

The installation shall comply with each of the following requirements. Consult the appropriate sections in the Code of Federal Regulations (CFR) and Code of State Regulations (CSR) for the full text of the applicable requirements. All citations, unless otherwise noted, are to the regulations in effect as of the date that this permit is issued.

10 CSR 10-6.050 Start-up, Shutdown and Malfunction Conditions

- 1) In the event of a malfunction, which results in excess emissions that exceed one hour, the permittee shall submit to the Director within two business days, in writing, the following information:
 - a) Name and location of installation;
 - b) Name and telephone number of person responsible for the installation;
 - c) Name of the person who first discovered the malfunction and precise time and date that the malfunction was discovered.
 - d) Identity of the equipment causing the excess emissions;
 - e) Time and duration of the period of excess emissions;
 - f) Cause of the excess emissions;
 - g) Air pollutants involved;
 - h) Best estimate of the magnitude of the excess emissions expressed in the units of the applicable requirement and the operating data and calculations used in estimating the magnitude;
 - i) Measures taken to mitigate the extent and duration of the excess emissions; and
 - j) Measures taken to remedy the situation that caused the excess emissions and the measures taken or planned to prevent the recurrence of these situations.
- 2) The permittee shall submit the Paragraph 1 information list to the Director in writing at least ten days prior to any maintenance, start-up or shutdown, which is expected to cause an excessive release of emissions that exceed one hour. If notice of the event cannot be given ten days prior to the planned occurrence, it shall be given as soon as practicable prior to the release. If an unplanned excess release of emissions exceeding one hour occurs during maintenance, start-up or shutdown, the Director shall be notified verbally as soon as practical during normal working hours and no later than the close of business of the following working day. A written notice shall follow within ten working days.
- 3) Upon receipt of a notice of excess emissions issued by an agency holding a certificate of authority under Section 643.140, RSMo, the permittee may provide information showing that the excess emissions were the consequence of a malfunction, start-up or shutdown. The information, at a minimum, should be the Paragraph 1 list and shall be submitted not later than 15 days after receipt of the notice of excess emissions. Based upon information submitted by the permittee or any other pertinent information available, the Director or the commission shall make a determination whether the excess emissions constitute a malfunction, start-up or shutdown and whether the nature, extent and duration of the excess emissions warrant enforcement action under Section 643.080 or 643.151, RSMo.
- 4) Nothing in this rule shall be construed to limit the authority of the Director or commission to take appropriate action, under Sections 643.080, 643.090 and 643.151, RSMo to enforce the provisions of the Air Conservation Law and the corresponding rule.
- 5) Compliance with this rule does not automatically absolve the permittee of liability for the excess emissions reported.

10 CSR 10-6.060 Construction Permits Required

The permittee shall not commence construction, modification, or major modification of any installation subject to this rule, begin operation after that construction, modification, or major modification, or begin operation of any installation which has been shut down longer than five years without first obtaining a permit from the permitting authority.

10 CSR 10-6.065 Operating Permits

The permittee shall file a complete application for renewal of this operating permit at least six months before the date of permit expiration. In no event shall this time be greater than eighteen months. [10 CSR 10-6.065(6)(B)1.A(V)] The permittee shall retain the most current operating permit issued to this installation on-site. [10 CSR 10-6.065(6)(C)1.C(II)] The permittee shall immediately make such permit available to any Missouri Department of Natural Resources' personnel upon request. [10 CSR 10-6.065(6)(C)3.B]

10 CSR 10-6.110 Submission of Emission Data, Emission Fees and Process Information

- 1) The permittee shall complete and submit an Emission Inventory Questionnaire (EIQ) in accordance with the requirements outlined in this rule.
- 2) The permittee shall pay an annual emission fee per ton of regulated air pollutant emitted according to the schedule in the rule. This fee is an emission fee assessed under authority of RSMo. 643.079 to satisfy the requirements of the Federal Clean Air Act, Title V.
- 3) The fees shall be due April 1 each year for emissions produced during the previous calendar year. The fees shall be payable to the Department of Natural Resources and shall be accompanied by the Emissions Inventory Questionnaire (EIQ) form or equivalent approved by the Director.

10 CSR 10-6.130 Controlling Emissions During Episodes of High Air Pollution Potential

This rule specifies the conditions that establish an air pollution alert (yellow/orange/red/purple), or emergency (maroon) and the associated procedures and emission reduction objectives for dealing with each. The permittee shall submit an appropriate emergency plan if required by the Director.

10 CSR 10-6.150 Circumvention

The permittee shall not cause or permit the installation or use of any device or any other means which, without resulting in reduction in the total amount of air contaminant emitted, conceals or dilutes an emission or air contaminant which violates a rule of the Missouri Air Conservation Commission.

10 CSR 10-6.170 Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin

- 1) The permittee shall not cause or allow to occur any handling, transporting or storing of any material; construction, repair, cleaning or demolition of a building or its appurtenances; construction or use of a road, driveway or open area; or operation of a commercial or industrial installation without applying reasonable measures as may be required to prevent, or in a manner which allows or may allow, fugitive particulate matter emissions to go beyond the premises of origin in quantities that the particulate matter may be found on surfaces beyond the property line of origin. The nature or origin of the particulate matter shall be determined to a reasonable degree of certainty by a technique proven to be accurate and approved by the Director.
- 2) The permittee shall not cause nor allow to occur any fugitive particulate matter emissions to remain visible in the ambient air beyond the property line of origin.
- 3) Should it be determined that noncompliance has occurred, the Director may require reasonable control measures as may be necessary. These measures may include, but are not limited to, the following:

- a) Revision of procedures involving construction, repair, cleaning and demolition of buildings and their appurtenances that produce particulate matter emissions;
- b) Paving or frequent cleaning of roads, driveways and parking lots;
- c) Application of dust-free surfaces;
- d) Application of water; and
- e) Planting and maintenance of vegetative ground cover.

10 CSR 10-6.180 Measurement of Emissions of Air Contaminants

- 1) The Director may require any person responsible for the source of emission of air contaminants to make or have made tests to determine the quantity or nature, or both, of emission of air contaminants from the source. The Director may specify testing methods to be used in accordance with good professional practice. The Director may observe the testing. All tests shall be performed by qualified personnel.
- 2) The Director may conduct tests of emissions of air contaminants from any source. Upon request of the Director, the person responsible for the source to be tested shall provide necessary ports in stacks or ducts and other safe and proper sampling and testing facilities, exclusive of instruments and sensing devices as may be necessary for proper determination of the emission of air contaminants.
- 3) The Director shall be given a copy of the test results in writing and signed by the person responsible for the tests.

