NORTH Dakota | Environmental Quality
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May 21, 2024

Mr. Tyler Mock
Environmental Manager - Safety Director
Red Trail Energy, LLC
3682 Highway 8 South
Richardton, ND 58652

Re: Air Quality
Title V (Renewal)
Permit to Operate

Dear Mr. Mock:

Pursuant to the Air Pollution Control Rules of the State of North Dakota, the Department of Environmental Quality has reviewed your permit application dated June 30, 2022, for the Richardton Ethanol Plant located in Stark County, North Dakota.

Enclosed is a copy of the Department's draft/proposed Title V Permit to Operate and statement of basis for the facility. Before making final determinations on the permit application, the Department provides for public comment by means of the enclosed public notice, to be immediately followed by a 45-day Environmental Protection Agency (EPA) review period. As indicated in the notice, the 30-day public comment period will begin May 30, 2024 and end June 28, 2024.

If any changes are subsequently made to the draft permit, then a review copy of the proposed permit reflecting those changes will be provided to EPA prior to the start of a 45-day EPA review period. The 45-day EPA review period is scheduled to begin June 29, 2024 and end August 12, 2024.

All comments received will be considered in the final determination concerning issuance of the permit. The Department will take final action on the permit application following the public comment period and the EPA review period. You will be notified in writing of our final determination.

If you have any questions, please contact me at (701)328-5218 or email kkschneider@nd.gov.

Sincerely,

Kyla K. Schneider
Environmental Scientist
Division of Air Quality

KKS:er
Enc:
xc/enc: EPA Region 8, Air Permitting (email – r8airpermitting@epa.gov)

NOTICE OF INTENT TO ISSUE AN
AIR POLLUTION CONTROL
TITLE V
PERMIT TO OPERATE

Take notice that the North Dakota Department of Environmental Quality (NDDEQ) proposes to a reissue an Air Pollution Control Permit to Operate to Red Trail Energy, LLC for operation of the Richardton Ethanol Plant in accordance with the ND Air Pollution Control Rules. The facility is located at 3682 Highway 8 South, Richardton, ND in Stark County, ND and produces corn based, fuel grade ethanol. The Red Trail Energy, LLC mailing address is P.O. Box 11, Richardton, ND 58652. The draft permit incorporates ACP-18188 v1.0 and ACP-18227 v1.0.

A thirty-day public comment period for the draft permit will begin May 30, 2024 and end on June 28, 2024. Direct comments in writing to the NDDEQ, Division of Air Quality, 4201 Normandy Street 2nd Floor, Bismarck, ND 58503-1324 or email AirQuality@nd.gov, Re: Public Comment Permit No. AOP-28453 v3.0. Please note that, to be considered, comments submitted by email must be sent to the email address listed; comments sent to any other email address **will not** be considered. Comments must be received by 11:59 p.m. central time on the last day of the public comment period to be considered in the final permit determination. A public hearing regarding issuance of the permit will be held if a significant degree of public interest exists as determined by the NDDEQ. Requests for a public hearing must be received in writing by the NDDEQ before the end of the public comment period.

The notice, draft permit, statement of basis and application are available for review at the NDDEQ address and at the Division of Air Quality website at https://deq.nd.gov/AQ/PublicCom.aspx. A copy of these documents may be obtained by writing to the Division of Air Quality or contacting Kyla Schneider at (701)328-5218 or emailing kkschneider@nd.gov.

The NDDEQ will consider every request for reasonable accommodation to provide an accessible meeting facility or other accommodation for people with disabilities, language interpretation for people with limited English proficiency (LEP), and translations of written material necessary to access programs and information. Language assistance services are available free of charge to you. To request accommodations or language assistance, contact the NDDEQ Non-discrimination/EJ Coordinator at 701-328-5150 or deqEJ@nd.gov. TTY users may use Relay North Dakota at 711 or 1-800-366-6888.

Dated this 21st day of May 2024

James L. Semerad
Director
Division of Air Quality

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AIR POLLUTION CONTROL TITLE V PERMIT TO OPERATE

Permittee: **Name:** Red Trail Energy, LLC **Address:** P.O. Box 11 Richardton, ND 58652	**Permit Number:** AOP-28453 v3.0 **Source Name:** Richardton Ethanol Plant
Source Location: 3682 Highway 8 South Richardton, ND 58652 Stark County	**Source Type:** Ethanol Production
Expiration Date: December 6, 2027	

Pursuant to Chapter 23.1-06 of the North Dakota Century Code (NDCC), and the Air Pollution Control Rules of the State of North Dakota, Article 33.1-15 of the North Dakota Administrative Code (NDAC), and in reliance on statements and representations heretofore made by the permittee (i.e., owner) designated above, a Title V Permit to Operate is hereby issued authorizing such permittee to operate the emissions units at the location designated above. This Title V Permit to Operate is subject to all applicable rules and orders now or hereafter in effect of the North Dakota Department of Environmental Quality (Department) and to any conditions specified on the following pages. All conditions are enforceable by EPA and citizens under the Clean Air Act unless otherwise noted.

Renewal: TBD

James L. Semerad
Director
Division of Air Quality

Richardton Ethanol Plant
Title V Permit to Operate
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1. **Emission Unit Identification:**

The emission units regulated by this permit are as follows:

Process Unit	Emission Unit Description	Emission Unit (EU)	Emission Point (EP)	Air Pollution Control Equipment	Control Equipment ID
DDGS cooling	DDGS cooling	P01	S01	Baghouse	C01
Ethanol load-out (truck/rail)	Ethanol load-out	P02	S02	Vapor collection system & enclosed flare	C02
Enclosed flare	Enclosed load-out flare	S02	S02	NA	--
Bio-methanator	Bio-methanator	P03	S03	Boiler & enclosed flare	C03
Fire water pump engine	300 bhp diesel engine-driven fire water pump (manuf. February 2006, MACT ZZZZ)	P04	S04	None	---
DDGS storage building	DDGS storage building	P05 [A]	P05	None	--
Grain unloading	Grain dump pit/auger	P10	S10	Baghouse	C10
	Grain elevator #1	P11			
	Grain elevator #2	P12			
	Grain silo #1	P13			
	Grain silo #2	P14			
	Grain silo #3	P15			
DDGS loading	DDGS dump pit/auger	P20	S20	Baghouse	C20
	Screw conveyor	P21			
	DDGS elevator	P22			
	Truck/rail load spout	P23			
Hammermilling	Hammermill #1	P30	S30	Baghouse	C30
	Hammermill #2	P31			
	Hammermill #3	P33			
	Hammermill #4	P34			
	Surge bin	P32			
Fermentation	Fermenter #1	P40	S40 [B]	Scrubber	C40
	Fermenter #2	P41			
	Fermenter #3	P42			
	Fermenter #4	P43			
	Beer well	P44			

Process Unit	Emission Unit Description	Emission Unit (EU)	Emission Point (EP)	Air Pollution Control Equipment	Control Equipment ID
Distillation	Slurry tank	P50	S60	Regenerative Thermal Oxidizer (RTO)	---
	Evaporator	P51			
	Yeast tank	P52			
	Beer column	P53			
	Side stripper	P54			
	Rectifier column	P55			
	4 Molecular sieves	P56			
	Slurry tank	P57			
	Yeast tank	P58			
United States Pharmacopoeia (USP) distillation process	ARC-I (C-1461) column & ancillaries ARC-II (C-1471) column & ancillaries alcohol scrubber (C-1421) (MACT VVVVVV)	P59a	S60	RTO	---
		P59b			
		P59c			
DGS dryers	DGS dryer A (boiler steam heated)	P61	S60	Multiclone/RTO	C60
	DGS dryer B (boiler steam heated)	P62			
Boiler	Fluidized bed coal boiler nominally rated at 220 x 10^6 Btu/hr (built 2006, NSPS Db & MACT JJJJJ)	P63	S60	Over-fire air, limestone injection, SNCR, sodium bicarbonate injection & baghouse	C63, C64, C65
Boiler #2	Natural gas boiler rated at 120.4 x 10^6 Btu/hr (built 2015, NSPS Db)	P64	S64	Low NOx burners (LNB) & Flue gas recirculation (FGR)	---
Boiler #3	Natural gas boiler rated at 120.4 x 10^6 Btu/hr (built 2015, NSPS Db)	P65	S65	LNB & FGR	---
Flyash conveying and storage	Flyash conveying and storage	P120	S120	Baghouse	C120
Coal handling	Coal receiving	P130	S130	Baghouse	C130
	Coal railcar terminal, receiving (unloading pit, inclined & transfer belt conveyers, coal stacker transition)	F10	S170	Baghouse	C170
	Two coal storage piles (3,500 ton active pile & 15,000 ton reserve pile)	F11[A]	Fugitive (FUG)	Spray nozzles, dust suppression surfactants & wind fence	---
	Coal terminal haul road	F12[A]	FUG	Chemical spraying	---

Process Unit	Emission Unit Description	Emission Unit (EU)	Emission Point (EP)	Air Pollution Control Equipment	Control Equipment ID
Limestone storage and handling	Limestone storage and handling	P140	S140	Baghouse	C140
FGD silo bin vent	Bin vent	P150	S150	Baghouse	C150
Emergency generator engine	225 bhp natural gas-fired 4SRB emergency generator engine (manuf. March 2010, NSPS JJJJ & MACT ZZZZ)	P180 [C]	S180	None	---
Truck traffic	Truck traffic	F01 [A]	FUG	N/A	---
Uncaptured grain handling emissions	Uncaptured grain handling emissions	F02 [A]	FUG	N/A	--
Uncaptured DDGS handling emissions	Uncaptured DDGS handling emissions (Includes DDGS Storage Bldg.)	F03 [A]	FUG	N/A	---
Cooling towers	Cooling towers	F04 [A]	FUG	Mist eliminators	---
Equipment leaks	Equipment leaks	F05 [A]	FUG	N/A	---
Uncaptured coal handling emissions	Uncaptured coal handling emissions	F06 [A]	FUG	N/A	---
Wet cake storage and handling	Wet cake/DGS storage and handling	F07, F08	F07, F08	None	---
190 Proof storage tank	190 Proof storage tank (165,000 gal., NSPS Kb)	T01	T01	Internal floating roof (IFR)	---
Denaturant storage tank	Denaturant storage tank (165,000 gal., NSPS Kb)	T02	T02	IFR	---
Denatured ethanol storage tank	Denatured ethanol storage tank (750,000 gal., NSPS Kb)	T03	T03	IFR	---
200 Proof storage tank	200 Proof storage tank (165,000 gal., NSPS Kb)	T04	T04	IFR	---
Fuel additive	Fuel additive (2,300 gal.)	T05	T05	Submerged fill pipe (SFP)	---
Denatured ethanol storage tank	Denatured ethanol storage tank (750,000 gal., NSPS Kb)	T06	T06	IFR	---
No. 2 diesel fuel storage tank	Diesel fuel Tank (500 gal.)	T07 [A]	T07	None	---
Corn oil tanks	Two corn oil storage tanks	T08 [A], T09 [A]	T08, T09	None	---
Gasoline storage tank	Gasoline storage tank (500 gal.)	T10 [A]	T10	None	---
Diesel fuel tank	Diesel storage tank (1,000 gal.)	T11 [A]	T11	SFP	---
USP shift tank	USP shift tank (175,000 gal., NSPS Kb)	T12	T12	IFR	---
USP bertha tank	USP product tank (750,000 gal., NSPS Kb)	T13	T13	IFR	---
Fuel additive	Corrosion inhibitor tank (2,300 gal.)	T14	T14	IFR	---

Process Unit	Emission Unit Description	Emission Unit (EU)	Emission Point (EP)	Air Pollution Control Equipment	Control Equipment ID
Unsheltered corn storage	Corn storage pile No. 1 (1.5×10^6 bushels)	F13 [A]	FUG	N/A	---
Haul road	Haul road for EU F13	F15 [A]	FUG	N/A	---
Corn oil loadout	Corn oil truck loading rack	F16 [A]	F16	None	---
Haul road	Corn oil haul road to railcar loadout	F17 [A]	FUG	None	---
Space heaters	Two 200,000 Btu/hr natural gas-fired Dayton space heaters for the HRSG unit	P160 [A] / P161 [A]	S160/ S161	None	---

A Insignificant or fugitive emission sources (no specific emission limit).

