

INTERMEDIATE STATE 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 herein.

Intermediate Operating Permit Number: OP2017-060

Expiration Date: AUG 04 2022

Installation ID: 189-0032

Project Number: 2013-04-004

Installation Name and Address

Monsanto Company
700 Chesterfield Parkway West
Chesterfield, MO 63017
St. Louis County

Parent Company's Name and Address

Monsanto Company
800 North Lindbergh Blvd
St. Louis, MO 63167

Installation Description:

Monsanto operates an agricultural research facility in Chesterfield, Missouri. The facility uses proprietary technology to take DNA samples from various seeds. Samples are analyzed and plants are developed to exhibit favorable characteristics. The installation also conducts microbial research. Multiple greenhouses are used to replicate various growing conditions found world wide. The installation consists of three boilers (boilers#1-3) and twelve emergency generators (AA, CC-1, CC-2, GG 3, GG 2, JJ, and Switchyard 1-6). The boilers are considered a nested named installation for construction permitting purposes. The installation is a synthetic minor source of CO and NO_x.


Prepared by:
Nicole Weidenbenner, PE
Operating Permit Unit


Director or Designee
Department of Natural Resources

AUG 04 2017

Effective Date

Table of Contents

I. INSTALLATION EQUIPMENT LISTING	4
EMISSION UNITS WITH LIMITATIONS	4
EMISSION UNITS WITHOUT SPECIFIC LIMITATIONS	4
EMISSION UNITS WITHOUT ANY EMISSIONS LIMITATIONS	4
II. PLANT WIDE EMISSION LIMITATIONS.....	5
Permit Condition PW1	5
10 CSR 10-6.060 Construction Permits Required.....	5
Construction Permits 5279, 6984, and 5280, Issued February 25, 2011	5
Permit Modification to 5280, Issued October 9, 2013	5
III. EMISSION UNIT SPECIFIC EMISSION LIMITATIONS	7
EQUIPMENT SUBJECT TO PERMIT CONDITION 1	7
Permit Condition 1	7
10 CSR 10-5.500, Control of Emissions From Volatile Organic Liquid Storage	7
EQUIPMENT SUBJECT TO PERMIT CONDITION 2	7
Permit Condition 2	7
10 CSR 10-6.070, New Source Performance Regulations	7
40 CFR Part 60, Subpart A General Provisions	7
Subpart Dc Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units	7
EQUIPMENT SUBJECT TO PERMIT CONDITION 3	9
Permit Condition 3	9
10 CSR 10-6.075, Maximum Achievable Control Technology Regulations	9
40 CFR Part 63, Subpart A General Provisions	9
Subpart JJJJJ National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources.....	9
EQUIPMENT SUBJECT TO PERMIT CONDITION 4	10
Permit Condition 4	10
10 CSR 10-5.510, Control of Emissions of Nitrogen Oxides	10
EQUIPMENT SUBJECT TO PERMIT CONDITION 5	11
Permit Condition 5	11
10 CSR 10-6.060 Construction Permits Required.....	11
Construction Permits 5279, 6984, and 5280, Issued February 25, 2011	11
EQUIPMENT SUBJECT TO PERMIT CONDITION 6	11
Permit Condition 6	12
10 CSR 10-6.070, New Source Performance Standards	12
40 CFR part 60 Subpart A, General Provisions; and	12
40 CFR part 60 Subpart III, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines..	12
10 CSR 10-6.075 Maximum Achievable Control Technology Regulations	12
40 CFR part 63 Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.....	12
EQUIPMENT SUBJECT TO PERMIT CONDITION 7	14
Permit Condition 7	15
10 CSR 10-6.075 Maximum Achievable Control Technology Regulations; and	15
40 CFR part 63 Subpart A, General Provisions	15
40 CFR part 63 Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.....	15
EQUIPMENT SUBJECT TO PERMIT CONDITION 8	16
Permit Condition 8	17
10 CSR 10-6.260, Restriction of Emission of Sulfur Compounds	17

IV. CORE PERMIT REQUIREMENTS	18
V. GENERAL PERMIT REQUIREMENTS.....	25
VI. ATTACHMENTS	29
ATTACHMENT A	30
Fugitive Emission Observations	30
ATTACHMENT B	31
Plant Wide Carbon Monoxide Limit.....	31
ATTACHMENT C	32
Plant Wide Nitrogen Oxides Limit	32
ATTACHMENT D	33
Construction Permits 5279, 6984, and 5280 Nitrogen Oxides Limit	33
ATTACHMENT E.....	34
40 CFR part 63 Subpart JJJJJ	34

I. Installation Equipment Listing

EMISSION UNITS WITH LIMITATIONS

The following list provides a description of the equipment at this installation which emits air pollutants and identified as having unit-specific emission limitations. These emission units are subject to both emission unit specific limitations and all plant wide limitations.

<u>Emission Point#</u>	<u>Description of Emission Unit</u>
None	Four 20,000 gallon horizontal #2 fuel oil storage tanks
EU001	Boiler #1
EU001	Boiler #2
EU001	Boiler #3
EU004	Emergency Generator CC-1
EU004	Emergency Generator CC-2
EU004	Emergency Generator Switchyard 1
EU004	Emergency Generator Switchyard 2
EU004	Emergency Generator Switchyard 3
EU004	Emergency Generator Switchyard 4
EU004	Emergency Generator Switchyard 5
EU004	Emergency Generator Switchyard 6
EU004	Emergency Generator AA
EU004	Emergency Generator GG 3
EU005	Emergency Generator GG 2
EU005	Emergency Generator JJ

EMISSION UNITS WITHOUT SPECIFIC LIMITATIONS

The following list provides a description of the equipment, which does not have unit specific limitations at the time of permit issuance. These emission units are subject to all plant wide limitations.

<u>Emission Point#</u>	<u>Description of Emission Unit</u>
None	Parts Washer, uses non-VOC, non-HAP washer solution
EU002	Building Research Lab Operations
EU006	7 Cooling Towers-AA, CC, DD, FF, GG, HH, and JJ

EMISSION UNITS WITHOUT ANY EMISSIONS LIMITATIONS

The following units may be located on site but are not listed elsewhere in this permit. These emission units are not subject to any plant wide or emission unit specific limitations, see Statement of Basis, Other Regulatory Determinations #1.

<u>Emission Point#</u>	<u>Description of Emission Unit</u>
EU004	Portable diesel generator set: 2004 Cummins Model KTA50-G9, 1500 kW, 50.2 Liter, 16 cylinder, 2220 BHP. May be used for emergency and non-emergency purposes. Must maintain classification as a non-road engine.
EU004	Portable diesel generator set: 2004 Cummins Model QSK15-G9, 500 kW, 14.9 Liter, 6 cylinder, 755 BHP. May be used for emergency and non-emergency purposes. Must maintain classification as a non-road engine.

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 on the date of permit issuance. The plant wide conditions apply to all emission units at this installation. All emission units are listed in Section I under Emission Units with Limitations and Emission Units without Limitations. The following requirements apply to *all conditions* in this permit, unless otherwise noted.

Monitoring:

The permittee shall calibrate, maintain and operate all pollution control devices and pollution monitoring related instruments according to the manufacturer's recommendations or according to good engineering practices. Where emission factors are used, the permittee shall cite the source of the emission factor.

Recordkeeping:

The permittee shall record all required record keeping (i.e. inspections and corrective actions) in an appropriate format. The permittee shall keep a copy of this Operating Permit and review on site as well as copies of all issued Construction Permits and reviews on site. Records may be kept electronically using database or workbook systems, as long as all required information is readily available for compliance determinations. All records must be kept for a minimum of 5 years and made available to department personnel upon request.

Reporting:

1. The permittee shall report any exceedance of any of the terms imposed by this permit, or any malfunction which could cause an exceedance of any of the terms imposed by this permit, no later than ten days after the exceedance or event causing the exceedance (unless otherwise specified in the specific condition).
2. The permittee shall submit a semiannual and annual certification. All deviations must be included in the compliance certifications.
3. All reports and certifications shall be submitted to the Air Pollution Control Program's Compliance and Enforcement Section, P.O. Box 176, Jefferson City, MO 65102 and the St. Louis County Department of Public Health Air Pollution Control Program, 6121 N. Hanley Road, Berkeley, MO 63134

Permit Condition PW1

10 CSR 10-6.060 Construction Permits Required
Construction Permits 5279, 6984, and 5280, Issued February 25, 2011
Permit Modification to 5280, Issued October 9, 2013

Emissions Limitations:

1. The permittee shall emit less than 100 tons of carbon monoxide (CO) in any consecutive 12-month period from the entire installation. [all permits, Special Condition #1]
2. The permittee shall emit less than 100 tons of nitrogen oxides (NO_x) in any consecutive 12-month period from the entire installation. [February 2011 permits, Special Condition #1]

Operational Limitation:

The permittee shall only use fuel oil with a maximum sulfur content of 0.5% by weight. [February 2011 permits, Special Condition #3]

Monitoring/Recordkeeping:

1. The permittee shall monitor and record the plant wide emissions of CO and NO_x on a monthly and 12-month rolling total basis. Attachments B and C, or equivalents, shall be used to demonstrate compliance.
2. The permittee shall keep fuel delivery records for the fuel oil which show the sulfur content of the fuel by weight.

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 on the date of permit issuance.

Equipment Subject to Permit Condition 1	
EQ #	Description
None	Four 20,000 gallon horizontal #2 fuel oil storage tanks

Permit Condition 1
 10 CSR 10-5.500, Control of Emissions From Volatile Organic Liquid Storage

Recordkeeping:

The permittee shall maintain readily accessible records of the dimensions and an analysis of the capacity of each storage vessel.

Equipment Subject to Permit Condition 2	
EQ #	Description
EU001	Boiler #1, Cleaver Brooks Model DL68E, dual fuel natural gas and #2 fuel oil. Controlled by low NOx burners and flue gas recirculation. 77.8 MMBtu/hr. Constructed 1983, modified 2008
EU001	Boiler #2, Cleaver Brooks Model DL94E, dual fuel natural gas and #2 fuel oil. Controlled by low NOx burners and flue gas recirculation. 91.1 MMBtu/hr. Constructed 1983, modified 2013.
EU001	Boiler #3, Cleaver Brooks Model 75-D5-250/26-040, dual fuel natural gas and #2 fuel oil. Controlled by low NOx burners and flue gas recirculation. 90.5 MMBtu/hr. Constructed 2006, modified 2011

Permit Condition 2
 10 CSR 10-6.070, New Source Performance Regulations
 40 CFR Part 60, Subpart A General Provisions
 Subpart Dc Standards of Performance for Small Industrial-Commercial-Institutional Steam
 Generating Units

Emission Limitations:

The following limitations apply when combusting fuel oil:

1. The permittee shall not combust oil that contains greater than 0.5% weight percent sulfur. [§60.42c(d)]
2. The fuel oil sulfur limit applies at all times during fuel oil combustion, including periods of startup, shutdown, and malfunction. [§60.42c(i)]

3. The permittee shall not cause to be discharged into the atmosphere any gases that exhibit greater than 20 percent opacity (6 minute average), except for one 6-minute period per hour of not more than 27 percent opacity. [§60.43c(c)]
4. The opacity standards apply at all times during fuel oil combustion, except during periods of startup, shutdown, or malfunction. [§60.43c(d)]

Compliance/Performance Test Methods:

1. The following requirements apply when combusting fuel oil: The permittee shall demonstrate compliance with the fuel oil sulfur limit based on a 30-day rolling average. [§60.42c(g)]
2. The permittee shall demonstrate compliance with the fuel oil sulfur limit by using a certification from the fuel supplier. [§60.42c(h)]
3. The permittee shall use EPA Method 9 to determine the opacity of stack emissions. [§60.45c(a)(8)]

Monitoring:

The permittee shall conduct Method 9 observations on each boiler when the boiler burns fuel oil for more than 1 hour and conditions allow a Method 9 observation to be conducted. The conditions that would not allow an observation to be conducted would include the event taking place at night, during severe weather or other event, which would render a Method 9 observation invalid.