10 CSR 10-6.045 Open Burning Requirements

- 1) General Provisions. The open burning of tires, petroleum-based products, asbestos containing materials, and trade waste is prohibited, except as allowed below. Nothing in this rule may be construed as to allow open burning which causes or constitutes a public health hazard, nuisance, a hazard to vehicular or air traffic, nor which violates any other rule or statute.
- 2) Refer to the regulation for a complete list of allowances. The following is a listing of exceptions to the allowances:
 - a) Burning of household or domestic refuse. Burning of household or domestic refuse is limited to open burning on a residential premises having not more than four dwelling units, provided that the refuse originates on the same premises, with the following exceptions:
 - i) Kansas City metropolitan area. The open burning of household refuse must take place in an area zoned for agricultural purposes and outside that portion of the metropolitan area surrounded by the corporate limits of Kansas City and every contiguous municipality;
 - ii) Springfield-Greene County area. The open burning of household refuse must take place outside the corporate limits of Springfield and only within areas zoned A-1, Agricultural District;
 - iii) St. Joseph area. The open burning of household refuse must take place within an area zoned for agricultural purposes and outside that portion of the metropolitan area surrounded by the corporate limits of St. Joseph; and
 - iv) St. Louis metropolitan area. The open burning of household refuse is prohibited;
 - b) Yard waste, with the following exceptions:
 - i) Kansas City metropolitan area. The open burning of trees, tree leaves, brush or any other type of vegetation shall require an open burning permit;
 - ii) Springfield-Greene County area. The City of Springfield requires an open burning permit for the open burning of trees, brush or any other type of vegetation. The City of Springfield prohibits the open burning of tree leaves;
 - iii) St. Joseph area. Within the corporate limits of St. Joseph, the open burning of trees, tree leaves, brush or any other type of vegetation grown on a residential property is allowed during the following calendar periods and time-of-day restrictions:

- (1) A three (3)-week period within the period commencing the first day of March through April 30 and continuing for twenty-one (21) consecutive calendar days;
 - (2) A three (3)-week period within the period commencing the first day of October through November 30 and continuing for twenty-one (21) consecutive calendar days;
 - (3) The burning shall take place only between the daytime hours of 10:00 a.m. and 3:30 p.m.; and
 - (4) In each instance, the twenty-one (21)-day burning period shall be determined by the Director of Public Health and Welfare of the City of St. Joseph for the region in which the City of St. Joseph is located provided, however, the burning period first shall receive the approval of the Department Director; and
- iv) St. Louis metropolitan area. The open burning of trees, tree leaves, brush or any other type of vegetation is limited to the period beginning September 16 and ending April 14 of each calendar year and limited to a total base area not to exceed sixteen (16) square feet. Any open burning shall be conducted only between the hours of 10:00 a.m. and 4:00 p.m. and is limited to areas outside of incorporated municipalities;
- 3) Certain types of materials may be open burned provided an open burning permit is obtained from the Director. The permit will specify the conditions and provisions of all open burning. The permit may be revoked if the owner or operator fails to comply with the conditions or any provisions of the permit.
 - 4) National Starch LLC may be issued an annually renewable open burning permit for open burning provided that an air curtain destructor or incinerator is utilized and only tree trunks, tree limbs, vegetation or untreated wood waste are burned. Open burning shall occur at least two hundred (200) yards from the nearest occupied structure unless the owner or operator of the occupied structure provides a written waiver of this requirement. Any waiver shall accompany the open burning permit application. The permit may be revoked if National Starch LLC fails to comply with the provisions or any condition of the open burning permit.
 - a) In a nonattainment area, as defined in 10 CSR 10-6.020, Paragraph (2)(N)5., the Director shall not issue a permit under this section unless the owner or operator can demonstrate to the satisfaction of the Director that the emissions from the open burning of the specified material would be less than the emissions from any other waste management or disposal method.
 - 5) Reporting and Recordkeeping. New Source Performance Standard (NSPS) 40 CFR Part 60 Subpart CCCC establishes certain requirements for air curtain destructors or incinerators that burn wood trade waste. These requirements are established in 40 CFR 60.2245-60.2260. The provisions of 40 CFR Part 60 Subpart CCCC promulgated as of September 22, 2005 shall apply and are hereby incorporated by reference in this rule, as published by the U.S. Government Printing Office, 732 N Capitol Street NW, Washington, DC 20401. To comply with NSPS 40 CFR 60.2245-60.2260, sources must conduct an annual Method 9 test. A copy of the annual Method 9 test results shall be submitted to the Director.
 - 6) Test Methods. The visible emissions from air pollution sources shall be evaluated as specified by 40 CFR Part 60, Appendix A–Test Methods, Method 9–Visual Determination of the Opacity of Emissions from Stationary Sources. The provisions of 40 CFR Part 60, Appendix A, Method 9 promulgated as of December 23, 1971, is incorporated by reference in this rule, as published by the U.S. Government Printing Office, 732 N Capitol Street NW, Washington, DC 20401.

10 CSR 10-2.070 Restriction of Emission of Odors

No person may cause, permit or allow the emission of odorous matter in concentrations and frequencies or for durations that odor can be perceived when one volume of odorous air is diluted with seven volumes of odor-free air for two separate trials not less than 15 minutes apart within the period of one hour.

This requirement is not federally enforceable.

10 CSR 10-6.100 Alternate Emission Limits

Proposals for alternate emission limitations shall be submitted on Alternate Emission Limits Permit forms provided by the Department. An installation owner or operator must obtain an Alternate Emission Limits Permit in accordance with 10 CSR 10-6.100 before alternate emission limits may become effective.

10 CSR 10-6.080 Emission Standards for Hazardous Air Pollutants and 40 CFR Part 61 Subpart M National Emission Standard for Asbestos

- 1) The permittee shall follow the procedures and requirements of 40 CFR Part 61, Subpart M for any activities occurring at this installation which would be subject to provisions for 40 CFR Part 61, Subpart M, National Emission Standard for Asbestos.
- 2) The permittee shall conduct monitoring to demonstrate compliance with registration, certification, notification, and Abatement Procedures and Practices standards as specified in 40 CFR Part 61, Subpart M.

10 CSR 10-6.250 Asbestos Abatement Projects – Certification, Accreditation, and Business Exemption Requirements

The permittee shall conduct all asbestos abatement projects within the procedures established for certification and accreditation by 10 CSR 10-6.250. This rule requires individuals who work in asbestos abatement projects to be certified by the Missouri Department of Natural Resources Air Pollution Control Program. This rule requires training providers who offer training for asbestos abatement occupations to be accredited by the Missouri Department of Natural Resources Air Pollution Control Program. This rule requires persons who hold exemption status from certain requirements of this rule to allow the Department to monitor training provided to employees. Each individual who works in asbestos abatement projects must first obtain certification for the appropriate occupation from the Department. Each person who offers training for asbestos abatement occupations must first obtain accreditation from the Department. Certain business entities that meet the requirements for state-approved exemption status must allow the Department to monitor training classes provided to employees who perform asbestos abatement.

Title VI – 40 CFR Part 82 Protection of Stratospheric Ozone

- 1) The permittee shall comply with the standards for labeling of products using ozone-depleting substances pursuant to 40 CFR Part 82, Subpart E:
 - a) All containers in which a class I or class II substance is stored or transported, all products containing a class I substance, and all products directly manufactured with a class I substance must bear the required warning statement if it is being introduced into interstate commerce pursuant to §82.106.
 - b) The placement of the required warning statement must comply with the requirements pursuant to §82.108.
 - c) The form of the label bearing the required warning statement must comply with the requirements pursuant to §82.110.
 - d) No person may modify, remove, or interfere with the required warning statement except as described in §82.112.
- 2) The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F, except as provided for motor vehicle air conditioners (MVACs) in Subpart B:
 - a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to §82.156.
 - b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to §82.158.
 - c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to §82.161.

- d) Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with recordkeeping requirements pursuant to §82.166. ("MVAC-like" appliance as defined at §82.152).
 - e) Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to §82.156.
 - f) Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to §82.166.
- 3) If the permittee manufactures, transforms, imports, or exports a class I or class II substance, the permittee is subject to all the requirements as specified in 40 CFR Part 82, Subpart A, Production and Consumption Controls.
- 4) If the permittee performs a service on motor (fleet) vehicles when this service involves ozone-depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR Part 82, Subpart B, Servicing of Motor Vehicle Air conditioners. The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term "MVAC" as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo, or system used on passenger buses using HCFC-22 refrigerant.