B Emissions leaving the scrubber are injected into a deep geological well located on RTE property. When the capture system is operating (primary operating scenario), there are intermittent vents with insignificant potential emissions emitted to the atmosphere. When the capture system is not operating, the scrubber is expected to vent regulated pollutant emissions to the atmosphere.

C The potential to emit for an emergency stationary reciprocating internal combustion engine (RICE) is based on operating no more hours per year than is allowed by the subpart (40 CFR 60 Subpart JJJJ and 40 CFR 63, Subpart ZZZZ, as applicable) for other than emergency situations. For engines to be considered emergency stationary RICE under the RICE rules, engine operations must comply with non-emergency operating hour limits as specified in the applicable subpart. There is no time limit on the use of emergency stationary RICE in emergency situations [40 CFR 60, Subpart JJJJ, §60.4243(d) and 40 CFR 63, Subpart ZZZZ, §63.6640(f)].

2. **Applicable Standards, Restrictions and Miscellaneous Conditions**:

A. **Fuel Restrictions**:

1) Engine Fuels:

a) The fire water pump engine (EU P04) is restricted to combusting only distillate oil containing no more than 0.0015% sulfur by weight. This fuel restriction ensures compliance with NDAC 33.1-15-06-01.2.

b) The emergency generator engine (EU P180) is restricted to combusting only natural gas containing no more than 2 grains of sulfur per 100 standard cubic feet.

Applicable Requirements: NDAC 33.1-15-06-01, NDAC 33.1-15-14-06.5.b(1) and 40 CFR 63, Subpart ZZZZ

2) Boiler Fuel: The boiler (EU P63) shall be fired on lignite or subbituminous coal, bio-methanator off-gas or pipeline quality natural gas containing no more than 2 grains of

sulfur per 100 standard cubic feet. The following fuels may be combusted provided the firing rate does not exceed the limits in this condition:

Clean Wood: ≤10% of Annual Heat Input [12 month rolling average (m.r.a.)]
DDGS: ≤10% of Annual Heat Input (12 m.r.a.)
Corn: ≤10% of Annual Heat Input (12 m.r.a.)
Syrup Mixture: ≤40 gpm
Renewable Oil: ≤20 gpm
Natural Gas: see Cond. 2.A.4 for operating restrictions

For purposes of this permit, clean wood means wood that has not been painted, pigment-stained, coated with varnish/polyurethane or other materials, or pressure treated by any chemical or compound. Renewable oil means fatty acid oil derived from pulp and paper production. Syrup mixture means syrup from dry-mill ethanol production that may be mixed with up to 1.0% diesel fuel, kerosene or gasoline. Other fuels may be used if approved in advance by the Department.

Applicable Requirements: ACP- 17102 v1.0 and ACP-17623 v1.0

a) Initial compliance with the boiler (EU P63) mercury emission limit was accomplished by fuel (subbituminous coal and syrup) analysis that measured mercury constituents in the fuel or fuel mixture to be equal to or less than half of the mercury emission limit. Because EU P63 has not operated since February 2015, the subsequent fuel analysis required by September 14, 2017 under §63.11220(d)(1) has not been completed. As such, upon future re-start of EU P63 on this fuel, or if boiler P63 has not operated on this fuel for more than 3 years since the initial compliance demonstration, fuel analyses must be completed within 180 days of re-starting the boiler on these fuels.

1] If the permittee plans to burn a new type of fuel or fuel mixture, the permittee must conduct a fuel analysis according to §63.11213 before burning the new type of fuel or mixture in the boiler.

2] When demonstrating initial compliance with the mercury emission limit for the new fuel or re-start of the boiler on subbituminous coal and syrup, if the mercury constituents in the fuel or fuel mixture are measured to be equal to or less than half of the mercury emission limit, subsequent fuel sampling and analyses must be completed every 12 months. If the mercury constituents in the fuel or fuel mixture being measured are greater than half of the mercury emission limit, the permittee must conduct quarterly sampling and analyses.

3] In all circumstances, the permittee must continue to comply with all applicable operating limits and monitoring requirements (§63.11220).

Applicable Requirement: NDAC 33.1-15-22-03, Subpart 6J

3) Boilers #2 and #3 Fuel: Boilers #2 and #3 (EU P64 and P65) are restricted to combusting only natural gas containing no more than 2 grains of sulfur per 100 standard cubic feet.

Applicable Requirement: ACP-17623 v1.0

4) Boiler (EU P63) shall not be fired on coal or other solid or liquid fuels when Boiler #2 (EU P64) and/or Boiler #3 (EU P65) are operating. EU P63 may be operated on natural gas when EU P64 and/or P65 are operating. The heat input to EU P63 shall not exceed 60 x 10^6 Btu/hr while operating on natural gas.

Applicable Requirement: ACP-17623 v1.0

5) The RTO (EP S60) is restricted to combusting only pipeline quality natural gas containing no more than 2 grains of sulfur per 100 standard cubic feet and bio-methanator off-gas. This fuel restriction ensures compliance with NDAC 33.1-15-06-01.2.

Applicable Requirements: NDAC 33.1-15-06-01 and NDAC 33.1-15-14-06.5.b(1)

B. **Best Management Practices (BMP)**: At all times, including periods of startup, shutdown and malfunction, the permittee shall to the extent practicable maintain and operate any affected process unit including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions.

Applicable Requirement: ACP-17102 v1.2 and NDAC 33.1-15-15-01.4.c(2) (BACT)

C. **Loading Rack Vapor Collection** (associated with EU P02): The facility shall be operated with a vapor collection system which collects the total organic compounds displaced from tank trucks and railcars during product loading. The emissions from the collection system shall be reduced by at least 98% by the control device or shall not exceed 10 milligrams of total organic compounds per liter of product loaded on a 3-hour average basis.

Applicable Requirement: ACP-17102 v1.2 and NDAC 33.1-15-15-01.4.c(2) (BACT)

D. **Process Restrictions**:

1) Bio-methanator Off-Gas: The off-gas from the bio-methanator shall be routed to the boiler (EU P63) or RTO (EP S60) when it is technically and operationally feasible. When the off-gas is not routed to the boiler or RTO, it shall be routed to an enclosed flare (EU S02) that is operated and monitored in accordance with this permit.

Applicable Requirement: ACP-17102 v1.2

2) Fire Water Pump Engine (EU P04): The engine shall not be operated more than 500 hours in any 12-month period (12-month rolling total).

Applicable Requirement: ACP-17102 v1.2

3) Stack Heights: The emissions from the facility shall be vented through stacks that meet the following requirements:

EP	Minimum Stack Height Above Ground Level (ft.)
S01	50
S02	36
S03	36
S04	8
S10	164
S20	40
S30	155
S40	45
S60	140
S64	50
S65	50
S120	91
S130	94
S140	57
S170	40

Applicable Requirement: ACP-17102 v1.0, ACP-17161 v1.0, ACP-17623 v1.0, ACP-18188 v1.0 and NDAC 33.1-15-15-01.2

4) Cooling Tower Mist Eliminators (EU F04): The cooling towers shall be equipped and operated with mist eliminators that are guaranteed to limit drift to 0.005% or less of the circulating flow.

Applicable Requirement: ACP-17102 v1.2 (BACT)

E. **Flaring Restrictions:**

1) The flares shall be operated with a flame present at all times when emissions may be vented to the flare.

2) The flares must be equipped and operated with an automatic ignitor or a continuous burning pilot which must be maintained in good working order as outlined in NDAC 33.1-15-07-02.

3) The presence of a flame shall be monitored using a thermocouple or any other equivalent device approved by the Department.

Applicable Requirements: ACP-17102 v1.2, NDAC 33.1-15-07-02, NDAC 33.1-15-14-03.6 and NDAC 33.1-15-15-01.4.c(2)

F. **Tanks**: EU T05, T11, and T14 shall be equipped with and filled through a submerged fill pipe.

Applicable Requirement: ACP-17102 v1.2 and NDAC 33.1-15-07-01.3

G. **New Source Performance Standards (NSPS)**: The permittee shall comply with all applicable requirements of the following NDAC 33.1-15-12-02 and 40 CFR 60 subparts in addition to complying with Subpart A - General Provisions.

1) Subpart Db – Standards of Performance for Industrial-Commercial-Institutional Steam generating Units (boilers, EU P63, P64 and P65).

2) Subpart Kb – Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984 (EU T01 through T04, T06, T12 and T13).

3) Subpart VVa – Standards of Performance for Equipment leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006.

4) Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines (emergency generator engine, EU P180).

Applicable Requirements: NDAC 33.1-15-12-02, Subparts Db, Kb, VVa and JJJJ

H. **National Emission Standards for Hazardous Air Pollutants (NESHAP)/Maximum Achievable Control Technology (MACT)**: The permittee shall comply with all applicable requirements of the following NDAC 33.1-15-22-03 and 40 CFR 63 subparts in addition to complying with Subpart A - General Provisions.

1) Subpart ZZZZ (4Z) – National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (fire water pump engine, EU P04 and emergency generator engine, EU P180). As an area source of HAP emissions, compliance with 40 CFR 60, Subpart JJJJ constitutes compliance with 40 CFR 63, Subpart ZZZZ for EU P180. The North Dakota Department of Environmental Quality has not adopted the area source provisions of this subpart. Please send all documentation to EPA at the following address:

U.S. EPA Region 8
1595 Wynkoop Street
Mail Code 8ENF-AT
Denver, CO 80202-1129

2) Subpart JJJJJJ (6J) – National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial and Institutional Boilers Area Sources(EU P63).

a) Minimize the boiler's startup and shutdown periods and conduct startups and shutdowns according to the manufacturer's recommended procedures. (§63.11201 and Table 2)

b) If using an oxygen trim system that maintains an optimum air-to-fuel ratio, conduct a tune-up of the boiler every 5 years. Otherwise, conduct a biennial tune-up. (§63.11223)

c) Either install, operate and maintain a CEMS for CO and oxygen according to §63.11224; or install, calibrate, operate, and maintain an oxygen analyzer system, as defined in §63.11237 according to the manufacturer's recommendations and §63.11224.

3) Subpart VVVVVV (6V) – National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources (USP process and loadout: may include continuous process vents, ethanol loadout and/or leaks). The North Dakota Department of Environmental Quality has not adopted the provisions of this subpart. Please send all documentation to EPA at the address above.

Applicable Requirements: 40 CFR 63, Subparts ZZZZ and VVVVVV and NDAC 33.1-15-22-03, Subpart JJJJJJ

I. **Like-Kind Engine Replacement**: This permit allows the permittee to replace the existing engine(s) with a like-kind engine. Replacement is subject to the following conditions.

1) The Department must be notified within 10 days after change-out of the engine.

2) The replacement engine shall operate in the same manner, provide no increase in throughput and have equal or less emissions than the engine it is replacing.

3) The date of manufacture of the replacement engine must be included in the notification. The facility must comply with any applicable federal standards (e.g. NSPS, NESHAP, MACT) triggered by the replacement.

4) The replacement engine is subject to the same state emission limits as the existing engine in addition to any NSPS or MACT emission limit that is applicable. Testing of the new engine shall be conducted in accordance with any applicable federal standards (e.g. NSPS, NESHAP, MACT).

Applicable Requirement: NDAC 33.1-15-14-06.5.b(1)

3. **Emission Unit Limits**:

A. Emission Unit Limits and Applicable Requirements: The emission limits and work practice standards specified in this permit apply at all times including startup, shutdown and malfunction, unless otherwise noted.

