



RECEIVED
2026 JAN -8 AM 10:38
AIR POLLUTION
CONTROL DIV.

December 29, 2025

Missouri Department of Natural Resources
Air Pollution Control Program
P.O. BOX 176
Jefferson City, MO 65102

RE: Show-Me Ethanol, LLC Significant Title V Permit Revision for Predictive Emissions Monitoring (PEMS)

To Whom It May Concern,

PROtect, LLC (PROtect) on behalf of Show-Me Ethanol, LLC (Show-Me Ethanol) is submitting this significant revision for Title V Operating Permit Number OP2022-019. PROtect has included the Title V permit application forms in Attachment 1 and additional details on the PEMS from the vendor installing the system in Attachment 2.

Show-Me Ethanol will be installing a PEMS to determine emissions of nitrogen oxides (NOx) and oxygen (O2) from the thermal oxidizer (TO) which controls emissions from the dryers. The PEMS will be utilized in lieu of the current CEMS to demonstrate compliance with all applicable NSPS Subparts A and Db requirements. Data for NOx and O2 emissions will be gathered using the existing CEMS across a variety of process loads. Process data will then be collected and matched with the pollutant and diluent data collected from the CEMS. Correlations between the process data and emissions data will then be established to create and deploy the PEMS.

Input parameters will be assigned one of three categories of importance: Primary, Secondary, and Tertiary. If primary input parameters operate outside the defined operating envelope the PEMS output will be invalid, and these periods will be reported as PEMS downtime. Secondary inputs that the failure input analysis indicates could cause the model to fail a relative accuracy test (RATA); generally 10 or 20%. Tertiary inputs are anything that the failure input analysis indicates would not cause the PEMS to fail a RATA.

Primary Inputs

- Total Gas Flow for the TO and Dryers (MMBtu/hr)
- HRSG Steam Flow (kpgh)
- Combustion Air Flow (kpgh)

Secondary Inputs

- FD Fan Speed Control (%)



Corporate Address: 3815 S Midco St, Wichita, KS 67215 | 316-927-4290 | protect.llc



- Damper Position – Combustion Air (%)
- Damper Position – Preheater Outlet (%)
- Valve Position – TO Natural Gas (%)
- TO Stack Temp (Deg-F)

Tertiary Inputs

- Boiler Feedwater Flow (gpm)
- Feedwater Valve position (%)
- Temperature - Steam Header (degF)
- Temperature – Fresh Air (degF)
- Temperature – Stack Gas (degF)

Additional details about PEMS operation including the equations utilized to calculate NOx emission rates in lb/mmBtu and lb/hr are included in Attachment 2.

Please contact me at 920.621.8293 or mitch.lagerstrom@protect.llc if you have any questions.

Sincerely,

A handwritten signature in black ink that reads "Mitch Lagerstrom".

Mitch Lagerstrom
Vice President, PROtect, LLC



Corporate Address: 3815 S Midco St, Wichita, KS 67215 | 316-927-4290 | protect.llc





Attachment 1 – MDNR Forms



Corporate Address: 3815 S Midco St, Wichita, KS 67215 | 316-927-4290 | protect.llc

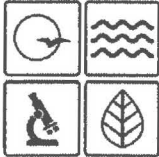


RECEIVED

2026 JAN -8 AM 10:29

AIR POLLUTION
CONTROL PROGRAM

NO PYMT RCVD



MISSOURI DEPARTMENT OF NATURAL RESOURCES AIR
POLLUTION CONTROL PROGRAM
APPLICATION FOR AUTHORITY TO OPERATE

FOR OFFICE USE ONLY

FILING FEE

CHECK NUMBER

CHECK RECEIVED

CHECK AMOUNT

CHECK DATE

PROJECT NUMBER

Note: Please read all instructions to complete forms properly

Mail completed application to: AIR POLLUTION CONTROL PROGRAM
P.O. BOX 176
JEFFERSON CITY, MO 65102

FORM OP-A01 - GENERAL APPLICATION INFORMATION

All applications must be accompanied by a filing fee. The amount of the filing fee shall be as indicated in 10 CSR 10- 6.065(5)(B)1.D or 10 CSR 10-6.065(4)(B)1.D.

1. OWNER/OPERATOR NAME

Show-Me Ethanol, LLC

FIPS

0033

PLANT NUMBER

0036

YEAR SUBMITTED

2025

OWNER/OPERATOR MAILING ADDRESS

26530 Highway 24 East

OWNER/OPERATOR TELEPHONE NUMBER WITH AREA CODE

660-542-6493

CITY OF MAILING ADDRESS

Carrollton

STATE

MO

ZIP CODE

64633

MO SENATORIAL DISTRICT NUMBER

OWNER/OPERATOR CONTACT PERSON

Casidy Cardena

MO REPRESENTATIVE DISTRICT NUMBER

OWNER/OPERATOR CONTACT'S TITLE

EHS Specialist

EMAIL OF CONTACT PERSON FOR OWNER/OPERATOR

ccardenas@smealcohol.com

2. INSTALLATION'S NAME (IF DIFFERENT)

INSTALLATION STREET ADDRESS

26530 Highway 24 East

INSTALLATION CITY

Carrollton

STATE

MO

ZIP CODE

64633

COUNTY OF INSTALLATION

Carroll

INSTALLATION MAILING ADDRESS (IF DIFFERENT)

INSTALLATION CITY FOR MAILING ADDRESS

STATE

ZIP CODE

INSTALLATION TELEPHONE NUMBER WITH AREA CODE

INSTALLATION CONTACT PERSON

TITLE OF CONTACT PERSON

EMAIL OF CONTACT PERSON FOR INSTALLATION

3. TYPE OF APPLICATION

☒ PART 70 (MAJOR)

☐ INITIAL

☐ OFF-PERMIT CHANGE

☐ MINOR MODIFICATION

☐ RENEWAL

☐ ADMINISTRATIVE AMENDMENT

☒ SIGNIFICANT MODIFICATION

☐ INTERMEDIATE STATE

☐ INITIAL

☐ RENEWAL

☐ AMENDMENT

4. APPLICANT'S CERTIFICATION STATEMENT

"I certify, based on information and belief formed after reasonable inquiry, the statements and information in this document are true, accurate, and complete."

SIGNATURE OF RESPONSIBLE OFFICIAL

DATE

12/29/25

TYPE OR PRINT NAME OF RESPONSIBLE OFFICIAL

Casidy Cardenas

TELEPHONE NUMBER WITH AREA CODE OF OFFICIAL

660-542-6493

OFFICIAL TITLE OF RESPONSIBLE OFFICIAL

EHS Manager

RESPONSIBLE OFFICIAL'S EMAIL

ccardenas@smealcohol.com

FORM OP-A02 – APPLICATION FOR AUTHORITY TO OPERATE

INSTALLATION NAME	FIPS	PLANT NUMBER	YEAR SUBMITTED
Show-Me Ethanol, LLC	033	0036	2025

1. LIST THE INSTALLATION'S PRINCIPAL PRODUCT(S)

PRINCIPAL PRODUCT(S)	TWO-DIGIT SIC CODE
Ethanol chemical manufacturing	28

2. LIST ALL OF THE INSTALLATION'S PROCESSES

PROCESSES	TWO-DIGIT SIC CODE
Ethanol chemical manufacturing	28
Animal feed manufacturing	22

3. HAS THE INSTALLATION SUBMITTED AN EMISSION INVENTORY QUESTIONNAIRE (EIQ) IN THE PAST FIVE YEARS?

☒ YES ☐ NO If no, submit one copy of a completed EIQ with this application and complete the table below.

If no, indicate the number of each EIQ form submitted with this operating permit application.

1.1	Process flow diagram	2.3	VOC process mass-balance worksheet
1.2	Summary of emission points	2.4	Petroleum loading worksheet
2.0	Emission point information	2.5	Organic liquid storage-fixed roof tank
2.0C	Control device information	2.5L	General liquid storage tank information
2.0P	Portable plant information	2.6	Organic liquid storage-floating roof tank
2.0S	Stack information	2.7	Haul road fugitive emissions worksheet
2.0Z	Ozone season information	2.8	Storage pile worksheet
2.1	Fuel combustion worksheet	2.9	Stack test/CEMS worksheet
2.2	Incinerator worksheet	2.T	Hazardous air pollutant worksheet

4. INDICATE THE NUMBER OF EACH APPLICATION FORM, LISTED BELOW, INCLUDED WITH THIS APPLICATION

C01	Insignificant activities required to be listed	D03.20	Combustion turbines and internal combustion engines
D01	Existing plant-wide conditions	D03.30	Spray booths
D02	Proposed plant-wide conditions	D04	Alternate operating scenario/voluntary conditions
D03.00	General emission unit	D05	Compliance determination methods
D03.10	Boilers, furnaces, and other indirect heating sources	F01	General comments

FORM OP-A03 – FILING FEE CALCULATION

INSTALLATION NAME	FIPS	PLANT NUMBER	YEAR SUBMITTED
Show-Me Ethanol, LLC	033	0036	2025

Note: A filing fee is only required for initial and renewal applications.

1. BASE FEE

NUMBER OF EMISSION UNITS	BASE FEE
0 to 30	\$750
31 to 60	\$1,000
61 to 90	\$1,250
Over 91	\$1,500

2. COMPLEXITY FEE

COMPLEXITY CATEGORY	CALCULATION					ADDITIONAL COMPLEXITY FEE SUBTOTAL
	NUMBER PER INSTALLATION	X	FEE	=		
New Source Performance Standard (NSPS)		X	\$1,000	=		
Maximum Achievable Control Technology (MACT) Standards		X	\$1,500	=		
National Emission Standards for HAPs (NESHAPs)		X	\$1,500	=		
Compliance Assurance Monitoring (CAM)		X	\$1,000	=		
Confidentiality Request		X	\$500	=		
Acid Rain		X	\$500	=		
TOTAL ADDITIONAL COMPLEXITY FEE:						

3. FILING FEE

BASE FEE (\$)	+	COMPLEXITY FEE (\$)	=	FILING FEE (\$) NOT TO EXCEED \$6,000
	+			

FORM OP-B01 - APPLICABLE REQUIREMENTS CHECKLIST

INSTALLATION NAME

Show-Me Ethanol, LLC

FIPS

033

PLANT NUMBER

0036

YEAR SUBMITTED

2025

Entire State of Missouri

(NOTE: ALL installations must submit a FORM OP-B01)

1. STATE ADMINISTRATIVE PERMIT REQUIREMENTS

APPLICABILITY			REGULATION	
YES	NO	REASON		
	X	J	10 CSR 10-6.010	Ambient Air Quality Standards ¹
X		J	10 CSR 10-6.020	Definitions and Common Reference Tables ¹
X		J	10 CSR 10-6.030	Sampling Methods for Air Pollution Sources ¹
	X	J	10 CSR 10-6.040	Reference Methods ¹

2. CORE PERMIT REQUIREMENTS

10 CSR 10-6.045	Open Burning Requirements ¹
10 CSR 10-6.050	Start-Up, Shutdown, and Malfunction Conditions ¹
10 CSR 10-6.060	Construction Permits Required ¹
10 CSR 10-6.065	Operating Permits ¹
10 CSR 10-6.110	Reporting Emission Data, Emission Fees, and Process Information ¹
10 CSR 10-6.130	Controlling Emissions During Episodes of High Air Pollution Potential ¹
10 CSR 10-6.140	Restriction of Emissions Credit for Reduced Pollutant Concentrations From the Use of Dispersion Techniques ¹
10 CSR 10-6.150	Circumvention ¹
10 CSR 10-6.165	Restriction of Emission of Odors ²
10 CSR 10-6.170	Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin ¹
10 CSR 10-6.180	Measurement of Emissions of Air Contaminants ¹
10 CSR 10-6.210	Confidential Information ¹
10 CSR 10-6.230	Administrative Penalties ²
10 CSR 10-6.250	Asbestos Projects-Certification, Accreditation, and Business Exemption Requirements ²
10 CSR 10-6.280	Compliance Monitoring Usage ¹

3. STATE APPLICABLE REQUIREMENTS

APPLICABILITY			REGULATION	
YES	NO	REASON		
X			10 CSR 10-6.070	New Source Performance Regulations (NOTE: If yes, check specific subpart on FORM OP-B02) ²
	X		10 CSR 10-6.075	MACT Regulations (NOTE: If yes, check specific subpart on FORM OP-B03) ²
	X		10 CSR 10-6.080	Emission Standards for HAPs (NOTE: If yes, check specific subpart on FORM OP-B04) ²
	X		10 CSR 10-6.090	Restriction of Emission of Fluorides From Primary Aluminum Reduction Installations ¹
	X		10 CSR 10-6.120	Restriction of Emissions of Lead From Specific Lead Smelter-Refinery Installations ¹
	x		10 CSR 10-6.161	Commercial and Industrial Solid Waste Incinerators ¹
	x		10 CSR 10-6.191	Sewage Sludge Incinerators ¹
	x		10 CSR 10-6.200	Hospital, Medical, Infectious Waste Incinerators ¹
x			10 CSR 10-6.220	Restriction of Emission of Visible Air Contaminants ¹
	X		10 CSR 10-6.241	Asbestos Projects-Registration, Abatement, Notification, Inspection, Demolition, and Performance Requirements ²
	x		10 CSR 10-6.260	Restriction of Emissions of Sulfur Compounds ³
	x		10 CSR 10-6.261	Control of Sulfur Dioxide Emissions ²
	X		10 CSR 10-6.270	Acid Rain Source Permits Required (NOTE: If applicable, submit an acid rain permit application) ²
	x		10 CSR 10-6.310	Restriction of Emissions From Municipal Solid Waste Landfills ¹
	x		10 CSR 10-6.330	Restriction of Emissions From Batch-Type Charcoal Kilns ¹
	x		10 CSR 10-6.350	Emission Limitations and Emissions Trading of Oxides of Nitrogen ³
	X		10 CSR 10-6.360	Control of NOx Emissions From Electric Generating Units and Non-Electric Generating Boilers ³
	x		10 CSR 10-6.364	CAIR Seasonal NOx Trading Program ³
	x		10 CSR 10-6.372	CSAPR NOx Annual Trading Program ¹
	x		10 CSR 10-6.374	CSAPR NOx Ozone Season Group 2 Trading Program ¹

FORM OP-B01 - APPLICABLE REQUIREMENTS CHECKLIST

INSTALLATION NAME	FIPS	PLANT NUMBER.	YEAR SUBMITTED
Show-Me Ethanol, LLC	033	0036	2025

Entire State of Missouri

(NOTE: ALL installation must submit a FORM OP-B01)

3. STATE APPLICABLE REQUIREMENTS

APPLICABILITY			REGULATION	
YES	NO	REASON		
	x		10 CSR 10-6.376	CSAPR Annual SO ₂ Group 1 Trading Program ¹
	x		10 CSR 10-6.380	Control of NOx Emissions From Portland Cement Kilns ¹
	X		10 CSR 10-6.390	Control of NOx Emissions From Large Stationary Internal Combustion Engines ¹
	X		10 CSR 10-6.400	Restriction of Emission of Particulate Matter From Industrial Processes ¹
	X		10 CSR 10-6.405	Restriction of Particulate Matter Emissions from Fuel Burning Equipment Used for Indirect Heating ¹
	x		10 CSR 10-6.410	Emissions Banking and Trading ¹

¹Federally and state enforceable.²State enforceable only.³Federally enforceable only.