Recordkeeping/Reporting:

1. The permittee shall submit notification of the date of construction or reconstruction and actual startup, as provided by §60.7 of this part. [§60.48c(a)]
 - a) This notification shall include the design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility. [§60.48c(a)(1)]
 - b) The annual capacity factor at which the permittee anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired. [§60.48c(a)(3)]
2. The permittee shall submit to the Director the performance test data from all performance tests. [§60.48c(b)]
3. The permittee shall submit excess emission reports for any excess emissions that occur during the reporting period and maintain records according to the following requirements, as applicable to the visible emissions monitoring method used: [§60.48c(c)]
 - a) For each performance test conducted using EPA Method 9, the permittee shall keep the records including the information specified in §60.48c(c)(1)(i) through (iii). [§60.48c(c)(1)]
 - i. Dates and time intervals of all opacity observation periods; [§60.48c(c)(1)(i)]
 - ii. Name, affiliation, and copy of current visible emission reading certification for each visible emission observer participating in the performance test; and [§60.48c(c)(1)(ii)]
 - iii. Copies of all visible emission observer opacity field data sheets; [§60.48c(c)(1)(iii)]
 - b) For each performance test conducted using EPA Method 22, the permittee shall keep the records including the information specified in §60.48c(c)(2)(i) through (iv). [§60.48c(c)(2)]
 - i. Dates and time intervals of all visible emissions observation periods; [§60.48c(c)(2)(i)]
 - ii. Name and affiliation for each visible emission observer participating in the performance test; [§60.48c(c)(2)(ii)]
 - iii. Copies of all visible emission observer opacity field data sheets; and [§60.48c(c)(2)(iii)]
 - iv. Documentation of any adjustments made and the time the adjustments were completed to the affected facility operation by the permittee to demonstrate compliance with the applicable monitoring requirements. [§60.48c(c)(2)(iv)]
4. The permittee shall submit reports to the Director. [§60.48c(d)]

5. The permittee shall keep records and submit reports as required under §60.48c(d), including the following information. [§60.48c(e)]
 - a) Calendar dates covered in the reporting period. [§60.48c(e)(1)]
 - b) If fuel supplier certification is used to demonstrate compliance, records of fuel supplier certification as described under §60.48c(f)(1) or (4). In addition to records of fuel supplier certifications, the report shall include a certified statement signed by the permittee that the records of fuel supplier certifications submitted represent all of the fuel combusted during the reporting period. [§60.48c(e)(11)]
6. Fuel supplier certification shall include the following information: [§60.48c(f)]
 - a) For distillate oil: [§60.48c(f)(1)]
 - i. The name of the oil supplier; [§60.48c(f)(1)(i)]
 - ii. A statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in §60.41c; and [§60.48c(f)(1)(ii)]
 - iii. The sulfur content or maximum sulfur content of the oil. [§60.48c(f)(1)(iii)]
 - b) For other fuels: [§60.48c(f)(4)]
 - i. The name of the supplier of the fuel; [§60.48c(f)(4)(i)]
 - ii. The potential sulfur emissions rate or maximum potential sulfur emissions rate of the fuel in ng/J heat input; and [§60.48c(f)(4)(ii)]
 - iii. The method used to determine the potential sulfur emissions rate of the fuel. [§60.48c(f)(4)(iii)]
7. Except as provided under §60.48c(g)(2) and (g)(3), the permittee shall record and maintain records of the amount of each fuel combusted during each operating day. [§60.48c(g)(1)]
8. As an alternative to meeting the requirements of §60.48c(g)(1), the permittee may elect to record and maintain records of the amount of each fuel combusted during each calendar month. [§60.48c(g)(2)]
9. All records required under this section shall be maintained by the permittee for a period of five years following the date of such record. [§60.48c(i)]
10. The reporting period for the reports required under this subpart is each six-month period. All reports shall be submitted to the Director and shall be postmarked by the 30th day following the end of the reporting period. [§60.48c(j)]

Equipment Subject to Permit Condition 3	
EIQ #	Description
EU001	Boiler #1, Cleaver Brooks Model DL68E, dual fuel natural gas and #2 fuel oil. Controlled by low NOx burners and flue gas recirculation. 77.8 MMBtu/hr. Constructed 1983, modified 2008
EU001	Boiler #2, Cleaver Brooks Model DL94E, dual fuel natural gas and #2 fuel oil. Controlled by low NOx burners and flue gas recirculation. 91.1 MMBtu/hr. Constructed 1983, modified 2013.
EU001	Boiler #3, Cleaver Brooks Model 75-D5-250/26-040, dual fuel natural gas and #2 fuel oil. Controlled by low NOx burners and flue gas recirculation. 90.5 MMBtu/hr. Constructed 2006, modified 2011

<p>Permit Condition 3</p> <p>10 CSR 10-6.075, Maximum Achievable Control Technology Regulations 40 CFR Part 63, Subpart A General Provisions Subpart JJJJJ National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources</p>

Operational Limitation:

To maintain the exemption in §63.11195(e), the permittee must continue to meet the definition of gas-fired boiler in this subpart. Gas-fired boiler means any boiler that burns gaseous fuels not combined with any solid fuels and burns liquid fuel only during periods of gas curtailment, gas supply interruption, startups, or for periodic testing, maintenance, or operator training on liquid fuel. Periodic testing, maintenance, or operator training on liquid fuel shall not exceed a combined total of 48 hours during any calendar year. This hourly limitation applies per boiler. [§63.11195(e) and §63.11237]

Monitoring/Recordkeeping/Reporting:

1. The permittee shall monitor and record the hours and reason for fuel oil usage in each of the boilers on a monthly and calendar year basis. Attachment E, or an equivalent, shall be used to demonstrate compliance.
2. If the records indicate the exemption is no longer met, the permittee shall immediately comply will all applicable sections of this regulation and shall submit an Operating Permit modification request. The request shall include potential to emit calculations for sulfur dioxide.

Equipment Subject to Permit Condition 4	
EIQ #	Description
EU001	Boiler #1, Cleaver Brooks Model DL68E, dual fuel natural gas and #2 fuel oil. Controlled by low NOx burners and flue gas recirculation. 77.8 MMBtu/hr. Constructed 1983, modified 2008
EU001	Boiler #2, Cleaver Brooks Model DL94E, dual fuel natural gas and #2 fuel oil. Controlled by low NOx burners and flue gas recirculation. 91.1 MMBtu/hr. Constructed 1983, modified 2013.
EU001	Boiler #3, Cleaver Brooks Model 75-D5-250/26-040, dual fuel natural gas and #2 fuel oil. Controlled by low NOx burners and flue gas recirculation. 90.5 MMBtu/hr. Constructed 2006, modified 2011

Permit Condition 4
 10 CSR 10-5.510, Control of Emissions of Nitrogen Oxides

Conditional Exemption [5.510(1)(C)9.]

Any unit that would otherwise be required to comply with this rule with actual annual NOx emissions of 30 tons per year or less are exempt from this rule. This exemption shall cease to apply to a unit if the unit ever exceeds 30 tons per year of actual NOx emissions for any calendar year. Any unit that becomes affected by this rule due to failure to maintain this exemption after January 1, 2000 shall immediately notify the department in writing that the rule applies. The units shall be in compliance with the applicable provisions of this rule within 24 months after notifying the department.

Monitoring/Recordkeeping:

The permittee shall monitor and record the actual annual NOx emissions from each boiler. The permittee shall use Attachment C, or equivalent, to demonstrate compliance.

Equipment Subject to Permit Condition 5	
EQ #	Description
EU004	Emergency Generator CC-1: Cummins Model 2700 DQLA / H07KADT640, Constructed 1/1/2008, MHDR= 23.908 MMBtu/hr, 2700 kW. Combusts #2 fuel oil.
EU004	Emergency Generator CC-2: Cummins Model 1500 DQGAB / F070075125, Constructed 1/1/2008, MHDR= 15.207 MMBtu/hr, 1500 kW. Combusts #2 fuel oil.
EU004	Emergency Generator Switchyard 1: Cummins Model 2250 DQKH / A080145040, Constructed 1/1/2008, MHDR= 20.850 MMBtu/hr, 2250 kW. Combusts #2 fuel oil.
EU004	Emergency Generator Switchyard 2: Cummins Model 2250 DQKH / A08145039, Constructed 1/1/2008, MHDR= 20.850 MMBtu/hr, 2250 kW. Combusts #2 fuel oil.
EU004	Emergency Generator Switchyard 3: Cummins Model 2250 DQKH / A08014599, Constructed 1/1/2008, MHDR= 20.850 MMBtu/hr, 2250 kW. Combusts #2 fuel oil.
EU004	Emergency Generator Switchyard 4: Cummins Model 2250 DQKH / A080147600, Constructed 1/1/2008, MHDR= 20.850 MMBtu/hr, 2250 kW. Combusts #2 fuel oil.

Permit Condition 5
 10 CSR 10-6.060 Construction Permits Required
 Construction Permits 5279, 6984, and 5280, Issued February 25, 2011

Emissions Limitations:

The permittee shall emit less than 40 tons of nitrogen oxides (NO_x) in any consecutive 12-month period from these units combined. [Special Condition #4]

Monitoring/Recordkeeping:

The permittee shall monitor and record the NO_x emissions from these emission sources on a monthly and 12-month rolling total basis. Attachment D, or equivalent, shall be used to demonstrate compliance.

Equipment Subject to Permit Condition 6	
EQ #	Description
EU004	Emergency Generator CC-1: Cummins Model 2700 DQLA / H07KADT640, Constructed 1/1/2008, MHDR= 23.908 MMBtu/hr, 2700 kW. Combusts #2 fuel oil.
EU004	Emergency Generator CC-2: Cummins Model 1500 DQGAB / F070075125, Constructed 1/1/2008, MHDR= 15.207 MMBtu/hr, 1500 kW. Combusts #2 fuel oil.
EU004	Emergency Generator Switchyard 1: Cummins Model 2250 DQKH / A080145040, Constructed 1/1/2008, MHDR= 20.850 MMBtu/hr, 2250 kW. Combusts #2 fuel oil.

EU004	Emergency Generator Switchyard 2: Cummins Model 2250 DQKH / A08145039, Constructed 1/1/2008, MHDR= 20.850 MMBtu/hr, 2250 kW. Combusts #2 fuel oil.
EU004	Emergency Generator Switchyard 3: Cummins Model 2250 DQKH / A08014599, Constructed 1/1/2008, MHDR= 20.850 MMBtu/hr, 2250 kW. Combusts #2 fuel oil.
EU004	Emergency Generator Switchyard 4: Cummins Model 2250 DQKH / A080147600, Constructed 1/1/2008, MHDR= 20.850 MMBtu/hr, 2250 kW. Combusts #2 fuel oil.
EU004	Emergency Generator Switchyard 5: Cummins Model 2250 DQKAF, Constructed 2015, MHDR= 7.678 MMBtu/hr, 2250 kW. Combusts #2 fuel oil.
EU004	Emergency Generator Switchyard 6: Cummins Model 2250 DQKAF, Constructed 2015, MHDR= 7.678 MMBtu/hr, 2250 kW. Combusts #2 fuel oil.
EU004	Emergency Generator AA: Generac Model SB500/MB500, Constructed 2016, MHDR= 1.94 MMBtu/hr, 500 kW. Combusts #2 fuel oil and natural gas.
EU004	Emergency Generator GG 3: Cummins, Model QSL9-G2 NR3, Constructed 2017, MHDR=0.78 MMBtu/hr, 230 kW. Combusts #2 fuel oil.