Process Unit	EU	EP	Pollutant/ Parameter	Emission Limit/Design/ Work Practice	NDAC Applicable Requirement
DDGS cooling	P01	S01	PM/PM_{10}	0.004 gr/dscf (3-hr avg.) & 0.96 lb/hr (3-hr avg.)	ACP-17102 v1.2 (BACT) & ACP-17102 v1.2 (BACT)
			VOC	0.19 lb VOC/ton DDGS (3-hr avg.)	ACP-17102 v1.2 (BACT)
			Opacity	0% (6-min avg.)	ACP-17102 v1.2 (BACT)
Ethanol loadout (truck/rail) enclosed flare	P02	S02	VOC	98% reduction (3-hr avg.) Or 10 mg/l (3-hr avg.) (see Cond. 2.C)	ACP-17102 v1.2 (BACT) & ACP-17102 v1.2 (BACT)
			Opacity	0% [A]	ACP-17102 v1.2 (BACT)
Bio-methanator flare	P03	S03	NO_x/SO_2/ VOC	BMP (see Cond. 2.B, 2.D & 2.E)	ACP-17102 v1.2 (BACT)
			Opacity	0% [A]	ACP-17102 v1.2 (BACT)
Fire water pump engine	P04	S04	NO_x/CO/VOC	BMP (see Cond. 2.B) & Cond. 2.H.1	ACP-17102 v1.2 (BACT) & 40 CFR 63, Subpart 4Z
			SO_2	Low sulfur diesel fuel (see Cond. 2.A.1)	ACP-17102 v1.2
			Opacity	20% (6-min avg.) [B]	ACP-17102 v1.2 (BACT) & 33.1-15-03-02
			Operating Hours	500 Hours/12 months (see Cond. 2.D.2)	ACP-17102 v1.2
DDGS storage building	P05	S05	PM/PM_{10}	BMP (see Cond. 2.B)	ACP-17102 v1.2 (BACT)
			Opacity	20% (6-min avg.) [B]	33.1-15-03-02
Grain unloading	P10 to P15	S10	PM/PM_{10}	0.004 gr/dscf (3-hr avg.) & 1.34 lb/hr (3-hr avg.)	ACP-17102 v1.2 (BACT) & ACP-17102 v1.2
			Opacity	0% (6-min avg.)	ACP-17102 v1.2 (BACT)

Process Unit	EU	EP	Pollutant/ Parameter	Emission Limit/Design/ Work Practice	NDAC Applicable Requirement
DDGS loading	P20 to P23	S20	PM/PM_{10}	0.004 gr/dscf (3-hr avg.) & 0.13 lb/hr (3-hr avg.)	ACP-17102 v1.2 – BACT & ACP-17102 v1.2
			Opacity	0% (6-min avg.)	ACP-17102 v1.2 (BACT)
Hammermilling	P30 to P32	S30	PM/PM_{10}	0.004 gr/dscf (3-hr avg.) & 0.96 lb/hr (3-hr avg.)	ACP-17102 v1.2 (BACT) & ACP-17102 v1.2
			Opacity	0% (6-min avg.)	ACP-17102 v1.2 (BACT)
Fermentation	P40 to P44	S40 [C]	VOC	98% Reduction (3-hr avg.)	ACP-17102 v1.2 (BACT)
			Acetaldehyde	1.49 lb/hr (3-hr avg.)	33.1-15-02-04.3 & 33.1-15-14-06.5.b(1)
			Opacity	20% (6-min avg.) [B]	33.1-15-03-02
Distillation/DGS dryers (RTO)	P50 to P62	S60	PM_{10} (filterable)/PM Condensable	11.66 lb/hr (3-hr avg.)	ACP-17102 v1.2
			NO_x	7.1 lb/hr (24-hr block avg.)	ACP-17102 v1.2
			VOC	98% Reduction or 10 ppmvw as carbon (3-hr avg.)	ACP-17102 v1.2 (BACT)
			Opacity	20% (6-min. avg.) [D]	ACP-17102 v1.2 (BACT)
Distillation/DGS dryers/RTO/ boiler	P50 to P63	S60	Boiler (EU P63) operating:		
			NO_x	253.0 lb/hr (1-hr avg.)	ACP-17102 v1.2
			SO_2	200.0 lb/hr (1-hr avg.)	ACP-17102 v1.2
			Opacity	20% (6 min. avg.) [D]	ACP-17102 v1.2 (BACT)
			Boiler (EU P63) not operating:		
			See Distillation/DGS dryers (RTO) above (EU P50-62/EP S60)		33.1-15-14-06.5.b(1)

Process Unit	EU	EP	Pollutant/ Parameter	Emission Limit/Design/ Work Practice	NDAC Applicable Requirement
Boiler	P63 [E]	S60 (EU P63 only)	PM_{10} (filterable)/PM Condensable	0.167 lb/10^6 Btu (3-hr avg.) & 36.7 lb/hr (3-hr avg.)	ACP-17102 v1.2 (BACT) & ACP-17102 v1.2
			PM/PM_{10} (filterable)	0.02 lb/10^6 Btu (3-hr avg.)	ACP-17102 v1.2 (BACT)
			NO_x	0.20 lb/10^6 Btu (30 d.r.a.) & 44.0 lb/hr (24-hr block avg.)	ACP-17102 v1.2 (BACT), 33.1-15-12-02, Subpart Db & 33.1-15-15-19
			SO_2	0.09 lb/10^6 Btu (30 d.r.a.) & 22.5 lb/hr (24-hr block avg.)	ACP-17102 v1.2 (BACT) & 33.1-15-02-04
			CO	0.11 lb/10^6 Btu (3-hr avg.) & 420 ppmvd @ 3% O_2	ACP-17102 v1.2 (BACT) & 33.1-15-22-03, Subpart 6J
			VOC [F]	2.50 lb/hr as carbon (3-hr avg.)	ACP-17102 v1.2 (BACT)
			Opacity	20% (6-min. avg.) [D]	ACP-17102 v1.2 (BACT) & 33.1-15-12-02, Subpart Db
			Hg	0.000022 lb/10^6 Btu	33.1-15-22-03, Subpart 6J
			Heat Input	Cond. 2.A.4	ACP-17102 v1.2 (BACT)
			Maximum Operating Load	[G]	33.1-15-22-03, Subpart 6J
			Minimum Oxygen Level	[H]	33.1-15-22-03, Subpart 6J
Boiler #2	P64	S64	NO_x	0.07 lb/10^6 Btu (30 d.r.a.)	33.1-15-12-02, Subpart Db
			Opacity	20% (6-min. avg.) [B]	33.1-15-12-02
Boiler #3	P65	S65	NO_x	0.07 lb/10^6 Btu (30 d.r.a.)	33.1-15-12-02, Subpart Db
			Opacity	20% (6-min. avg.) [B]	33.1-15-12-02
Flyash conveyor and storage	P120	S120	PM/PM_{10}	0.004 gr/dscf (3-hr avg.)	ACP-17102 v1.2 (BACT)
			Opacity	5% (6-min. avg.)	ACP-17102 v1.2 (BACT)
Coal handling	P130	S130	PM/PM_{10}	0.004 gr/dscf (3-hr avg.) & 0.69 lb/hr (3-hr avg.)	ACP-17102 v1.2 (BACT) & ACP-17102 v1.2
			Opacity	0% (6-min avg.)	ACP-17102 v1.2 - BACT

Process Unit	EU	EP	Pollutant/ Parameter	Emission Limit/Design/ Work Practice	NDAC Applicable Requirement
	F10	S170	PM/PM_{10}	0.005 gr/dscf (3-hr avg.)	ACP-17161 v1.0
			Opacity	5% (6-min. avg.)	ACP-17161 v1.0
	F11 to F12	FUG	PM/PM_{10}	BMP (see Cond. 2.B & [I])	33.1-15-17-02
			Opacity	[I]	33.1-15-03-03 & 33.1-15-17-03
Limestone storage and transfer	P140	S140	PM/PM_{10}	0.004 gr/dscf (3-hr avg.)	ACP-17102 v1.2 (BACT)
			Opacity	5% (6-min. avg.)	ACP-17102 v1.2 (BACT)
FGD silo bin vent	P150	S150	PM/PM_{10}	0.14 lb/hr (3-hr avg.)	ACP-17102 v1.2
			Opacity	20% (6-min. avg.) [B]	33.1-15-03-02
Emergency generator engine	P180	S180	NO_x	2.0 g/hp-hr (1-hr avg.)	33.1-15-12-03, Subpart JJJJ
			CO	4.0 g/hp-hr (1-hr avg.)	33.1-15-12-03, Subpart JJJJ
			VOC	1.0 g/hp-hr (1-hr avg.)	33.1-15-12-03, Subpart JJJJ
			Opacity	20% (6-min. avg.) [B]	33.1-15-12-03, Subpart JJJJ
			Operating Hours	Cond. 1 Footnote C	33.1-15-12-03, Subpart JJJJ
Truck traffic	F01	FUG	PM/PM_{10}	BMP (see Cond. 2.B)	ACP-17102 v1.2 (BACT)
Uncaptured DDGS handling emissions	F03	FUG	PM/PM_{10}	BMP (see Cond. 2.B)	ACP-17102 v1.2 (BACT)
Wet Cake/DGS storage and handling	F07 to F08	FUG	PM/PM_{10}/VOC	BMP (see Cond. 2.B)	ACP-17102 v1.2 (BACT)
Cooling towers	F04	FUG	PM/PM_{10}	Mist Eliminators/BMP (see Cond. 2.B and 2.D.4)	ACP-17102 v1.2 (BACT)
Equipment leaks	F05	FUG	VOC	NSPS Subpart VVa (see Cond. 2.G.3)	ACP-17102 v1.2 (BACT)
Uncaptured coal handling emissions	F06	FUG	PM/PM_{10}	BMP (see Cond. 2.B)	ACP-17102 v1.2 (BACT)
190 Proof storage tank	T01	T01	VOC	NSPS Subpart Kb – IFR (see Cond. 2.G.2)	ACP-17102 v1.2 (BACT)
Denaturant storage tank	T02	T02	VOC	NSPS Subpart Kb - IFR (see Cond. 2.G.2)	ACP-17102 v1.2 (BACT)
Denatured ethanol storage tank	T03	T03	VOC	NSPS Subpart Kb - IFR (see Cond. 2.G.2)	ACP-17102 v1.2 (BACT)
200 Proof storage tank	T04	T04	VOC	NSPS Subpart Kb - IFR (see Cond. 2.G.2)	ACP-17102 v1.2 (BACT)
Fuel additive storage tank	T05	T05	VOC	SFP	ACP-17102 v1.2 (BACT)
Denatured ethanol storage tank	T06	T06	VOC	NSPS Subpart Kb - IFR (see Cond. 2.G.2)	ACP-17102 v1.2 (BACT)

Process Unit	EU	EP	Pollutant/ Parameter	Emission Limit/Design/ Work Practice	NDAC Applicable Requirement
USP shift tank	T12	T12	VOC	NSPS Subpart Kb - IFR (see Cond. 2.G.2)	33.1-15-12-02, Subpart Kb
USP bertha tank	T13	T13	VOC	NSPS Subpart Kb - IFR (see Cond. 2.G.2)	33.1-15-12-02, Subpart Kb
Fuel additive storage tank	T14	T14	VOC	SFP	33.1-15-07-01.3
Unsheltered corn storage	F13	FUG	PM/PM_{10} Opacity	BMP (see Cond. 2.B & [I]) [I]	33.1-15-17-02 33.1-15-03-03 & 33.1-15-17-03
Haul road	F15	FUG	PM/PM_{10} Opacity	BMP (see Cond. 2.B & [I]) [I]	33.1-15-17-02 33.1-15-03-03& 33.1-15-17-03

A Flares shall be operated with no visible emissions except for periods not to exceed a total of five minutes during any two consecutive hours. Reference Method 22 of 40 CFR 60, Appendix A shall be used to determine compliance with the visible emissions limit.