FORM OP-B02 – APPLICABLE REQUIREMENTS CHECKLIST

INSTALLATION NAME	FIPS	PLANT NUMBER	YEAR SUBMITTED
Show-Me Ethanol, LLC	033	0036	2025

10 CSR 10-6.070 New Source Performance Regulations

(NOTE: If checked yes on FORM OP-B01 for 10 CSR 10-6.070, please identify the specific subpart(s). If checked no, this form does not need to be submitted.)

APPLICABILITY			40 CFR PART 60, SUBPART	
YES	NO	REASON		
X			A	General Provisions ¹
	X		B	Adoption and Submittal of State Plans for Designated Facilities ²
	X		Ba	Adoption and Submittal of State Plans for Designated Facilities ²
	X		C	Emission Guidelines and Compliance Times ²
	X		Cb	Emissions Guidelines and Compliance Times for Large Municipal Waste Combustors That are Constructed on or Before September 20, 1994 ²
	X		Cc	Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills ²
	X		Cd	Emissions Guidelines and Compliance Times for Sulfuric Acid Production Units ²
	X		Ce	Emission Guidelines and Compliance Times for Hospital/Medical/Infectious Waste Incinerators ²
	X		Cf	Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills ²
	X		D	Standards of Performance for Fossil-Fuel-Fired Steam Generators (constructed after July 17, 1971) ¹
	X		Da	Standards of Performance for Electric Utility Steam Generating Units (constructed after September 18, 1978) ¹
X			Db	Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units ¹
X			Dc	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units ¹
	X		E	Standards of Performance for Incinerators ¹
	X		Ea	Standards of Performance for Municipal Waste Combustors for Which Construction Is Commenced After December 20, 1989 and On or Before September 20, 1994 ¹
	X		Eb	Standards of Performance for Large Municipal Waste Combustors for Which Construction is Commenced After September 20, 1994 or for Which Modification or Reconstruction is Commenced After June 19, 1996 ¹
	X		Ec	Standards of Performance for New Stationary Sources: Hospital/Medical/Infectious Waste Incinerators (constructed after June 20, 1996) ¹
	X		F	Standards of Performance for Portland Cement Plants ¹
	X		G	Standards of Performance for Nitric Acid Plants ¹
	X		Ga	Standards of Performance for Nitric Acid Plants for Which Construction, Reconstruction, or Modification Commenced After October 14, 2011 ¹
	X		H	Standards of Performance for Sulfuric Acid Plants ¹
	X		I	Standards of Performance for Hot Mix Asphalt Facilities ¹
	X		J	Standards of Performance for Petroleum Refineries ¹
	X		Ja	Standards of Performance for Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007 ¹
	X		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 ¹
	X		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 ¹
X			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 ¹
	X		L	Standards of Performance for Secondary Lead Smelters ¹
	X		M	Standards of Performance for Secondary Brass and Bronze Production Plants ¹
	X		N	Standards of Performance for Primary Emissions from Basic Oxygen Process Furnaces for Which Construction is Commenced After June 11, 1973 ¹
	X		Na	Standards of Performance for Secondary Emissions from Basic Oxygen Process Steelmaking Facilities for Which Construction is Commenced After January 20, 1983 ¹
	X		O	Standards of Performance for Sewage Treatment Plants ¹
	X		P	Standards of Performance for Primary Copper Smelters ¹
	X		Q	Standards of Performance for Primary Zinc Smelters ¹
	X		R	Standards of Performance for Primary Lead Smelters ¹
	X		S	Standards of Performance for Primary Aluminum Reduction Plants ¹
	X		T	Standards of Performance for the Phosphate Fertilizer Industry: Wet-Process Phosphoric Acid Plants ¹
	X		U	Standards of Performance for the Phosphate Fertilizer Industry: Superphosphoric Acid Plants ¹
	X		V	Standards of Performance for the Phosphate Fertilizer Industry: Diammonium Phosphate Plants ¹
	X		W	Standards of Performance for the Phosphate Fertilizer Industry: Triple Superphosphate Plants ¹

FORM OP-B02 – APPLICABLE REQUIREMENTS CHECKLIST

INSTALLATION NAME	FIPS	PLANT NUMBER	YEAR SUBMITTED
Show-Me Ethanol, LLC	033	0036	2025

10 CSR 10-6.070 New Source Performance Regulations

(NOTE: If checked yes on FORM OP-B01 for 10 CSR 10-6.070, please identify the specific subpart(s). If checked no, this form does not need to be submitted.)

APPLICABILITY			40 CFR PART 60, SUBPART	
YES	NO	REASON		
	X		X	Standards of Performance for the Phosphate Fertilizer Industry: Granular Triple Superphosphate Storage Facilities ¹
	x		Y	Standards of Performance for Coal Preparation and Processing Plants ¹
	x		Z	Standards of Performance for Ferroalloy Production Facilities ¹
	X		AA	Standards of Performance for Steel Plants: Electric Arc Furnaces Constructed After October 21, 1974, and On or Before August 17, 1983 ¹
	X		AAa	Standards of Performance for Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed After August 17, 1983 ¹
	x		BB	Standards of Performance for Kraft Pulp Mills ¹
	X		BBa	Standards of Performance for Kraft Pulp Mill Affected Sources for Which Construction, Reconstruction, or Modification Commenced After May 23, 2013 ¹
	x		CC	Standards of Performance for Glass Manufacturing Plants ¹
	x		DD	Standards of Performance for Grain Elevators ¹
	x		EE	Standards of Performance for Surface Coating of Metal Furniture ¹
	x		GG	Standards of Performance for Stationary Gas Turbines ¹
	x		HH	Standards of Performance for Lime Manufacturing Plants ¹
	x		KK	Standards of Performance for Lead-Acid Battery Manufacturing Plants ¹
	x		LL	Standards of Performance for Metallic Mineral Processing Plants ¹
	x		MM	Standards of Performance for Automobile and Light Duty Truck Surface Coating Operations ¹
	x		NN	Standards of Performance for Phosphate Rock Plants ¹
	x		PP	Standards of Performance for Ammonium Sulfate Manufacture ¹
	x		QQ	Standards of Performance for the Graphic Arts Industry: Publication Rotogravure Printing ¹
	x		RR	Standards of Performance for Pressure Sensitive Tape and Label Surface Coating Operations ¹
	x		SS	Standards of Performance for Industrial Surface Coating: Large Appliances ¹
	x		TT	Standards of Performance for Metal Coil Surface Coating ¹
	x		UU	Standards of Performance for Asphalt Processing and Asphalt Roofing Manufacture ¹
X			VV	Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry (SOCMI) for which Construction, Reconstruction, or Modification Commenced After January 5, 1981, and on or Before November 7, 2006 ¹
X			VVa	Standards of Performance for SOCMI Equipment Leaks of VOC for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006 ¹
	x		WW	Standards of Performance for the Beverage Can Surface Coating Industry ¹
	x		XX	Standards of Performance for Bulk Gasoline Terminals ¹
	x		AAA	Standards of Performance for New Residential Wood Heaters ²
	x		BBB	Standards of Performance for the Rubber Tire Manufacturing Industry ¹
	x		DDD	Standards of Performance for VOC Emissions from the Polymer Manufacturing Industry ¹
	x		FFF	Standards of Performance for Flexible Vinyl and Urethane Coating and Printing ¹
	X		GGG	Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for which Construction, Reconstruction, or Modification Commenced After January 4, 1983, and on or Before November 7, 2006 ¹
	X		GGGa	Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006 ¹
	x		HHH	Standards of Performance for Synthetic Fiber Production Facilities ¹
	x		III	Standards of PVOC Emissions From SOCMI Air Oxidation Unit Processes ¹
	x		JJJ	Standards of Performance for Petroleum Dry Cleaners ¹
	X		KKK	Standards of Performance for Equipment Leaks of VOC From Onshore Natural Gas Processing Plants for Which Construction, Reconstruction, or Modification Commenced After January 20, 1984, and on or Before August 23, 2011 ¹
	X		LLL	Standards of Performance for SO ₂ Emissions From Onshore Natural Gas Processing for Which Construction, Reconstruction, or Modification Commenced After January 20, 1984, and on or Before August 23, 2011 ¹
	x		NNN	Standards of Performance for VOC Emissions From SOCMI Distillation Operations ¹
	x		OOO	Standards of Performance for Nonmetallic Mineral Processing Plants ¹
	x		PPP	Standard of Performance for Wool Fiberglass Insulation Manufacturing Plants ¹

FORM OP-B02 – APPLICABLE REQUIREMENTS CHECKLIST

INSTALLATION NAME	FIPS	PLANT NUMBER	YEAR SUBMITTED
Show-Me Ethanol, LLC	033	0036	2025

10 CSR 10-6.070 New Source Performance Regulations

(NOTE: If checked yes on FORM OP-B01 for 10 CSR 10-6.070, please identify the specific subpart(s). If checked no, this form does not need to be submitted.)

APPLICABILITY			40 CFR PART 60, SUBPART	
YES	NO	REASON		
	X		QQQ	Standards of Performance for VOC Emissions From Petroleum Refinery Wastewater Systems ¹
	X		RRR	Standards of Performance for VOC Emissions from SOCM Reactor Processes ¹
	X		SSS	Standards of Performance for Magnetic Tape Coating Facilities ¹
	X		TTT	Standards of Performance for Industrial Surface Coating of Plastic Parts for Business Machines ¹
	X		UUU	Standards of Performance for Calciners and Dryers in Mineral Industries ¹
	X		VVV	Standards of Performance for Polymeric Coating of Supporting Substrates Facilities ¹
	X		WWW	Standards of Performance for Municipal Solid Waste Landfills That Commenced Construction, Reconstruction, or Modification on or After May 30, 1991, but Before July 18, 2014 ¹
	X		XXX	Standards of Performance for Municipal Solid Waste Landfills That Commenced Construction, Reconstruction, or Modification After July 17, 2014 ¹
	X		AAAA	Standards of Performance for Small Municipal Waste Combustion Units for Which Construction is Commenced After August 30, 1999 or for Which Modification or Reconstruction is Commenced After June 6, 2001 ¹
	X		BBBB	Emission Guidelines and Compliance Times for Small Municipal Waste Combustion Units Constructed on or Before August 30, 1999 ²
	X		CCCC	Standards of Performance for Commercial and Industrial Solid Waste Incineration Units ¹
	X		DDDD	Emissions Guidelines and Compliance Times for Commercial and Industrial Solid Waste Incineration Units ²
	X		EEEE	Standards of Performance for Other Solid Waste Incineration Units for Which Construction is Commenced After December 9, 2004, or for Which Modification or Reconstruction is Commenced on or After June 16, 2006 ¹
	X		FFFF	Emission Guideline and Compliance Times for Other Solid Waste Incineration Units That Commenced Construction On or Before December 9, 2004 ²
X			IIII	Standards of Performance for Stationary Compression Ignition Internal Combustion Engines ¹
	X		JJJJ	Standards of Performance for Stationary Spark Ignition Internal Combustion Engines ¹
	X		KKKK	Standards of Performance for Stationary Combustion Turbines ¹
	X		LLLL	Standards of Performance for New Sewage Sludge Incineration Units ¹
	X		MMMM	Emissions Guidelines and Compliance Times for Existing Sewage Sludge Incineration Units ²
	X		OOOO	Standards of Performance for Crude Oil and Natural Gas Facilities for Which Construction, Modification, or Reconstruction Commenced After August 23, 2011, and on or Before September 18, 2015 ¹
	X		OOOOa	Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification, or Reconstruction Commenced After September 18, 2015 ¹
	X		QQQQ	Standards of Performance for New Residential Hydronic Heaters and Forced-Air Furnaces ¹
	X		TTTT	Standards of Performance for Greenhouse Gas Emissions from Electric Generating Units ¹
	X		UUUUa	Emission Guidelines for Greenhouse Gas Emissions From Existing Electric Utility Generating Units ²

¹Federally and state enforceable.

²Federally enforceable only.

FORM OP-B03 – APPLICABLE REQUIREMENTS CHECKLIST

INSTALLATION NAME	FIPS	PLANT NUMBER	YEAR SUBMITTED
Show-Me Ethanol, LLC	033	0036	2025

10 CSR 10-6.075 Maximum Achievable Control Technology Regulations

(NOTE: If checked yes on FORM OP-B01 for 10 CSR 10-6.075, please identify the specific subpart(s). If checked no, this form does not need to be submitted.)