The permittee shall be allowed to switch from any ozone-depleting substance to any alternative that is listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR Part 82, Subpart G, Significant New Alternatives Policy Program. *Federal Only - 40 CFR Part 82*

10 CSR 10-6.280 Compliance Monitoring Usage

- 1) The permittee is not prohibited from using the following in addition to any specified compliance methods for the purpose of submission of compliance certificates:
- a) Monitoring methods outlined in 40 CFR Part 64;
 - b) Monitoring method(s) approved for the permittee pursuant to 10 CSR 10-6.065, "Operating Permits", and incorporated into an operating permit; and
 - c) Any other monitoring methods approved by the Director.
- 2) Any credible evidence may be used for the purpose of establishing whether a permittee has violated or is in violation of any such plan or other applicable requirement. Information from the use of the following methods is presumptively credible evidence of whether a violation has occurred by a permittee:
- a) Monitoring methods outlined in 40 CFR Part 64;
 - b) A monitoring method approved for the permittee pursuant to 10 CSR 10-6.065, "Operating Permits", and incorporated into an operating permit; and
 - c) Compliance test methods specified in the rule cited as the authority for the emission limitations.
- 3) The following testing, monitoring or information gathering methods are presumptively credible testing, monitoring, or information gathering methods:
- a) Applicable monitoring or testing methods, cited in:
 - i) 10 CSR 10-6.030, "Sampling Methods for Air Pollution Sources";
 - ii) 10 CSR 10-6.040, "Reference Methods";
 - iii) 10 CSR 10-6.070, "New Source Performance Standards";
 - iv) 10 CSR 10-6.080, "Emission Standards for Hazardous Air Pollutants"; or
 - b) Other testing, monitoring, or information gathering methods, if approved by the Director, that produce information comparable to that produced by any method listed above.

V. General Permit Requirements

The installation shall comply with each of the following requirements. Consult the appropriate sections in the Code of Federal Regulations (CFR) and Code of State Regulations (CSR) for the full text of the applicable requirements. All citations, unless otherwise noted, are to the regulations in effect as of the date that this permit is issued,

10 CSR 10-6.065(6)(C)1.B Permit Duration

This permit is issued for a term of five years, commencing on the date of issuance. This permit will expire at the end of this period unless renewed.

10 CSR 10-6.065(6)(C)1.C General Recordkeeping and Reporting Requirements

- 1) Recordkeeping
 - a) All required monitoring data and support information shall be retained for a period of at least five years from the date of the monitoring sample, measurement, report or application.
 - b) Copies of all current operating and construction permits issued to this installation shall be kept on-site for as long as the permits are in effect. Copies of these permits shall be made immediately available to any Missouri Department of Natural Resources' personnel upon request.
- 2) Reporting
 - a) All reports shall be submitted to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102.
 - b) The permittee shall submit a report of all required monitoring by:
 - i) October 1st for monitoring which covers the January through June time period, and
 - ii) April 1st for monitoring which covers the July through December time period.
 - iii) Exception. Monitoring requirements which require reporting more frequently than semi-annually shall report no later than 30 days after the end of the calendar quarter in which the measurements were taken.
 - c) Each report shall identify any deviations from emission limitations, monitoring, recordkeeping, reporting, or any other requirements of the permit, this includes deviations or Part 64 exceedances.
 - d) Submit supplemental reports as required or as needed. Supplemental reports are required no later than ten days after any exceedance of any applicable rule, regulation or other restriction. All reports of deviations shall identify the cause or probable cause of the deviations and any corrective actions or preventative measures taken.
 - i) Notice of any deviation resulting from an emergency (or upset) condition as defined in Paragraph (6)(C)7.A of 10 CSR 10-6.065 (Emergency Provisions) shall be submitted to the permitting authority either verbally or in writing within two working days after the date on which the emission limitation is exceeded due to the emergency, if the permittee wishes to assert an affirmative defense. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that indicate an emergency occurred and the permittee can identify the cause(s) of the emergency. The permitted installation must show that it was operated properly at the time and that during the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or requirements in the permit. The notice must contain a description of the emergency, the steps taken to mitigate emissions, and the corrective actions taken.
 - ii) Any deviation that poses an imminent and substantial danger to public health, safety or the environment shall be reported as soon as practicable.

- iii) Any other deviations identified in the permit as requiring more frequent reporting than the permittee's semi-annual report shall be reported on the schedule specified in this permit, and no later than ten days after any exceedance of any applicable rule, regulation, or other restriction.
- e) Every report submitted shall be certified by the responsible official, except that, if a report of a deviation must be submitted within ten days after the deviation, the report may be submitted without a certification if the report is resubmitted with an appropriate certification within ten days after that, together with any corrected or supplemental information required concerning the deviation.
- f) The permittee may request confidential treatment of information submitted in any report of deviation.

10 CSR 10-6.065(6)(C)1.D Risk Management Plan Under Section 112(r)

The permittee shall comply with the requirements of 40 CFR Part 68, Accidental Release Prevention Requirements. If the permittee has more than a threshold quantity of a regulated substance in process, as determined by 40 CFR Section 68.115, the permittee shall submit a Risk Management Plan in accordance with 40 CFR Part 68 no later than the latest of the following dates:

- 1) June 21, 1999;
- 2) Three years after the date on which a regulated substance is first listed under 40 CFR Section 68.130; or
- 3) The date on which a regulated substance is first present above a threshold quantity in a process.

10 CSR 10-6.065(6)(C)1.F Severability Clause

In the event of a successful challenge to any part of this permit, all uncontested permit conditions shall continue to be in force. All terms and conditions of this permit remain in effect pending any administrative or judicial challenge to any portion of the permit. If any provision of this permit is invalidated, the permittee shall comply with all other provisions of the permit.

10 CSR 10-6.065(6)(C)1.G General Requirements

- 1) The permittee must comply with all of the terms and conditions of this permit. Any noncompliance with a permit condition constitutes a violation and is grounds for enforcement action, permit termination, permit revocation and re-issuance, permit modification or denial of a permit renewal application.
- 2) The permittee may not use as a defense in an enforcement action that it would have been necessary for the permittee to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit
- 3) The permit may be modified, revoked, reopened, reissued or terminated for cause. Except as provided for minor permit modifications, the filing of an application or request for a permit modification, revocation and reissuance, or termination, or the filing of a notification of planned changes or anticipated noncompliance, does not stay any permit condition.
- 4) This permit does not convey any property rights of any sort, nor grant any exclusive privilege.
- 5) The permittee shall furnish to the Air Pollution Control Program, upon receipt of a written request and within a reasonable time, any information that the Air Pollution Control Program reasonably may require to determine whether cause exists for modifying, reopening, reissuing or revoking the permit or to determine compliance with the permit. Upon request, the permittee also shall furnish to the Air Pollution Control Program copies of records required to be kept by the permittee. The permittee may make a claim of confidentiality for any information or records submitted pursuant to 10 CSR 10-6.065(6)(C)1.

10 CSR 10-6.065(6)(C)1.H Incentive Programs Not Requiring Permit Revisions

No permit revision will be required for any installation changes made under any approved economic incentive, marketable permit, emissions trading, or other similar programs or processes provided for in this permit.

10 CSR 10-6.065(6)(C)1.I Reasonably Anticipated Operating Scenarios

None.