B Twenty percent (six-minute average) opacity, except that a maximum of 40% opacity is permissible for not more than one six-minute period per hour. This standard applies at all times, except as allowed by NDAC 33.1-15-03-04. Compliance with this visible emissions standard shall be determined by conducting observations in accordance with NDAC 33.1-15-03-05 (Reference Method 9 of 40 CFR 60, Appendix A as incorporated by reference into NDAC 33.1-15-12).

C Emission limit/design/work practice applies to EP S40 for each pollutant/parameter when the capture system is not operating and the scrubber is venting regulated pollutant emissions to the atmosphere.

D Twenty percent opacity (six-minute average), except that a maximum of 27% opacity is permissible for one six-minute period per hour.

E Generally, the boiler (EU P63) emission limits, monitoring/recordkeeping/reporting requirements, etc. are applicable only when the boiler is operating. However, the non-operating status of the boiler must be represented on the Annual Emission Inventory Report, Quarterly Excess Emission Report, Semi-Annual Monitoring Report and Annual Compliance Certification Report required by 40 CFR 70 (Title V) and on the Annual Compliance Certification Report required by NDAC 33.1-15-22-03 (40 CFR 63), Subpart 6J.

F Applicable Requirements: ACP-17623 v1.0, NDAC 33.1-15-14-06 & NDAC 33.1-15-22-03, Subpart 6J
When coal is combusted alone in the boiler (EU P63), or with other solid or liquid fuels other than syrup, VOC emissions are limited to 2.50 lb/hr as carbon. When coal and syrup are combusted together in the boiler (EU P63), VOC emissions are limited to 9.6 lb/hr as carbon.

Applicable Requirement: ACP-17623 v1.0

G Determine the boiler maximum operating load (110% of the load measured during the latest performance test that demonstrated compliance with the Subpart 6J CO emission limit) in accordance with §63.11212(c) and Tables 6 and 7 and do not exceed this maximum operating load.

H Maintain the 30-day rolling average boiler oxygen levels at or above the minimum oxygen concentration set by the most recent performance testing demonstrating compliance with the Subpart 6J CO emission limit in accordance with §63.11224(a) and Table 6.

I Discharge into the ambient air any air contaminant which exhibits an opacity greater than 40% for more than one six-minute period per hour. Such visible emissions shall have been visibly transported off the property of emission origination and remain visible to an observer positioned off said property when sighting along a line which does not cross the property of emission origination. All reasonable precautions shall be taken to prevent and/or minimize fugitive emissions from the operation of the sources identified.

4. **Monitoring Requirements and Conditions:**

A. **Requirements:**

Process Unit	EP	Pollutant/ Parameter	Monitoring Requirement (Method)	Condition Number	NDAC Applicable Requirement
DDGS cooling	S01	PM/PM_{10}	Compliance Assurance Monitoring (CAM)	4.B.1 & 4.B.7	33.1-15-14-06.10 33.1-15-14-02.9.a
		VOC	Emissions Test	4.B.3	33.1-15-14-06.5.a(3)(a)
		Opacity	Visible Emissions Observations (VEO)	4.B.8	33.1-15-14-06.5.a(3)(a)
Ethanol loadout (truck/rail) flare	S02	VOC	CAM & Thermocouple	2.C, 4.B.1 & 4.B.6	33.1-15-14-06.10 & 33.1-15-14-06.5.a(3)(a)
		Opacity	VEO	4.B.8	33.1-15-14-02.9.a
Bio-methanator flare	S03	$NO_x/SO_2/VOC$	Best Management Practices (BMP)	2.B & 2.E	33.1-15-14-06.5.a(3)(a)
		Opacity	VEO	4.B.8	33.1-15-14-02.9.a
Fire water pump engine	S04	$NO_x/CO/VOC$	Recordkeeping	2.B & 2.H.1	33.1-15-14-06.5.a(3)(a) & 40 CFR 63, Subpart ZZZZ
		SO_2/Opacity	Recordkeeping	4.B.2	33.1-15-14-06.5.a(3)(a)
		Operating Hours	Recordkeeping	4.B.13	33.1-15-14-06.5.a(3)(a)
DDGS storage building	S05	PM/PM_{10}/Opacity	BMP	2.B	33.1-15-14-06.5.a(3)(a)
Grain unloading	S10	PM/PM_{10}	BMP & FEMP	2.B & 4.B.14	33.1-15-14-06.5.a(3)(a)
		Opacity	VEO	4.B.8	33.1-15-14-06.5.a(3)(a)
DDGS loading	S20	PM/PM_{10}	BMP & FEMP	2.B & 4.B.14	33.1-15-14-06.5.a(3)(a)
		Opacity	VEO	4.B.8	33.1-15-14-06.5.a(3)(a)
Hammermilling	S30	PM/PM_{10}	CAM	4.B.1 & 4.B.7	33.1-15-14-06.10
		Opacity	VEO	4.B.8	33.1-15-14-06.5.a(3)(a)
Fermentation	S40	VOC	CAM	4.B.1, 4.B.9 & 4.B.18	33.1-15-14-06.10 & 33.1-15-14-06.5.a(3)(a)
		Acetaldehyde	Recordkeeping	4.B.9	33.1-15-14-06.5.a(3)(a)
		Opacity	VEO	4.B.8	33.1-15-14-06.5.a(3)(a)

Process Unit	EP	Pollutant/ Parameter	Monitoring Requirement (Method)	Condition Number	NDAC Applicable Requirement
Distillation/DGS dryers (RTO)	S60	When the boiler (EU P63) is burning fuels other than natural gas:			
		PM_{10} (filterable)/PM Condensable	CAM	4.B.1	33.1-15-14-06.10
		NO_x	CERMS	4.B.5	33.1-15-14-06.5.a(3)(a)
		VOC	CAM	4.B.1 & 4.B.11	33.1-15-14-06.10
		Opacity	COMS	4.B.4	33.1-15-14-06.5.a(3)(a)
		When the boiler (EU P63) is burning natural gas or not operating:			
		PM_{10} (filterable)/PM Condensable	Emissions Test	4.B.15	33.1-15-14-06.5.a(3)(a)
		NO_x	Emissions Test	4.B.15	33.1-15-14-06.5.a(3)(a)
		VOC	CAM	4.B.1 & 4.B.11	33.1-15-14-06.10
		Opacity	Recordkeeping	4.B.2	33.1-15-14-06.5.a(3)(a)
Distillation/DGS dryers/RTO/boiler	S60	When the boiler (EU P63) is burning fuels other than natural gas:			
		NO_x	CERMS	4.B.5	33.1-15-14-06.5.a(3)(a)
		SO_2	CERMS	4.B.5	33.1-15-12-02, Subpart Db
		Opacity	COMS	4.B.4	33.1-15-14-06.5.a(3)(a)
		When the boiler (EU P63) is burning natural gas:			
		See Distillation/DGS dryers (RTO) above (EU P50-62)			

Process Unit	EP	Pollutant/ Parameter	Monitoring Requirement (Method)	Condition Number	NDAC Applicable Requirement
Boiler	S60 (EU P63 only)	PM_{10} (filterable)/PM Condensable	CAM & Emissions Test	4.B.1, 4.B.7 & 4.B.10	33.1-15-14-06.10 & 33.1-15-14-02.9.a
		PM/PM_{10} (filterable)	CAM & Emissions Test	4.B.1, 4.B.7 & 4.B.10	33.1-15-14-06.10 & 33.1-15-14-02.9.a
		NO_x	CEMS/CERMS	4.B.4 & 4.B.5	33.1-15-12-02, Subpart Db
		SO_2	CEMS/CERMS	4.B.4 & 4.B.5	33.1-15-12-02, Subpart Db
		CO ($lb/10^6$ Btu)	Emissions Test	4.B.3	33.1-15-12-02, Subpart Db
		& (ppmvd)	Emissions Test	4.B.3	33.1-15-22-03, Subpart 6J
		VOC	Emissions Test	4.B.3	33.1-15-14-06.5.a(3)(a)
		Opacity	COMS	4.B.4	33.1-15-14-06.5.a(3)(a)
		Hg	Fuel Analysis	2.A.2)a	33.1-15-22-03, Subpart 6J
		Heat Input	Recordkeeping	4.B.16	ACP-17623 v1.0
		Maximum Operating Load	Recordkeeping	3.A Footnote G	33.1-15-22-03, Subpart 6J
		Minimum Oxygen Level	Recordkeeping	3.A Footnote H	33.1-15-22-03, Subpart 6J
		Fuel Usage	Recordkeeping	4.B.17	33.1-15-22-03, Subpart 6J
Boiler #2	S64	NO_x	CEMS	4.B.4 & 4.B.5	33.1-15-12-02, Subpart Db
		Opacity	Recordkeeping	4.B.2	33.1-15-14-06.5.a(3)(a)
Boiler #3	S65	NO_x	CEMS	4.B.4 & 4.B.5	33.1-15-12-02, Subpart Db
		Opacity	Recordkeeping	4.B.2	33.1-15-14-06.5.a(3)(a)

Process Unit	EP	Pollutant/ Parameter	Monitoring Requirement (Method)	Condition Number	NDAC Applicable Requirement
Flyash conveyor and storage	S120	PM/PM_{10}	BMP & FEMP	2.B & 4.B.14	33.1-15-14-06.5.a(3)(a)
		Opacity	VEO	4.B.8	33.1-15-14-06.5.a(3)(a)
Coal handling	S130	PM/PM_{10}	BMP & FEMP	2.B & 4.B.14	33.1-15-14-06.5.a(3)(a)
		Opacity	VEO	4.B.8	33.1-15-14-06.5.a(3)(a)
	S170	PM/PM_{10}	BMP & FEMP	2.B & 4.B.14	33.1-15-14-06.5.a(3)(a)
		Opacity	VEO	4.B.8	33.1-15-14-06.5.a(3)(a)
	FUG	PM/PM_{10}	FEMP	4.B.14	33.1-15-14-06.5.a(3)(a)
Limestone storage and transfer	S140	PM/PM_{10}	BMP	2.B	33.1-15-14-06.5.a(3)(a)
		Opacity	VEO	4.B.8	33.1-15-14-06.5.a(3)(a)
FGD silo bin vent	S150	PM/PM_{10}	BMP & FEMP	2.B & 4.B.14	33.1-15-14-06.5.a(3)(a)
		Opacity	VEO	4.B.8	33.1-15-14-06.5.a(3)(a)
Emergency generator engine	S180	NO_x/CO/VOC/ Operating Hours	Recordkeeping	4.B.13	33.1-15-12-02, Subpart JJJJ
		Opacity	Recordkeeping	4.B.2	33.1-15-14-06.5.a(3)(a)
Truck traffic	FUG	PM/PM_{10}	FEMP	4.B.14	33.1-15-14-06.5.a(3)(a)
Uncaptured grain handling emissions & temporary grain storage	FUG	PM/PM_{10}	FEMP	4.B.14	33.1-15-14-06.5.a(3)(a)
Uncaptured DDGS handling emissions	FUG	PM/PM_{10}	FEMP	4.B.14	33.1-15-14-06.5.a(3)(a)
Wet Cake/DGS storage and handling	FUG	PM/PM_{10}/VOC	FEMP	4.B.14	33.1-15-14-06.5.a(3)(a)
Cooling towers	FUG	PM/PM_{10}	FEMP	4.B.14	33.1-15-14-06.5.a(3)(a)
Equipment leaks	FUG	VOC	BMP	2.G.3	33.1-15-14-06.5.a(3)(a)
Uncaptured coal handling emissions	FUG	PM/PM_{10}	FEMP	4.B.14	33.1-15-14-06.5.a(3)(a)
190 Proof storage tank	T01	VOC	Inspections & Recordkeeping	2.G.2	33.1-15-12-02, Subpart Kb
Denaturant storage tank	T02	VOC	Inspections & Recordkeeping	2.G.2	33.1-15-12-02, Subpart Kb
Denatured ethanol storage tank	T03	VOC	Inspections & Recordkeeping	2.G.2	33.1-15-12-02, Subpart Kb
200 Proof storage tank	T04	VOC	Inspections & Recordkeeping	2.G.2	33.1-15-12-02, Subpart Kb

Process Unit	EP	Pollutant/ Parameter	Monitoring Requirement (Method)	Condition Number	NDAC Applicable Requirement
Fuel additive storage tank	T05	VOC	FEMP	4.B.14	33.1-15-14-06.5.a(3)(a)
Denatured ethanol storage tank	T06	VOC	Inspections & Recordkeeping	2.G.2	33.1-15-12-02, Subpart Kb
USP shift tank	T12	VOC	Inspections & Recordkeeping	2.G.2	33.1-15-12-02, Subpart Kb
USP bertha tank	T13	VOC	Inspections & Recordkeeping	2.G.2	33.1-15-12-02, Subpart Kb
Fuel additive storage tank	T14	VOC	FEMP	4.B.14	33.1-15-14-06.5.a(3)(a)
Unsheltered corn storage	FUG	PM/PM_{10}	FEMP	4.B.14	33.1-15-14-06.5.a(3)(a)
Haul road	FUG	PM/PM_{10}	FEMP	4.B.14	33.1-15-14-06.5.a(3)(a)
Plant-wide ethanol production	--	Ethanol Production	Recordkeeping	4.B.12	ACP-18227 v1.0 & 33.1-15-14-06.5.a(3)(a)

[A] Monitoring for each pollutant/parameter applies to EP S40 when the capture system is not operating and the scrubber is venting regulated pollutant emissions to the atmosphere.