APPLICABILITY		40 CFR PART 63, SUBPART	
YES	NO	REASON	
	X		A General Provisions ¹
	X		B Requirements for Control Technology Determinations for Major Sources in Accordance With Clean Air Act §112(g) and §112(j) ²
	X		C List of HAPs, Petitions Process, Lesser Quantity Designations, Source Category List ²
	X		D Regulations Governing Compliance Extensions for Early Reductions of HAPs ²
	X		E Approval of State Programs and Delegation of Federal Authorities ²
	X		F National Emission Standards for SOxMI Organic HAPs ¹
	X		G National Emission Standards for Organic HAPs From SOxMI Process Vents, Storage Vessels, Transfer Operations, and Wastewater ¹
	X		H National Emission Standards for Organic HAPs for Equipment Leaks ¹
	X		I National Emission Standards for Organic HAPs for Certain Processes Subject to the Negotiated Regulation for Equipment Leaks ¹
	X		J NESHAP for Polyvinyl Chloride and Copolymers Production ²
	X		L National Emission Standards for Coke Oven Batteries ¹
	X		M National Perchloroethylene Air Emission Standards for Dry Cleaning Facilities ¹
	X		N National Emission Standards for Chromium Emissions From Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks ¹
	X		O Ethylene Oxide Emissions Standards for Sterilization Facilities ¹
	X		Q NESHAP for Industrial Process Cooling Towers ¹
	X		R National Emission Standards for Gasoline Distribution Facilities (Bulk Gasoline Terminals and Pipeline Breakout Stations) ¹
	X		S NESHAP for the Pulp and Paper Industry ¹
	X		T National Emission Standards for Halogenated Solvent Cleaning ¹
	X		U NESHAP: Group I Polymers and Resins ¹
	X		W NESHAP for Epoxy Resins Production and Non-Nylon Polyamides Production ¹
	X		X NESHAP for Secondary Lead Smelting ¹
	X		Y National Emission Standards for Marine Tank Vessel Loading Operations ¹
	X		AA NESHAP for Phosphoric Acid Manufacturing Plants ¹
	X		BB NESHAP for Phosphate Fertilizers Production Plants ¹
	X		CC NESHAP for Petroleum Refineries ¹
	X		DD NESHAP for Off-Site Waste and Recovery Operations ¹
	X		EE National Emission Standards for Magnetic Tape Manufacturing Operations ¹
	X		GG National Emission Standards for Aerospace Manufacturing and Rework Facilities ¹
	X		HH NESHAP for Oil and Natural Gas Production Facilities ¹
	X		II National Emission Standards for Shipbuilding and Ship Repair (Surface Coating) ¹
	X		JJ National Emission Standards for Wood Furniture Manufacturing Operations ¹
	X		KK National Emission Standards for the Printing and Publishing Industry ¹
	X		LL NESHAP for Primary Aluminum Reduction Plants ¹
	X		MM NESHAP for Chemical Recovery Combustion Sources at Kraft Soda, Sulfite, and Stand-Alone Semichemical Pulp Mills ¹
	X		NN NESHAP for Wool Fiberglass Manufacturing at Area Sources ¹
	X		OO National Emission Standards for Tanks – Level 1 ¹
	X		PP National Emission Standards for Containers ¹
	X		QQ National Emission Standards for Surface Impoundments ¹
	X		RR National Emission Standards for Individual Drain Systems ¹
	X		SS National Emission Standards for Closed Vent Systems, Control Devices, Recovery Devices and Routing to a Fuel Gas System or a Process ¹
	X		TT National Emission Standards for Equipment Leaks – Control Level 1 ¹
	X		UU National Emission Standards for Equipment Leaks – Control Level 2 ¹
	X		VV National Emission Standards for Oil-Water Separators and Organic-Water Separators ¹
	X		WW National Emission Standards for Storage Vessels (Tanks) – Control Level 2 ¹
	X		XX National Emission Standards for Ethylene Manufacturing Process Units: Heat Exchange Systems and Waste Operations ¹

FORM OP-B03 – APPLICABLE REQUIREMENTS CHECKLIST

INSTALLATION NAME	FIPS	PLANT NUMBER	YEAR SUBMITTED
Show-Me Ethanol, LLC	033	0036	2025

10 CSR 10-6.075 Maximum Achievable Control Technology Regulations

(NOTE: If checked yes on FORM OP-B01 for 10 CSR 10-6.075, please identify the specific subpart(s). If checked no, this form does not need to be submitted.)

APPLICABILITY		40 CFR PART 63, SUBPART	
YES	NO	REASON	
	X		YY NESHAP for Source Categories: Generic Maximum Achievable Control Technology Standards ¹
	X		CCC NESHAP for Steel Pickling – HCl Process Facilities and Hydrochloric Acid Regeneration Plants ¹
	X		DDD NESHAP for Mineral Wool Production ¹
	X		EEE NESHAP for Hazardous Waste Combustors ¹
	X		GGG National Emission Standards for Pharmaceuticals Production ¹
	X		HHH NESHAP for Natural Gas Transmission and Storage Facilities ¹
	X		III NESHAP for Flexible Polyurethane Foam Production ¹
	X		JJJ NESHAP: Group IV Polymers and Resins ¹
	X		LLL NESHAP for the Portland Cement Manufacturing Industry ¹
	X		MMM NESHAP for Pesticide Active Ingredient Production ¹
	X		NNN NESHAP for Wool Fiberglass Manufacturing ¹
	X		OOO NESHAP: Manufacture of Amino/Phenolic Resins ¹
	X		PPP NESHAP for Polyether Polyols Production ¹
	X		QQQ NESHAP for Primary Copper Smelting ¹
	X		RRR NESHAP for Secondary Aluminum Production ¹
	X		TTT NESHAP for Primary Lead Smelting ¹
	X		UUU NESHAP for Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units ¹
	X		VVV NESHAP: Publicly Owned Treatment Works ¹
	X		XXX NESHAP for Ferroalloys Production: Ferromanganese and Silicomanganese ¹
	X		AAAA NESHAP: Municipal Solid Waste Landfills ¹
	X		CCCC NESHAP: Manufacturing of Nutritional Yeast ¹
	X		DDDD NESHAP: Plywood and Composite Wood Products ¹
	X		EEEE NESHAP: Organic Liquids Distribution (Non-Gasoline) ¹
	X		FFFF NESHAP: Miscellaneous Organic Chemical Manufacturing ¹
	X		GGGG NESHAP: Solvent Extraction for Vegetable Oil Production ¹
	X		HHHH NESHAP for Wet-Formed Fiberglass Mat Production ¹
	X		IIII NESHAP: Surface Coating of Automobiles and Light-Duty Trucks ¹
	X		JJJJ NESHAP: Paper and Other Web Coating ¹
	X		KKKK NESHAP: Surface Coating of Metal Cans ¹
	X		MMMM NESHAP for Surface Coating of Miscellaneous Metal Parts and Products ¹
	X		NNNN NESHAP: Surface Coating of Large Appliances ¹
	X		OOOO NESHAP: Printing, Coating, and Dyeing of Fabrics and Other Textiles ¹
	X		PPPP NESHAP for Surface Coating of Plastic Parts and Products ¹
	X		QQQQ NESHAP: Surface Coating of Wood Building Products ¹
	X		RRRR NESHAP: Surface Coating of Metal Furniture ¹
	X		SSSS NESHAP: Surface Coating of Metal Coil ¹
	X		TTTT NESHAP for Leather Finishing Operations ¹
	X		UUUU NESHAP for Cellulose Products Manufacturing ¹
	X		VVVV NESHAP for Boat Manufacturing ¹
	X		WWWW NESHAP: Reinforced Plastic Composites Production ¹
	X		XXXX NESHAP: Rubber Tire Manufacturing ¹
	X		YYYY NESHAP for Stationary Combustion Turbines ¹
X			ZZZZ NESHAP for Stationary Reciprocating Internal Combustion Engines ³
	X		AAAAA NESHAP for Lime Manufacturing Plants ¹
	X		BBBBB NESHAP for Semiconductor Manufacturing ¹
	X		CCCCC NESHAP for Coke Ovens: Pushing, Quenching, and Battery Stacks ¹
	X		DDDDD NESHAP for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters ¹
	X		EEEEE NESHAP for Iron and Steel Foundries ¹
	X		FFFFF NESHAP for Integrated Iron and Steel Manufacturing Facilities ¹
	X		GGGGG NESHAP: Site Remediation ¹
	X		HHHHH NESHAP: Miscellaneous Coating Manufacturing ¹

FORM OP-B03 – APPLICABLE REQUIREMENTS CHECKLIST

INSTALLATION NAME Show-Me Ethanol, LLC	FIPS 033	PLANT NUMBER 0036	YEAR SUBMITTED 2025
--	--------------------	-----------------------------	-------------------------------

10 CSR 10-6.075 Maximum Achievable Control Technology Regulations

(NOTE: If checked yes on FORM OP-B01 for 10 CSR 10-6.075, please identify the specific subpart(s). If checked no, this form does not need to be submitted.)

APPLICABILITY			40 CFR PART 63, SUBPART	
YES	NO	REASON		
	X		IIIII	NESHAP for Mercury Cell Chlor-Alkali Plants ¹
	X		JJJJJ	NESHAP for Brick and Structural Clay Products Manufacturing ¹
	X		KKKKK	NESHAP for Clay Ceramics Manufacturing ¹
	X		LLLLL	NESHAP: Asphalt Processing and Asphalt Roofing Manufacturing ¹
	X		MMMMM	NESHAP: Flexible Polyurethane Foam Fabrication Operations ¹
	X		NNNNN	NESHAP: Hydrochloric Acid Production ¹
	X		PPPPP	NESHAP for Engine Test Cells/Standards ¹
	X		QQQQQ	NESHAP for Friction Materials Manufacturing Facilities ¹
	X		RRRRR	NESHAP: Taconite Iron Ore Processing ¹
	X		SSSSS	NESHAP for Refractory Products Manufacturing ¹
	X		TTTTT	NESHAP for Primary Magnesium Refining ¹
	X		UUUUU	NESHAP: Coal- and Oil-Fired Electric Utility Steam Generating Units ¹
	X		WWWWW	National Emission Standards for Hospital Ethylene Oxide Sterilizers ²
	X		YYYYY	NESHAP for Area Sources: Electric Arc Furnace Steelmaking Facilities ²
	X		ZZZZZ	NESHAP for Iron and Steel Foundries Area Sources ²
	X		BBBBBB	NESHAP for Source Category: Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities ²
	X		CCCCC	NESHAP for Source Category: Gasoline Dispensing Facilities ²
	X		DDDDD	NESHAP for Polyvinyl Chloride and Copolymers Production Area Sources ²
	X		EEEEEE	NESHAP for Primary Copper Smelting Area Sources ²
	X		FFFFFF	NESHAP for Secondary Copper Smelting Area Sources ²
	X		GGGGGG	NESHAP for Primary Nonferrous Metals Area Sources – Zinc, Cadmium, and Beryllium ²
	X		HHHHHH	NESHAP: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources ²
	X		JJJJJJ	NESHAP for Industrial, Commercial, and Institutional Boilers Area Sources ²
	X		LLLLLL	NESHAP for Acrylic and Modacrylic Fibers Production Area Sources ²
	X		MMMMMM	NESHAP for Carbon Black Production Area Sources ²
	X		NNNNNN	NESHAP for Chemical Manufacturing Area Sources: Chromium Compounds ²
	X		OOOOOO	NESHAP for Flexible Polyurethane Foam Production and Fabrication Area Sources ²
	X		PPPPPP	NESHAP for Lead Acid Battery Manufacturing Area Sources ²
	X		QQQQQQ	NESHAP for Wood Preserving Area Sources ²
	X		RRRRRR	NESHAP for Clay Ceramics Manufacturing Area Sources ²
	X		SSSSSS	NESHAP for Glass Manufacturing Area Sources ²
	X		TTTTTT	NESHAP for Secondary Nonferrous Metals Processing Area Sources ²
	X		VVVVVV	NESHAP for Chemical Manufacturing Area Sources ²
	X		WWWWWW	NESHAP: Area Source Standards for Plating and Polishing Operations ²
	X		XXXXXX	NESHAP Area Source Standards for Nine Metal Fabrication and Finishing Source Categories ²
	X		YYYYYY	NESHAP for Area Sources: Ferroalloys Production Facilities ²
	X		ZZZZZZ	NESHAP: Area Source Standards for Aluminum, Copper, and Other Nonferrous Foundries ²
	X		AAAAAAA	NESHAP for Area Sources: Asphalt Processing and Asphalt Roofing Manufacturing ²
	X		BBBBBBB	NESHAP for Area Sources: Chemical Preparations Industry ²
	X		CCCCCCC	NESHAP for Area Sources: Paints and Allied Products Manufacturing ²
	X		DDDDDDD	NESHAP for Area Sources: Prepared Feeds Manufacturing
	X		EEEEEEE	NESHAP: Gold Mine Ore Processing and Production Area Source Category
	X		HHHHHHH	NESHAP for Polyvinyl Chloride and Copolymers Production

¹Federally and state enforceable.

²Federally enforceable only.

³The major source provisions of this regulation are federally and state enforceable. The area source provisions are federally enforceable only.

FORM OP-B04 – APPLICABLE REQUIREMENTS CHECKLIST

INSTALLATION NAME	FIPS	PLANT NUMBER	YEAR SUBMITTED
Show-Me Ethanol, LLC	033	0036	2025

10 CSR 10-6.080 Emission Standards for HAPs

(NOTE: If checked yes on FORM OP-B01 for 10 CSR 10-6.080, please identify the specific subpart(s). If checked no, this form does not need to be submitted.)

APPLICABILITY			40 CFR PART 61, SUBPART
YES	NO	REASON	
	X		A General Provisions ¹
	X		B National Emission Standards for Radon Emissions From Underground Uranium Mines ²
	X		C National Emission Standard for Beryllium ¹
	X		D National Emission Standard for Beryllium Rocket Motor Firing ¹
	X		E National Emission Standard for Mercury ¹
	X		F National Emission Standard for Vinyl Chloride ¹
	X		H National Emission Standards for Emissions of Radionuclides Other Than Radon From Department of Energy Facilities ²
	X		I National Emission Standards for Radionuclide Emissions From Federal Facilities Other Than Nuclear Regulatory Commission Licensees and Not Covered by Subpart H ²
	X		J National Emission Standard for Equipment Leaks (Fugitive Emission Sources) of Benzene ¹
	X		K National Emission Standards for Radionuclide Emissions From Elemental Phosphorus Plants ²
	X		L National Emission Standard for Benzene Emissions from Coke By-Product Recovery Plants ¹
	X		M National Emission Standard for Asbestos ¹
	X		N National Emission Standard for Inorganic Arsenic Emissions From Glass Manufacturing Plants ¹
	X		O National Emission Standard for Inorganic Arsenic Emissions From Primary Copper Smelters ¹
	X		P National Emission Standard for Inorganic Arsenic Emissions From Arsenic Trioxide and Metallic Arsenic Production Facilities ¹
	X		Q National Emission Standards for Radon Emissions From Department of Energy Facilities ²
	X		R National Emission Standards for Radon Emissions From Phosphogypsum Stacks ²
	X		T National Emission Standards for Radon Emissions From the Disposal of Uranium Mill Tailings ²
	X		V National Emission Standard for Equipment Leaks (Fugitive Emission Sources) ¹
	X		W National Emission Standards for Radon Emissions From Operating Mill Tailings ²
	X		Y National Emission Standard for Benzene Emissions From Benzene Storage Vessels ¹
	X		BB National Emission Standard for Benzene Emissions From Benzene Transfer Operations ¹
	X		FF National Emission Standard for Benzene Waste Operations ¹

¹Federally and state enforceable.