10 CSR 10-6.065(6)(C)3 Compliance Requirements

- 1) Any document (including reports) required to be submitted under this permit shall contain a certification signed by the responsible official.
- 2) Upon presentation of credentials and other documents as may be required by law, the permittee shall allow authorized officials of the Missouri Department of Natural Resources, or their authorized agents, to perform the following (subject to the installation's right to seek confidential treatment of information submitted to, or obtained by, the Air Pollution Control Program):
 - a) Enter upon the premises where a permitted installation is located or an emissions-related activity is conducted, or where records must be kept under the conditions of this permit;
 - b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
 - c) Inspect, at reasonable times and using reasonable safety practices, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and
 - d) As authorized by the Missouri Air Conservation Law, Chapter 643, RSMo or the Act, sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the terms of this permit, and all applicable requirements as outlined in this permit.
- 3) All progress reports required under an applicable schedule of compliance shall be submitted semi-annually (or more frequently if specified in the applicable requirement). These progress reports shall contain the following:
 - a) Dates for achieving the activities, milestones or compliance required in the schedule of compliance, and dates when these activities, milestones or compliance were achieved, and
 - b) An explanation of why any dates in the schedule of compliance were not or will not be met, and any preventative or corrective measures adopted.
- 4) The permittee shall submit an annual certification that it is in compliance with all of the federally enforceable terms and conditions contained in this permit, including emissions limitations, standards, or work practices. These certifications shall be submitted annually by April 1st, unless the applicable requirement specifies more frequent submission. These certifications shall be submitted to EPA Region VII, 901 North 5th Street, Kansas City, KS 66101, as well as the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102. All deviations and Part 64 exceedances and excursions must be included in the compliance certifications. The compliance certification shall include the following:
 - a) The identification of each term or condition of the permit that is the basis of the certification;
 - b) The current compliance status, as shown by monitoring data and other information reasonably available to the installation;
 - c) Whether compliance was continuous or intermittent;
 - d) The method(s) used for determining the compliance status of the installation, both currently and over the reporting period; and
 - e) Such other facts as the Air Pollution Control Program will require in order to determine the compliance status of this installation.

10 CSR 10-6.065(6)(C)6 Permit Shield

- 1) Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements as of the date that this permit is issued, provided that:
 - a) The application requirements are included and specifically identified in this permit, or

- b) The permitting authority, in acting on the permit revision or permit application, determines in writing that other requirements, as specifically identified in the permit, are not applicable to the installation, and this permit expressly includes that determination or a concise summary of it.
- c) The following regulations are covered under the Permit Shield:

Citation	Regulation Description
10 CSR 10-2.220	Liquefied Cutback Asphalt Paving Restricted
10 CSR 10-2.230	Control of Emissions From Industrial Surface Coating Operations
10 CSR 10-2.290	Control of Emissions From Rotogravure and Flexographic Printing Facilities
10 CSR 10-2.300	Control of Emissions From the Manufacturing of Paints, Varnishes, Lacquers, Enamels and Other Allied Surface Coating Products
10 CSR 10-2.310	Control of Emissions From the Application of Automotive Underbody Deadeners
10 CSR 10-2.320	Control of Emissions From Production of Pesticides and Herbicides
10 CSR 10-2.330	Control of Gasoline Reid Vapor Pressure
10 CSR 10-2.340	Control of Emissions From Lithographic Printing Facilities
10 CSR 10-2.360	Control of Emissions From Bakery Ovens
10 CSR 10-2.390	Conformity to State or Federal Implementation Plans of Transportation Plans, Programs, and Projects Developed, Funded or Approved Under Title 23 U.S.C. or the Federal Transit Laws
10 CSR 10-3	Air Pollution Control Rules Specific to the Outstate Missouri Area
10 CSR 10-4	Air Quality Standards and Air Pollution Control Regulations for the Springfield-Greene County Area
10 CSR 10-5	Air Quality Standards and Air Pollution Control Rules Specific to the St. Louis Metropolitan Area
10 CSR 10-6.070	New Sources Performance Regulations
10 CSR 10-6.075	
10 CSR 10-6.080(1 A), (2 A, B, C)	Emission Standards for Hazardous Air Pollutants
10 CSR 10-6.090	Restriction of Emission of Fluorides From Primary Aluminum Reduction Installations
10 CSR 10-6.120	Restriction of Emission of Lead From Primary Lead Smelter-Refinery Installations
10 CSR 10-6.140	Restriction of Emissions Credit for Reduced Pollutant Concentrations from the Use of Dispersion Techniques
10 CSR 10-6.160	Medical Waste and Solid Waste Incinerators
10 CSR 10-6.170	Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin
10 CSR 10-6.190	Sewage Sludge and Industrial Waste Incinerators
10 CSR 10-6.200	Hospital, Medical, Infectious Waste Incinerators
10 CSR 10-6.220	
10 CSR 10-6.240	Asbestos Abatement Projects- Registration, Notification, and Performance Requirements
10 CSR 10-6.270	Acid Rain Source Permits Required
10 CSR 10-6.280	
10 CSR 10-6.300	Conformity of General Federal Actions to State Implementation Plans

Citation	Regulation Description
10 CSR 10-6.310	Restriction of Emissions from Municipal Solid Waste Landfills
10 CSR 10-6.320	Sales Tax Exemption
10 CSR 10-6.330	Restriction of Emissions from Batch-type Charcoal Kilns
Kansas City Code	Kansas City Health Department, Air Quality Section Rules
Springfield-Greene County, Air Pollution Control Authority Chapter 2A	Springfield-Greene County, Air Pollution Control Authority; Air Pollution Control Standards (Local Agency Rules Only)
St. Louis County Air Pollution Control Code Section 612	St. Louis County Department of Health, Air, Land & Water Branch, Air Pollution Control Section; Air Pollution Control Code (Local Agency Rules Only)
St. Louis City Code Ordinances	City of St. Louis, Div. Of Air Pollution Control (Local Agency Rules Only)
40 CFR Part 60	New Source Performance Standards (NSPS)
40 CFR Part 61 Subpart B through Subpart L	National Emission Standards for Hazardous Air Pollutants (NESHAP)
40 CFR Part 61 Subpart N through Subpart JJJ	National Emission Standards for Hazardous Air Pollutants (NESHAP)

- 2) Be aware that there are exceptions to this permit protection. The permit shield does not affect the following:
- a) The provisions of Section 303 of the Act or Section 643.090, RSMo concerning emergency orders,
 - b) Liability for any violation of an applicable requirement which occurred prior to, or was existing at, the time of permit issuance,
 - c) The applicable requirements of the acid rain program,
 - d) The authority of the Environmental Protection Agency and the Air Pollution Control Program of the Missouri Department of Natural Resources to obtain information, or
 - e) Any other permit or extra-permit provisions, terms or conditions expressly excluded from the permit shield provisions.

10 CSR 10-6.065(6)(C)7 Emergency Provisions

- 1) An emergency or upset as defined in 10 CSR 10-6.065(6)(C)7.A shall constitute an affirmative defense to an enforcement action brought for noncompliance with technology-based emissions limitations. To establish an emergency- or upset-based defense, the permittee must demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence, the following:
 - a) That an emergency or upset occurred and that the permittee can identify the source of the emergency or upset,
 - b) That the installation was being operated properly,
 - c) That the permittee took all reasonable steps to minimize emissions that exceeded technology-based emissions limitations or requirements in this permit, and
 - d) That the permittee submitted notice of the emergency to the Air Pollution Control Program within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and any corrective actions taken.
- 2) Be aware that an emergency or upset shall not include noncompliance caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

10 CSR 10-6.065(6)(C)8 Operational Flexibility

An installation that has been issued a Part 70 operating permit is not required to apply for or obtain a permit revision in order to make any of the changes to the permitted installation described below if the changes are not Title I modifications, the changes do not cause emissions to exceed emissions allowable under the permit, and the changes do not result in the emission of any air contaminant not previously emitted. The permittee shall notify the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as well as EPA Region VII, 901 North 5th Street, Kansas City, KS 66101, at least seven days in advance of these changes, except as allowed for emergency or upset conditions. Emissions allowable under the permit means a federally enforceable permit term or condition determined at issuance to be required by an applicable requirement that establishes an emissions limit (including a work practice standard) or a federally enforceable emissions cap that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject.