B. **Monitoring Conditions**:

1) The permittee shall conduct the monitoring, recordkeeping and reporting as required by applicable subparts of NDAC 33.1-15-14-06.10 (40 CFR 64). Monitoring for the emission unit shall be conducted in accordance with the attached Compliance Assurance Monitoring (CAM) plan. The measured indicators for the emission units subject to CAM are summarized as follows:

Indicators

Process Unit (EP)	Control (Pollutant)	Indicator	Indicator Range	Frequency
DDGS cooling baghouse / (S01)	Baghouse (PM/PM_{10})	Visible emissions observation	No visible emissions	Daily (6 min. check)
		Baghouse pressure drop	≥ 0.5 & ≤ 6 in. water column (w.c.)	Monitored continuously & recorded daily
Ethanol loadout (truck/rail) flare (S02)	Enclosed flare (VOC)	Temperature	$\geq 1,300°$ F	During times of ethanol loadout monitored & recorded continuously when operating
Hammermill (S30)	Baghouse (PM/PM_{10})	Visible emissions observation	No visible emissions	Daily (6 min. check)
		Baghouse pressure drop	≥ 0.5 & ≤ 6 in. w.c.	Monitored continuously & recorded daily

Process Unit (EP)	Control (Pollutant)	Indicator	Indicator Range	Frequency
Fermentation (S40)	Scrubber [A] (VOC)	Water flow rate: Sodium Bisulfite VO_xOut Chemical addition rate: Sodium Bisulfite [B] VO_xOut [B]	 ≥ 47.2 gal./min. ≥ 40.3 gal./min. ≥ 2.1 gal./hr. ≥ 1.0 gal./hr.	Monitored continuously & recorded daily Monitored & recorded daily
DGS dryer RTO (S60)	Regenerative thermal oxidizer (VOC)	Temperature	≥ 1,652° F	Monitored & recorded continuously
Boiler (S60)	Baghouse (PM/PM_{10})	Baghouse pressure drop Opacity variation	≥ 1 & ≤ 7 in. w.c. 1.0% or greater variation in 1-minute data from previous three cleaning cycles	Monitored continuously & recorded daily Assessed once every 12 hours

[A] Applies to EP S40 when the capture system is not operating and the scrubber is venting regulated pollutant emissions to the atmosphere.

[B] Chemical addition rates will be monitored at the chemical addition pump using a graduated cylinder and stopwatch.

2) For purposes of compliance monitoring, burning of fuels as outlined in Condition 2.A, shall be considered credible evidence of compliance with any applicable opacity, particulate or SO_2 emission limit. However, results from tests conducted in accordance with the test methods in 40 CFR 50, 51, 60, 61, or 75 will take precedence over burning of gaseous fuel, biogas and distillate oil as outlined in Condition 2.A, for evidence of compliance or noncompliance with any applicable opacity, particulate and SO_2 emission limit, in the event of enforcement action.

3) A performance test for CO and VOC shall be completed at least every 37 months. For CO emissions, test in accordance with 40 CFR 63, Subpart 6J. For VOC emissions, test using EPA Reference Methods in 40 CFR 60, Appendix A or at a minimum a portable analyzer method approved by the Department. A VOC test shall consist of three runs, with each run at least 20 minutes in length.

4) The permittee shall conduct monitoring of NO_x and SO_2 emissions and opacity in accordance with 40 CFR 60, Subpart Db.

a) The permittee shall calibrate, operate and maintain a system for continuously monitoring and recording NO_x and SO_2 (boiler EU P63 only) on a $lb/10^6$ Btu and lb/hr basis (boiler EU P63 only). The monitoring and recording shall be in accordance with the requirements for Notification and Recordkeeping (40 CFR 60.7) and monitoring requirements (40 CFR 60.13) as adopted by reference in the

North Dakota Air Pollution Control Rules under section 33.1-15-12-02 or quality assurance procedures approved in advance by the Department. Data obtained from the CEMS shall be used in conjunction with boiler monitoring or calculations to obtain a pound per hour emission rate.

b) The quality assurance requirements applicable to the CEMS and COMS are specified in Appendix F of 40 CFR 60. The permittee shall conduct monitoring of the COMS in accordance with 40 CFR 60, Appendix F, Procedure 3 – Quality Assurance procedures for Continuous Opacity Monitoring Systems at Stationary Sources.

c) When a failure of a CEMS or COMS occurs, an alternative method, acceptable to the Department, for measuring or estimating emissions must be undertaken as soon as possible. Timely repair of the emission monitoring system must be made.

d) The Department may require additional audits of the CEMS and COMS.

5) CEMS/CERMS:

a) The monitoring systems shall report NO_x and SO_2 (boiler EU P63 only) emissions on a lb/10^6 Btu and lb/hr basis (boiler EU P63 only). The continuous emission monitoring systems (CEMS) and the continuous emission rate monitoring systems (CERMS) (boiler EU P63 only) shall be used to determine compliance with the applicable NO_x and SO_2 emission limits when the boilers are operating.

b) The CEMS and the CERMS shall be certified to comply with the applicable requirements of 40 CFR 60, Appendix B, Performance Specification 2 for a CEMS, and Performance Specification 6 for a CERMS. A relative accuracy test audit (RATA) shall be conducted annually on the NO_x and SO_2 CEMS and CERMS in accordance with the applicable procedures in 40 CFR 60, Appendix B, Performance Specification 2 for a CEMS and Performance Specification 6 for a CERMS. Annual RATA is not required when the boiler (EU P63) is burning natural gas or not operating.

c) Operating EU P63 with fuels other than natural gas: If the boiler has been off (or burning only natural gas) less than 90 days, within one week of re-starting operation using fuels other than natural gas a cylinder gas audit must be conducted; then proceed with normal QA/QC procedures of the CEMS/CERMS/COMS. If the boiler has been off (or burning natural gas) for longer than 90 days, a re-certification of the CEMS must take place. The re-certification must take place within 90 days of re-starting the boiler on fuels other than natural gas.

6) Ethanol Loadout: The permittee shall install, operate and maintain a device to monitor the temperature in the firebox or in the ductwork downstream of the firebox before any substantial heat exchange occurs. During the first test showing compliance, the permittee shall establish an operating temperature range for the combustion device during times of

ethanol loadout. Operating within or above the temperature range shall be considered an indication of compliance with the destruction efficiency requirement. After the temperature range is established, the permittee shall measure and record the operating temperature continuously when the emission unit is operated. If the temperature is below the established operating range, the permittee shall investigate the problem within eight hours. Any malfunctions shall be corrected as soon as possible.

7) Baghouse Pressure Drop: The permittee shall calibrate, operate and maintain a system for continuously monitoring the pressure drop across the baghouse. During the initial performance testing of the boiler for particulate matter, the permittee shall establish the pressure drop operating range for the baghouse. Once the operating range is established, it is an indicator of compliance with the PM/PM_{10} emission limit in Condition 3.A. If the baghouse operates outside the indicator range, the permittee shall investigate the problem within eight hours and correct any malfunctions as soon as practicable. The pressure drop operating range may be reestablished by any subsequent approved performance test where compliance was demonstrated.

8) Visible Emissions Observations (EP S01, S02, S03, S10, S20, S30, S40, S120, S130, S140, S150 and S170): At least once per week in which the emission unit is operated (except as indicated by the monitoring requirements table footnote A for EP 40), a company representative who is certified or has received Department approved visible emissions training (requires a one-time visible emissions session, plus one hour visible emissions field training; need not be certified) shall observe the emission points. If no visible emissions are present, the permittee shall record the date, time and observation results. If the observation indicates visible emissions are present:

a) The permittee must investigate for a potential problem within eight hours. Any problems that are discovered must be corrected as soon as possible. If the correction of the situation is expected to take longer than 24 hours, the permittee shall follow procedures as outlined in Condition 7.G. All instances of visible emissions observed, associated investigations of malfunctions, and corrective actions taken shall be recorded. Following corrective maintenance, a visible emissions observation shall be made by a trained company representative (need not be certified).

b) For flares only, if visible emissions are observed for longer than 24 hours or corrective action fails to eliminate the visible emissions, the permittee shall conduct a formal visible emissions evaluation in accordance with Condition 3.A (Emission Unit Limits and Applicable Requirements table), footnote A.

c) The permittee shall comply with the opacity and particulate limits in Condition 3.A and nothing in this condition authorizes noncompliance.

9) Fermentation Scrubber (when emissions are not directed to the capture system): The permittee shall calibrate, operate and maintain a flow meter to continuously measure the

liquid flow rate of each scrubber. The flow meter shall be guaranteed to be accurate within ±5%.

a) During the initial test that shows compliance, the permittee shall establish a liquid flow rate operating range. This flow rate shall be an indicator of compliance with the VOC emission limits specified in Condition 3.A. After the indicator range is established, the permittee shall check the flow rate to the scrubber at least once per day when the emission unit is operated. If the flow rate is outside the indicator range, the permittee shall investigate the problem within eight hours. Any malfunction shall be corrected as soon as possible. The liquid flow rate operating range may be reestablished by any subsequent approved performance test where compliance was demonstrated.

b) The permittee shall also operate and maintain a system for measuring the sodium bisulfate, VO_xOut or other approved chemical addition rate to the scrubber water. Other chemicals may be used in the scrubber water provided compliance is demonstrated with the acetaldehyde and VOC emission limits and the chemical is approved in advance by the Department. The permittee may use other compliance assurance monitoring provided the Department approves it in advance. See the attached CAM Plan for additional VOC monitoring details.

c) Stack testing for EP S40, fermentation scrubber is waived while emissions are being directed to the emissions capture system.

i] Within 180 consecutive days of emissions not being directed to the capture system, stack tests on the fermentation scrubber (EP S40) shall be conducted to ensure compliance with the acetaldehyde emission limit and to verify or revise the VOC emission factor. Any resulting changes to CAM indicators will be reflected in a revised CAM Plan submitted as a part of the Title V renewal application.

10) EU P63 Emissions Testing:

a) Within one year following a permit renewal, the permittee shall conduct emissions testing of the boiler (EP S60) to demonstrate compliance with the PM and PM_{10} limits specified in Condition 3.A when the emission unit (EU P63) is operating on solid or liquid fuel. If EU P63 is not operating at the time of the renewed permit issuance, the unit shall be tested within one year of commencing operation with solid or liquid fuel.

b) A second emissions test shall take place no sooner than two years nor later than three years from the date of the first emission test when the emission unit is operating on solid or liquid fuel. If EU P63 is not operating at the time of requiring a second emissions test, the unit shall be tested within one year of commencing operation with solid or liquid fuel or the second emissions test may be waived, as determined by the Department.