²Federally enforceable only.

FORM OP-B05 – APPLICABLE REQUIREMENTS CHECKLIST

INSTALLATION NAME	FIPS	PLANT NUMBER	YEAR SUBMITTED
Show-Me Ethanol, LLC	033	0036	2025

Kansas City Metropolitan Area

(NOTE: Please complete FORM OP-B05 if the installation is located in any of the following counties: Clay, Jackson, and Platte)

APPLICABILITY			REGULATION
YES	NO	REASON	
			10 CSR 10-2.090 Incinerators ²
			10 CSR 10-2.205 Control of Emissions From Aerospace Manufacture and Rework Facilities ¹
			10 CSR 10-2.210 Control of Emissions From Solvent Metal Cleaning ¹
			10 CSR 10-2.220 Liquefied Cutback Asphalt Paving Restricted ¹
			10 CSR 10-2.230 Control of Emissions From Industrial Surface Coating Operations ¹
			10 CSR 10-2.260 Control of Emissions During Petroleum Liquid Storage, Loading, and Transfer ¹
			10 CSR 10-2.290 Control of Emissions From Rotogravure and Flexographic Printing Facilities ¹
			10 CSR 10-2.300 Control of Emissions From the Manufacturing of Paints, Varnishes, Lacquers, Enamels and Other Allied Surface Coating Products ¹
			10 CSR 10-2.320 Control of Emissions From Production of Pesticides and Herbicides ¹
			10 CSR 10-2.340 Control of Emissions From Lithographic and Letterpress Printing Operations ¹
			10 CSR 10-2.385 Control of Heavy-Duty Diesel Vehicle Idling Emissions ¹

¹Federally and state enforceable.

²Federally enforceable only.

FORM OP-B06 – APPLICABLE REQUIREMENTS CHECKLIST

INSTALLATION NAME	FIPS	PLANT NUMBER	YEAR SUBMITTED
Show-Me Ethanol, LLC	033	0036	2025

Code of Ordinances of Kansas City, Missouri Volume I

(NOTE: Please complete FORM OP-B06 if the installation is located in Kansas City)

APPLICABILITY			ORDINANCE §
YES	NO	REASON	
			8-2 Definitions ¹
			8-3 Administration and enforcement ²
			8-4 Open Burning ¹
			8-5 Emission of particulate matter ¹
			8-6 Indoor Air Quality ²
			8-7 Restriction of emission of odors ²
			8-8 Restriction of emission of VOC ²
			8-9 Restriction of emission of HAPs ²
			8-10 Review of new sources and modifications; permit for construction or major modification ²
			8-11 Permit to operate, notification and record keeping ²
			8-12 Appeals and variances ²
			8-13 Confidential information ²
			8-14 Dilution of emission ²
			8-15 Start-up, shutdown, and malfunction condition ²
			8-16 Actionable rights; violations declared public nuisance ²
			8-17 Emergency condition ²
			8-18 Rules for controlling emissions during periods of high air pollution potential ²
			8-19 Penalties ²
			8-20 Fees ²
			8-21 Preventing health hazards, provision for conditions not addressed ²
			8-22 Conditions for retaining a permit ²
			8-23 Joint department review ²

¹Federally and local agency enforceable.²Local agency enforceable only.

FORM OP-B07 – APPLICABLE REQUIREMENTS CHECKLIST

INSTALLATION NAME	FIPS	PLANT NUMBER	YEAR SUBMITTED
Show-Me Ethanol, LLC	033	0036	2025

Outstate Missouri Area

(NOTE: Please complete FORM OP-B07 if the installation is located in any of the following counties: Adair, Andrew, Atchison, Audrain, Barry, Barton, Bates, Benton, Bollinger, Boone, Butler, Caldwell, Callaway, Camden, Cape Girardeau, Carroll, Carter, Cass, Cedar, Chariton, Christian, Clark, Clinton, Cole, Cooper, Crawford, Dade, Dallas, Daviess, De Kalb, Dent, Douglas, Dunklin, Gasconade, Gentry, Grundy, Harrison, Henry, Hickory, Holt, Howard, Howell, Iron, Jasper, Johnson, Knox, Laclede, Lafayette, Lawrence, Lewis, Lincoln, Linn, Livingston, McDonald, Macon, Madison, Maries, Marion, Mercer, Miller, Mississippi, Moniteau, Monroe, Montgomery, Morgan, New Madrid, Newton, Nodaway, Oregon, Osage, Ozark, Pemiscot, Perry, Pettis, Phelps, Pike, Polk, Pulaski, Putnam, Ralls, Randolph, Ray, Reynolds, Ripley, St. Clair, Ste. Genevieve, St. Francois, Saline, Schuyler, Scotland, Scott, Shannon, Shelby, Stoddard, Stone, Sullivan, Taney, Texas, Vernon, Warren, Washington, Wayne, Webster, Worth, and Wright)

APPLICABILITY			REGULATION
YES	NO	REASON	
	X		10 CSR 10-3.040 Incinerators ¹

¹Federally enforceable only.

FORM OP-B08 – APPLICABLE REQUIREMENTS CHECKLIST

INSTALLATION NAME			FIPS	PLANT NUMBER	YEAR SUBMITTED
Show-Me Ethanol, LLC			033	0036	2025
Springfield – Greene County Area					
(NOTE: Please complete FORM OP-B08 if the installation is located in Greene County)					
APPLICABILITY			REGULATION		
YES	NO	REASON			
			10 CSR 10-4.080 Incinerators ¹		
¹ Federally enforceable only.					

FORM OP-B09 – APPLICABLE REQUIREMENTS CHECKLIST

INSTALLATION NAME	FIPS	PLANT NUMBER	YEAR SUBMITTED
Show-Me Ethanol, LLC	033	0036	2025

Code of Ordinances of the city of Springfield, Missouri

(NOTE: Please complete FORM OP-B09 if the installation is located with the city limits of Springfield)

APPLICABILITY			CHAPTER 6 ARTICLE	
YES	NO	REASON		
			I	Definitions ¹
			II	Administration and Enforcement ¹
			III	Emission Restrictions ²
			IV	Open Burning ²
			V	Incinerators ¹
			VI	Ambient Air Odor Control ²
			VII	Air Pollution Nuisances ²
			VIII	Sealing ²
			IX	Breakdown of Equipment ²
			X	Circumvention ²

¹Federally and local agency enforceable.²Local agency enforceable only.

FORM OP-B10 – APPLICABLE REQUIREMENTS CHECKLIST

INSTALLATION NAME	FIPS	PLANT NUMBER	YEAR SUBMITTED
Show-Me Ethanol, LLC	033	0036	2025

St. Louis Metropolitan Area

(NOTE: Please complete FORM OP-B10 if the installation is located in the City of St. Louis or any of the following counties: Franklin, Jefferson, St. Charles, and St. Louis)

APPLICABILITY			REGULATION
YES	NO	REASON	
			10 CSR 10-5.040 Control of Emissions From Hand-Fired Equipment ¹
			10 CSR 10-5.060 Refuse Not to be Burned in Fuel Burning Installations ²
			10 CSR 10-5.080 Incinerators ²
			10 CSR 10-5.170 Control of Odors From Processing of Animal Matter ³
			10 CSR 10-5.220 Control of Emissions During Petroleum Liquid Storage, Loading, and Transfer ¹
			10 CSR 10-5.295 Control of Emissions From Aerospace Manufacturing and Rework Facilities ¹
			10 CSR 10-5.300 Control of Emissions From Solvent Metal Cleaning ¹
			10 CSR 10-5.310 Liquefied Cutback Asphalt Paving Restricted ¹
			10 CSR 10-5.330 Control of Emissions From Industrial Surface Coating Operations ¹
			10 CSR 10-5.340 Control of Emissions From Rotogravure and Flexographic Printing Operations ¹
			10 CSR 10-5.350 Control of Emissions From Manufacture of Synthesized Pharmaceutical Products ¹
			10 CSR 10-5.381 Onboard Diagnostics Motor Vehicle Emissions Inspection ¹
			10 CSR 10-5.385 Control of Heavy-Duty Diesel Vehicle Idling Emissions ¹
			10 CSR 10-5.390 Control of Emissions From the Manufacturing of Paints, Varnishes, Lacquers, Enamels, and Other Allied Surface Coating Products ¹
			10 CSR 10-5.420 Control of Equipment Leaks From Synthetic Organic Chemical and Polymer Manufacturing Plants ¹
			10 CSR 10-5.442 Control of Emissions From Lithographic and Letterpress Printing Operations ¹
			10 CSR 10-5.451 Control of Emissions from Aluminum Foil Rolling ¹
			10 CSR 10-5.480 St. Louis Area Transportation Conformity Requirements ¹
			10 CSR 10-5.490 Municipal Solid Waste Landfills ¹
			10 CSR 10-5.500 Control of Emissions From Volatile Organic Liquid Storage ¹
			10 CSR 10-5.510 Control of Emissions of NO _x ¹
			10 CSR 10-5.520 Control of VOC Emissions from Existing Major Sources ²
			10 CSR 10-5.530 Control of VOC Emissions From Wood Furniture Manufacturing Operations ¹
			10 CSR 10-5.540 Control of Emissions From Batch Process Operations ¹
			10 CSR 10-5.550 Control of VOC Emissions From Reactor Processes and Distillation Operations Processes in the Synthetic Organic Chemical Manufacturing Industry ¹
			10 CSR 10-5.570 Control of Sulfur Emissions From Stationary Boilers ¹

¹Federally and state enforceable.

²Federally enforceable only.

³State enforceable only.

FORM OP-B11 – APPLICABLE REQUIREMENTS CHECKLIST

INSTALLATION NAME	FIPS	PLANT NUMBER	YEAR SUBMITTED
Show-Me Ethanol, LLC	033	0036	2025

Code of Ordinances of the City of St. Louis, Missouri

(NOTE: Please complete FORM OP-B11 if the installation is located in the City of St. Louis)

APPLICABILITY			ORDINANCE
YES	NO	REASON	
			11.34.010 Name ¹
			11.34.020 Policy statement ¹
			11.34.030 Statement of delegated authority ¹
			11.34.040 Continuation of existing actions ¹
			11.34.050 Definitions ² (Previously Ordinance 68657 §6)
			11.34.060 Powers and duties ¹
			11.34.070 Variances ¹
			11.34.080 Commissioner to approve certain alteration, renovation, demolition, and occupancy applications ¹
			11.34.090 Source-specific emergency procedures ¹
			11.34.100 Asbestos ¹
			11.34.110 Air pollution nuisance prohibited ¹
			11.34.120 Motor vehicle idling prohibited ¹
			11.34.130 Open burning restrictions ² (Previously Ordinance 68657 §15)
			11.34.140 Right of inspection, disclosure, and submittal of requested information ¹
			11.34.150 Cooperation of local government agencies required ¹
			11.34.160 Enforcement ¹
			11.34.170 Fee schedule ¹
			11.34.180 Penalty clause ¹

¹Local agency enforceable only.²Federally and local agency enforceable.

FORM OP-C01 – INSIGNIFICANT ACTIVITIES REQUIRED TO BE LISTED**Note:** No activities are considered insignificant at Intermediate installations; therefore, this form is only required for Part 70 installations.

INSTALLATION NAME Show-Me Ethanol, LLC		FIPS 033	PLANT NUMBER 0036		YEAR SUBMITTED 2025		
INSIGNIFICANT ACTIVITY		POTENTIAL ESTIMATED EMISSIONS (TPY)					
EMISSION UNIT ID Show-Me Ethanol, LLC	PM₁₀	SO_x	NO_x	VOC	CO	LEAD	HAPS
DESCRIPTION							
EMISSION UNIT ID Show-Me Ethanol, LLC	PM₁₀	SO_x	NO_x	VOC	CO	LEAD	HAPS
DESCRIPTION							
EMISSION UNIT ID Show-Me Ethanol, LLC	PM₁₀	SO_x	NO_x	VOC	CO	LEAD	HAPS
DESCRIPTION							
EMISSION UNIT ID Show-Me Ethanol, LLC	PM₁₀	SO_x	NO_x	VOC	CO	LEAD	HAPS
DESCRIPTION							
EMISSION UNIT ID Show-Me Ethanol, LLC	PM₁₀	SO_x	NO_x	VOC	CO	LEAD	HAPS
DESCRIPTION							
EMISSION UNIT ID Show-Me Ethanol, LLC	PM₁₀	SO_x	NO_x	VOC	CO	LEAD	HAPS
DESCRIPTION							
EMISSION UNIT ID Show-Me Ethanol, LLC	PM₁₀	SO_x	NO_x	VOC	CO	LEAD	HAPS
DESCRIPTION							
EMISSION UNIT ID Show-Me Ethanol, LLC	PM₁₀	SO_x	NO_x	VOC	CO	LEAD	HAPS
DESCRIPTION							
DUPLICATE THIS FORM AS NEEDED							

NOTE: Include a blank form when no existing plant-wide conditions are applicable.

YEAR SUBMITTED

2025

[illegible]

DUPLICATE THIS FORM AS NEEDED

FORM OP-D02 – PROPOSED PLANT-WIDE CONDITIONS**NOTE:** Include a blank form when no plant-wide conditions are proposed.