- 1) Section 502(b)(10) changes. Changes that, under Section 502(b)(10) of the Act, contravene an express permit term may be made without a permit revision, except for changes that would violate applicable requirements of the Act or contravene federally enforceable monitoring (including test methods), recordkeeping, reporting or compliance requirements of the permit.
 - a) Before making a change under this provision, The permittee shall provide advance written notice to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as well as EPA Region VII, 901 North 5th Street, Kansas City, KS 66101, describing the changes to be made, the date on which the change will occur, and any changes in emission and any permit terms and conditions that are affected. The permittee shall maintain a copy of the notice with the permit, and the Air Pollution Control Program shall place a copy with the permit in the public file. Written notice shall be provided to the EPA and the Air Pollution Control Program as above at least seven days before the change is to be made. If less than seven days notice is provided because of a need to respond more quickly to these unanticipated conditions, the permittee shall provide notice to the EPA and the Air Pollution Control Program as soon as possible after learning of the need to make the change.
 - b) The permit shield shall not apply to these changes.

10 CSR 10-6.065(6)(C)9 Off-Permit Changes

- 1) Except as noted below, the permittee may make any change in its permitted operations, activities or emissions that is not addressed in, constrained by or prohibited by this permit without obtaining a permit revision. Insignificant activities listed in the application, but not otherwise addressed in or prohibited by this permit, shall not be considered to be constrained by this permit for purposes of the off-permit provisions of this section. Off-permit changes shall be subject to the following requirements and restrictions:
 - a) The change must meet all applicable requirements of the Act and may not violate any existing permit term or condition; the permittee may not change a permitted installation without a permit revision if this change is subject to any requirements under Title IV of the Act or is a Title I modification;
 - b) The permittee must provide written notice of the change to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as well as EPA Region VII, 901 North 5th Street, Kansas City, KS 66101, no later than the next annual emissions report. This notice shall not be required for changes that are insignificant activities under 10 CSR 10-6.065(6)(B)3. This written notice shall describe each change, including the date, any change in emissions, pollutants emitted and any applicable requirement that would apply as a result of the change.
 - c) The permittee shall keep a record describing all changes made at the installation that result in emissions of a regulated air pollutant subject to an applicable requirement and the emissions resulting from these changes; and
 - d) The permit shield shall not apply to these changes.

10 CSR 10-6.020(2)(R)12 Responsible Official

The application utilized in the preparation of this permit was signed by Thomas J. Furdek, Plant Manager. If this person terminates employment, or is reassigned different duties such that a different person becomes the responsible person to represent and bind the installation in environmental permitting affairs, the owner or operator of this air contaminant source shall notify the Director of the Air Pollution Control Program of the change. Said notification shall be in writing and shall be submitted within 30 days of the change. The notification shall include the name and title of the new person assigned by the source owner or operator to represent and bind the installation in environmental permitting affairs. All representations, agreement to terms and conditions and covenants made by the former responsible person that were used in the establishment of limiting permit conditions on this permit will continue to be binding on the installation until such time that a revision to this permit is obtained that would change said representations, agreements and covenants.

10 CSR 10-6.065(6)(E)6 Reopening-Permit for Cause

This permit may be reopened for cause if:

- 1) The Missouri Department of Natural Resources (MDNR) receives notice from the Environmental Protection Agency (EPA) that a petition for disapproval of a permit pursuant to 40 CFR § 70.8(d) has been granted, provided that the reopening may be stayed pending judicial review of that determination,
- 2) The Missouri Department of Natural Resources or EPA determines that the permit contains a material mistake or that inaccurate statements were made which resulted in establishing the emissions limitation standards or other terms of the permit,
- 3) Additional applicable requirements under the Act become applicable to the installation; however, reopening on this ground is not required if—
 - a) The permit has a remaining term of less than three years;
 - b) The effective date of the requirement is later than the date on which the permit is due to expire; or
 - c) The additional applicable requirements are implemented in a general permit that is applicable to the installation and the installation receives authorization for coverage under that general permit,
- 4) The installation is an affected source under the acid rain program and additional requirements (including excess emissions requirements), become applicable to that source, provided that, upon approval by EPA, excess emissions offset plans shall be deemed to be incorporated into the permit; or
- 5) The Missouri Department of Natural Resources or EPA determines that the permit must be reopened and revised to assure compliance with applicable requirements.

10 CSR 10-6.065(6)(E)1.C Statement of Basis

This permit is accompanied by a statement setting forth the legal and factual basis for the draft permit conditions (including references to applicable statutory or regulatory provisions). This Statement of Basis, while referenced by the permit, is not an actual part of the permit.

VI. Attachments

Attachments follow.

Attachment C
Settlement Agreement

(begins on the next page)

STATEMENT OF BASIS

Permit Reference Documents

These documents were relied upon in the preparation of the operating permit. Because they are not incorporated by reference, they are not an official part of the operating permit.

- 1) Part 70 Operating Permit Application, received May 12, 1997;
- 2) 2005 Emissions Inventory Questionnaire, received April 1, 2006; and
- 3) U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*; Volume I, Stationary Point and Area Sources, Fifth Edition
- 4) Department of Natural Resources Air Pollution Control Program – Permit to Construct 0198-029
- 5) Department of Natural Resources Air Pollution Control Program – Permit to Construct 0397-004
- 6) Department of Natural Resources Air Pollution Control Program – Permit to Construct 0684-005 through 0684-016

Applicable Requirements Included in the Operating Permit but Not in the Application or Previous Operating Permits

In the operating permit application, the installation indicated they were not subject to the following regulation(s). However, in the review of the application, the agency has determined that the installation is subject to the following regulation(s) for the reasons stated.

10 CSR 10-6.260, *Restriction of Emission of Sulfur Compounds*

This rule been included as a source specific requirement for all sources emitting non-fugitive sulfur oxide emissions. Any source with a source specific requirement, regardless of emission levels can be included in the permit.

Other Air Regulations Determined Not to Apply to the Operating Permit

The Air Pollution Control Program (APCP) has determined the following requirements to not be applicable to this installation at this time for the reasons stated.

Construction Permit Revisions

None.