11) Regenerative Thermal Oxidizer (RTO):

a) The permittee shall continuously measure and record the temperature of the combustion chamber of the thermal oxidizer. During the initial test showing compliance for EP S60, the permittee shall establish an operating temperature range for the RTO combustion chamber. After the indicator range is established, the permittee shall continuously monitor the RTO combustion chamber temperature. If the temperature is outside of the indicator range, the permittee shall investigate the problem within 8 hours. Any malfunction shall be corrected as soon as possible. The operating temperature range may be reestablished by any subsequent approved performance test where compliance was demonstrated.

b) During the final two years of the permit period (preceding permit expiration), prior to submitting each Title V permit renewal application, the permittee shall conduct stack tests on the thermal oxidizers to ensure compliance with the emission limits for PM/PM_{10} and VOC. Any resulting changes to CAM indicators shall be reflected in a revised CAM Plan submitted as part of the Title V renewal application.

12) The permittee shall record the amount of undenatured 200 proof alcohol produced on a monthly and 12-month rolling total basis. This data shall be provided upon Department request.

13) Fire Water Pump Engine (EU P04) and Emergency Generator Engine (EU P180):

a) Each engine shall be equipped with a non-resettable hour meter.

b) For EU P04, no later than the 15th day of each month, the permittee shall record the number of hours the unit operated during the previous month and calculate the total for the previous 12 months (12-month rolling total basis).

c) For EU P180, a log shall be kept of the total hours of operation on a calendar year basis. For emergency engines, records shall be maintained to differentiate between time operated for emergency purposes, for maintenance/testing purposes, and for other nonemergency purposes.

d) The Department shall be notified no later than the 30th day of the month in which the calculation was made any time the operating hours limit specified in Condition 3.A was exceeded.

14) Fugitive Emissions Management Plan (FEMP): The permittee shall develop, revise as necessary and comply with a fugitive emissions management plan for all fugitive emission sources. The fugitive emission management plan shall describe the best management practices (BMP) which will be used for all source units listing BMP as the emission limit

from Condition 3.A and all other fugitive dust sources. The plan shall be submitted to the Department whenever it is revised.

15) Once during the term of the renewal permit, the permittee shall conduct an emissions test to measure PM/PM_{10} and NO_x emissions using EPA Reference Methods in 40 CFR 60, Appendix A, or at a minimum a portable analyzer method approved by the Department. A test shall consist of three runs, with each run at least 20 minutes in length.

16) When the boiler (EU P63) is operating on natural gas, the permittee shall monitor the amount of natural gas combusted to assure that the heat input to the unit does not exceed 60×10^6 Btu/hr. The permittee shall record hourly the amount of gas combusted, and shall also maintain records of the heating value of the natural gas combusted. All records shall be available for inspection by the Department.

17) Record monthly the type and amount of all fuels burned in the boiler (EU P63).

18) The permittee shall operate and maintain a system for measuring the sodium bisulfite (or other Department-approved chemical) addition rate to the scrubber water. Other chemicals may be used in the scrubber water provided compliance is demonstrated with the acetaldehyde and VOC emission limits and the chemical is approved in advance by the Department. See the CAM Plan for additional VOC compliance assurance monitoring details.

C. In addition to the requirements outlined in Conditions 4.A and 4.B, monitoring shall be in accordance with the following requirements of the North Dakota Air Pollution Control Rules (NDAC) 33.1-15-12, 33.1-15-22 and 40 CFR 63, as applicable.

1) NDAC 33.1-15-12-02, Subpart A, § 60.13, Monitoring requirements

2) NDAC 33.1-15-12-02, Subpart Db, §60.47b and §60.48b, Emission monitoring

3) NDAC 33.1-15-12-02, Subpart Kb, §60.116b, Monitoring of operations

4) NDAC 33.1-15-22-03, Subpart JJJJJJ, §63.11220 - §63.11226, Continuous compliance requirements

5) 40 CFR 63, Subpart VVVVVV, §63.11495 - §63.11497, Management practices and other requirements, standards and compliance requirements

Applicable Requirements: NDAC 33.1-15-12, NDAC 33.1-15-22 and 40 CFR 63, Subpart VVVVVV

5. **Recordkeeping Requirements**:

A. The permittee shall maintain compliance monitoring records as outlined in the Monitoring Records table that include the following information.

1) The date, place (as defined in the permit) and time of sampling or measurement.

2) The date(s) testing was performed.

3) The company, entity, or person that performed the testing.

4) The testing techniques or methods used.

5) The results of such testing.

6) The operating conditions that existed at the time of sampling or measurement.

7) The results of all visible emissions observations and any corrective actions taken.

8) Liquid flow rate data and sodium bisulfite (or other approved chemical) addition rate for the fermentation scrubber.

9) Hours of operation of the diesel engine fire pump and natural gas emergency generator engine on a monthly and 12-month rolling total basis.

10) RTO combustion chamber temperature records.

11) All stack tests results including field data, laboratory analysis data, and quality assurance data.

Applicable Requirement: NDAC 33.1-15-14-06.5.a(3)(b)[1]

Monitoring Records

Process Unit	EP	Pollutant/Parameter	Compliance Monitoring Record
DDGS cooling	S01	PM/PM_{10} VOC Opacity	CAM Data Emissions Test Data VEO Data
Ethanol loadout (truck/rail) flare	S02	VOC Opacity	CAM & Temperature Data VEO Data
Bio-methanator flare	S03	$NO_x/SO_2/VOC$ Opacity	Temperature & BMP Data VEO Data
Fire water pump engine	S04	$NO_x/CO/VOC$ SO_2/Opacity Operating Hours	Cond. 2.H.1 & BMP Data Type of Fuel Usage Operating Hours Data
DDGS storage building	S05	PM/PM_{10}/Opacity	BMP Data

Process Unit	EP	Pollutant/Parameter	Compliance Monitoring Record
Grain unloading	S10	PM/PM_{10}	BMP & FEMP Data
		Opacity	VEO Data
DDGS loading	S20	PM/PM_{10}	BMP & FEMP Data
		Opacity	VEO Data
Hammermilling	S30	PM/PM_{10}	CAM Data
		Opacity	VEO Data
Fermentation	S40 [A]	VOC	CAM Data
		Acetaldehyde	Recordkeeping Data
		Opacity	VEO Data
Distillation/DGS dryers (RTO)	S60	When the boiler (EU P63) is burning fuels other than natural gas:	
		PM_{10} (filterable)/ PM Condensable	CAM Data
		NO_x	CERMS Data
		VOC	CAM Data
		Opacity	COMS Data
		When the boiler (EU P63) is not operating/burning natural gas:	
		PM_{10} (filterable)/ PM Condensable	Emission Test Data
		NO_x	Emission Test Data
		VOC	CAM Data
		Opacity	Type of Fuel Usage
		Heat Input (burning natural gas only)	Amount and Heating Value of Natural Gas Combusted
Distillation/DGS dryers/RTO/boiler	S60	When the boiler (EU P63) is burning fuels other than natural gas:	
		NO_x	CERMS Data
		SO_2	CERMS Data
		Opacity	COMS Data

Process Unit	EP	Pollutant/Parameter	Compliance Monitoring Record
Boiler	S60 (EU P63 only)	PM_{10} (filterable)/ PM Condensable	CAM & Emissions Test Data
		PM/PM_{10} (filterable)	CAM & Emissions Test Data
		NO_x	CEMS/CERMS Data
		SO_2	CEMS/CERMS Data
		CO ($lb/10^6Btu$) & (ppmvd)	Emissions Test Data
		VOC	Emissions Test Data
		Opacity	COMS Data
		Hg	Fuel Analysis Data
		Heat Input	Heat Input Data
		Max. Operating Load	Steam Production Data
		Min. Oxygen Level	Oxygen Monitor Data
		Fuel Usage	Fuel Use Data
Boiler #2	S64	NO_x	CEMS Data
		Opacity	Type of Fuel Usage
Boiler #3	S65	NO_x	CEMS Data
		Opacity	Type of Fuel Usage
Flyash conveyor and storage	S120	PM/PM_{10}	BMP & FEMP Data
		Opacity	VEO Data
Coal handling	S130	PM/PM_{10}	BMP & FEMP Data
		Opacity	VEO Data
	S170	PM/PM_{10}	BMP & FEMP Data
		Opacity	VEO Data
	FUG	PM/PM_{10}	FEMP Data
Limestone storage and transfer	S140	PM/PM_{10}	BMP Data
		Opacity	VEO Data
FGD silo bin vent	S150	PM/PM_{10}	BMP & FEMP Data
		Opacity	VEO Data

Process Unit	EP	Pollutant/Parameter	Compliance Monitoring Record
Emergency generator engine	S180	Operating Hours Opacity	Operating Hours Type of Fuel Usage
Truck traffic	FUG	PM/PM_{10}	FEMP Data
Uncaptured grain handling emissions & temporary grain storage	FUG	PM/PM_{10}	FEMP Data
Uncaptured DDGS handling emissions	FUG	PM/PM_{10}	FEMP Data
Wet Cake/DGS storage and handling	FUG	PM/PM_{10}/VOC	FEMP Data
Cooling towers	FUG	PM/PM_{10}	FEMP Data
Equipment leaks	FUG	VOC	Inspection & Recordkeeping Data
Uncaptured coal handling emissions	FUG	PM/PM_{10}	FEMP Data
190 Proof storage tank	T01	VOC	Inspection & Recordkeeping Data
Denaturant storage tank	T02	VOC	Inspection & Recordkeeping Data
Denatured ethanol storage tank	T03	VOC	Inspection & Recordkeeping Data
200 Proof storage tank	T04	VOC	Inspection & Recordkeeping Data
Fuel additive storage tank	T05	VOC	FEMP Data
Denatured ethanol storage tank	T06	VOC	Inspection & Recordkeeping Data
USP shift tank	T12	VOC	Inspection & Recordkeeping Data
USP bertha tank	T13	VOC	Inspection & Recordkeeping Data
Fuel additive storage tank	T14	VOC	FEMP Data
Unsheltered corn storage	FUG	PM/PM_{10}	FEMP Data
Haul road	FUG	PM/PM_{10}	FEMP Data
Ethanol production	--	Ethanol Production	Ethanol Production Data

[A] Monitoring records for each pollutant/parameter applies to EP S40 when the capture system is not operating and the scrubber is venting regulated pollutant emissions to the atmosphere.

B. In addition to the requirements outlined in Condition 5.A, recordkeeping shall be in accordance with the following requirements of the North Dakota Air Pollution Control Rules (NDAC) 33.1-15-12, 33.1-15-22 and 40 CFR 63, as applicable.

1) NDAC 33.1-15-12-02, Subpart A, § 60.7, Notification and record keeping

2) NDAC 33.1-15-12-02, Subpart Db, §60.49b, Reporting and recordkeeping requirements

3) NDAC 33.1-15-12-02, Subpart Kb, §60.115b, Reporting and recordkeeping requirements

4) NDAC 33.1-15-12-02, Subpart VVa, §60.486a, Recordkeeping requirements

5) NDAC 33.1-15-12-02, Subpart JJJJ, §60.4245, Notification, reporting, and recordkeeping requirements

6) NDAC 33.1-15-22-03, Subpart A, §63.10, Recordkeeping and reporting requirements

7) 40 CFR 63, Subpart ZZZZ, §63.6645 - §63.6660, Notifications, reports, and records

8) NDAC 33.1-15-22-03, Subpart JJJJJJ, §63.11225, Notification, reporting and recordkeeping requirements

9) 40 CFR 63, Subpart VVVVVV, §63.11501, Notification, recordkeeping and reporting requirements

Applicable Requirements: NDAC 33.1-15-12, NDAC 33.1-15-22 and 40 CFR 63, Subparts ZZZZ and VVVVVV

C. The permittee shall retain, at the Richardton facility, records of all required monitoring data and support information for a period of at least five years from the date of the monitoring sampling, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings/computer printouts of continuous monitoring instrumentation, and copies of all reports required by the permit.