INSTALLATION NAME

Show-Me Ethanol, LLC

FIPS

033

PLANT NUMBER

0036

YEAR SUBMITTED

2025

Please list in the space provided below any proposed permit conditions that the installation intends to establish in this operating permit and the installation's proposed compliance method(s).

PROPOSED CONDITION	COMPLIANCE METHOD

DUPLICATE THIS FORM AS NEEDED

D03.00 - GENERAL EMISSION UNITS

Show-Me Ethanol, LLC

033

0036

2025

SOURCE CLASSIFICATION CODE

INSTALLATION'S NAME FOR THIS EMISSION UNIT

DESCRIPTION OF EMISSION UNIT

MANUFACTURER

MODEL NUMBER/SERIAL NUMBER

CONSTRUCTION DATE

MAXIMUM HOURLY DESIGN RATE

STACK NO.

TEMPERATURE (°F)

	FLOW RATE (CFM)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	
29	
30	
31	
32	
33	
34	
35	
36	
37	
38	
39	
40	
41	
42	
43	
44	
45	
46	
47	
48	
49	
50	
51	
52	
53	
54	
55	
56	
57	
58	
59	
60	
61	
62	
63	
64	
65	
66	
67	
68	
69	
70	
71	
72	
73	
74	
75	
76	
77	
78	
79	
80	
81	
82	
83	
84	
85	
86	
87	
88	
89	
90	
91	
92	
93	
94	
95	
96	
97	
98	
99	
100	

CONTROL DEVICE TYPE

POLLUTANT(S) CONTROLLED BY

CONTROL EFFICIENCY (%)

CAPTURE EFFICIENCY (%)

ADDITIONAL CONTROL DEVICE TYPE	
--------------------------------	--

POLLUTANT(S) CONTROLLED	DATE OF COMPLIANCE	COMPLIANCE ACHIEVED BY	DATE OF REVIEW	REVIEWED BY

CONTROL EFFICIENCY (%)

CAPTURE EFFICIENCY (%)

POLLUTANT

**APPLICABLE REQUIREMENT AUTHORITY
(CSR, CFR, SIP, PERMIT NO., ETC.)**

EMISSION LIMIT OR STANDARD
(INCLUDING UNITS)

NO_x

NSPS Subpart Db

NOx limit of 0.10 lb/MMBtu

NOx

40 CFR

D03.10 – BOILERS, FURNACES, AND OTHER INDIRECT HEATING SOURCES

2025

30201002

[illegible]

MAXIMUM SULFUR CONTENT (WT%)
0.005
0.010
0.015
0.020
0.025
0.030
0.035
0.040
0.045
0.050
0.055
0.060
0.065
0.070
0.075
0.080
0.085
0.090
0.095
0.100
0.105
0.110
0.115
0.120
0.125
0.130
0.135
0.140
0.145
0.150
0.155
0.160
0.165
0.170
0.175
0.180
0.185
0.190
0.195
0.200
0.205
0.210
0.215
0.220
0.225
0.230
0.235
0.240
0.245
0.250
0.255
0.260
0.265
0.270
0.275
0.280
0.285
0.290
0.295
0.300
0.305
0.310
0.315
0.320
0.325
0.330
0.335
0.340
0.345
0.350
0.355
0.360
0.365
0.370
0.375
0.380
0.385
0.390
0.395
0.400
0.405
0.410
0.415
0.420
0.425
0.430
0.435
0.440
0.445
0.450
0.455
0.460
0.465
0.470
0.475
0.480
0.485
0.490
0.495
0.500
0.505
0.510
0.515
0.520
0.525
0.530
0.535
0.540
0.545
0.550
0.555
0.560
0.565
0.570
0.575
0.580
0.585
0.590
0.595
0.600
0.605
0.610
0.615
0.620
0.625
0.630
0.635
0.640
0.645
0.650
0.655
0.660
0.665
0.670
0.675
0.680
0.685
0.690
0.695
0.700
0.705
0.710
0.715
0.720
0.725
0.730
0.735
0.740
0.745
0.750
0.755
0.760
0.765
0.770
0.775
0.780
0.785
0.790
0.795
0.800
0.805
0.810
0.815
0.820
0.825
0.830
0.835
0.840
0.845
0.850
0.855
0.860
0.865
0.870
0.875
0.880
0.885
0.890
0.895
0.900
0.905
0.910
0.915
0.920
0.925
0.930
0.935
0.940
0.945
0.950
0.955
0.960
0.965
0.970
0.975
0.980
0.985
0.990
0.995
1.000
1.005
1.010
1.015
1.020
1.025
1.030
1.035
1.040
1.045
1.050
1.055
1.060
1.065
1.070
1.075
1.080
1.085
1.090
1.095
1.100
1.105
1.110
1.115
1.120
1.125
1.1

CAPTURE EFFICIENCY (%)

monitoring plan

24

FORM OP-D03 – EMISSION UNIT INFORMATION**D03.20 – COMBUSTION TURBINES AND INTERNAL COMBUSTION ENGINES**

INSTALLATION NAME	FIPS	PLANT NUMBER	YEAR SUBMITTED
Show-Me Ethanol, LLC	033	0036	2025
EMISSION UNIT ID	EQ REFERENCE NUMBER	SOURCE CLASSIFICATION CODE	

1. EMISSION UNIT DESCRIPTION

INSTALLATION'S NAME FOR THIS EMISSION UNIT

DESCRIPTION OF EMISSION UNIT

MANUFACTURER	MODEL NUMBER/SERIAL NUMBER	
CONSTRUCTION DATE	MAXIMUM HOURLY DESIGN RATE (MMBTU/HR)	
DESIGN RATED POWER OUTPUT (INCLUDE UNITS, I.E. KW, HP)	MAXIMUM OPERATIONAL POWER OUTPUT (INCLUDE UNITS, I.E. KW, HP)	
STACK NO.	TEMPERATURE (°F)	FLOW RATE (CFM)

2. FUEL DATA

PRIMARY FUEL TYPE AND GRADE	MAXIMUM SULFUR CONTENT (WT%)
SECONDARY FUEL TYPE AND GRADE	MAXIMUM SULFUR CONTENT (WT%)

3. ASSOCIATED AIR POLLUTION CONTROL EQUIPMENT

CONTROL DEVICE TYPE	POLLUTANT(S) CONTROLLED	CONTROL EFFICIENCY (%)	CAPTURE EFFICIENCY (%)
ADDITIONAL CONTROL DEVICE TYPE	POLLUTANT(S) CONTROLLED	CONTROL EFFICIENCY (%)	CAPTURE EFFICIENCY (%)

4. APPLICABLE REQUIREMENTS

POLLUTANT	APPLICABLE REQUIREMENT AUTHORITY (CSR, CFR, SIP, PERMIT NO., ETC.)	EMISSION LIMIT OR STANDARD (INCLUDING UNITS)

DUPLICATE THIS FORM AS NEEDED

FORM OP-D03 – EMISSION UNIT INFORMATION
D03.30 – SPRAY BOOTHS

INSTALLATION NAME Show-Me Ethanol, LLC		FIPS 033	PLANT NUMBER 0036	YEAR SUBMITTED 2025
EMISSION UNIT ID		EQ REFERENCE NUMBER	SOURCE CLASSIFICATION CODE	

1. EMISSION UNIT DESCRIPTION

INSTALLATION'S NAME FOR THIS EMISSION UNIT		
DESCRIPTION OF EMISSION UNIT		
MANUFACTURER		MODEL NUMBER/SERIAL NUMBER
CONSTRUCTION DATE		MAXIMUM HOURLY DESIGN RATE (GAL/HR)
STACK NO.	TEMPERATURE (°F)	FLOW RATE (CFM)

2. COATING DATA

COATING NAME WITH HIGHEST DENSITY	DENSITY (LB/GAL)
COATING NAME WITH HIGHEST WT % SOLIDS	SOLIDS CONTENT (WT%)
COATING APPLICATION METHOD	TRANSFER EFFICIENCY (%)
ALTERNATE COATING APPLICATION METHOD	ALTERNATE TRANSFER EFFICIENCY (%)

3. ASSOCIATED AIR POLLUTION CONTROL EQUIPMENT

CONTROL DEVICE TYPE	POLLUTANT(S) CONTROLLED	CONTROL EFFICIENCY (%)	CAPTURE EFFICIENCY (%)
ADDITIONAL CONTROL DEVICE TYPE	POLLUTANT(S) CONTROLLED	CONTROL EFFICIENCY (%)	CAPTURE EFFICIENCY (%)

4. APPLICABLE REQUIREMENTS

POLLUTANT	APPLICABLE REQUIREMENT AUTHORITY (CSR, CFR, SIP, PERMIT NO., ETC.)	EMISSION LIMIT OR STANDARD (INCLUDING UNITS)

DUPLICATE THIS FORM AS NEEDED

INSTALLATION NAME		FIPS	PLANT NUMBER	YEAR SUBMITTED
Show-Me Ethanol, LLC		033	0036	2025
EMISSION UNIT ID		EQ REFERENCE NUMBER	SOURCE CLASSIFICATION CODE	

ALTERNATE SCENARIO ID	SIC CODE ASSOCIATED WITH SCENARIO
-----------------------	-----------------------------------

DESCRIPTION	

[illegible]

DUPLICATE THIS FORM AS NEEDED

FORM OP-D05 – COMPLIANCE DETERMINATION METHODS

INSTALLATION NAME	FIPS	PLANT NUMBER	YEAR SUBMITTED
Show-Me Ethanol, LLC	033	0036	2025

EMISSION UNIT ID	EIQ REFERENCE NUMBER	SOURCE CLASSIFICATION CODE
SME-10	SME-10	30201002

1. APPLICABLE REQUIREMENT

APPLICABLE REQUIREMENT	POLLUTANT(S)
§60.44b(a)(1)	NOx

EMISSION LIMITATION OR STANDARD
NOx limit of 0.10 lb/MMBtu

2. TESTING

DATE	TEST METHOD
TBD	RATA

SUMMARY OF RESULTS

An Initial RATA test and calibration of the predictive emission monitoring system (PEMS) will be performed. Details on the initial and annual testing are included in the attached PEMS Alternative Monitoring Plan (AMP).

3. MONITORING

PARAMETER MONITORED	MONITORING METHOD

MONITORING SCHEDULE

Continuous monitoring of input parameters to operate the PEMS and calculate NOx emission rates. Details are in the attached PEMS AMP.

4. RECORD KEEPING

PARAMETER MONITORED	RECORD KEEPING METHOD

RECORD KEEPING SCHEDULE

Continuous records are kept for a five year period and are detailed in the attached PEMS AMP.

5. REPORTING

REPORTING REQUIREMENT

REPORTING SCHEDULE

No changes to existing reporting requirements for SME-10

DUPLICATE THIS FORM AS NEEDED

FORM OP-D06 – CORE PERMIT REQUIREMENTS**(NOTE: This is a required form for ALL permit applications)**

INSTALLATION NAME

Show-Me Ethanol, LLC

FIPS

033

PLANT NUMBER

0036

YEAR SUBMITTED

2025

NOTE: The installation shall comply with each of the following emission limitations and operational limitations. Consult the appropriate sections of the CFR, CSR, and Missouri's SIP for the full text of the applicable requirements.**10 CSR 10-6.045 Open Burning Requirements**

1. This regulation prohibits the open burning of the following materials:
 - i) Petroleum-based materials, including but not limited to, tires, asphalt roofing material, carpet, and used oils;
 - ii) Asbestos containing materials;
 - iii) Trade waste, except untreated wood;
 - iv) Construction or demolition waste, except untreated wood;
 - v) Salvage operation waste;
 - vi) Household waste on or from properties with five or more residential units, such as mobile home parks or multi-family dwellings;
 - vii) Household waste originated from another's property; or
 - viii) Durable goods.
2. Open burning of certain materials, in certain areas of the state, and/or during specific times of the year are subject to additional requirements. The permittee should review 10 CSR 10-6.045 and local ordinances to see if additional restrictions apply prior to conducting open burning.

St. Louis City Ordinance 68657 §15 Open Burning Restrictions**Federally Enforceable Only****This requirement is only applicable to installations located in the City of St. Louis**

1. The permittee shall not cause, suffer, allow, or permit the open burning of refuse. [§15.A]
2. The permittee shall not conduct, cause, or permit the conduct of a salvage operation by open burning. [§15.B]
3. The permittee shall not conduct, cause, or permit the disposal of trade waste by open burning. [§15.C]
4. The permittee shall not cause or permit the open burning of leaves, trees, or the byproducts therefrom, grass, or other vegetation. [§15.D]
5. It shall be prima-facie evidence that the person who owns or controls property on which open burning occurs, has caused or permitted said open burning. [§15.E]

Kansas City Air Quality Control Code §8-4 Open Burning**Federally Enforceable Only****This requirement is only applicable to installations located in Kansas City**

1. The permittee shall not dispose of refuse by open burning, or cause, allow, or permit open burning of refuse. [§8-4(a)]
2. The permittee shall not cause, allow, or permit the conduct of a salvage operation by open burning. [§8-4(b)]
3. Open burning of trade wastes. [§8-4(c)]
 - a) The permittee shall not cause, allow, or permit the disposal of trade wastes by open burning except as provided in §8-4. [§8-4(c)(1)]
 - b) Exceptions shall include but not be limited to the following. Operating permits may be required by the Director. [§8-4(c)(2)]
 - i) Issuance of permit. If intending to engage in the open burning of trade wastes, the permittee shall file an application for an operating permit on a form furnished by the Director. The open burning of trade wastes may be permitted when it can be shown that it is necessary and in the public interest and that the applicant is willing to comply with the terms and conditions outlined by the director in writing. Trade waste burning permits may be renewed upon submission of a new application. The fee set forth in §8-20 shall be submitted prior to the issuance of an operating permit. The terms and conditions imposed by any such permit must be approved by the chief fire prevention inspector. [§8-4(c)(2)a]
 - ii) Revocation of permit. Any violation of the provisions relating to open burning of trade waste shall be grounds for revocation of the trade waste burning permit by the Director or the chief inspector of fire prevention. [§8-4(c)(2)b]
4. Exceptions to open burning restrictions. General exceptions to open burning restrictions are as follows: [§8-4(d)]
 - a) Fires set in connection with agricultural operations relating to the growing of crops, but not including noncrop vegetation such as trees, brush, or fence rows. Botanical nursery operations shall not be considered as agricultural operations. [§8-4(d)(1)]
 - b) Fires used for recreational purposes, or fires used for the noncommercial preparation of food such as barbecuing. [§8-4(d)(2)]
 - c) Fires used for training, when approved by the Director. [§8-4(d)(3)]

FORM OP-D06 – CORE PERMIT REQUIREMENTS

(NOTE: This is a required form for ALL permit applications)

INSTALLATION NAME	FIPS	PLANT NUMBER	YEAR SUBMITTED
Show-Me Ethanol, LLC	033	0036	2025

NOTE: The installation shall comply with each of the following emission limitations and operational limitations. Consult the appropriate sections of the CFR, CSR, and Missouri's SIP for the full text of the applicable requirements.