New Source Performance Standards (NSPS) Applicability

10 CSR 10-6.070, *New Source Performance Regulations*

40 CFR Part 60, Subpart K – *Storage Vessels for Petroleum Liquids after June 11, 1973*

40 CFR Part 60, Subpart Ka – *Storage Vessels for Petroleum Liquids*

40 CFR Part 60, Subpart Kb – *Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) after July 23, 1984*

The installation has reported the following storage vessels:

Description of Equipment	Capacity (Gallons)	Year Installed
Hydrogen Peroxide Tank	9,000	1984-1985
Sulfuric Acid Tank	10,000	1984-1985
East Caustic Tank	20,000	1984-1985
West Caustic Tank	20,000	1984-1985
Liquid Nitrogen Tank	6,000	1984-1985
Wastewater Defoamer Tank		1995
Starch Filtrate Clarifier		1987
HCl Tank on Building 100		1984-1985
East Raw Starch Tank		1999
North Raw Starch Tank		1964
South Raw Starch Tank		1964
Fiber Water Tank		1964

The storage vessels listed above all meet at least one of the following conditions:

- The tank does not contain a chemical requiring it to be regulated by 40 CFR Part 60, Subpart K, Ka, or Kb;
- The tank was constructed before June 11, 1973 and so is not regulated by 40 CFR Part 60, Subpart K, Ka, or Kb;
- The tank is too small to be required to obey the restrictions of 40 CFR Part 60, Subpart K, Ka, or Kb.

Maximum Achievable Control Technology (MACT) Applicability

None.

National Emission Standards for Hazardous Air Pollutants (NESHAP) Applicability

None.

Compliance Assurance Monitoring (CAM) Applicability

40 CFR Part 64, *Compliance Assurance Monitoring (CAM)*

The CAM rule applies to each pollutant specific emission unit that:

- Is subject to an emission limitation or standard, and
- Uses a control device to achieve compliance, and
- Has pre-control emissions that exceed or are equivalent to the major source threshold.

40 CFR Part 64 is not applicable because none of the pollutant-specific emission units uses a control device to achieve compliance with a relevant standard.

Other Regulatory Determinations

10 CSR10-6.400, *Restriction of Emission of Particulate Matter from Industrial Processes*

One provision of this rule, 10 CSR 10-6.400(3)(C), was developed as a Reasonably Available Control Technology (RACT) for an early Kansas City Area SIP. This provision requires that:

(C) All existing corn wet milling drying processes shall be equipped with gas cleaning devices and so operated as to remove not less than ninety-nine and one-half percent (99.5%) by weight of all particulate matter in the dryer discharge gases.

The following emission units are subject to this provision: EU0020, EU0030¹⁶, EU0040 and EU0090.

EU0010 Corn Cleaning and Storage

The particulate matter emissions limit for this emission point is 54.72 lbs/hr. The uncontrolled filterable PM emission factor is 1.6 lb/ton of grain, (EPA. 1995. Section 9.9.7, *Grain Processing: Corn Wet Milling. In: Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources, Fifth Edition, AP-42. U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards. Research Triangle Park, North Carolina.*), which gives the potential uncontrolled emission rate of 224 lbs/hr using maximum hourly design rate (MHDR) of 140.00 ton grain/hr (1998 *EIQ*). Since the potential uncontrolled emissions are about four times the limit, monitoring and recordkeeping is required for this emission point.

EU0020 Germ Drying/Cooling

For this emission point, it is not feasible to directly monitor the throughput daily. However, National Starch does monitor plant-wide grind throughput. National Starch can parametrically monitor the throughput of each unit by recording the daily grind and multiplying by the yield for the product dried/cooled. Germ, fiber, and gluten meal yields are figures commonly used in the corn wet milling industry to estimate equipment throughput and process efficiency.

For example, if typical germ yield is 3.7 lb of germ at 3% moisture per 56-lb bushel of corn, or 6.6% “commercial yield” (i.e., not dry-basis). If 50,000 Bu of corn were ground in a day, then throughput for germ drying/cooling would be $50,000 \text{ Bu} \times 56 \text{ lb/Bu} \times 0.066 = 184,800 \text{ lb}$.

We feel that this would be a reliable method for determining daily throughput for each emissions unit for two reasons. First, the yields for germ, fiber, and gluten do not change appreciably year-to-year, month-to-month, or day-to-day. Second, each emissions unit processes the plant’s *entire* grind production of germ, fiber, or gluten, so no guesswork involving throughputs to individual equipment would be involved. National Starch requests confirmation that monitoring the grind fulfills this requirement.

EU0030 through EU0070

EU0030, EU0040, EU0050, EU0060 and EU0070 are not currently operating. The conditions expressed for these emission units are for the alternate operating scenario, when the emission units are being operated. The permittee should only report that the units did not operate in the previous reporting period if they have not operated. The permittee is subject to the reporting requirements in these alternate operating scenarios when the emission units have been operated.

¹⁶ EU0030, EU0040, EU0050, EU0060 and EU0070 are not currently operating. The conditions expressed for these emission units are for the alternate operating scenario, when the emission units are being operated.

EU0080 Corn Cleaning Storage

The particulate matter emissions limit for this emission point is 16.5 lbs/hr. The uncontrolled emission potential is 40 lbs/hr. Since the potential uncontrolled emissions will never exceed the limit, no monitoring and recordkeeping is required for this emission point.

EU0090 Gluten Dryer

The gluten dryer (EU0090) has no cyclone level monitoring devices. Due to the nature of the materials and processes, plugged cyclone is *extremely* rare in the gluten dryer.

National Starch requested that the cyclone operation and maintenance plan be replaced with a requirement to monitor the cyclone discharge rotary valve for continuous operation. The gluten dryer (EU0090) has rotary valve at the bottom of the cyclone to discharge the solids. The rotary valve is interlocked with its cyclone fan to shut down the fan if the rotary valve fails. We feel that the aforementioned monitoring will ensure reliable operation of the cyclones.

For this emission point, it is not feasible to directly monitor the throughput daily. However, National Starch does monitor plant-wide grind throughput. National Starch can parametrically monitor the throughput of each unit by recording the daily grind and multiplying by the yield for the product dried/cooled. Germ, fiber, and gluten meal yields are figures commonly used in the corn wet milling industry to estimate equipment throughput and process efficiency.

For example, if typical germ yield is 3.7 lb of germ at 3% moisture per 56-lb bushel of corn, or 6.6% "commercial yield" (i.e., not dry-basis). If 50,000 Bu of corn were ground in a day, then throughput for germ drying/cooling would be $50,000 \text{ Bu} \times 56 \text{ lb/Bu} \times 0.066 = 184,800 \text{ lb}$.

We feel that this would be a reliable method for determining daily throughput for each emissions unit for two reasons. First, the yields for germ, fiber, and gluten do not change appreciably year-to-year, month-to-month, or day-to-day. Second, each emissions unit processes the plant's *entire* grind production of germ, fiber, or gluten, so no guesswork involving throughputs to individual equipment would be involved. National Starch requests confirmation that monitoring the grind fulfills this requirement.

EU0100 Gluten Cooling

The particulate matter emissions limit for this emission point is 10.4 lbs/hr. The uncontrolled emission potential is 7.2 lbs/hr. Since the potential uncontrolled emissions will never exceed the limit, no monitoring and recordkeeping is required for this emission point.

EU0110 Starch Flash Dryer #1

The particulate matter emissions limit for this emission point is 30.5 lbs/hr. The uncontrolled emission potential is 20 lbs/hr at maximum throughput. Since the potential uncontrolled emissions will never exceed the limit, monitoring and recordkeeping is not required for this emission point. Annual average uncontrolled emission potential is 9.57 lbs/hr.

EU0120 Starch Flash Dryer #2

The particulate matter emissions limit for this emission point is 30.5 lbs/hr. The uncontrolled emission potential is 9.57 lbs/hr. Since the potential uncontrolled emissions will never exceed the limit, no monitoring and recordkeeping is required for this emission point.

EU0130 Starch Flash Dryer #3

The particulate matter emissions limit for this emission point is 30.5 lbs/hr. The uncontrolled emission potential is 9.57 lbs/hr. Since the potential uncontrolled emissions will never exceed the limit, no monitoring and recordkeeping is required for this emission point.