<p>Permit Condition 6 10 CSR 10-6.070, New Source Performance Standards 40 CFR part 60 Subpart A, General Provisions; and 40 CFR part 60 Subpart III, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines 10 CSR 10-6.075 Maximum Achievable Control Technology Regulations 40 CFR part 63 Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines</p>

Applicability and Emission Limitations:

1. The permittee shall comply with the following emissions limitations.

Engine Name	Emission Limits (g/kW-hr)					Regulatory Citation
	NMHC + NOx	HC	NOx	CO	PM	
Emergency Generator CC-1		1.3	9.2	11.4	0.54	§60.4205(b), §60.4202(b)(1), NSPS III Table 1, Units>560 kW
Emergency Generator CC-2	6.4			3.5	0.20	§60.4205(b), §60.4202(a), 40 CFR 89.112, Units>560 kW, Model year 2006
Emergency Generator Switchyard 1		1.3	9.2	11.4	0.54	§60.4205(b), §60.4202(b)(1), NSPS III Table 1, Units>560 kW
Emergency Generator Switchyard 2		1.3	9.2	11.4	0.54	§60.4205(b), §60.4202(b)(1), NSPS III Table 1, Units>560 kW
Emergency Generator		1.3	9.2	11.4	0.54	§60.4205(b),

Switchyard 3						§60.4202(b)(1), NSPS III Table 1, Units>560 kW
Emergency Generator Switchyard 4		1.3	9.2	11.4	0.54	§60.4205(b), §60.4202(b)(1), NSPS III Table 1, Units>560 kW
Emergency Generator Switchyard 5	6.4			3.5	0.20	§60.4205(b), §60.4202(b)(2), 40 CFR 89.112, Table 1, Units>560 kW, Tier 2, Model Year 2006
Emergency Generator Switchyard 6	6.4			3.5	0.20	§60.4205(b), §60.4202(b)(2), 40 CFR 89.112, Table 1, Units>560 kW, Tier 2, Model Year 2006
Emergency Generator AA	4.0			3.5	0.20	§60.4205(b), §60.4202(a), 40 CFR 89.112, Table 2 450kW≤Units≥560 kW Tier 3, Model year 2006
Emergency Generator GG 3	4.0			3.5	0.20	§60.4205(b), §60.4202(a)(2), 40 CFR 89.112, Table 1, 225 kW≤Units≥450 kW, Tier 3, Model Year 2006

2. The permittee must operate and maintain stationary CI ICE that achieve the emission standards as required in §60.4205 according to the manufacturer's written instructions or procedures developed by the permittee that are approved by the engine manufacturer, over the entire life of the engine. [§60.4206]
3. Beginning October 1, 2010, the permittee must use diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel. [§60.4207(b)]
 - a) Sulfur content of 15 ppm per gallon [§80.510(b)(1)]
 - b) Cetane index minimum of 40 or aromatic index maximum of 35% by volume. [§80.510(b)(2)]
4. The permittee shall comply with the requirements of 40 CFR part 63 Subpart ZZZZ by meeting the requirements of 40 CFR part 60 Subpart IIII. [§63.6590(c)]

Monitoring:

1. The permittee must install a non-resettable hour meter prior to startup of the engine. [§60.4209(a)]
2. The permittee must operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's written instructions or procedures developed by the permittee that are approved by the engine manufacturer. In addition, permittee may only change those settings that are permitted by the manufacturer. The permittee must also meet the requirements of 40 CFR parts 89, 94 and/or 1068, as they applicable. [§60.4211(a)]
3. The permittee must comply with §60.4205(b) by purchasing an engine certified to the emission standards in §60.4205(b) for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's emission-related specifications. [§60.4211(c)]

4. The permittee must operate the emergency stationary ICE according to the requirements in §60.4211(f)(1) through (3). In order for the engine to be considered an emergency stationary ICE under this subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in §60.4211(f)(1) through (3), is prohibited. If you do not operate the engine according to the requirements in §60.4211(f)(1) through (3), the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines. [§60.4211(f)]
 - a) There is no time limit on the use of emergency stationary ICE in emergency situations. [§60.4211(f)(1)]
 - b) You may operate your emergency stationary ICE for any combination of the purposes specified in §60.4211(f)(2)(i) for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by §60.4211(f)(3) counts as part of the 100 hours per calendar year allowed by §60.4211(f)(2). [§60.4211(f)(2)]
 - i. Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The permittee may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the permittee maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year. [§60.4211(f)(2)(i)]
 - c) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in §60.4211(f)(2). The 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid. [§60.4211(f)(3)]

Notifications, Reports, and Records:

1. The permittee is not required to submit an initial notification. Starting with the model years in table 5 to this subpart, if the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the permittee must keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The permittee must record the time of operation of the engine and the reason the engine was in operation during that time. [§60.4214(b) and Table 5 to Subpart III]
 - a) Table 5 of Subpart III

Engine Power	Starting model year
19≤KW<56 (25≤HP<75)	2013
56≤KW<130 (75≤HP<175)	2012
KW≥130 (HP≥175)	2011

Equipment Subject to Permit Condition 7	
EIQ #	Description
EU005	Emergency Generator GG 2: Cummins Model 2000 DQKC/J040703040, Constructed 1/1/2005, MHDR= 18.36 MMBtu/hr, 2000 kW. Combusts #2 fuel oil.

EU005	Emergency Generator JJ: Cummins Model 1750 DQKB/L040719991, Constructed 1/1/2005, MHDR= 15.912 MMBtu/hr, 1750 kW. Combusts #2 fuel oil.
-------	-----------------------------------------------------------------------------------------------------------------------------------------

Permit Condition 7
10 CSR 10-6.075 Maximum Achievable Control Technology Regulations; and
40 CFR part 63 Subpart A, General Provisions
40 CFR part 63 Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for
Stationary Reciprocating Internal Combustion Engines

Applicability:

Existing commercial emergency stationary RICE located at an area source of HAP emissions that do not operate for the purpose specified in §63.6640(f)(4)(ii) are not subject to this subpart. The stationary RICE must meet the definition of an emergency stationary RICE in §63.6675, which includes operating according to the provisions specified in §63.6640(f). [§63.6585(f)(2)]

Definition of an emergency stationary RICE [§63.6675]

Emergency stationary RICE means any stationary reciprocating internal combustion engine that meets all of the criteria in paragraphs (1) through (3) of this definition. All emergency stationary RICE must comply with the requirements specified in §63.6640(f) in order to be considered emergency stationary RICE. If the engine does not comply with the requirements specified in §63.6640(f), then it is not considered to be an emergency stationary RICE under this subpart.

1. The stationary RICE is operated to provide electrical power or mechanical work during an emergency situation. Examples include stationary RICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary RICE used to pump water in the case of fire or flood, etc.
2. The stationary RICE is operated under limited circumstances for situations not included in paragraph (1) of this definition, as specified in §63.6640(f).
3. The stationary RICE operates as part of a financial arrangement with another entity in situations not included in paragraph (1) of this definition only as allowed in §63.6640(f)(2)(ii) or (iii) and §63.6640(f)(4)(i) or (ii).

Operational Limitations [§63.6640(f)]:

The permittee must operate the emergency stationary RICE according to the requirements in §63.6640(f). In order for the engine to be considered an emergency stationary RICE under this subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in §63.6640(f), is prohibited. If you do not operate the engine according to the requirements in §63.6640(f), the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.

1. There is no time limit on the use of emergency stationary RICE in emergency situations.
2. The permittee may operate your emergency stationary RICE for any combination of the purposes specified in §63.6640(f)(2)(i) for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by §63.6640(f)(3) counts as part of the 100 hours per calendar year allowed by §63.6640(f)(2).

- a) Emergency stationary RICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency RICE beyond 100 hours per calendar year.
3. Emergency stationary RICE located at area sources of HAP may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing provided in §63.6640(f)(2). Except as provided in §63.6640(f)(4)(i) and (ii), the 50 hours per year for non-emergency situations cannot be used for peak shaving, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

Equipment Subject to Permit Condition 8	
EIQ #	Description
EU001	Boiler #1, Cleaver Brooks Model DL68E, dual fuel natural gas and #2 fuel oil. Controlled by low NOx burners and flue gas recirculation. 77.8 MMBtu/hr. Constructed 1983, modified 2008
EU001	Boiler #2, Cleaver Brooks Model DL94E, dual fuel natural gas and #2 fuel oil. Controlled by low NOx burners and flue gas recirculation. 91.1 MMBtu/hr. Constructed 1983, modified 2011.
EU001	Boiler #3, Cleaver Brooks Model 75-D5-250/26-040, dual fuel natural gas and #2 fuel oil. Controlled by low NOx burners and flue gas recirculation. 2011, 90.5 MMBtu/hr. Constructed 2006, modified 2011
EU004	Emergency Generator CC-1: Cummins Model 2700 DQLA / H07KADT640, Constructed 1/1/2008, MHDR= 23.908 MMBtu/hr, 2700 kW. Combusts #2 fuel oil.
EU004	Emergency Generator CC-2: Cummins Model 1500 DQGAB / F070075125, Constructed 1/1/2008, MHDR= 15.207 MMBtu/hr, 1500 kW. Combusts #2 fuel oil.
EU004	Emergency Generator Switchyard 1: Cummins Model 2250 DQKH / A080145040, Constructed 1/1/2008, MHDR= 20.850 MMBtu/hr, 2250 kW. Combusts #2 fuel oil.
EU004	Emergency Generator Switchyard 2: Cummins Model 2250 DQKH / A08145039, Constructed 1/1/2008, MHDR= 20.850 MMBtu/hr, 2250 kW. Combusts #2 fuel oil.
EU004	Emergency Generator Switchyard 3: Cummins Model 2250 DQKH / A08014599, Constructed 1/1/2008, MHDR= 20.850 MMBtu/hr, 2250 kW. Combusts #2 fuel oil.
EU004	Emergency Generator Switchyard 4: Cummins Model 2250 DQKH / A080147600, Constructed 1/1/2008, MHDR= 20.850 MMBtu/hr, 2250 kW. Combusts #2 fuel oil.
EU004	Emergency Generator Switchyard 5: Cummins Model 2250 DQKAF, Constructed 2015, MHDR= 7.678 MMBtu/hr, 2250 kW. Combusts #2 fuel oil.

EU004	Emergency Generator Switchyard 6: Cummins Model 2250 DQKAF, Constructed 2015, MHDR= 7.678 MMBtu/hr, 2250 kW. Combusts #2 fuel oil.
EU004	Emergency Generator AA: Generac Model SB500/MB500, Constructed 2016, MHDR= 1.94 MMBtu/hr, 500 kW. Combusts #2 fuel oil and natural gas.
EU004	Emergency Generator GG 3: Cummins, Model QSL9-G2 NR3, Constructed 2017, MHDR=0.78 MMBtu/hr, 230 kW. Combusts #2 fuel oil.
EU005	Emergency Generator GG 2: Cummins Model 2000 DQKC/J040703040, Constructed 1/1/2005, MHDR= 18.36 MMBtu/hr, 2000 kW. Combusts #2 fuel oil.
EU005	Emergency Generator JJ: Cummins Model 1750 DQKB/L040719991, Constructed 1/1/2005, MHDR= 15.912 MMBtu/hr, 1750 kW. Combusts #2 fuel oil.

<p>Permit Condition 8 10 CSR 10-6.260, Restriction of Emission of Sulfur Compounds</p>

Emission Limitation:

The permittee shall not cause or permit the emission into the atmosphere gases containing more than five hundred parts per million by volume (500 ppmv) of sulfur dioxide of more than thirty-five milligrams per cubic meter (35 mg/m³) of sulfuric acid or sulfur trioxide or any combination of those gases averaged on any consecutive three hour time period.

Monitoring/Recordkeeping/Reporting:

1. The boilers demonstrate compliance with this regulation by complying with the fuel oil sulfur restrictions in 40 CFR part 60 Subpart Dc.
2. Emergency generators CC-1 through AA and GG 3 demonstrate compliance with this regulation by complying with the fuel oil sulfur restrictions in 40 CFR part 60 Subpart IIII.
3. Emergency generators GG 2, and JJ demonstrates compliance with this regulation by complying with the fuel oil sulfur restrictions in 40 CFR part 63 Subpart ZZZZ.