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

1. In the event of a malfunction, which results in excess emissions that exceeds one hour, the permittee shall notify the Missouri Department of Natural Resources' Air Pollution Control Program in the form of a written report submitted within two business days. The written report shall include, at a minimum, the following: [10 CSR 10-6.050(3)(A)]
 - a) Name and location of installation; [10 CSR 10-6.050(3)(A)1]
 - b) Name and telephone number of person responsible for the installation; [10 CSR 10-6.050(3)(A)2]
 - c) Name of the person who first discovered the malfunction and precise time and date that the malfunction was discovered; [10 CSR 10-6.050(3)(A)3]
 - d) Identity of the equipment causing the excess emissions; [10 CSR 10-6.050(3)(A)4]
 - e) Time and duration of the period of excess emissions; [10 CSR 10-6.050(3)(A)5]
 - f) Cause of the excess emissions; [10 CSR 10-6.050(3)(A)6]
 - g) Air pollutants involved; [10 CSR 10-6.050(3)(A)7]
 - 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; [10 CSR 10-6.050(3)(A)8]
 - i) Measures taken to mitigate the extent and duration of the excess emissions; and [10 CSR 10-6.050(3)(A)9]
 - j) Measures taken to remedy the situation, which caused the excess emissions and the measures taken or planned to prevent the recurrence of these situations. [10 CSR 10-6.050(3)(A)10]
2. The permittee shall notify the Missouri Department of Natural Resources' Air Pollution Control Program at least 10 days prior to any maintenance, start-up, or shutdown activity, which is expected to cause an excess release of emissions that exceeds one hour. If notification cannot be given 10 days prior to any maintenance, start-up, or shutdown activity, which is expected to cause an excess release of emissions that exceeds one hour, notification shall be given as soon as practicable prior to the maintenance, start-up, or shutdown activity. If prior notification is not given for any maintenance, start-up, or shutdown activity, which resulted in an excess release of emissions that exceeded one hour, notification shall be given within two business days of the release. In all cases, the notification shall be a written report and include, at a minimum, the following: [10 CSR 10-6.050(3)(B)]
 - a) Name and location of installation; [10 CSR 10-6.050(3)(B)1]
 - b) Name and telephone number of person responsible for the installation; [10 CSR 10-6.050(3)(B)2]
 - c) Identity of the equipment involved in the maintenance, start-up, or shutdown activity; [10 CSR 10-6.050(3)(B)3]
 - d) Time and duration of the period of excess emissions; [10 CSR 10-6.050(3)(B)4]
 - e) Type of activity and the reason for the maintenance, start-up, or shutdown; [10 CSR 10-6.050(3)(B)5]
 - f) Type of air contaminant involved; [10 CSR 10-6.050(3)(B)6]
 - g) Estimate of the magnitude of the excess emissions expressed in the units of the applicable emission control regulation and the operating data and calculations used in estimating the magnitude; [10 CSR 10-6.050(3)(B)7]
 - h) Measures taken to mitigate the extent and duration of the excess emissions; and [10 CSR 10-6.050(3)(B)8]
 - i) Measures taken to remedy the situation, which caused the excess emissions and the measures taken or planned to prevent the recurrence of these situations. [10 CSR 10-6.050(3)(B)9]
3. Information regarding the type and amount of emissions and time of the episode shall be recorded and kept on file. This data shall be included in emissions reported on any required Emissions Inventory Questionnaire. [10 CSR 10-6.050(4)(A)]
4. The information submitted according to 10 CSR 10-6.050(3)(A), (3)(B), and (3)(C)2 shall be kept on file at the installation for a period of five years. This data shall be included in emissions reported on any required Emissions Inventory Questionnaire. The information shall be available to the Director upon request. [10 CSR 10-6.050(4)(B)]

10 CSR 10-6.060 Construction Permits Required

1. The permittee shall obtain a construction permit prior to any of the following activities: [10 CSR 10-6.060(1)(D)]
 - a) The beginning of actual construction, modification, or major modification of any installation subject to this rule; [10 CSR 10-6.060(1)(D)1]
 - b) Operation after construction, modification, or major modification; or [10 CSR 10-6.060(1)(D)2]
 - c) Operation of any emission unit that has been permanently shut down. [10 CSR 10-6.060(1)(D)3]

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*.

FORM OP-D06 – CORE PERMIT REQUIREMENTS

(NOTE: This is a required form for ALL permit applications)

INSTALLATION NAME	FIPS	PLANT NUMBER	YEAR SUBMITTED
Show-Me Ethanol, LLC	033	0036	2025

NOTE: The installation shall comply with each of the following emission limitations and operational limitations. Consult the appropriate sections of the CFR, CSR, and Missouri's SIP for the full text of the applicable requirements.

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

1. The permittee shall pay an annual emission fee per ton of primary PM₁₀, SO₂, NO_x, VOC, HAP (excluding HAPs reported as PM₁₀ or VOC), and Lead based on previous calendar year emissions and in accordance with 10 CSR 10-6.110(3)(A)2 through (3)(A)7. [10 CSR 10-6.110(3)(A)1 **State Enforceable Only**]
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. [10 CSR 10-6.110(3)(D)]
3. All data collected and recorded in accordance with the provisions of this rule shall be retained by the permittee for not less than five years after the end of the calendar year in which the data was collected, and all these records shall be made available upon the Director's request. [10 CSR 10-6.110(4)]
4. The permittee shall collect information as required in 10 CSR 10-6.110(4). The information required in the emissions report is listed in Table 3 of this rule. All data elements must be reported initially, and only changed data elements must be reported subsequently. To ensure permit consistency, the Air Pollution Control Program Emissions Inventory Unit will provide assistance to identify and quantify the data elements in Table 3 of this rule. [10 CSR 10-6.110(4)(A)]
5. **Part 70 Installations only:**
 - a) The permittee shall submit a Full Emissions Report annually. [10 CSR 10-6.110(4)(B)2.A]
 - b) The Full Emissions Report shall be submitted either electronically via MoEIS, which requires Form 1.0 signed by an authorized company representative, or on EIQ paper forms. Alternate methods of reporting the emissions, such as spreadsheet file, can be submitted for approval by the Director. [10 CSR 10-6.110(4)(C)1]
 - c) The Full Emissions Report is due April 1 after each reporting year. If the Full Emissions Report is filed electronically via MoEIS, this due date is extended to May 1. [10 CSR 10-6.110(4)(C)3]
6. **Intermediate Installations only:** The permittee shall submit an EIQ every year:
 - a) A full EIQ every third year after 2011 (i.e. 2023, 2026, 2029, etc.) and may submit a Reduced Reporting Form in other years (i.e. 2022, 2024, 2025, 2027, 2028, 2030, 2031, etc.) unless either or both of the following apply: [10 CSR 10-6.110(4)(B)2.B]
 - i) Any change in installation-wide emissions subject to fees of plus or minus five tons or more since their last full EIQ requires a full EIQ for that year; and [10 CSR 10-6.110(4)(B)2.B(I)]
 - ii) A construction permit action requires a full EIQ for the first full year the affected permitted equipment operates. [10 CSR 10-6.110(4)(B)2.B(II)]

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

The permittee shall submit a purple or maroon plan within 60 days of a request from the Director. [10 CSR 10-6.130(4)]

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, conceal or dilute an emission or air contaminant which violates a rule of the Missouri Air Conservation Commission. [10 CSR 10-6.150(1)]

10 CSR 10-6.165 Restriction of Emission of Odors**State Enforceable Only**

The permittee may not cause, permit, or allow the emission of odorous matter in concentrations and frequencies or for durations that odor can be perceived when one volume of odorous air is diluted with seven volumes of odor-free air for two separate trials not less than 15 minutes apart within the period of one hour. This odor evaluation shall be taken at a location outside of the installation's property boundary. [10 CSR 10-6.165(3)]

FORM OP-D06 – CORE PERMIT REQUIREMENTS**(NOTE: This is a required form for ALL permit applications)**

INSTALLATION NAME	FIPS	PLANT NUMBER	YEAR SUBMITTED
Show-Me Ethanol, LLC	033	0036	2025

NOTE: The installation shall comply with each of the following emission limitations and operational limitations. Consult the appropriate sections of the CFR, CSR, and Missouri's SIP for the full text of the applicable requirements.

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 fugitive particulate matter emissions to- [10 CSR 10-6.170(3)(A)1]
 - a) Remain visible in the ambient air beyond the property line of origin. [10 CSR 10-6.170(3)(A)1.B]
 - b) Go beyond the premises of origin in such quantities that the particulate matter may be found on surfaces beyond the property line of origin due to the following activities: [10 CSR 10-6.170(3)(A)1.A]
 - i) Handling, transporting, or storing of any material; [10 CSR 10-6.170(3)(A)1.A(I)]
 - ii) Construction, repair, cleaning, or demolition of a building or its appurtenances; [10 CSR 10-6.170(3)(A)1.A(II)]
 - iii) Construction or use of a road, driveway, or open area; or [10 CSR 10-6.170(3)(A)1.A(III)]
 - iv) Operation of a commercial or industrial facility. [10 CSR 10-6.170(3)(A)1.A(IV)]
2. 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. [10 CSR 10-6.170(3)(A)2]
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: [10 CSR 10-6.170(3)(B)]
 - a) Revision of procedures involving construction, repair, cleaning, and demolition of buildings and their appurtenances that produce particulate matter emissions; [10 CSR 10-6.170(3)(B)1]
 - b) Paving or frequent cleaning of roads, driveways, and parking lots; [10 CSR 10-6.170(3)(B)2]
 - c) Application of dust-free surfaces; [10 CSR 10-6.170(3)(B)3]
 - d) Application of water; and [10 CSR 10-6.170(3)(B)4]
 - e) Planting and maintenance of vegetative ground cover. [10 CSR 10-6.170(3)(B)5]

Monitoring: [10 CSR 10-6.065(5)(C)1.C]

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

Recordkeeping: [10 CSR 10-6.065(5)(C)1.C]

1. The permittee shall document all inspections, noting the following:
 - a) Whether air emissions (except water vapor) remain visible in the ambient air beyond the property line of origin.
 - b) Whether equipment malfunctions contributed to an exceedance.
 - c) 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 the permittee to conduct tests to determine the quantity or nature, or both, of their air contaminant emissions. [10 CSR 10-6.180(3)(A)]
 - a) The Director may specify test methods to be used and observe testing as it is performed. [10 CSR 10-6.180(3)(A)1]
 - b) All tests must be performed by qualified personnel. [10 CSR 10-6.180(3)(A)2]
 - c) The Director shall be provided a copy of the test results in writing and signed by the person responsible for the tests. [10 CSR 10-6.180(3)(A)3]
2. The Director may conduct tests of emissions of air contaminants from any source. Upon the Director's request, the permittee 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. [10 CSR 10-6.180(3)(B)]

FORM OP-D06 – CORE PERMIT REQUIREMENTS**(NOTE: This is a required form for ALL permit applications)**

INSTALLATION NAME	FIPS	PLANT NUMBER	YEAR SUBMITTED
Show-Me Ethanol, LLC	033	0036	2025

NOTE: The installation shall comply with each of the following emission limitations and operational limitations. Consult the appropriate sections of the CFR, CSR, and Missouri's SIP for the full text of the applicable requirements.

10 CSR 10-6.250 Asbestos Abatement Projects - Certification, Accreditation, and Business Exemption Requirements**State Enforceable Only**

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. For the purpose of submission of compliance certificates the permittee may use the following in addition to any specified compliance methods: [10 CSR 10-6.280(3)(A)]
 - a) Monitoring methods outlined in 40 CFR Part 64; [10 CSR 10-6.280(3)(A)1]
 - b) Monitoring method(s) approved within this operating permit; and [10 CSR 10-6.280(3)(A)2]
 - c) Any other monitoring methods approved by the Director. [10 CSR 10-6.280(3)(A)3]
2. Any credible evidence may be used for the purpose of establishing whether a permittee has violated or is in violation of an applicable requirement. Information from the use of the following methods is presumptively credible evidence of whether a violation has occurred at an installation: [10 CSR 10-6.280(3)(B)]
 - a) Monitoring methods outlined in 40 CFR Part 64; [10 CSR 10-6.280(3)(B)1]
 - b) A monitoring method approved within this operating permit; and [10 CSR 10-6.280(3)(B)2]
 - c) Compliance test methods specified in 10 CSR 10-6.280 cited as the authority for the emission limitations. [10 CSR 10-6.280(3)(B)3]
3. The following testing, monitoring, or information gathering methods are presumptively credible testing, monitoring, or information gathering methods: [10 CSR 10-6.280(5)]
 - 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 10-6.075 *Maximum Achievable Control Technology Regulations*; and
 - v) 10 CSR 10-6.080 *Emission Standards for Hazardous Air Pollutants*; or [10 CSR 10-6.280(5)(A)]
 - b) Other testing, monitoring, or information gathering methods, if approved by the Director, that produce information comparable to that produced by any method listed in 10 CSR 10-6.280(3)(B) or (5)(A). [10 CSR 10-6.280(5)(B)]

10 CSR 10-5.040 Control of Emissions From Hand-Fired Equipment

This requirement is only applicable to installations located in the St. Louis Metropolitan Area

1. The permittee shall not operate applicable hand-fired fuel-burning equipment unless the following conditions are met: [10 CSR 10-5.040(3)]
 - a) Hand-fired equipment shall be operated to minimize emissions at all times. This includes, but is not limited to, following all manufacturers' operation and maintenance guidelines; [10 CSR 10-5.040(3)(A)]
 - b) Hand-fired equipment must be commercially manufactured; [10 CSR 10-5.040(3)(B)]
 - c) Hand-fired equipment may only burn process waste generated onsite; [10 CSR 10-5.040(3)(C)]
 - d) Equipment shall have a permanent stack extending five feet higher than the peak of any roof structure located within 150 feet; [10 CSR 10-5.040(3)(D)]
 - e) Fuel shall be clean wood with a moisture content less than or equal to 25%; and [10 CSR 10-5.040(3)(E)]
 - f) Each piece of equipment shall burn no more than 30 tons of fuel per calendar year. [10 CSR 10-5.040(3)(F)]
2. The permittee shall keep records to determine compliance. [10 CSR 10-5.040(4)(A)]
3. Records verifying that only dry wood was used for fuel may be used to demonstrate compliance with the moisture content requirement. [10 CSR 10-5.040(4)(B)]
4. Records shall be retained by the permittee for a minimum of five years. These records shall be made available to the Director upon request. [10 CSR 10-5.040(4)(C)]

FORM OP-D06 – CORE PERMIT REQUIREMENTS**(NOTE: This is a required form for ALL permit applications)**

INSTALLATION NAME

Show-Me Ethanol, LLC

FIPS

033

PLANT NUMBER

0036

YEAR SUBMITTED

2025

NOTE: The installation shall comply with each of the following emission limitations and operational limitations. Consult the appropriate sections of the CFR, CSR, and Missouri's SIP for the full text of the applicable requirements.