Applicable Requirement: NDAC 33.1-15-14-06.5.a(3)(b)[2]

6. **Reporting**:

A. Reporting shall be in accordance with the following requirements of NDAC 33.1-15-12, 33.1-15-22 and 40 CFR 63, as applicable.

1) NDAC 33.1-15-12-02, Subpart A, § 60.7, Notification and record keeping and §60.19, General notification and reporting requirements

2) NDAC 33.1-15-12-02, Subpart Db, §60.49b, Reporting and recordkeeping requirements

3) NDAC 33.1-15-12-02, Subpart Kb, §60.115b, Reporting and recordkeeping requirements

4) NDAC 33.1-15-12-02, Subpart VVa, §60.487a, Reporting requirements

5) NDAC 33.1-15-12-02, Subpart JJJJ, §60.4245, Notification, reporting, and recordkeeping requirements

6) NDAC 33.1-15-22-03, Subpart A, §63.9, Notification requirements and §63.10, Recordkeeping and reporting requirements

7) 40 CFR 63, Subpart ZZZZ, §63.6645 - §63.6660, Notifications, reports, and records

8) NDAC 33.1-15-22-03, Subpart JJJJJJ, §63.11225, Notification, reporting and recordkeeping requirements

9) 40 CFR 63, Subpart VVVVVV, §63.11501, Notification, recordkeeping and reporting requirements

Applicable Requirements: NDAC 33.1-15-12, NDAC 33.1-15-22 and 40 CFR 63, Subparts ZZZZ and VVVVVV

B. When the boiler (EU P63) has operated and burned any fuels other than natural gas during a quarter, quarterly excess emission reports for the boilers (EU P63, P64 and P65) shall be submitted

by the 30th day following the end of each calendar quarter. The report shall include all information required by 40 CFR 60.49b. Excess emissions are defined as emission rates which exceed the emission limits in Condition 3.A. Excess emissions shall be reported for the following:

Parameter	Averaging Period
EU P63:	
SO_2 (lb/10^6 Btu)	30 d.r.a. [A]
SO_2 (lb/hr)	24-hour (block)
NO_x (lb/10^6 Btu)	30 d.r.a. [A]
NO_x (lb/hr)	24-hour (block) [B]
Opacity	6-minute
EU P64 & P65:	
NO_x (lb/10^6 Btu)	30 d.r.a.

[A] For purposes of demonstrating compliance with the 30-day rolling averages (d.r.a) for SO_2 and NO_x on a lb/10^6 Btu basis, the permittee may monitor the combined flue gas of boiler and the distillation/DGS dryers/RTO per EPA's approval on January 15, 2008.

[B] For purposes of demonstrating compliance with the NO_x emission limit on a lb/hr 24-hour block average basis for the boiler (EU P63) and the Distillation/DGS dryers (EU 50-62), the permittee may use a combined allowable emission rate of 51.1 lb/hr (24-hour block average), provided emissions from the boiler and the distillation/DGS dryers/RTO are vented to the common stack (EP S60) and the NO_x emissions are measured by a continuous emissions monitoring system and a continuous emission rate monitoring system.

Note: When the coal boiler (EU P63) has not burned fuels other than natural gas during the quarter, excess emission reports are not required for this boiler.

Applicable Requirements: NDAC 33.1-15-12 and NDAC 33.1-15-14-02.9.d

C. The permittee shall submit a semi-annual monitoring report for all monitoring records required under Condition 5 in a format provided or approved by the Department. All instances of deviations from the permit must be identified in the report. A monitoring report shall be submitted within 45 days after June 30 and December 31 of each year.

Applicable Requirements: NDAC 33.1-15-14-06.5.a(3)(c)[1] and [2]

D. The permittee shall submit an annual compliance certification report in accordance with NDAC 33.1-15-14-06.5.c(5) within 45 days after December 31 of each year in a format provided or approved by the Department. In addition, prepare by March 1 and submit if required (by March 15) an annual compliance certification report as required by §63.11225(b).

Applicable Requirement: NDAC 33.1-15-14-06.5.c(5) and NDAC 33.1-15-22-03, Subpart 6J

E. For emission units where the method of compliance monitoring is demonstrated by an EPA Test Method or a portable analyzer test, the test report shall be submitted to the Department within 60 days after completion of the test.

Applicable Requirement: NDAC 33.1-15-14-06.5.a(6)(e)

F. The permittee shall submit an annual emission inventory report (AEIR) in a format provided or approved by the Department. This report shall be submitted by March 15 of each year. Insignificant units/activities listed in this permit do not need to be included in the report.

Applicable Requirements: NDAC 33.1-15-14-06.5.a(7) and NDAC 33.1-15-23-04

7. **Facility Wide Operating Conditions**:

A. **Ambient Air Quality Standards**:

1) Particulate and gases. The permittee shall not emit air contaminants in such a manner or amount that would violate the standards of ambient air quality listed in Table 1 of NDAC 33.1-15-02, external to buildings, to which the general public has access.

2) Radioactive substances. The permittee shall not release into the ambient air any radioactive substances exceeding the concentrations specified in NDAC 33.1-10.

3) Other air contaminants. The permittee shall not emit any other air contaminants in concentrations that would be injurious to human health or well-being or unreasonably interfere with the enjoyment of property or that would injure plant or animal life.

4) Disclaimer. Nothing in any other part or section of this permit may in any manner be construed as authorizing or legalizing the emission of air contaminants in such manner that would violate the standards in Paragraphs 1), 2) and 3) of this condition.

Applicable Requirements: NDAC 33.1-15-02-04 and 40 CFR 50.1(e)

B. **Fugitive Emissions**: The release of fugitive emissions shall comply with the applicable requirements in NDAC 33.1-15-17.

Applicable Requirement: NDAC 33.1-15-17

C. **Open Burning**: The permittee may not cause, conduct, or permit open burning of refuse, trade waste, or other combustible material, except as provided for in Section 33.1-15-04-02 and may not conduct, cause, or permit the conduct of a salvage operation by open burning. Any permissible open burning under NDAC 33.1-15-04-02 must comply with the requirements of that section.

Applicable Requirement: NDAC 33.1-15-04

D. **Asbestos Renovation or Demolition**: Any asbestos renovation or demolition at the facility shall comply with emission standard for asbestos in NDAC 33.1-15-13.

Applicable Requirement: NDAC 33.1-15-13-02

E. **Requirements for Organic Compounds Gas Disposal**:

1) Any organic compounds, gases and vapors which are generated as wastes as the result of storage, refining or processing operations and which contain hydrogen sulfide shall be incinerated, flared or treated in an equally effective manner before being released into the ambient air.

2) Each flare must be equipped and operated with an automatic ignitor or a continuous burning pilot.

Applicable Requirement: NDAC 33.1-15-07-02

F. **Rotating Pumps and Compressors**: All rotating pumps and compressors handling volatile organic compounds must be equipped and operated with properly maintained seals designed for their specific product service and operating conditions.

Applicable Requirement: NDAC 33.1-15-07-01.5

G. **Shutdowns/Malfunction/Continuous Emission Monitoring System Failure**:

1) Maintenance Shutdowns. In the case of shutdown of air pollution control equipment for necessary scheduled maintenance, the intent to shut down such equipment shall be reported to the Department at least 24 hours prior to the planned shutdown provided that the air contaminating source will be operated while the control equipment is not in service. Such prior notice shall include the following:

a) Identification of the specific facility to be taken out of service as well as its location and permit number.

b) The expected length of time that the air pollution control equipment will be out of service.

c) The nature and estimated quantity of emissions of air pollutants likely to be emitted during the shutdown period.

d) Measures, such as the use of off-shift labor and equipment, that will be taken to minimize the length of the shutdown period.

e) The reasons that it would be impossible or impractical to shut down the source operation during the maintenance period.

f) Nothing in this subsection shall in any manner be construed as authorizing or legalizing the emission of air contaminants in excess of the rate allowed by this article or a permit issued pursuant to this article.

Applicable Requirement: NDAC 33.1-15-01-13.1

2) Malfunctions.

a) When a malfunction in any installation occurs that can be expected to last longer than 24 hours and cause the emission of air contaminants in violation of this article or other applicable rules and regulations, the person responsible for such installation shall notify the Department of such malfunction as soon as possible during normal working hours. The notification must contain a statement giving all pertinent facts, including the estimated duration of the breakdown. The Department shall be notified when the condition causing the malfunction has been corrected.

b) Immediate notification to the Department is required for any malfunction that would threaten health or welfare or pose an imminent danger. During normal working hours the Department can be contacted at 701-328-5188. After hours the Department can be contacted through the 24-hour state radio emergency number 1-800-472-2121. If calling from out of state, the 24-hour number is 701-328-9921.

c) Unavoidable Malfunction. The owner or operator of a source who believes any excess emissions resulted from an unavoidable malfunction shall submit a written report to the Department which includes evidence that:

[1] The excess emissions were caused by a sudden, unavoidable breakdown of technology that was beyond the reasonable control of the owner or operator.

[2] The excess emissions could not have been avoided by better operation and maintenance, did not stem from an activity or event that could have been foreseen and avoided, or planned for.

[3] To the extent practicable, the source maintained and operated the air pollution control equipment and process equipment in a manner consistent with good practice for minimizing emissions, including minimizing any bypass emissions.

[4] Any necessary repairs were made as quickly as practicable, using off-shift labor and overtime as needed and possible.

[5] All practicable steps were taken to minimize the potential impact of the excess emissions on ambient air quality.

[6] The excess emissions are not part of a recurring pattern that may have been caused by inadequate operation or maintenance, or inadequate design of the malfunctioning equipment.

The report shall be submitted within 30 days of the end of the calendar quarter in which the malfunction occurred or within 30 days of a written request by the Department, whichever is sooner.

The burden of proof is on the owner or operator of the source to provide sufficient information to demonstrate that an unavoidable equipment malfunction occurred. The Department may elect not to pursue enforcement action after considering whether excess emissions resulted from an unavoidable equipment malfunction. The Department will evaluate, on a case-by-case basis, the information submitted by the owner or operator to determine whether to pursue enforcement action.

Applicable Requirement: NDAC 33.1-15-01-13.2

3) Continuous Emission Monitoring System Failures. When a failure of a continuous emission monitoring system occurs, an alternative method for measuring or estimating emissions must be undertaken as soon as possible. The owner or operator of a source that uses an alternative method shall have the burden of demonstrating that the method is accurate. Timely repair of the emission monitoring system must be made. The provisions of this subsection do not apply to sources that are subject to monitoring requirements in Chapter 33.1-15-21 (40 CFR 75, Acid Rain Program).

Applicable Requirement: NDAC 33.1-15-01-13.3

H. **Air Pollution from Internal Combustion Engines**: The permittee shall comply with all applicable requirements of NDAC 33.1-15-08-01 – Internal Combustion Engine Emissions Restricted.

Applicable Requirement: NDAC 33.1-15-08-01

I. **Prohibition of Air Pollution.**

1) The permittee shall not permit or cause air pollution, as defined in NDAC 33.1-15-01-04.

2) Nothing in any other part of this permit or any other regulation relating to air pollution shall in any manner be construed as authorizing or legalizing the creation or maintenance of air pollution.

Applicable Requirement: NDAC 33.1-15-01-15

J. **Performance Tests**:

1) The Department may reasonably require the permittee to make or have made tests, at a reasonable time or interval, to determine the emission of air contaminants from any source, for the purpose of determining whether the permittee is in violation of any standard or to satisfy other requirements of NDCC 23.1-06. All tests shall be made, and the results calculated in accordance with test procedures approved or specified by the Department including the North Dakota Department of Environmental Quality Emission Testing Guideline. All tests shall be conducted by reputable, qualified personnel. The Department shall be given a copy of the test results in writing and signed by the person responsible for the tests.