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), Code of State Regulations (CSR), and local ordinances for the full text of the applicable requirements. All citations, unless otherwise noted, are to the regulations in effect on the date of permit issuance. The following are only excerpts from the regulation or code, and are provided for summary purposes only

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) 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.

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) 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 to the director in writing at least ten days prior to any maintenance, start-up or shutdown activity 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, notice shall be given as soon as practicable prior to the activity.
- 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. The permittee shall retain the most current operating permit issued to this installation on-site. The permittee shall immediately make such permit available to any Missouri Department of Natural Resources personnel upon request.

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

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.

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 10-6.110 Reporting of Emission Data, Emission Fees and Process Information

- 1) The permittee shall submit a Full Emissions Report either electronically via MoEIS, which requires Form 1.0 signed by an authorized company representative, or on Emission Inventory Questionnaire (EIQ) paper forms on the frequency specified in this rule and in accordance with the requirements outlined in this rule. Alternate methods of reporting the emissions, such as spreadsheet file, can be submitted for approval by the director.
- 2) Public Availability of Emission Data and Process Information. Any information obtained pursuant to the rule(s) of the Missouri Air Conservation Commission that would not be entitled to confidential treatment under 10 CSR 10-6.210 shall be made available to any member of the public upon request.
- 3) The permittee shall submit a full EIQ for the 2017 and 2020 reporting years. In the interim years the installation may submit a Reduced Reporting Form; however, if the installation's emissions increase or decrease by more than five tons when compared to their last submitted full EIQ, the installation shall submit a full EIQ rather than a Reduced Reporting Form.
- 4) In addition to the EIQ submittal schedule outlined above, any permit issued under 10 CSR 10-6.060 section (5) or (6) triggers a requirement that a full EIQ be submitted in the first full calendar year after the permitted equipment initially operates.

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 10-6.165 Restriction of Emission of Odors

This is a State Only permit requirement.

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.

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

Emission Limitation:

- 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.

Monitoring:

The permittee shall conduct inspections of its facilities sufficient to determine compliance with this regulation. If the permittee discovers a violation, the permittee shall undertake corrective action to eliminate the violation.

The permittee shall maintain the following monitoring schedule:

- 1) The permittee shall conduct weekly observations for a minimum of eight (8) consecutive weeks after permit issuance.
- 2) Should no violation of this regulation be observed during this period then-
 - a) The permittee may observe once every two (2) weeks for a period of eight (8) weeks.
 - b) If a violation is noted, monitoring reverts to weekly.
 - c) Should no violation of this regulation be observed during this period then-
 - i) The permittee may observe once per month.
 - ii) If a violation is noted, monitoring reverts to weekly.
- 3) If the permittee reverts to weekly monitoring at any time, monitoring frequency will progress in an identical manner to the initial monitoring frequency.

Recordkeeping:

The permittee shall document all readings on Attachment A, or its equivalent, noting the following:

- 1) Whether air emissions (except water vapor) remain visible in the ambient air beyond the property line of origin.
- 2) Whether equipment malfunctions contributed to an exceedance.
- 3) Any violations and any corrective actions undertaken to correct the violation.

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 10-6.250 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.

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 at an installation:
 - 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.

10 CSR 10-5.040 Use of Fuel in Hand-Fired Equipment Prohibited

No owner or operator shall operate applicable hand-fired fuel burning equipment unless the owner or operator meets the conditions set forth in 10 CSR 10-5.040. This regulation shall apply to all hand-fired fuel-burning equipment at commercial facilities including, but not limited to, furnaces, heating and cooking stoves and hot water furnaces. It shall not apply to wood-burning fireplaces and wood-burning stoves in dwellings, nor to fires used for recreational purpose, nor to fires used solely for the preparation of food by barbecuing or to other equipment exempted under 10 CSR 10-5.040. Hand-fired fuel-burning equipment is any stove, furnace, or other fuel-burning device in which fuel is manually introduced directly into the combustion chamber.

10 CSR 10-5.060 Refuse Not to be Burned in Fuel Burning Installations (Rescinded on February 11, 1979, Contained in State Implementation Plan)

No person shall burn or cause or permit the burning of refuse in any installation which is designed for the primary purpose of burning fuel.

10 CSR 10-5.120 Information on Sales of Fuels to be Provided and Maintained

Every delivery of coal or residual fuel oil when first delivered to a consumer or wholesaler in the St. Louis metropolitan area must be accompanied by a ticket prepared in triplicate and containing at least the name and address of the seller and the buyer; the grade of fuel; ash content of coal, the source of the fuel, which must be an approved source, and such other information as the Air Conservation Commission may require. One copy of each ticket shall be kept by the person delivering the fuel and be retained for one year; one copy is to be given to the recipient of the fuel to be retained for one year; and, upon request, within 30 days after delivery of the fuel, the delivering party shall mail one copy to the Air Conservation Commission.

10 CSR 10-5.130 Certain Coals to be Washed

The permittee shall not import, sell, offer for sale, expose for sale, exchange, deliver or transport for use and consumption in the St. Louis metropolitan area or use or consume in the said area any coal which as

mined containing in excess of 2.0% sulfur or 12.0% ash calculated as described in 10 CSR 10-5.110, unless it has been cleaned by a process known as "washing" so that it shall contain no more than 12.0% ash on a dry basis. The term "washing" is meant to include purifying, cleaning, or removing impurities from coal by mechanical process, regardless of cleaning medium used.

40 CFR Part 82 Protection of Stratospheric Ozone (Title VI)

- 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 40 CFR §82.106.
 - b) The placement of the required warning statement must comply with the requirements of 40 CFR §82.108.
 - c) The form of the label bearing the required warning statement must comply with the requirements of 40 CFR §82.110.
 - d) No person may modify, remove, or interfere with the required warning statement except as described in 40 CFR §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 of 40 CFR Part 82:
 - a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices described in 40 CFR §82.156.
 - b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment described in 40 CFR §82.158.
 - c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR §82.161.
 - d) Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with the record keeping requirements of 40 CFR §82.166. ("MVAC-like" appliance as defined at 40 CFR §82.152).
 - e) Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to 40 CFR §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 40 CFR §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 contained 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.

- 5) 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.*

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, §(5)(E)2 and §(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, §(5)(C)1 and §(6)(C)1.C General Record Keeping and Reporting Requirements

- 1) Record Keeping
 - 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, Compliance and Enforcement Section, P. O. Box 176, Jefferson City, MO 65102.
 - b) The permittee shall submit a report of all required monitoring by:
 - i) April 1st for monitoring which covers the January through December time period.
 - ii) Exception. Monitoring requirements which require reporting more frequently than 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, record keeping, reporting, or any other requirements of the permit.
 - d) Submit supplemental reports as required or as needed. 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 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 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 §(5)(C)1 and §(6)(C)1.D Risk Management Plan Under Section 112(r)

If the installation is required to develop and register a risk management plan pursuant to Section 112(R) of the Act, the permittee will verify that it has complied with the requirement to register the plan.

10 CSR 10-6.065(5)(C)1.A 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 under this rule.
- 6) Failure to comply with the limitations and conditions that qualify the installation for an Intermediate permit make the installation subject to the provisions of 10 CSR 10-6.065(6) and enforcement action for operating without a valid part 70 operating permit.

10 CSR 10-6.065(5)(C)1.C Reasonably Anticipated Operating Scenarios

None

10 CSR 10-6.065, §(5)(B)4; §(5)(C)1, §(6)(C)3.B; and §(6)(C)3.D; and §(5)(C)3 and §(6)(C)3.E.(I) – (III) and (V) – (VI) 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 semiannually (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 the Air Pollution Control Program, Compliance and Enforcement Section, P.O. Box 176, Jefferson City, MO 65102. All deviations and exceedances 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, §(5)(C)1 and §(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(5)(C)5 Off-Permit Changes

- 1) Except as noted below, the permittee may make any change in its permitted installation's operations, activities or emissions that is not addressed in, constrained by or prohibited by this permit without obtaining a permit revision. 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 a Title I modification; Please Note: Changes at the installation which affect the emission limitation(s) classifying the installation as an intermediate source (add additional equipment to the record keeping requirements, increase the emissions above major source level) do not qualify for off-permit changes.
 - b) The permittee must provide contemporaneous written notice of the change to the Air Pollution Control Program, Compliance and Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as well as EPA Region VII, 11201 Renner Blvd., Lenexa, KS 66219. 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; and
 - 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.

10 CSR 10-6.020(2)(R)34 Responsible Official

The application utilized in the preparation of this permit was signed by Oscar C. Berryman, Director, Corporate Services. 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 §(5)(E)4 and §(6)(E)6.A(III)(a)-(c) Reopening-Permit for Cause

This permit may be reopened for cause if:

- 1) The Missouri Department of Natural Resources (MDNR) 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,
- 2) 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,
- 3) MDNR or EPA determines that the permit must be reopened and revised to assure compliance with applicable requirements.

10 CSR 10-6.065 §(5)(E)1.A and §(6)(E)1.C Statement of Basis

This permit is accompanied by a statement setting forth the legal and factual basis for the 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 B
 Plant Wide Carbon Monoxide Limit
 For the month of: _____

EU #	EU Description	Monthly throughput (1000 gallon or MMCF)	Emission factor	Emission Factor Units	Monthly Carbon Monoxide Emissions (tons)
EU001	Boilers 1, 2, and 3		21.8	Lb/1000 gallons	
			122.2	Lb/MMCF	
EU004*	Emergency generators*		130	Lb/1000 gallons	
EU005	Emergency generators GG 2 and JJ		116	Lb/1000 gallons	
Start up, shut down, and malfunction (SSM) emissions for this month (tons)=					
Total Carbon Monoxide Emissions for this month (tons)=					
Twelve month consecutive rolling total of Carbon Monoxide emissions (tons)=					

*EU004 Emergency generators includes units CC-1, CC-2, AA, GG 3, and Switchyard 1 through 6 inclusively.

$$\text{Unit emissions} = \text{monthly throughput} * \text{emission factor} * \frac{1}{2000 \frac{\text{lbs}}{\text{ton}}}$$

$$\text{Total monthly emissions} = \text{unit emissions} + \text{SSM emissions}$$

Twelve month consecutive rolling total is the sum of the total monthly emissions for the most recent twelve months. Compliance is demonstrated when the twelve month consecutive rolling total of carbon monoxide emissions is less than 100 tons.

Emission factors were obtained from WebFIRE for the following Process SCCs:
 EU001 Boilers: Construction Permit Modification 5280
 EU004 Emergency generators: SCC 20200102
 EU005 Emergency generators: SCC 20200401

Attachment C
 Plant Wide Nitrogen Oxides Limit
 For the month of: _____

EU #	EU Description	Monthly throughput (1000 gallon or MMCF)	Emission factor	Emission Factor Units	Monthly Nitrogen Oxides Emissions (tons)
EU001	Boilers 1, 2, and 3		24	Lb/1000 gallons	
			100	Lb/MMCF	
EU004*	Emergency generators*		604	Lb/1000 gallons	
EU005	Emergency generators GG 2 and JJ		438	Lb/1000 gallons	
Start up, shut down, and malfunction (SSM) emissions for this month (tons)=					
Total Nitrogen Oxides Emissions for this month (tons)=					
Twelve month consecutive rolling total of Nitrogen Oxides emissions (tons)=					

*EU004 Emergency generators includes units CC-1, CC-2, AA, GG 3, and Switchyard 1 through 6 inclusively.

$$\text{Unit emissions} = \text{monthly throughput} * \text{emission factor} * \frac{1}{2000} \frac{\text{lbs}}{\text{ton}}$$

Total monthly emissions = unit emissions + SSM emissions

Twelve month consecutive rolling total is the sum of the total monthly emissions for the most recent twelve months.

Emission factors were obtained from WebFIRE for the following Process SCCs:
 EU001 Boilers: SCC 10200501 for #2 fuel oil and SCC 10200602 for natural gas.
 EU004 Emergency generators: SCC 20200102.
 EU005 Emergency generators: SCC 20200401.