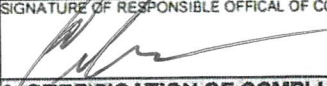
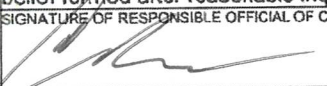
10 CSR 10-5.060 Refuse Not to be Burned in Fuel Burning Installations**Federally Enforceable Only**

This requirement is only applicable to installations located in the St. Louis Metropolitan Area

The permittee shall not burn or cause or permit the burning of refuse in any installation which is designed for the primary purpose of burning fuel. [10 CSR 10-5.060]

40 CFR Part 82 Protection of Stratospheric Ozone (Title VI)**Federally Enforceable Only**

1. The permittee shall comply with the ozone-depleting substances (ODS) Phaseout Program, Exemption Programs, Imports & Exports Program, ODS Destruction Program, Stationary Refrigeration and Air Condition Program, Motor Vehicle Air Conditioning Program, Halons Program, Nonessential Products Ban Program, Labeling Program, and Significant New Alternatives Policy (SNAP) Program requirements at 40 CFR Part 82.
 - a) The ODS Phaseout Program bans the production and import of Class I ODS and phases out the production and import of Class II ODS.
 - b) The Exemption Programs exclude specific uses of ODS from the phaseout, such as CFC-MDIs and methyl bromide.
 - c) The Imports & Exports Program establishes recordkeeping, reporting, and other requirements for importing virgin and used Class I and Class II substances.
 - d) The ODS Destruction Program establishes acceptable practices for destroying ODS in the United States.
 - e) The Stationary Refrigeration and Air Conditioning Program establishes service practices, technician certification, sales restrictions, and other requirements for these appliances and systems.
 - f) The Motor Vehicle Air Conditioning Program establishes servicing, technician certification, small can sales restrictions, and other requirements for these air-conditioning systems.
 - g) The Halons Program establishes installation, handling, and emissions requirements for halon fire suppression systems.
 - h) The Nonessential Products Ban Program concerns the ban on sale and introduction into interstate commerce of certain products manufactured with or containing ODS.
 - i) The Labeling Program establishes labeling requirements for ODS containers or products manufactured with ODS.
 - j) The SNAP Program identifies and evaluates substitutes for ozone-depleting substances.

FORM OP-E01 – COMPLIANCE STATUS			
INSTALLATION NAME	FIPS	PLANT NUMBER	YEAR SUBMITTED
Show-Me Ethanol, LLC	033	0036	2025
(NOTE: This is a required form for ALL permit applications)			
1. COMPLIANCE STATUS WITH ALL APPLICABLE REQUIREMENTS EFFECTIVE AT THE TIME OF THE ISSUANCE OF THIS PERMIT.			
Will your installation be in compliance with all applicable requirements at the time of permit issuance and continue to comply with these requirements for the duration of the permit?			
YES ☒ NO ☐ (If no, attach a compliance plan on FORM OP-F01 as described in the instructions)			
2. COMPLIANCE STATUS WITH ALL APPLICABLE REQUIREMENTS EFFECTIVE DURING THE PERMIT TERM.			
Will your installation be in compliance with all applicable requirements taking effect during the term of the permit?			
YES ☒ NO ☐ (If no, attach a compliance plan on FORM OP-F01 as described in the instructions)			
3. COMPLIANCE STATUS WITH ENHANCED MONITORING AND COMPLIANCE CERTIFICATION.			
Is the installation identified in this application in compliance with all applicable enhanced monitoring and compliance certification requirements?			
YES ☒ NO ☐ (If no, attach a compliance plan on FORM OP-F01 as described in the instructions)			
4. SCHEDULE OF SUBMISSION OF COMPLIANCE CERTIFICATION DURING THE PERMIT TERM.			
FREQUENCY OF SUBMITTALS		BEGINNING DATE	
5. CERTIFICATION STATEMENT FOR PART 70 MINOR PERMIT MODIFICATIONS.			
I hereby certify that this request for a permit modification meets the criteria described in 10 CSR 10-6.065(5)(E)5.B(I) for minor permit modifications, and request that the minor permit modification procedures be followed.			
SIGNATURE OF RESPONSIBLE OFFICIAL OF COMPANY		DATE	
		1/12/26	
6. CERTIFICATION OF COMPLIANCE WITH ALL APPLICABLE REQUIREMENTS.			
Except for requirements identified in the above statement for which compliance is not achieved, I hereby certify that, based on information and belief formed after reasonable inquiry, the statements and information in this document are true, accurate, and complete.			
SIGNATURE OF RESPONSIBLE OFFICIAL OF COMPANY		DATE	
		1/12/26	
TYPE OR PRINT NAME OF RESPONSIBLE OFFICIAL		OFFICIAL TITLE OF RESPONSIBLE OFFICIAL	
Cassidy Cardenas		EHS Manager	

FORM OP-F01 – GENERAL COMMENTS

INSTALLATION NAME

Show-Me Ethanol, LLC

FIPS

033

PLANT NUMBER

0036

YEAR SUBMITTED

2025

1. GENERAL INFORMATION**DUPLICATE THIS FORM AS NEEDED**



Attachment 2 – PEMS Alternative Monitoring Plan



Corporate Address: 3815 S Midco St, Wichita, KS 67215 | 316-927-4290 | protect.illc.com





Alternative Monitoring Plan (AMP)

Show Me Ethanol, LLC
Carrollton, MO

Emission Unit: Thermal Oxidizer/Dryers (Stack ID S10)

May 2025

Prepared for:

Show Me Ethanol, LLC
26530 Highway 24 East
Carrollton, Missouri 64633
Carroll County
Plant POC: Casidy Cardenas
(660)542-6493

Prepared by:

Kevin Sullivan
Trace Environmental Systems, Inc.
7 Park Lake Road, Suite 9
Sparta, NJ 07871
(973) 383-3550

/



Contents

Introduction	3
PEMS for Compliance Determination of NO _x Emission Rates	4
Source Description	5
Applicable Operating Permits	5
Applicable Regulations	5
Pollutant(s) subject to monitoring	5
Expected dates of monitor compliance demonstration testing	5
Trace PEMS Overview	6
Introduction	6
PEMS Input Parameters List (Preliminary)	6
Data Acquisition System	7
Equations	7
Data Collection	8
Software Applications	9
WebDAS2K	9
PEMS2K	9
DAS Utilities	9
DAS Summary Document	9
PEMS Model Development Procedures	10
Initial PEMS Verification Testing	11
Initial Relative Accuracy Test (RATA)	11
Input Failure Analysis	11
PEMS Data QA/QC	11
PEMS QA/QC Manual	12
Relative Accuracy Tests (RATA)	13
Quarterly Relative Accuracy Audits (RAA) (PS-16, §9.3)	13
Annual RATA (PS-16, §9.4)	14
Reevaluating Your PEMS After a Failed Test, Change in Operations, or Change in Critical PEMS Parameter	14



Introduction

Show Me Ethanol is installing a NOx Predictive Emission Monitoring System (PEMS) \will determine the NOx and O2 emission rates from their Thermal Oxidizer (TO)/Dryers stack (S10) on a continuous basis to demonstrate compliance with all applicable NSPS Subparts A and Db requirements.

The PEMS will be installed by Trace Environmental Systems. An existing CEMS will be used to collect NOx and O2 data at a variety of process loads for the TO/HRSG stack. Process data will be collected and matched with the pollutant and diluent data. This matched data will then be utilized to determine correlations between process and emissions data and then to create and deploy the PEMS model.

The PEMS software module will be PEMS 700 and is manufactured by Trace Environmental Systems, Inc. The compliance report generation software will be Trace Environmental Systems WebDAS2K. Both software packages will run on a DAS PC using the Windows 11 operating system. Remote access software will be used to access the PEMS DAS computer. The DAS PC is a Dell T5820 or equal workstation (industrial-grade) PC with a Pentium Xeon processor, 16-32 GB RAM, two 1TB GB RAID level 1 SATA hard-drives and 22" monitor. Reports can be sent to a local printer or output to file formats (PDF, CSV, email etc.). Data is archived to a USB external mass storage device daily and is also backed up on the mirrored hard drive.

The PEMS 700 platform employs an advanced multi-layered, densely connected neural network-based modeling approach. This network is structured with several layers of nodes to enhance non-linear learning capabilities. The training of this model involves a process known as backpropagation, combined with an optimization algorithm, to iteratively adjust and optimize the PEMS outputs. Additionally, the platform features a robust input failure-resistant system. In cases where an input falls outside the model's expected range, the system activates one of several pretrained backup models, each tailored for different input combinations. This ensures that, even in scenarios of atypical or unexpected input data, the platform can still provide almost equivalent accuracy in predicting pollutant concentrations. Such a sophisticated approach allows for precise predictions based on a comprehensive dataset of measured and historical operating and emission data stored in the PEMS model data set.

The PEMS model will have a clearly defined operating envelope for each of the PEMS input parameters and assign them into three categories of importance: Primary, Secondary and Tertiary.

Primary inputs will cause a failure of the model whenever any primary input operates outside its defined operating envelope. When this happens the PEMS output will be deemed invalid and cannot be used for compliance purposes. These periods of operation will be reported as PEMS Downtimes.

Secondary inputs would be anything that the failure input analysis says could cause the model to be out by enough to fail a RATA (10 or 20%). Those secondary inputs would be tested based on the envelope with some cushion. Tertiary inputs would basically be anything that the failure input analysis says doesn't matter enough to fail a RATA.

When a secondary or tertiary input operates outside of its defined operating envelope, it will not be used by the PEMS and however the PEMS output will be considered valid.



The PEMS inputs will be continuously monitored to ensure that they are within their operating envelopes. If any critical input operates outside of its operating envelope, then its' status will be marked as "Bad", and alarms will be generated at the PEMS DAS so corrective action can be taken.

Show Me Ethanol is requesting approval of the PEMS, pending successful completion of the required performance specification tests and certification Relative Accuracy Test Audit (RATA).

This plan is provided to Missouri DNR for review and approval. A brief description of the PEMS 700 product (PEMS software) follows.

PEMS for Compliance Determination of NO_x Emission Rates

The PEMS modeling software (PEMS 700) is unlike other parametric systems utilized in the past for compliance. Parametric systems require a few inputs that are used in empirical calculations of the NO_x emission rates. PEMS 700 utilizes all available unit-operating parameters and establishes relationships between any quality assured input with significant correlation to the emission rate. The PEMS 700 will determine the pollutant emission rates with excellent accuracy in real-time based on previously collected and quality assured emission data.

In addition, the system is resilient to input failure and retains excellent accuracy across the whole range of ambient and operational conditions such as startup, shutdown, and other upset conditions (provided the conditions are represented in the system's training dataset).

An existing CEMS will be used to collect NO_x and O₂ data at a variety of process loads for the TO/Dryers/HRSG stack (S10). Process data will be collected and matched with the pollutant data. This matched data will then be utilized to determine correlations between process and pollutant data and then to create and deploy the PEMS model. This body of quality assured training data is known as the 'current model'.

PEMS 700 is relatively easy to implement for any given unit without a great deal of knowledge of the process or chemistry involved in the generation of pollutants. The training dataset is derived from reference method (CEMS) and process data collected prior to certification. Additional data can be collected at any time and used to retrain the current model onsite in response to process changes, variations in ambient conditions, or changes to standard operating procedures. The flexibility of the PEMS 700 to utilize the widest variety of process inputs and to interface directly with the process control system allows for the highest level of reliability and greater operational feedback to document the causes of and help reduce emissions.



Source Description

Plant address:

Show Me Ethanol, LLC
26530 East Highway 24
Carrollton, Missouri 64633
Carroll County

Emission Source: Thermal Oxidizer/Dryers – (200 MMBTU/hr), Stack ID S10.

The Thermal Oxidizer (150 MMBtu/hr) and two dryers (50 MMBtu/hr each) combust natural gas.

Applicable Operating Permits

- Missouri DNR Permit to Construct – Permit No. 042008-004, dated April 9, 2008

Applicable Regulations

- USEPA New Source Performance Standards, 40CFR60 (NSPS):
 - Subpart A - General provisions
 - Subpart Db - Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units
 - Appendix A – Test Methods
 - Appendix B – Performance Specifications (PEMS: PS-16)

Pollutant(s) subject to monitoring

- NO_x emission rate in units of lb/MMBtu
- NO_x ppm
- O₂ %volume

Expected dates of monitor compliance demonstration testing

Certification testing of PEMS will be completed within 120 days of Installation.
Certification RATA is currently scheduled for September.