EU0140 Starch Flash Dryer #4

The particulate matter emissions limit for this emission point is 30.5 lbs/hr. The uncontrolled emission potential is 9.57 lbs/hr. Since the potential uncontrolled emissions will never exceed the limit, no monitoring and recordkeeping is required for this emission point.

10 CSR 10-6.260, *Restriction of Emissions of Sulfur Compounds*

EU0150-EU0260, Steep Tank Vent #1-12

- Since all vents vent from the same enclosure, emissions from each vent are expected to be identical. Thus, due to a very high cost connected with multiple stack tests, the permittee is asked to perform stack test on only one stack, results of which test will be representative of the other eleven vents. Also, to ease the financial burden the facility is permitted to conduct the required stack tests within five (5) years from the time the permit is granted.
- Engineering analysis determined that measuring pH of the steep solution is the only practical method of predicting sulfur dioxide emissions from the steep tanks. The following considerations were used to create a suitable monitoring procedure for the steep tanks:

National Starch and Chemical has estimated maximum sulfur dioxide (SO₂) concentrations in gas vented from the corn steep tanks at its North Kansas City (NKC) starch processing facility. Using equilibrium water chemistry principles, we have developed a relationship between steep tank solution pH and headspace SO₂ concentrations. From this relationship, we have determined that the maximum potential concentration of SO₂ emitted from the steep tanks is significantly below 500 parts per million (1ppm) as long as certain operating conditions (e.g. pH) are maintained. Monitoring pH in lieu of direct SO₂ concentration monitoring should therefore be acceptable to demonstrate compliance with a 500ppm steep tank vent SO₂ limit.

Gluten Dryer		Dryer Air Flow rate		26,800	dscfm			
SO2 ppm wt	Gluten max rate #/hr	# SO2/hr	Mwt SO2	ft3/min SO2	SO2/Air Concentration by volume	PPM V	assume 56,000 bu/day upper rate and a 2.39# gluten/bu of corn yield. Assumed 60% water in the feed to the Gluten dryer	
2000	5,577	29.74	64	2.7806	0.000103743	103.7425		

National Starch SO2 Analysis 1

Feed Dryer #1		Dryer Air Flow rate		26,400	dscfm			
Water #/hr	SO2 ppm wt	Fiber max rate #/hr	# SO2/hr	Mwt SO2	ft3/min SO2	SO2/Air Concentration by volume	PPM V	assume 56,000 bu/day upper rate and a wet feed 19.2 #/bu of corn yield. Assumed 63% water in the feed to the Fiber dryer and all the SO2 is released in the first dryer
26,311	2000	16,576	85.77	64.00	8.0190	0.000303658	304	

Feed Dryer #2		Dryer Air Flow rate		36,000	dscfm			
SO2 ppm wt in HSW	Heavy Steep Water Rate #/hr	# SO2/hr	Mwt SO2	ft3/min SO2	SO2/Air Concentration by volume	PPM V	assume 56,000 bu/day upper rate and a wet feed 19.2 #/bu of corn yield. Assumed all the SO2 in the heavy steep water goes out the stack during the drying, and none remain in the finish product.	
6,368	14,736	93.83	64.00	8.7725	0.000243621	244		

National Starch SO2 Analysis 2

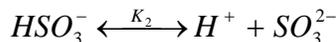
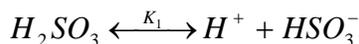
DESCRIPTION OF PROCESS

At the NKC facility, corn is steeped in acidic water solution generated by sparging SO₂ into water and then adding corn. SO₂ is added to the water using an inline sparger upstream of the steep tank, acidifying the solution to between pH 3.2 and 3.6. (*pH is a measure of the "acidity" of solution and is logarithmically related to the proton activity (concentration) by the relationship $pH = -\log \{H^+\}$ Activity is used to quantify the proton since it may exist in several different hydrated forms*) The headspace of the tank is continually purged with ambient air.

CALCULATION OF MAXIMUM SO₂ HEADSPACE CONCENTRATION

PRINCIPLES OF SO₂ WATER CHEMISTRY

SO₂ is a highly water soluble gas which forms sulfurous acid, H₂SO₃, in solution. Sulfurous acid is moderately acidic, and is used to generate the acidic steeping solution. The disassociation equilibrium which occur in water solution are



[1a, 1b)

where $K_1 = 10^{-1.91}$ and $K_2 = 10^{-7.18}$. The equilibrium concentration of H₂SO₃ in solution (units of mol /l) open to the atmosphere can be described by the Henry's Law constant K_H (units of mol / l-atm) and the partial pressure of SO₂ (units of atm) above that solution, p_{SO_2} by

$$K_H = \frac{[H_2SO_3]}{P_{SO_2}} \quad [2]$$

Therefore, if we can calculate the concentration of H₂SO₃ in solution, using the Henry's Law constant, we can calculate the partial pressure (and thus the concentration) of SO₂ above the water. However, in order to calculate the concentration of H₂SO₃ in solution, more information is necessary.

ASSUMPTIONS

In order to predict the acid/base chemistry of the steep tank solution, we must first make and clarify several assumptions. First, we must assume that the system is at thermodynamic equilibrium. Simply, thermodynamic equilibrium conditions exist when conditions in a system (in this case, the water /SO₂ system) do not change with time and have no tendency to change.

Second, we assume that all SO₂ that is added to the steep tank comes into equilibrium with the water, i.e. the sparging system is efficient enough to mix all the SO₂ with the water.

Finally, we assume that there is no significant acid / base chemistry in the steep tanks besides SO₂ and CO₂. *CO₂ is a naturally occurring gas in the atmosphere and since, like SO₂, CO₂ is water soluble and forms an acid in water; it should be considered in evaluating the chemistry of water Systems open to ambient air. However, carbonic acid, H₂CO₃ is a much weaker acid than sulfurous acid.* Although we do expect to have the corn involved with some chemistry, i.e. the corn somehow reacts with the acid solution, we assume that it is negligible.

Developing An Equation To Describe The System

Ideally, we would like to develop a relationship between the partial pressures of SO₂, CO₂, and pH. This would allow us to predict the pH of a solution of known SO₂ concentration, or to determine the headspace concentration of SO₂ for a solution for which we know the pH. *(Since the partial pressure of atmospheric CO₂ is fixed, is considered a fixed constant)*

We can use the *proton* balance equation (PBE) method of Pankow¹ to describe the acid / base chemistry of the solution. Applying Pankow's method gives us equation 3, the PBE for a solution of water in equilibrium with SO₂ and CO₂.²

$$[H^+] = [OH^-] + [HCO_3^-] + 2[CO_3^{2-}] + [HSO_3^-] + 2[SO_3^{2-}] \quad (3)$$

In the steep tank process at NKC, National Starch sparges SO₂ into water upstream of the steep tanks to a target concentration of 1000 ppm. This results in a pH of between 3.2 and 3.6. Since we know that the solution will be relatively acidic, we can simplify equation two by deleting the terms for [OH⁻] and [CO₃²⁻].³ The resulting simplified equation is

$$[H^+] = [HCO_3^-] + [HSO_3^-] + 2[SO_3^{2-}] \quad (4)$$

While equation three describes the chemistry of the system, it does not directly express $[H^+]$ (or pH) as a function of variables of interest, i.e. p_{SO_2} . Once again, we can turn to substitution to simplify the equation.