For Plant Wide Condition 1:

Compliance is demonstrated when the twelve month consecutive rolling total of nitrogen oxides emissions is less than 100 tons.

For Permit Condition 4: The exemption is maintained as long as the individual NO_x emissions are 30 tons or less per calendar year.

For the calendar year: _____	Actual NOx emissions		
	Boiler #1	Boiler #2	Boiler #3
January			
February			
March			
April			
May			
June			
July			
August			
September			
October			
November			
December			
Yearly total per boiler:			

Attachment D

Construction Permits 5279, 6984, and 5280 Nitrogen Oxides Limit

For the month of: _____

EU #	EU Description	Monthly throughput (1000 gallon)	Emission factor	Emission Factor Units	Monthly Nitrogen Oxides Emissions (tons)
EU004	Emergency Generator CC-1		604	Lb/1000 gallons	
EU004	Emergency Generator CC-2				
EU004	Emergency Generator Switchyard 1				
EU004	Emergency Generator Switchyard 2				
EU004	Emergency Generator Switchyard 3				
EU004	Emergency Generator Switchyard 4				
Start up, shut down, and malfunction (SSM) emissions for this month (tons)=					
Total Nitrogen Oxides Emissions for this month (tons)=					
Twelve month consecutive rolling total of Nitrogen Oxides emissions (tons)=					

$$\text{Unit emissions} = \text{monthly throughput} * \text{emission factor} * \frac{1}{2000 \frac{\text{lbs}}{\text{ton}}}$$

Total monthly emissions = unit emissions + SSM emissions

Twelve month consecutive rolling total is the sum of the total monthly emissions for the most recent twelve months. Compliance is demonstrated when the twelve month consecutive rolling total of nitrogen oxides emissions is less than 40 tons.

Emission factors were obtained from WebFIRE for the following Process SCCs:
 EU004 Emergency generators: SCC 20200102.

STATEMENT OF BASIS

Voluntary Limitations

In order to qualify for this Intermediate State Operating Permit, the permittee has accepted voluntary, federally enforceable emission limitations. Per 10 CSR 10-6.065(5)(C)1.A.(VI), if these limitations are exceeded, the installation immediately becomes subject to 10 CSR 10-6.065(6) and enforcement action for operating without a valid part 70 operating permit. It is the permittee's responsibility to monitor emission levels and apply for a part 70 operating permit far enough in advance to avoid this situation. This may mean applying more than eighteen months in advance of the exceedance, since it can take that long or longer to obtain a part 70 operating permit.

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) Intermediate Operating Permit Application, received March 28, 2013;
- 2) 2015 Emissions Inventory Questionnaire, received April 22, 2016;
- 3) U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*; Volume I, Stationary Point and Area Sources, Fifth Edition;
- 4) webFIRE
- 5) Construction Permits listed in Construction Permitting History

INSTALLATION DESCRIPTION

Monsanto operates an agricultural research facility in Chesterfield, Missouri. The facility uses proprietary technology to take DNA samples from various seeds. Samples are analyzed and plants are developed to exhibit favorable characteristics. The installation also conducts microbial research. Multiple greenhouses are used to replicate various growing conditions found world wide. The installation consists of three boilers and twelve emergency generators. The boilers are considered a nested named installation for construction permitting purposes. The installation is a synthetic minor source of CO and NO_x.

The boilers are used as indirect heating units and are not electric generating units. They have a total maximum hourly design rate of 259.4 MMBtu/hr. Since the total is greater than 250 MMBtu/hr, the boilers are considered a nested named installation under category 21. For construction permitting purposes, the major source threshold for the boilers is 100 tons/year, while the threshold for the remaining installation is 250 tons/year.

The reported emissions for the previous five years and potential emissions are shown in the table below. The potential emissions for the boilers are based on the worst case scenario for combustion of both natural gas and #2 fuel oil, using #2 fuel oil for 48 hours per year to meet the exemption in MACT JJJJJ. All emergency generators were evaluated at 500 hours of operation per year. Fuel oil sulfur content of 0.5% by weight was used when emission factors were calculated by formula. Emission sources not included are EU002 Research Labs, the two portable generators, the cooling towers, the 4-20,000 gallon #2 fuel oil storage tanks, and the parts washer. The conditioned potential emissions include the plant wide emission limits in this permit. Conditioned rates for the remaining pollutants were not calculated as the emissions would vary based the equipment used.

Emissions Profile, all values in tons per year

Pollutants	Reported Emissions					Potential Emissions	Conditioned Potential Emissions
	2011	2012	2013	2014	2015		
Particulate Matter ≤ Ten Microns (PM ₁₀)	1.20	8.19	8.32	8.17	8.07	19.56	ND
Particulate Matter ≤ 2.5 Microns (PM _{2.5})	1.20	4.60	5.49	4.54	5.32	19.54	ND
Sulfur Oxides (SO _x)	0.27	0.50	0.45	0.56	0.76	17.42	ND
Nitrogen Oxides (NO _x)	18.89	13.53	14.51	12.33	14.65	288.99	<100
Volatile Organic Compounds(VOC)	1.02	0.92	0.99	1.03	1.01	19.14	ND
Carbon Monoxide (CO)	15.41	14.57	16.39	17.60	12.78	133.12	<100
Hazardous Air Pollutants (HAPs)	NR					4.82	ND
Ammonia (NH ₃)	0.44	0.44	0.50	0.49	0.442	ND	ND

NR=not reported
 ND=not determined

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 10-5.500 Control of Emissions From Volatile Organic Liquid Storage

This regulation applies to volatile organic liquid storage vessels. The majority of this regulation applies to vessels with capacities greater than 40,000 gallons, however there is a recordkeeping requirement for all vessels, regardless of capacity. There are no storage vessels at the installation with capacities greater than 40,000 gallons, therefore the only applicable requirement is the recordkeeping that is detailed in the permit condition.

10 CSR 10-6.390, Control of NO_x Emissions From Large Stationary Internal Combustion Engines

This regulation applies to internal combustion engines rated greater than 1,300 HP, which are located within specific counties of the state, including St. Louis County. All emergency generators are exempted from this regulation in 6.390(1)(C), as long as they meet the following definition: Emergency standby engines are used only when normal electrical power or natural gas service is interrupted or for the emergency pumping of water for either fire protection or flood relief. An emergency standby engine may not be operated to supplement a primary power source when the load capacity or rating of the primary power source has been either reached or exceeded.

Other Air Regulations Determined Not to Apply to the Operating Permit

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

10 CSR 10-5.300, Control of Emissions From Solvent Metal Cleaning

This regulation applies to various solvent metal cleaning operations that use non-aqueous solvents to clean and remove soils from metal parts. The parts cleaner and lab operations use aqueous solvents, therefore this rule does not apply. Aqueous solvents are defined as any solvent consisting of 60% or more by volume water with a flashpoint greater than 93°C (119.4°F) and is miscible with water.

10 CSR 10-5.350 Control of Emissions From Manufacture of Synthesized Pharmaceutical Products

This regulation applies to all synthesized pharmaceutical manufacturing installations. Pharmaceutical is defined as anything included under SIC codes 2833 and 2834. This installation is classified under SIC code 8731, therefore this regulation does not apply.

10 CSR 10-5.420, Control of Equipment Leaks From Synthetic Organic Chemical and Polymer Manufacturing Plants

This regulation applies to all source operations with the potential of processing 980 tons per year of light liquid and gaseous VOC and producing as intermediate or final products any chemicals listed in 40 CFR part 60 Subpart VV. This facility performs research and does not produce products, therefore this regulation does not apply.

10 CSR 10-5.455 Control of Emissions From Industrial Solvent Cleaning Operations

This regulation applies to cleaning operations that use organic solvent/solvent solutions and that emit at least three tons of VOCs per 12-month rolling period. The combined VOC emissions of all cleaning operations at this installation are less than the applicability threshold, therefore this regulation does not apply.

10 CSR 10-5.510, Control of Emissions of Nitrogen Oxides

This regulation applies to installations with the potential to emit 100 tons or greater of nitrogen oxides. The emergency engines meet exemption (1)(C)4. According to EIQ records, the installation has reported actual NO_x emissions less than 30 tons per year plant wide since 1996. Therefore, the boilers meet conditional exemption (1)(C)9., as their individual actual NO_x emissions have been less than 30 tons since promulgation of this rule. The boiler conditional exemption has been included as a permit condition. The emergency engine conditional exemption has not been included as a permit condition, because if the engines run for the 750 hours per year as allowed by the exemption, they would no longer meet the definition of emergency engine in 10 CSR 10-6.061.

10 CSR 10-5.520 Control of Volatile Organic Compound Emissions From Existing Major Sources

This regulation applies to installations that have the potential to emit greater than 100 tons per year of volatile organic compounds. Based on a review of permitting records, the installation did not have the potential to emit more than 100 tons per year of VOCs since the promulgation date of this regulation. Therefore, this regulation does not apply.

10 CSR 10-5.550, Control of Volatile Organic Compounds Emissions From Reactor Processes and Distillation Operations Processes in the Synthetic Organic Chemical Manufacturing Industry

This regulation applies to vent streams originating from SOCOMI process units in which a reactor process or distillation operation is located. This facility performs research and does not produce products, therefore this regulation does not apply.

10 CSR 10-5.570, Control of Sulfur Emissions From Stationary Boilers

This regulation applies to installations that have industrial, commercial, or institutional boilers or process heaters with a nameplate capacity greater than 50 MMBtu/hr. The boilers at this installation burn only natural gas and #2 fuel oil, with less than 0.5% sulfur content, and therefore meet exemption (1)(C)5.

10 CSR 10-6.261, Control of Sulfur Dioxide Emissions

This regulation applies to all sources of sulfur dioxide emissions, with various exemptions. This installation is subject to a plant wide limitation of a maximum sulfur fuel oil content of 0.5% by weight, established by construction permits. This is more stringent than the fuel sulfur limitations of 3.5249% and 0.8812% for existing and new sources in this regulation. Therefore, all units at this installation meet exemption (1)(C) and are not subject to this regulation.

10 CSR 10-6.405, Restriction of Particulate Matter Emissions From Fuel Burning Equipment Used for Indirect Heating

This regulation applies to all indirect heating sources that emit particulate matter, with various exemptions. The only indirect heating sources on site are the boilers, which meet exemption (1)(E) and are not subject to this regulation.

Construction Permit History

Construction Permits 5279 (Boiler #1), 5280 (Boiler #2), and 6984 (Boiler #3) were all issued on February 25, 2011 by the St. Louis County Health Department. These permits all contain identical special conditions. The plant wide emission limitations for NO_x and CO, as well as the operational limitation for fuel sulfur content appear as plant wide permit condition in this Operating Permit. The plant wide emission limitation of less than 100 tons/year SO_x is not included in this Operating Permit because the potential to emit of the installation is not greater than 100 tons/year, making the limitation unnecessary. The emission limit applied to the emergency generators appears as an emission unit specific limitation. The construction permit only requires recordkeeping on the emergency generator emissions if the plant wide emissions are greater than de minimis levels. However, this recordkeeping is not sufficient to demonstrate compliance as a practical matter and has been replaced by standard monthly recordkeeping in this permit.

Construction permit 5280 was modified on October 9, 2013 to authorize the installation of low NO_x burners with flue gas recirculation on Boiler #2. This permit does not supercede the 2011 permit. It reiterates the carbon monoxide limitation, and contains standard recordkeeping and reporting requirements.