Trace PEMS Overview

Introduction

The TO PEMS will run on a computer using the Windows 11 operating system. The PEMS modeling software is known as PEMS 700 developed by Trace Environmental Systems, Inc. The compliance reporting software will be WebDAS2K, manufactured by Trace Environmental Systems, Inc. of Sparta, New Jersey.

The PEMS 700 module utilizes a regularizing gradient boosting framework (XGBoost) to predict the NO_x emission rate in the applicable standard from measured and historical operating and emission data stored in the PEMS model data set. PEMS 700 provides the predicted emissions data to the compliance software as 1-minute averages of NO_x [ppm], and O₂ [%]. The DAS will calculate the NO_x emission rate values in units of lb/MMBtu. Heat input to the boiler will be determined by monitoring fuel flow rate. The heat input in conjunction with the NO_x emissions rate will be utilized to calculate the NO_x mass emissions rate in units of lbs per hour.

PEMS Input Parameters List (Preliminary)

The Trace PEMS is to be installed and maintained for TO/HRSG as per 40 CFR Part 60 (NSPS) Subpart Db regulations and Appendix B, Performance Specification PS-16 (PEMS).

Primary Inputs

- Total Gas Flow for the TO and Dryers (MMBtu/hr)
- HRSG Steam Flow (kpph)
- Combustion Air Flow (kpph)

Secondary Inputs

- FD Fan Speed Control (%)
- Damper Position – Combustion Air (%)
- Damper Position – Preheater Outlet (%)
- Valve Position – TO Natural Gas (%)
- TO Stack Temp (Deg-F)

Tertiary Inputs

- Boiler Feedwater Flow (gpm)
- Feedwater Valve position (%)
- Temperature - Steam Header (degF)
- Temperature – Fresh Air (degF)
- Temperature – Stack Gas (degF)



Data Acquisition System

Equations

Raw process data is collected each minute and logged in the compliance database along with the PEMS predicted NO_x and O₂ concentrations. The compliance database will contain five years of one-minute average data as collected for compliance reporting purposes.

The DAS will calculate NO_x emission rates in units of lb/MMBtu and lb/hr. The equations for NO_x emission calculations are listed below:

NO_x Emission rate - lb/MMBtu

The pollutant and O₂ diluent measurements are on a dry basis.

Reference: 40CFR60, Method 19, Equation 19-1

$$E = K \times C_d \times F_d \times \left(\frac{20.9}{20.9 - \%O_{2_d}} \right) \quad \text{Equation 19-1}$$

Where:

- E = emission rate, lb/MMBtu
- C_d = pollutant concentration, raw, ppmvd. (predicted by the PEMS)
- K = conversion factor used to convert ppm to lb/scf
 $K = 1.194 \times 10^{-7} \text{ (lb/dscf)/ppm NO}_x$
- F_d = dry-basis fuel factor, dscf/MMBtu: 8,710 for natural gas
- $\%O_{2_d}$ = oxygen diluent concentration - percent of effluent gas, dry basis (predicted by the PEMS)

NO_x Mass Emission Rate – lb/hr

Reference: 40CFR75, Appendix F, Equation F-24

$$M_h = E_h \times HI_h \times t_h \quad \text{Equation F-24}$$

Where:

- M_h = mass emissions for the hour, lbs.
- E_h = emission rate, lb/MMBtu.
- HI_h = total heat input rate, mmBtu/hr.
- t_h = operating time, fraction of an hour. (set to 1.0 for P60 calculations)



Heat Input Rate – Gaseous Fuels

Reference: 40CFR75, Appendix D, Equation D-6

$$HI_{rate-gas} = \frac{GAS_{rate} \times GCV_{gas}}{10^6} \quad \text{Equation D-6}$$

Where:

$HI_{rate-gas}$ = Hourly heat input rate from combustion of the gaseous fuel, mmBtu/hr.

GAS_{rate} = Average volumetric flow rate of fuel, scfh.

GCV_{gas} = Gross calorific value of gaseous fuel, (constant 1020 Btu/scf)

10^6 = Conversion of Btu to mmBtu.

Data Collection

The DAS will collect and store the following data in the compliance database include: : raw 1-minute data (both process and PEMS predictions), 15-minute averages and hourly emission rates of NO_x in the applicable standard of lb/MMBtu and lb/hr. Common reports available to the user include: Source downtime, PEMS downtime, excess emissions, and quarterly QA/QC data. A 40CFR60.7 EPA Summary Report will be submitted to Missouri DNR, as required. The facility will also maintain copies of the results of PEMS Initial Certification Test and any subsequent verification tests.

The NO_x emission rate (lb/mmBtu) will be calculated for every clock hour. Every day a new 30-day rolling average will be calculated to demonstrate compliance with the NO_x emission limit.

Valid data will be collected for at least 90% of the unit operating hours.

Refer to the DAS Summary document located in Appendix B for more details.



Software Applications

WebDAS2K

WebDAS2K is a browser-based Data Acquisition System (DAS) that polls data and stores it into the PEMS database every minute. WebDAS2K will build all the averages required to show continuous compliance with the boiler's operating permit. It has an Overview screen that the operators can view to monitor both the boiler's emissions and the PEMS operating status. It will generate alarms to alert the plant of high emissions and any PEMS performance alarms. This application must always run (24/7/365).

Within WebDAS2K there is a second application called PEMS 700 that retrieves the process data directly from the Boiler PLC. PEMS 700 builds 1-minute averages that WebDAS2K will store in a data table that can be used to run reports and generate alarms. You can also view instantaneous values using PEMS 700. PEMS 700 is automatically opened when WebDAS2K runs.

WebDAS2K has an intuitive and easy to use reporting module that allows the user to setup and configure Summary reports with a variety of report templates. In addition, Source Downtime PEMS Downtime and Excess Emission reports are available for compliance reporting. Reports can be sent to a local printer or stored in a variety of file formats: PDF files, Excel spreadsheet, CSV files etc. Email reports can be setup too.

PEMS 700

This PEMS 700 application uses the plant data to generate emissions predictions based on the PEMS model. PEMS 700 can retrieve data from the plant using OPC, Modbus or Allen-Ethernet IP communication protocols. The plant data will be stored in a database and will generate the emission data predictions built into the PEMS model. While it is the core module of this PEMS DAS it is usually run in a minimized state. This application must always run (24/7/365).

DAS Utilities

DAS 2K File Copy – this utility backs up the PEMS configuration and Data files used by WebDAS2K and CEMS 700. You can schedule backups to run daily or use it backup manually as needed. It can store data to an external hard drive or USB memory stick.

DAS Summary Document

The DAS Summary document details the compliance averaging rules and equations used to configure the DAS. It is services as a handy resource and can be updated if needed. This reference document is in Appendix B.



PEMS Model Development Procedures

All process inputs should be calibrated prior to the development of model training data and periodically as recommended by the manufacturer or as identified in the quality assurance program maintained at the site. The certification event includes model retraining, if necessary, and a multi-load RATA test.

Typically, Trace will deploy a mobile CEMS trailer which will be utilized to collect NO_x and O₂ data at a variety of process loads and operating conditions (startup, shutdown and fuel switchover, as applicable). However, since the facility has been using a certified CEMS to collect and report NO_x compliance data for the TO/Dryers/HRSG stack since it was installed in 2009 the CEMS data will be used in the PEMS modeling development in lieu of a CEMS trailer.

Process data will be collected and matched with the pollutant data to identify the input parameters that the PEMS model will use, define their minimum and maximum values (operating envelope), and demonstrate the integrity of the parameter operating envelope using graphs and data from the PEMS model training data set. This PEMS model training data set will then be utilized to determine correlations between process and pollutant data and then to create and deploy the PEMS model. If you operate the PEMS beyond these envelopes at any time after the certification test, the PEMS data will not be acceptable for use in demonstrating compliance with the applicable requirements.

A final demonstration of the correlations between PEMS predictions and analyzer NO_x and O₂ values will be included with the final certification documentation in the final AMP.



Initial PEMS Verification Testing

Initial Relative Accuracy Test (RATA)

As per the performance specification 16 (PS-16), the relative accuracy of the NO_x PEMS in terms of the applicable emission standard must be demonstrated to be less than 10% of the average test method value or 10% of the applicable standard, whichever is greater. If the NO_x ppm values are less than 100 ppm, the RA limit will be 20%. If the NO_x values are below 10 ppm, the absolute mean between the PEMS measurements and the RM measurements must not exceed 2 ppm. The criterion for oxygen is absolute difference less than or equal to 1% O₂.

The initial certification RATA will be conducted at three operating loads to ensure the maximum range of NO_x emissions during the test: low load defined as between the minimum safe, stable load and 50% of maximum load level; at mid-load level (an intermediary level between low and high levels) and at high-load level between 80% to maximum load. The unit operation will be such that all the identified PEMS input parameters are operating within their defined operating envelopes, otherwise the PEMS operation will be limited to the range of parameter inputs encountered during the certification test until the PEMS has a new operating envelope established.

A log will be maintained during the required stack tests that will include all parameter readings and emissions measurements for each minute of the test.

Input Failure Analysis

The PEMS model will have a clearly defined operating envelope for each of the PEMS input parameters and assign them into three categories of importance: Primary, Secondary and Tertiary. Primary inputs will cause a failure of the model, defined as a 10% deviation from the RM value, when they fail. Whenever any primary input operates outside its defined operating envelope, then the PEMS output will be deemed invalid and cannot be used for compliance purposes. These periods of operation will be reported as PEMS Downtimes. However, if a secondary or tertiary input operates outside of its defined operating envelope, it will not be used by the PEMS but the PEMS output will still be considered valid.

PEMS Data QA/QC

The PEMS inputs will be continuously monitored to ensure that they are within their operating envelopes. If any critical input operates outside of its operating envelope, then its status will be marked as Bad and alarms will be generated at the PEMS DAS so corrective action can be taken.

This PEMS will not generate any substitute (reconciled data) for any input operating outside of its operating envelope.

The final list of PEMS inputs will be included in the initial verification test report for the boiler. Input Failure analysis will be performed on each Primary or Secondary PEMS input. The PEMS will provide a reliable platform to automatically validate each of the inputs once each minute,



determine validity of the current input dataset, generate a predicted value for the emission rate, and log the minute record in the compliance database. An alarm will activate if the PEMS identifies an excess emission rate or an input or set of inputs that have failed and are causing a failure to predict the regulated rate accurately

Valid data will be collected for at least 95% of the unit operating hours in a calendar quarter.

All alarms for PEMS failures will be identified as monitor downtime in the compliance summary report. All excess emissions will be identified in the facility emissions report. Conditions that cause greater than 5% monitor downtime or 5% excess emissions will be identified in detail for the operating period in which the 5% level was exceeded. Conditions of the boiler being improperly operated or operated outside the training dataset of ambient or normal operating conditions will also be identified.

PEMS alarms can be traced to the underlying input failures. Excess emissions can also be linked to the inputs causing the elevated emission rate. The operator will investigate the cause and take corrective actions as necessary. Potential corrective actions could include operating adjustments or calibration of inputs, repair, and/or replacement of devices or interfaces. If boiler operations change dramatically or the process is changed fundamentally, a new training dataset will need to be collected.

PEMS QA/QC Manual

A QA/QC Manual will be issued after certification. This document will list the final model envelopes for each input parameter.

A Spare Parts list will be generated. Spare parts for input devices will be obtained directly from the manufacturer on an as needed basis. Any item that requires a lead-time greater than 5 days will be stocked onsite or locally to prevent long-term PEMS downtime.



QA/QC Test Requirements

Reference: PEMS Performance Standards (40CFR60, PS-16)

Relative Accuracy Tests (RATA)

This PEMS follows the RATA Test criteria for a Continual Compliance PEMS (PS-16 §8.2).

There are two types of RATA test: certification RATA and annual RATA.

The initial certification RATA is the most stringent test and performed at three different operating levels. Additional Statistical Tests are required for a Continual Compliance PEMS are listed in PS-16 §8.3 and consist of: Bias Test, F-Test, Correlation Analysis.

The annual RATA is a single load RATA and can be at a normal operating load. The annual RATA doesn't require any statistical test required in PS-16 §8.3.

Refer to Appendix A for additional RATA Test notes.

Quarterly Relative Accuracy Audits (RAA) (PS-16, §9.3)

In the first year of operation after the initial certification, perform a RAA consisting of at least three 30-minute portable analyzer or RM determinations each quarter a RATA is not performed. To conduct a RAA, follow the procedures in Section 8.2 for the relative accuracy test, except that only three sets of measurement data are required, and the statistical tests are not required. The average of the three or more portable analyzer or RM determinations must not exceed the limits given in Section 13.5.

Boiler RAA criteria – NO_x readings below 20 ppm.

Parameter/Units	Allowable
NO _x ppmvd	Absolute difference ≤ 2 ppm
Oxygen %O ₂	≤ 1.0% O ₂

Boiler RAA criteria – NO_x readings between 20 and 100 ppm

Parameter/Units	Allowable
NO _x lb/MMBtu	≤ 20% of RM
NO _x ppmvd	≤ 20% of RM
Oxygen %O ₂	≤ 1.0% O ₂

Report the data from all sets of measurement data. If a PEMS passes all quarterly RAAs in the first year and passes the subsequent yearly RATA in the second year, you may elect to perform a single mid-year RAA in the second year in place of the quarterly RAAs. This option may be repeated, but only until the PEMS fails either a mid-year RAA or a yearly RATA. When such a failure occurs, you must resume quarterly RAAs in the quarter following the failure and continue



conducting quarterly RAAs until the PEMS successfully passes both a year of quarterly RAAs and a subsequent RATA.

Annual RATA (PS-16, §9.4)

Perform a minimum 9-run RATA at the normal operating level on a yearly basis in the quarter that the RAA is not performed. The statistical tests in Section 8.3 are not required for the yearly RATA.

Reevaluating Your PEMS After a Failed Test, Change in Operations, or Change in Critical PEMS Parameter

After initial certification, if your PEMS fails to pass a quarterly RAA or yearly RATA, or if changes occur or are made that could result in a significant change in the emission rate (e.g., turbine aging, process modification, new process operating modes, or changes to emission controls), your PEMS must be recertified using the tests and procedures in section 8.1. The requirements of section 8.1 must be completed by the earlier of 60 unit-operating days or 180 calendar days after the failed RATA or after the change that caused a significant change in emission rate.