The concentration of the dissociated species (e.g. $[HSO_3^-]$) can be related to pH by the acidity constants, K_1 and K_2 , by rewriting the disassociation reactions presented earlier as mathematical relationships using their equilibrium constants:

$$K_1 = \frac{[HSO_3^-][H^+]}{[H_2SO_3]}, \quad K_2 = \frac{[SO_3^{2-}][H^+]}{[HSO_3^-]} \quad (5,6)$$

However, we still have the term for $[H_2SO_3]$ in equation 5. As we discussed previously, the Henry's Law constant, K_H , and the partial pressure of a gas can be used to describe the concentration of the acidic form of the gas by using a rearranged form of equation 2:

$$[H_2SO_3] = K_H p_{SO_2} \quad (7)$$

We can, therefore, rearrange and substitute equations 5, 6, and 7 into equation 4 to obtain one equation which relates $[H^+]$ to the partial pressures of CO_2 and SO_2 :⁴

$$[H^+] = \frac{K_{H,CO_2} K_{1,CO_2} P_{CO_2}}{[H_2SO_3]} + \frac{K_{H,SO_2} K_{1,SO_2} P_{SO_2}}{[H^+]} + \frac{K_{H,SO_2} K_{1,SO_2} K_{2,SO_2} P_{SO_2}}{[H^+]^2} \quad (7a)$$

or, by substituting in the relationship between pH and $[H^+]$, we get:

$$[H^+] = \frac{K_{H,CO_2} K_{1,CO_2} P_{CO_2}}{10^{-pH}} + \frac{K_{H,SO_2} K_{1,SO_2} P_{SO_2}}{10^{-pH}} + \frac{K_{H,SO_2} K_{1,SO_2} K_{2,SO_2} P_{SO_2}}{10^{-2pH}} \quad (7b)$$

Calculation of SO_2 Equilibrium Concentrations as a Function of pH

Equation 7 contains only constants ("K" values) the partial pressure of CO_2 and SO_2 , and $[H^+]$ (or pH). Since we know the values of the constants (see table below) and the partial pressure of CO_2 is known constant, we can then solve for the partial pressure of SO_2 for different values of pH, or calculate the pH of a solution in equilibrium with a given partial pressure of SO_2 .

VALUES FOR RELEVANT CONSTANTS, 50°C

Constant	Value
K_{HCO_2}	0.019
K_{1,CO_2}	$10^{-6.29}$
p_{CO_2}	$10^{-3.5}$
K_{H,SO_2}	0.5^a
K_{1,SO_2}	$10^{-1.91}^b$
K_{2,SO_2}	$10^{-7.18}^b$

^a Value estimated from solubility data; K_H value at 40°C was not readily available. ^b Values for 25°C; constants at 40°C were not readily available.

Using any simple non-linear equation solving technique,⁵ we can then calculate specific solutions to equation 7:

pH - HEADSPACE SO₂ RELATIONSHIP

Solution pH	Headspace ppm SO ₂
2.5	1626
2.76	500
3.0	163
3.2	64.7
3.6	10.3
4.0	1.63

As previously mentioned, the pH in the steep tanks ranges from 3.2 to 3.6. Based on the data above, the concentration of SO₂ in the steep tank headspace should not exceed 163 ppm based on a minimum steep tank pH of 3.0.

¹James F. Pankow, *Aquatic Chemistry Concepts* (Chelsea, MI: Lewis Publishers, 1991), Chapters 4 and 9.

² Alternatively, a charge balance technique could be used. However, the result would be the same as equation 2.

³ See Pankow, p.80-91 and 193-4 for a discussion of these approximations.

⁴ Variations of equations 3 and 4 specific to the CO₂/HCO₃⁻/CO₃²⁻ System are also substituted.

⁵ A Hewlett Packard series 48S calculator was used for this analysis.

EU0280-EU310 Building 5 Tank Vent #1 &2, Corn Slurry Tank Vent, Light Gluten Tank Vent

Since emissions from each vent are expected to be identical there is no need to test all four vents. Thus, due to a very high cost connected with multiple stack tests, the permittee is allowed to perform stack test on only one vent, emissions of which test will be representative of the other three vents.

EU320 Diesel Fire Pump

There are no monitoring or reporting requirements for this unit. The unit is essentially an internal combustion engine, operated on as-needed basis. It is very unlikely that the unit will ever violate the sulfur emission limits.

10 CSR 10-6.170, *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*

In the permit application, the installation indicated that many other sources were present as insignificant activities. While none of these other sources may be present at reportable levels, all are still considered emission points and are regulated under the facility wide regulation

Other Regulations Not Cited in the Operating Permit or the Above Statement of Basis

Any regulation which is not specifically listed in either the Operating Permit or in the above Statement of Basis does not appear, based on this review, to be an applicable requirement for this installation for one or more of the following reasons:

- 1) The specific pollutant regulated by that rule is not emitted by the installation;
- 2) The installation is not in the source category regulated by that rule;
- 3) The installation is not in the county or specific area that is regulated under the authority of that rule;
- 4) The installation does not contain the type of emission unit which is regulated by that rule;
- 5) The rule is only for administrative purposes.

Should a later determination conclude that the installation is subject to one or more of the regulations cited in this Statement of Basis or other regulations which were not cited, the installation shall determine and demonstrate, to the Air Pollution Control Program's satisfaction, the installation's compliance with that regulation(s). If the installation is not in compliance with a regulation which was not previously cited, the installation shall submit to the Air Pollution Control Program a schedule for achieving compliance for that regulation(s).

----- In Support of the Significant Modification -----

Permit Reference Documents

These documents were relied upon in the preparation of the operating permit. Because they are not incorporated by reference, they are not an official part of the operating permit.

- 1) Part 70 Operating Permit OP2008-028;
- 2) Part 70 Operating Permit Significant Modification Application, received November 11, 2009;
- 3) *10 CSR 10-6.400 Restriction of Emission of Particulate Matter from Industrial Processes*, AUTHORITY: Section 643.050, RSMo 2000.* Original rule filed Jan. 14, 2000, effective Aug. 30, 2000. Amended: Filed Dec. 22, 2000, effective Sept. 30, 2001. Amended: Filed Sept. 9, 2008, effective May 30, 2009. Amended: Filed July 1, 2010, effective Feb. 28, 2011.

Discussion of the Significant Modifications to the Operating Permit

The Operating Permit rule defines *Significant Permit Modification* as:

Any permit revision which is not a minor modification or administrative permit amendment is a significant permit modification. This revision includes, but is not limited to, significant changes in monitoring, reporting or recordkeeping permit terms and any change in the method of measuring compliance with existing permit requirements. Criteria for determining whether a proposed change is significant shall include the magnitude of the change and the resulting impact on the environment.

A change to one of the state rules, *Restriction of Emission of Particulate Matter from Industrial Processes*, that applies to National Starch LLC (facility identification number 047-0002) recently became effective. The following changes have been made to emission units EU0020, EU0030, EU0040 and EU0090 of the original operating permit:

[Original] Emission Limitation:

The permittee shall not cause, allow or permit the emission of particulate matter from this source without having been treated with a gas cleaning device operated so as to remove not less than 99.5% by weight of all particulate matter in the discharge gas.

[Modified] Emission Limitation:

The permittee shall equip all existing corn wet milling drying processes with gas cleaning devices operated: to remove not less than ninety-nine and one-half percent (99.5%) by weight of all particulate matter in the dryer discharge gases; or release not more than one one-hundredth grain of particulate matter per dry standard cubic foot (0.01 gr/dscf) of discharge gas.

Prepared by:

Randall E. Raymond
Environmental Engineer