New Source Performance Standards (NSPS) Applicability

40 CFR part 60 Subpart D, Standards of Performance for Fossil-Fuel-Fired Steam Generators

40 CFR part 60 Subpart Da, Standards of Performance for Electric Utility Steam Generating Units for Which Construction is Commenced After September 18, 1978

40 CFR part 60 Subpart Db, Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units

40 CFR part 60 Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

These regulations apply to steam generating units with the following parameters:

Rule	Constructed/modified/reconstructed after....	Maximum design heat input capacity...
D	August 17, 1971	greater than 250 MMBtu/hr
Da	September 18, 1978	greater than 250 MMBtu/hr
Db	June 19, 1984	greater than 100 MMBtu/hr
Dc	June 19, 1984	between 10 and 100 MMBtu/hr

All boilers at this installation do not meet the applicability of subparts D, Da, and Db. All boilers at this installation meet the applicability of subpart Dc, as shown in the table below. The dates reflect when low NOx burners with flue gas recirculation were installed on each boiler. Because installing low NOx burners increases carbon monoxide emissions, these boilers meet the definition of modification in 40 CFR part 60, §60.2

EP#	Description	Constructed/ modified/ Reconstructed*	Maximum design heat input capacity (MMBtu/hr)
EU001	Boiler #1, Cleaver Brooks Model DL68E, dual fuel natural gas and #2 fuel oil. Controlled by low NOx burners and flue gas recirculation.	1983/2011	77.8
EU001	Boiler #2, Cleaver Brooks Model DL94E, dual fuel natural gas and #2 fuel oil. Controlled by low NOx burners and flue gas recirculation.	1983/2013	91.1
EU001	Boiler #3, Cleaver Brooks Model 75-D5-250/26-040, dual fuel natural gas and #2 fuel oil. Controlled by low NOx burners and flue gas recirculation.	2006/2011	90.5

*Based on issued construction permits

According to §60.43c(e)(4), these units are not subject to the particulate matter emission limits. The installation is subject to the opacity and fuel oil sulfur requirements, which are included in the permit condition. On June 9, 2017, the Air Pollution Control Program approved alternative monitoring to demonstrate compliance with the visible emissions limitations. The approved alternative monitoring appears in the permit condition.

40 CFR part 60 Subpart K, Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978

40 CFR part 60 Subpart Ka, Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984

40 CFR part 60 Subpart Kb, Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984

These regulations apply to storage vessels which contain petroleum liquids or volatile organic liquids, with various construction dates, capacities, and vapor pressures. The #2 fuel oil storage tanks do not meet the vapor pressure thresholds, and #2 fuel oil does not meet the definition of a

petroleum liquid. All other volatile organic liquid storage vessels on site have capacities less than 75 m³ (19,812.9 gallons). Therefore, these regulations do not apply.

40 CFR part 60 Subpart VV, Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry

40 CFR part 60 Subpart VVa, Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction or Modification Commenced After November 7, 2006

40 CFR part 60 Subpart III, Standards of Performance for Volatile Organic Compound (VOC) Emissions From the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Processes

40 CFR part 60 Subpart NNN, Standards of Performance for Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations

40 CFR part 60 Subpart RRR, Standards of Performance for Volatile Organic Compound Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes

These regulations apply to installations in the synthetic organic chemical manufacturing industry, which is defined as the industry that produces, as intermediates or final products, one or more of the chemicals listed in §60.489. This facility performs research and does not produce products, therefore this regulation does not apply.

40 CFR part 60 Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

This regulation applies to new stationary internal combustion engines located at both area and major sources of HAP emissions. This regulation does not apply to the portable diesel generator sets, as they are not considered stationary sources. This is explained further in Other Regulatory Determinations, part 1. The installation does not have a financial agreement with another entity, and does not operate under the provisions of §60.4211(f)(3)(i), therefore those provisions do not appear in this permit. The installation uses the 50 hours for preventative maintenance activities only.

40 CFR part 60 Subpart JJJJ, Standards of Performance for Stationary Spark Ignition Internal Combustion Engines

This regulation applies to new stationary internal combustion engines located at both area and major sources of HAP emissions. This regulation does not apply to the portable diesel generator sets, as they are not considered stationary sources. This is explained further in Other Regulatory Determinations, part 1.

Maximum Achievable Control Technology (MACT) Applicability

40 CFR part 63 Subpart T, National Emission Standards for Halogenated Solvent Cleaning

This regulation applies to each individual batch vapor, in-line vapor, in-line cold, and batch cold solvent cleaning machine that uses any solvent containing methylene chloride (CAS No. 75-09-2), perchloroethylene (CAS No. 127-18-4), trichloroethylene (CAS No. 79-01-6), 1,1,1-trichloroethane (CAS No. 71-55-6), carbon tetrachloride (CAS No. 56-23-5) or chloroform (CAS No. 67-66-3), or any combination of these halogenated HAP solvents, in a total concentration greater than 5 percent by weight, as a cleaning and/or drying agent. The solvent cleaning operations at this installation do not use these halogenated HAP solvents, therefore this regulation does not apply.

40 CFR part 63 Subpart Q, National Emission Standards for Hazardous Air Pollutants for Industrial Process Cooling Towers

This regulation applies to all industrial process cooling towers that are operated with chromium-based water treatment chemicals and are either major sources or are integral parts of facilities that are major sources of HAPs. The cooling towers have never used chromium based water treatment chemicals and the installation is an area source of HAPs, therefore this regulation does not apply.

40 CFR part 63 Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

This regulation applies to existing stationary internal combustion engines located at both area and major sources of HAP emissions. New stationary engines are regulated under either 40 CFR part 60 Subpart IIII or JJJJ, as applicable. This regulation does not apply to the portable diesel generator sets, as they are not considered stationary sources. This is explained further in Other Regulatory Determinations, part 1.

40 CFR part 63 Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters

This regulation applies to affected units at major sources of HAPs. This installation is not a major source of HAP, therefore this regulation does not apply.

40 CFR part 63 Subpart JJJJJ, National Emissions Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources

This regulation applies to affected units at area sources of HAPs. According to §63.11195(e), gas fired boilers are not subject to any requirements of this subpart. Gas fired boilers are defined as any boiler that burns gaseous fuels not combined with any solid fuels and burns liquid fuel only during periods of gas curtailment, gas supply interruption, startups, or for periodic testing, maintenance, or operator training on liquid fuel. Periodic testing, maintenance, or operator training on liquid fuel shall not exceed a combined total of 48 hours during any calendar year. As long as the boilers meet this definition, then they will continue to meet this exemption and are not subject to this regulation.

40 CFR part 63 Subpart VVVVVV, National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources

This regulation applies to chemical manufacturing process units located at area sources of HAPs. This installation meets exemption 63.11494(c)(3) as a research and development facility as defined in CAA 112(c)(7). These facilities are defined as “any stationary source whose primary purpose is to conduct research and development into new processes and products, where such source is operated under the close supervision of technically trained personnel and is not engaged in the manufacture of products for commercial sale in commerce, except in a de minimis manner.”

40 CFR part 63 Subpart BBBB, National Emission Standards for Hazardous Air Pollutants for Area Sources: Chemical Preparations Industry

This regulation applies to chemical preparation facilities located at area sources of HAPs. This installation meets exemption 63.11579(d), as a research and development facility as defined in CAA 112(c)(7). Therefore, this regulation does not apply.

40 CFR part 63 Subpart DDDDDDD, National Emission Standards for Hazardous Air Pollutants: Area Source Standards for Prepared Feeds Manufacturing

This regulation applies to prepared feeds manufacturing located at area sources of HAPs. This installation meets exemption 63.11619(d)(2), as a research and development facility as defined in CAA 112(c)(7). Therefore, this regulation does not apply.

National Emission Standards for Hazardous Air Pollutants (NESHAP) Applicability

None

Greenhouse Gas Emissions

There are no currently issued GHG regulations applicable to this installation. Missouri regulations do not require the installation to report CO₂e emissions in their Missouri Emissions Inventory Questionnaire; therefore, the installation's CO₂e emissions were not included within this permit.

Other Regulatory Determinations

1. Applicability of plant wide limitations and portable diesel generator sets
Monsanto Company has two portable diesel generator sets that are moved between various Monsanto sites within the St. Louis area. These portable engines are sources of pollutants for which the installation has taken voluntary limitations in order to obtain this Intermediate Operating Permit. However, the emissions from these portable engines are not included in the compliance demonstrations for these voluntary limits.

Starting with the definition in Clean Air Act (CAA) section 302(z), of a "stationary source" and following references and definitions through CAA section 216, CAA section 111, 40 CFR part 60 Subpart III, and 40 CFR part 1068.30; it is concluded that as long as these engines meet the definition of non-road engine in 1068.30, they are categorically excluded from the stationary source definition. To paraphrase, the applicable parts of 1068.30 that must be satisfied are that the engines must be portable/transportable (1068.30(1)(iii)) and must not remain on site for more than 12 consecutive months (1068.30(2)(iii)).

CAA section 302(j) and 40 CFR part 70.2 define a 'major stationary source' as a stationary facility or source which has the potential to emit 100 tons/year of any pollutant. To obtain this Intermediate Operating Permit, the installation has accepted federally enforceable limits on the potential to emit. 40 CFR Part 70.2 defines "potential to emit" as the maximum capacity of the stationary source to emit air pollutants.

Since the non-road engines are excluded from the definition of stationary sources, their emissions are not included in the definition of potential to emit. Therefore, these emissions would also not be included in the compliance demonstrations for the federally enforceable limits which constrain the potential to emit to less than major source levels.

2. 10 CSR 10-6.220, Restriction of Emission of Visible Air Contaminants
This regulation applies to all sources of visible emissions, with various exemptions. The applicability of this regulation to the emission points is detailed in the table below:

EP #	Description	Applicability
EU001	Boilers #1, #2, and #3	Exempt per (1)(H), subject to Dc opacity standards
EU006	7 Cooling Towers-AA, CC, DD, FF, GG, HH, JJ	Exempt per (1)(K), fugitive

EU004	Emergency Generator CC-1	Exempt per (1)(A), internal combustion engine
EU004	Emergency Generator CC-2	
EU004	Emergency Generator Switchyard 1	
EU004	Emergency Generator Switchyard 2	
EU004	Emergency Generator Switchyard 3	
EU004	Emergency Generator Switchyard 4	
EU004	Emergency Generator Switchyard 5	
EU004	Emergency Generator Switchyard 6	
EU004	Emergency Generator GG 3	
EU005	Emergency Generator GG 2	
EU005	Emergency Generator JJ	

3. 10 CSR 10-6.260, Restriction of Emission of Sulfur Compounds

This regulation was rescinded from the code of state regulations (CSR). However, this regulation is still contained in Missouri’s State Implementation Plan (SIP). This regulation is a federally enforceable requirement until it is removed from the SIP, therefore it must appear in this Operating Permit. This regulation applies to all sources of sulfur compound emissions, with various exemptions. The applicability of this regulation is detailed in the following table:

EP #	Description	Applicability
EU001	Boilers #1, #2, and #3	Subject to more stringent sulfur requirements under NSPS Dc. 6.260 applied in permit, using NSPS Dc for compliance.
EU004	Emergency Generator CC-1	Subject to more stringent sulfur requirements under NSPS IIII. 6.260 applied in permit, using NSPS IIII for compliance.
EU004	Emergency Generator CC-2	
EU004	Emergency Generator Switchyard 1	
EU004	Emergency Generator Switchyard 2	
EU004	Emergency Generator Switchyard 3	
EU004	Emergency Generator Switchyard 4	
EU004	Emergency Generator Switchyard 5	
EU004	Emergency Generator Switchyard 6	Subject to more stringent sulfur requirements under MACT ZZZZ. 6.260 applied in permit, using MACT ZZZZ for compliance.
EU004	Emergency Generator GG 3	
EU005	Emergency Generator GG 2	
EU005	Emergency Generator JJ	

4. 10 CSR 10-6.400, Restriction of Emission of Particulate Matter From Industrial Processes

This regulation applies to all sources that emit particulate matter, with various exemptions. The applicability of this regulation to the emission points is detailed in the table below:

EP #	Description	Applicability
EU001	Boilers #1, #2, and #3	Liquid and gaseous fuels do not meet the definition of

		process weight.
EU006	7 Cooling Towers-AA, CC, DD, FF, GG, HH, JJ	Exempt per (1)(B)7., fugitive
EU004	Emergency Generator CC-1	Liquid and gaseous fuels do not meet the definition of process weight.
EU004	Emergency Generator CC-2	
EU004	Emergency Generator Switchyard 1	
EU004	Emergency Generator Switchyard 2	
EU004	Emergency Generator Switchyard 3	
EU004	Emergency Generator Switchyard 4	
EU004	Emergency Generator Switchyard 5	
EU004	Emergency Generator Switchyard 6	
EU004	Emergency Generator GG 3	
EU005	Emergency Generator GG 2	
EU005	Emergency Generator JJ	

5. Removed Equipment

According to a letter dated June 8, 2017, Emergency Generator GG-1 has been removed from the site. Therefore, this unit does not appear in the operating permit.

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 APCP a schedule for achieving compliance for that regulation(s).

Response to Public Comments

The draft Intermediate Operating Permit for Monsanto Company was placed on public notice June 16, 2017 for a 30-day comment period. The public notice was published on the Department of Natural Resources' Air Pollution Control Program's web page at: <http://www.dnr.mo.gov/env/apcp/PermitPublicNotices.htm> . Public comments were received from Mr. Mark Smith, EPA Region 7 and Anna Tang of Monsanto. The comments are addressed in the order in which they appear within the letter(s).

Comment from Ms. Tang:

The existing GG diesel emergency generator is now completely removed. Please update necessary files.

Response to Comment: Emergency Generator GG-1, installed 1984, has been removed from the operating permit and an explanation has been added to the Statement of Basis. The potential to emit for the installation was revised to remove the emissions from this unit.

The following eighteen comments were received from Mr. Smith:

Comment #1: Installation Description, page 1. Sulfur dioxide (SO₂) is listed as a synthetic minor; however, only carbon monoxide (CO) and oxides of nitrogen (NO_x) are listed as synthetic minor for the installation in the statement of basis.

Recommended Action: Coordinate synthetic minor list of pollutants with statement of basis.

Response to Comment #1: The reference to SO₂ has been removed from the installation description.

Comment #2: Emission Units Without Any Emissions Limitations, page 4. Portable diesel engine generators are listed in installation application with unit IDs 015 and 016 while no unit ID is listed in the draft permit. Also, portable diesel engine generators must meet the requirements of 40 CFR Part 1068 and must not remain on site for more than 12 consecutive months to be considered as nonstationary sources.

Recommended Action: Consider adding unit designations to match application in order to facilitate future tracking and coordination. To demonstrate compliance with Part 1068, consider adding monitoring requirements to track duration that each portable diesel engine generator is kept at each site.

Response to Comment #2: The emission unit numbers used in the operating permit are consistent with those used for reporting purposes in Missouri's Emissions Inventory Questionnaire to facilitate future tracking and coordination.

The engines are listed in the permit as "Emission Units Without Any Limitations", and there is an accompanying explanation in the Statement of Basis. The explanation cites the Clean Air Act (CAA) definitions of "stationary source", "major stationary source", "potential to emit"; and clarifies that these portable engines are not stationary sources. It is outside the scope of authority defined in 40 CFR part 70.2 to apply any regulatory requirements to these portable engines in an operating permit. Therefore, the suggested monitoring and recordkeeping of Part 1068 for these nonroad, nonstationary sources has not been included in the operating permit. No changes were made to the permit in response to this comment.

Comment #3: Permit Condition PW1, Operational Limitation, page 6. The fuel oil maximum sulfur content is limited to 0.5% sulfur concentration by weight. This limitation is applicable and covers equipment subject to 40 CFR Part 60, Subpart De; however, it does not cover requirements for equipment subject to 40 CFR Part 60, Subpart IIII (reference: 40 CFR 80.510(a)) of maximum sulfur content of 15 ppm per gallon.

Recommended Action: Consider specifying requirements for equipment covered under both Part 60, Subpart III. To provide additional clarity, consider listing fuel requirements by equipment type. Alternatively, MDNR may choose to use the most stringent of the fuel sulfur concentration requirements and list a single plant wide requirement for all affected units.

Response to Comment #3: The fuel sulfur requirements of Subpart Dc and Subparts IIII are specifically listed in their corresponding permit conditions. Special Condition 3 of Construction Permits 5280, 6984, and 5280, require the sulfur content of any fuel burned to not exceed 0.5% sulfur by weight. Since the special condition states any fuel burned, and does not specify in the boilers only, this condition applies on a plant wide basis. This condition was established for compliance with applicable state and federal regulations in place at the time of construction permit issuance. It is outside the scope of authority of the operating permit to change the applicability of this condition to an emission unit specific basis. Therefore, no changes were made to the operating permit in response to this comment.

Comment #4: Permit Condition PW1, Monitoring/Recordkeeping, page 6. Attachment D is not included as a reference.

Recommended Action: Consider including attachment D reference under this section of the permit condition as it pertains to emissions from NO_x for engine generators.

Response to Comment #4: The purpose of Attachment D is to demonstrate compliance with 40 ton NO_x limit in Permit Condition 5. To demonstrate compliance with the NO_x limitation in Permit Condition PW1, the permit provides Attachment C, which already includes the units in listed in Attachment D. To include Attachment D in the recordkeeping requirements of Permit Condition PW1 would result in double counting emissions from the units that appear on both attachments. Therefore, no changes were made to the operating permit in response to this comment.

Comment #5: Permit Condition PW1, General Comment, pages 5 and 6. The permit condition establishes voluntary emission limitations for NO_x and CO from the entire installation in any consecutive 12-month period. The monitoring/record keeping section of this permit condition requires the use of attachments Band C to calculate monthly rolling totals. In the installation description, MDNR states that the facility is a synthetic minor source for CO, NO_x and SO₂. As such, the installation has taken a voluntary condition to limit plant wide emissions below the major source threshold in order to qualify for this intermediate state permit to operate. In its response to a petition filed against Hu Honua Bioenergy Facility, the EPA reiterates that for purposes of determining the potential to emit (PTE) of a stationary source, the source must include all actual emissions of pollutants from the installation in determining compliance with the limits. The referenced attachments B and C only include a limited number of emission units and not a comprehensive list for the entire installation.

Recommended Action: Consider modifying the compliance worksheet attachments B, C and D (see comment 4 recommending addition of reference to attachment D) to account for all sources of pollutants that are subject to synthetic minor limits.

Response to Comment #5: Attachments B and C include all stationary sources of CO and NO_x, respectively. The only emission units not pulled into these attachments are the two portable engines, as explained in the Statement of Basis and in Response to Comment #2. Attachment D is not intended to be used to demonstrate compliance with the plant wide limit, as addressed in Response to Comment #4. Attachment C has been modified to clearly identify all emergency generators listed under EU004.

Comment #6: Permit Conditions 2, 3 and 4, Equipment Description, pages 7, 9 and 10. Boiler No. 2 is listed in the permit with an initial construction date of 1983 while permit application lists the same boiler with initial construction date of 1984. Boiler No. 2 is also listed with modification date of 2011 which does not match information included in the statement of basis (page SB-4, 5). Similar discrepancies are observed for Boilers No. 1 and 3. Boiler No. 1 is listed in the permit with modification date of 2008 while the statement of basis lists a date of 2011. Boiler No. 3 is listed in the permit with construction date of 2006 while the permit application lists a date of 2007.

Recommended Action: For consistency purposes, consider coordinating initial construction and modification dates between permit, permit application and statement of basis.

Response to Comment #6: The permit has been modified to coordinate construction and modification dates between the permit, statement of basis, and issued construction permits.

Comment #7: Statement of Basis, page SB-5, second table. The statement of basis lists boiler No. 2 with no controls. According to paragraph 6 on page SB-4, construction permit 5280 was modified on October 9, 2013 to authorize installation of a low NO_x burner and flue gas recirculation for boiler No. 2.

Recommended Action: For consistency purposes, consider updating table on page SB-5 of the statement of basis to reflect the most up-to-date information for boiler No. 2.

Response to Comment #7: The statement of basis has been modified to include the low NO_x burner and flue gas recirculation for boiler No. 2.

Comment #8: General comment, emergency engine generators. The statement of basis should provide sufficient information to facilitate applicability determination with respect to emissions limits, monitoring and record keeping requirements for each individual engine generator specified in the intermediate title V permit.

Recommended Action: Consider including a table matrix in the statement of basis document's NSPS applicability section detailing each unit with regards to model year, cylinder volume, number of cylinders, capacity, etc. as required to determine applicable requirements in accordance to Part 60 Subpart IIII for each unit. Also, consider including any appropriate comments and discussion clarifying any discrepancies between the applicant's permit application and draft intermediate operating permit. The EPA recognizes that construction year may differ from model year for each generator, which may have caused some of the emissions limits discrepancies pointed out throughout the comments included in this letter. For example, the permit application lists different emission requirements for emergency switchyard engine generators 5 and 6 compared to the draft permit. To facilitate future tracking and coordination, it is recommended that construction/model year distinction be made clear and that emission limit discrepancies between permit application and draft permit be clarified/discussed in the statement of basis.

Response to Comment #8: The emission unit specific information needed to determine applicable requirements are included in the emission unit matrix immediately preceding the permit condition which identifies the units subject to the permit condition.

Comment #9: Permit Condition 5, Emissions Limitations, page 11. Permit condition lists emission limit requirement of 40 tons of NO_x in any consecutive 12-month period for 6 of the 10 CI ICE engine generators included in the permit. Although construction permit references are included under the header of the permit condition, no justification or discussion has been included in the statement of basis.

Recommended Action: To facilitate future tracking and coordination, consider adding discussion to the statement of basis "Construction Permit History" section. Discussion should include reasoning why remaining CI ICE engine generators are not subject to same permit condition.

Response to Comment #9: New source review/construction permits are evaluated on a project specific basis. The units included in the emissions limitation were evaluated as one project since they were all installed as one project in 2008. The remaining emergency generators were installed in different time periods, specifically 2015, 2016, and 2017. The units installed in 2015 through 2017 are not subject to the same emissions limitations established for the units installed in 2008 due to the applicability of new source review regulations. Therefore no changes to the permit have been made in response to this comment.

Comment #10: Permit Condition 5, pages 11 and 12. Permit application references St. Louis County construction permits 7011, 7012 and 7008. Condition 5 references construction permits 5279, 6984 and 5280.

Recommended Action: Consider coordinating construction permit references for consistency.

Response to Comment #10: The operating permit references the correct construction permits. Permits 7011, 7012 and 7008 were issued under St. Louis County permitting regulations, not under the state delegated authority of 10 CSR 10-6.060. Therefore, these permits are not state enforceable and are not included in the operating permit. No changes to the permit have been made in response to this comment.

Comment #11: Permit Conditions 6 and 7, Installation Equipment Listing, pages 12 and 14. Designation for GG units. The permit application lists GG emergency engine generators with unit designations of 006 and 007. The draft permit lists the same units as GG 1 and GG 2. Also, unit GG 3 (as listed in draft permit) was not included with permit application provided to EPA. Recommended Action: Consider coordinating nomenclature to match permittee designation to facilitate future tracking and coordination. In addition, consider including background information for GG 3 unit with application documentation.

Response to Comment #11: The emission unit numbers used in the operating permit are consistent with those used for reporting purposes in Missouri's Emissions Inventory Questionnaire to facilitate future tracking and coordination. No changes to the permit have been made in response to this comment.

Comment #12: Permit Condition 6, pages 12, 13 and 14:

- a. Permit Condition Header. Maximum Achievable Control Technology (MACT) Regulations 10 CSR 6.075 and 40 CFR Part 63 Subpart ZZZZ are referenced in the permit condition header, but no MACT requirements are covered under this permit condition. MACT

requirements are covered under condition 7 of the draft permit. Recommended Action:
Consider removing reference to MACT regulations from this permit condition.

- b. Applicability and Emission Limitations - Emissions Limits Table.
- i. Tier designation for CC-2 unit not listed.
Recommended Action: Consider specifying Tier designation for Unit CC-2 to be consistent with other model year 2006 units listed under the same table.
 - ii. CC-2 unit is specified with model year 2006 and regulatory reference to 40 CFR 60.4205 (b), which is applicable to engine generators with model year of 2007 and later.
Recommended Action: Confirm model year for unit CC-2, adjust rule reference and emissions limits if appropriate. If unit is subject to 40 CFR 60.4208 (a) for determination of emissions limits, consider adding reference to this paragraph and including discussion in statement of basis. If 40 CFR 60.4208 (a) does not apply because unit was removed from one existing location and reinstalled at a new location, consider adding statement in statement of basis document explaining.
 - iii. Unit GG 3 is listed as a tier 2 unit. Based on model year and rated power for the unit, the GG 3 unit should be listed as a tier 3 unit in accordance to 40 CFR 89.112.
Recommended Action: Confirm model year and adjust unit tier designation as appropriate.
 - iv. Emergency switchyard units 5 and 6 are specified with model year 2006 and regulatory references 40 CFR 60.4202 (b)(2) and 89.112, which are applicable to engine generators with model year of 2011 or later. Permit application specified construction date of 2015 and includes reference to emissions limits in Table 1.
Recommended Action: Confirm unit model year, adjust emissions limits and rule references as appropriate. If unit is subject to 60.4208 (a) for determination of emissions limits, consider adding reference to this paragraph and including discussion in statement of basis. If 40 CFR 60.4208 (a) does not apply because unit was removed from one existing location and reinstalled at a new location, consider adding statement in statement of basis document explaining.
 - v. Unit AA is specified with model year 2006 and regulatory references to 40 CFR 60.4205 (b) and 89.112. Based on model year and rated power 40 CFR 89.112 which classifies unit AA as tier 3, the following emissions limits are applicable:
 1. NMHC + NO_x of 4.0 g/kW-hr.
 2. CO of 3.5 of g/kW-hr.
 3. PM of 0.20 of g/kW-hr.Recommended Action: Confirm unit model year and adjust emission limits as appropriate. If unit is subject to 60.4208 (a) for determination of emissions limits, consider adding reference to this paragraph and including discussion in statement of basis. If 40 CFR 60.4208 (a) does not apply because unit was removed from one existing location and reinstalled at a new location, consider adding statement in statement of basis document explaining.
 - vi. Unit JJ is listed as a tier 2 unit. Based on model year and rated power for the unit, the JJ unit should be listed as a tier 3 unit in accordance to 40 CFR 89.112.
Recommended Action: Confirm model year and adjust unit tier designation as appropriate. If unit is subject to 60.4208 (a) for determination of emissions limits, consider adding reference to this paragraph and including discussion in statement of basis. If 40 CFR 60.4208 (a) does not apply because unit was removed from one existing

location and reinstalled at a new location, consider adding statement in statement of basis document explaining.

- c. Applicability and Emission Limitations, page 13. Maximum aromatic index for diesel fuel as required by 40 CFR 80.510 (b) is specified as 35%. The regulatory requirement for this fuel specification is listed on a volumetric basis.

Recommended Action: Consider adding the word "by volume percent" for consistency with the regulatory requirement.

- d. Monitoring, page 14, paragraph 4 c). Referenced regulatory language to 40 CFR 60.4211 (f)(3) is incomplete.

Recommended Action: Consider adding the full or part of the full regulatory language as appropriate. The missing regulatory language includes: "the 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity". Page SB-7 in the statement of basis indicates that the installation does not have a financial agreement with another entity which justifies partial removal of the aforementioned missing language and exemption from requirements associated with 40 CFR 60.4211 (f)(3)(i). However, the statement of basis justification does not include information related to generator operation for peak shaving. The EPA recommends that language related to "peak shaving" runtime be included or that justification be added to the statement of basis.

- e. Notifications, reports and records. Permit language included in paragraph 1 references 40 CFR 60.4211 (b). Part 60 Subpart IIII paragraph 60.4214 (b). The draft permit references 60.4211 (b).

Recommended Action: Correct reference as appropriate.

Response to Comment #12:

Response to part a: Applicability and Emission Limitations #4 has been added to Permit Condition 6 to reflect the applicable requirements of 40 CFR part 63 Subpart ZZZZ to the engines specified in the permit condition. Permit Condition 7, as referenced in the comment, applies the applicable requirements of 40 CFR part 63 Subpart ZZZZ to different engines and is not related to Permit Condition 6.

Response to part b.i: Emergency generator CC-1 is subject to the provisions cited in the table. The cited regulatory language does not rely on a tier rating, but classifies the engines according to kW. No changes were made to the permit in response to this comment.

Response to part b.ii.: The purpose of the regulatory citation of "Model year 2006" in the permit condition is to indicate the appropriate emission standards in Part 89.112, Table 1.. It is not intended to specify the actual model year of the engine. It is a regulatory citation, not a unit description. For units of this size, Table 1 provides two model years, 2000 and 2006, with different emission standards. According to the footnote of Table 1, the model years listed indicate the model years for which the specified standards take effect. Any engine of this size, with a model year of 2006 or later, is subject to the emission standards specified for the 2006 model year. No changes were made to the permit in response to this comment.

Response to part b.iii.: The permit has been modified to reflect the unit is a Tier 3 unit.

Response to part b.iv.: See Response to part b.ii. No changes were made to the permit in response to this comment.

Response to part b.v.: Regarding the reference to Model Year 2006, see Response to part b.ii. The permit has been modified to reflect the emission limitation of 4.0 g/kW-hr for NMHC + NO_x. The installation is in compliance with the provisions of §60.4208(a), as the engines meet the applicable requirements for the model years of the engines. The applicable requirements are specified in the permit condition. No changes were made to the permit in response to this comment.

Response to part b.vi.: Unit JJ is not subject to this permit condition. No changes were made to the permit in response to this comment.

Response to part c.: The permit has been modified to include “by volume”.

Response to part d.: The permit has been modified to include the peak shaving, non-emergency demand response, and income generation restrictions of §60.4211(f)(3). The provisions related to financial arrangements are not included as explained in the statement of basis.

Response to part e.: The permit has been modified to cite §60.4214(b).

Comment #13: Permit Condition 7, Unit Descriptions, page 14. Units GG 1, GG 2 and JJ are listed in permit application with unit IDs 006, 007 and 008 respectively.

Recommended Action: Consider revising unit designations to match application in order to facilitate future tracking and coordination.

Response to Comment #13: See Response to Comment #2. No changes were made to the permit in response to this comment.

Comment #14: Permit Condition 7, pages 14, 15 and 16. Fuel requirements for emergency engine generators subject to 40 CFR Part 63, Subpart ZZZZ are specified in 40 CFR 63.6604 (b) and references 40 CFR 80.510 (b). The draft permit condition does not specify fuel requirements.

Recommended Action: Consider including an applicability section to this permit condition specifying fuel requirement as specified in 40 CFR 63.6604 (b).

Response to Comment #14: According to §63.6585(f)(2), units that are not operated for the purpose specified in §63.6640(f)(4)(ii) are not subject to this subpart, but they must meet the definition of emergency RICE in §63.6675 and operate according to the provisions of §63.6640(f). These units do not operate as specified in §63.6640(f)(4)(ii), as they are not operated to supply power as part of a financial arrangement. The definition of emergency RICE in §63.6675 and the provisions of §63.6640(f) do not specify fuel requirements. According to §63.6585(f)(2), these units are not subject to other parts of this subpart, therefore the provisions of §63.6604(b) do not apply. No changes were made to the permit in response to this comment.

Comment #15: Permit Condition 7, pages 14 and 15. Engine generators GG and JJ are listed as emergency generators in the draft permit while the same engine generators are shown in permit application as standby units and subject to prolonged operating requirements.

Recommended Action: Consider clarifying and coordinating purpose of engine generators in statement of basis document. Revise potential to emit estimates, operating, monitoring and record keeping requirements if appropriate.

Response to Comment #15: The engines are correctly identified in the permit as emergency engines. No changes were made to the permit in response to this comment.

Comment #16: Permit Condition 7, pages 14, 15 and 16. Permit condition does not include monitoring, record keeping, reporting and notification requirements in accordance to 40 CFR Part 63, Subpart zzzz.

Recommended Action: Include monitoring, record keeping, notification and reporting requirements as defined in 40 CFR Part 63, Subpart ZZZZ.

Response to Comment #16: See Response to Comment #14. According to §63.6585(f)(2), these units are not subject to other parts of this subpart, therefore the monitoring, recordkeeping, reporting, and notification requirements of Subpart ZZZZ do not apply. No changes were made to the permit in response to this comment.

Comment #17: Permit Condition 8, page 17. Permit condition references 10 CSR 10-6.260, but does not include any references to 10 CSR 10-6.261.

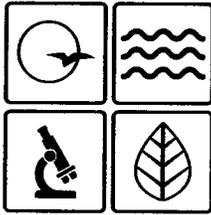
Recommended Action: Because 10-6.260 has been rescinded and 10-6.261 has not yet been federally approved, the EPA recommends the following statement be added to this permit condition: "10 CSR 10-6.260 Restriction of Emission of Sulfur Compounds shall remain in effect until such time 10 CSR 10-6.261 Restriction of Emission of Sulfur Compounds becomes a federally approved SIP rule. 10 CSR 10-6.261 is in effect as a state rule only until such time that it becomes a federally approved SIP rule."

Response to Comment #17: The applicability of 10 CSR 10-6.261 is explained on page SB-4 of the Statement of Basis. The installation meets exemption (1)(C) and is not subject to this regulation. The applicability of 10 CSR 10-6.260 is explained on page SB-9 of the Statement of Basis and includes an explanation regarding the SIP and federal enforceability. No changes were made to the permit in response to this comment.

Comment #18: Statement of Basis, Emissions Profile, page SB-2. Potential emissions calculations and source of reported emissions with accompanying calculations have not been included in the statement of basis. Potential emissions shown in emissions profile table do not match potential emissions provided with permit application.

Recommended Action: Consider providing a detailed calculation sheet with references showing potential emissions calculations and emissions calculations used in reported emissions. Major assumptions and operating hour restrictions used for calculations should be listed as part of detailed calculation sheet.

Response to Comment #18: Reported emissions were sourced from Missouri's Emission Inventory Questionnaire. The data in the table is presented for informational purposes and is not intended to recreate or determine compliance with the calculations supporting the reported emissions. The basis of the potential to emit calculations is explained on page SB-1. No changes were made to the permit in response to this comment.



Missouri Department of dnr.mo.gov

NATURAL RESOURCES

Eric R. Greitens, Governor

Carol S. Comer, Director

AUG 04 2017

Mr. Oscar C. Berryman
Monsanto Company
700 Chesterfield Parkway West
Chesterfield, MO 63017

Re: Monsanto Company, 189-0032
Permit Number: OP2017-060

Dear Mr. Berryman:

Enclosed with this letter is your intermediate operating permit. Please review this document carefully. Operation of your installation in accordance with the rules and regulations cited in this document is necessary for continued compliance. It is very important that you read and understand the requirements contained in your permit.

This permit may include requirements with which you may not be familiar. If you would like the department to meet with you to discuss how to understand and satisfy the requirements contained in this permit, an appointment referred to as a Compliance Assistance Visit (CAV) can be set up with you. To request a CAV, please contact your local regional office or fill out an online request. The regional office contact information can be found at <http://dnr.mo.gov/regions/>. The online CAV request can be found at <http://dnr.mo.gov/cav/compliance.htm>.

You may appeal this permit to the Administrative Hearing Commission (AHC), P.O. Box 1557, Jefferson City, MO 65102, as provided in RSMo 643.078.16 and 621.250.3. If you choose to appeal, you must file a petition with the AHC within thirty (30) days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If you send your appeal by registered or certified mail, we will deem it filed on the date you mailed it. If you send your appeal by a method other than registered or certified mail, we will deem it filed on the date the AHC receives it.

If you have any questions or need additional information regarding this permit, please contact the Air Pollution Control Program (APCP) at (573) 751-4817, or you may write to the Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Michael J. Stansfield, P.E.
Operating Permit Unit Chief

MJS:nwj

Enclosures

c: PAMS File: 2013-04-004