2) The Department may conduct tests of emissions of air contaminants from any source. Upon request of the Department, the permittee shall provide necessary and adequate access into stacks or ducts and such 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.

Applicable Requirement: NDAC 33.1-15-01-12

3) Except for sources subject to 40 CFR 63, the permittee shall notify the Department by submitting a Proposed Test Plan, or its equivalent, at least 30 calendar days in advance of any tests of emissions of air contaminants required by the Department. The permittee shall notify the Department at least 60 calendar days in advance of any performance testing required under 40 CFR 63, unless otherwise specified by the subpart. If the permittee is unable to conduct the performance test on the scheduled date, the permittee shall notify the Department as soon as practicable when conditions warrant and shall coordinate a new test date with the Department.

Failure to give the proper notification may prevent the Department from observing the test. If the Department is unable to observe the test because of improper notification, the test results may be rejected.

Applicable Requirements: NDAC 33.1-15-14-06.5.a(3)(a), NDAC 33.1-15-12-02 Subpart A (40 CFR 60.8), NDAC 33.1-15-13-01.2 Subpart A (40 CFR 61.13), NDAC 33.1-15-22-03 Subpart A (40 CFR 63.7)

K. **Pesticide Use and Disposal**: Any use of a pesticide or disposal of surplus pesticides and empty pesticide containers shall comply with the requirements in NDAC 33.1-15-10.

Applicable Requirements: NDAC 33.1-15-10-01 and NDAC 33.1-15-10-02

L. **Air Pollution Emergency Episodes**: When an air pollution emergency episode is declared by the Department, the permittee shall comply with the requirements in NDAC 33.1-15-11.

Applicable Requirements: NDAC 33.1-15-11-01 through NDAC 33.1-15-11-04

M. **Stratospheric Ozone Protection**: The permittee shall comply with any applicable standards for recycling and emissions reduction pursuant to 40 CFR 82, Subpart F, except as provided for MVACs in Subpart B:

1) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to Section 82.156.

2) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to Section 82.158.

3) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to Section 82.161.

4) Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to Section 82.156.

Applicable Requirement: 40 CFR 82

N. **Chemical Accident Prevention**: The permittee shall comply with all applicable requirements of Chemical Accident Prevention pursuant to 40 CFR 68. The permittee shall comply with the requirements of this part no later than the latest of the following dates:

1) Three years after the date on which a regulated substance is first listed under this part; or

2) The date on which a regulated substance is first present above a threshold quantity in a process.

Applicable Requirement: 40 CFR 68

O. **Air Pollution Control Equipment**: The permittee shall maintain and operate air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. The manufacturer's recommended Operations and Maintenance (O&M) procedures, or a site-specific O&M procedure developed from the manufacturer's recommended O&M procedures, shall be followed to assure proper operation and maintenance of the equipment. The permittee shall have the O&M procedures available onsite and provide the Department with a copy when requested.

Applicable Requirement: NDAC 33.1-15-14-06.5.b(1)

P. **Prevention of Significant Deterioration of Air Quality** (40 CFR 52.21 as incorporated by NDAC Chapter 33.1-15-15): If this facility is classified as a major stationary source under the Prevention of Significant Deterioration of Air Quality (PSD) rules, a Permit to Construct must be obtained from the Department for any project which meets the definition of a "major modification" under 40 CFR 52.21(b)(2).

If this facility is classified as a major stationary source under the PSD rules and the permittee elects to use the method specified in 40 CFR 52.21(b)(41)(ii)(a) through (c) for calculating the projected actual emissions of a proposed project, then the permittee shall comply with all applicable requirements of 40 CFR 52.21(r)(6).

Applicable Requirement: NDAC 33.1-15-15-01.2

8. **General Conditions**:

A. **Annual Fee Payment**: The permittee shall pay an annual fee, for administering and monitoring compliance, which is determined by the actual annual emissions of regulated contaminants from the previous calendar year. The Department will send a notice, identifying the amount of the annual permit fee, to the permittee of each affected installation. The fee is due within 60 days following the date of such notice. Any source that qualifies as a "small business" may petition the Department to reduce or exempt any fee required under this section. Failure to pay the fee in a timely manner or submit a certification for exemption may cause this Department to initiate action to revoke the permit.

Applicable Requirements: NDAC 33.1-15-14-06.5.a(7) and NDAC 33.1-15-23-04

B. **Permit Renewal and Expiration**: This permit shall be effective from the date of its issuance for a fixed period of five years. The permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least six months, but no more than 18 months, prior to the date of permit expiration. The Department shall approve or disapprove the renewal application within 60 days of receipt. Unless the Department requests additional information or otherwise notifies the applicant of incompleteness, the application shall be deemed complete. For timely and complete renewal applications for which the Department has failed to issue or deny the renewal permit before the expiration date of the previous permit, all terms and conditions of the permit, including any permit shield previously granted shall remain in effect until the renewal permit has been issued or denied. The application for renewal shall include the current permit number, description of any permit revisions and off-permit changes that occurred during the permit term, and any applicable requirements that were promulgated and not incorporated into the permit during the permit term.

Applicable Requirements: NDAC 33.1-15-14-06.4 and NDAC 33.1-15-14-06.6

C. **Transfer of Ownership or Operation**: This permit may not be transferred except by procedures allowed in Chapter 33.1-15-14 and is to be returned to the Department upon the destruction or change of ownership of the source unit(s), or upon expiration, suspension or revocation of this permit. A change in ownership or operational control of a source is treated as an administrative permit amendment if no other change in the permit is necessary and provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittee has been submitted to the Department.

Applicable Requirement: NDAC 33.1-15-14-06.6.d

D. **Property Rights**: This permit does not convey any property rights of any sort, or any exclusive privilege.

Applicable Requirement: NDAC 33.1-15-14-06.5.a(6)(d)

E. **Submissions**:

1) Reports, test data, monitoring data, notifications, and requests for renewal shall be submitted to the Department using a format provided or approved by the Department. Physical submittals shall be submitted to:

North Dakota Department of Environmental Quality
Division of Air Quality
4201 Normandy Street, 2nd Floor
Bismarck, ND 58503-1324

2) Any application form, report or compliance certification submitted shall be certified as being true, accurate, and complete by a responsible official.

Applicable Requirement: NDAC 33.1-15-14-06.4.d

F. **Right of Entry**: Any duly authorized officer, employee or agent of the North Dakota Department of Environmental Quality may enter and inspect any property, premise or place listed on this permit or where records are kept concerning this permit at any reasonable time for the purpose of ascertaining the state of compliance with this permit and the North Dakota Air Pollution Control Rules. The Department may conduct tests and take samples of air contaminants, fuel, processing material, and other materials which affect or may affect emissions of air contaminants from any source. The Department shall have the right to access and copy any records required by the Department's rules and to inspect monitoring equipment located on the premises.

Applicable Requirements: NDAC 33.1-15-14-06.5.c(2) and NDAC 33.1-15-01-06

G. **Compliance**: The permittee must comply with all conditions of this permit. Any noncompliance with a federally-enforceable permit condition constitutes a violation of the Federal Clean Air Act. Any noncompliance with any State enforceable condition of this permit constitutes a violation of NDCC Chapter 23.1-06 and NDAC 33.1-15. Violation of any condition of this permit is grounds for enforcement action, for permit termination, revocation and reissuance or modification, or for denial of a permit renewal application. Noncompliance may also be grounds for assessment of penalties under the NDCC 23.1-06. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

Applicable Requirements: NDAC 33.1-15-14-06.5.a(6)(a) and NDAC 33.1-15-14-06.5.a(6)(b)

H. **Duty to Provide Information**: The permittee shall furnish to the Department, within a reasonable time, any information that the Department may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit, or to determine compliance with the permit. This includes instances where an alteration, repair, expansion, or change in method of operation of the source occurs. Upon request, the permittee shall also furnish to the

Department copies of records that the permittee is required to keep by this permit, or for information claimed to be confidential, the permittee may furnish such recourse directly to the Department along with a claim of confidentiality. The permittee, upon becoming aware that any relevant facts were omitted, or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information. Items that warrant supplemental information submittal include, but are not limited to, changes in the ambient air boundary and changes in parameters associated with emission points (i.e., stack parameters). The permittee shall also provide additional information as necessary to address any requirements that become applicable to the source after the date a complete renewal application was submitted but prior to release of a draft permit.

Applicable Requirements: NDAC 33.1-15-14-06.5.a(6)(e), NDAC 33.1-15-14-06.6.b(3) and NDAC 33.1-15-14-06.4.b

I. **Reopening for Cause**: The Department will reopen and revise this permit as necessary to remedy deficiencies in the following circumstances:

1) Additional applicable requirements under the Federal Clean Air Act become applicable to the permittee with a remaining permit term of three or more years. Such a reopening shall be completed no later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the expiration date of this permit.

2) The Department or the United States Environmental Protection Agency determines that this permit contains a material mistake or inaccurate statements were made in establishing the emissions standards or other terms or conditions of this permit.

3) The Department or the United States Environmental Protection Agency determines that the permit must be revised or revoked to assure compliance with the applicable requirements.

4) Reopenings shall not be initiated before a notice of intent to reopen is provided to the permittee by the Department at least 30 days in advance of the date that this permit is to be reopened, except that the Department may provide a shorter time period in the case of an emergency. Proceedings to reopen and issue this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening shall be made as expeditiously as practicable.

Applicable Requirement: NDAC 33.1-15-14-06.6.f

J. **Permit Changes**: The permit may be modified, revoked, reopened, and reissued or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.

Applicable Requirement: NDAC 33.1-15-14-06.5.a(6)(c)

K. **Off-Permit Changes**: A permit revision is not required for changes that are not addressed or prohibited by this permit, provided the following conditions are met:

1) No such change may violate any term or condition of this permit.

2) Each change must comply with all applicable requirements.

3) Changes under this provision may not include changes or activities subject to any requirement under Title IV or that are modifications under any provision of Title I of the Federal Clean Air Act.

4) A Permit to Construct under NDAC 33.1-15-14-02 has been issued, if required.

5) Before the permit change is made, the permittee must provide written notice to both the Department and Air Program (8P-AR), Office of Partnerships & Regulatory Assistance, US EPA Region 8, 1595 Wynkoop Street, Denver, CO 80202-1129, except for changes that qualify as insignificant activities in Section 33.1-15-14-06. This notice shall describe each change, the date of the change, any change in emissions, pollutants emitted, and any applicable requirement that would apply as a result.

6) The permittee shall record all changes that result in emissions of any regulated air pollutant subject to any applicable requirement not otherwise regulated under this permit, and the emissions resulting from those changes. The record shall reside at the permittee's facility.

Applicable Requirement: NDAC 33.1-15-14-06.6.b(3)

L. **Administrative Permit Amendments**: This permit may be revised through an administrative permit amendment, if the revision to this permit accomplishes one of the following:

1) Corrects typographical errors.

2) Identifies a change in the name, address or phone number of any person identified in this permit or provides a similar minor administrative change at the source.

3) Requires more frequent monitoring or reporting by the permittee.

4) Allows for a change in ownership or operational control of the source where the Department determines that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new permittee has been submitted to the Department.

5) Incorporates into the Title V permit the requirements from a Permit to Construct when the review was substantially equivalent to Title V requirements for permit issuance, renewal, reopenings, revisions and permit review by the United States Environmental Protection Agency and affected state review, that would be applicable to the change if it were subject to review as a permit modification and compliance requirements substantially equivalent to Title V requirements for permit content were contained in the Permit to Construct.

6) Incorporates any other type of change which the Administrator of the United States Environmental Protection Agency has approved as being an administrative permit amendment as part of the Department's approved Title V operating permit program.

Applicable Requirement: NDAC 33.1-15-14-06.6.d

M. **Minor Permit Modification**: This permit may be revised by a minor permit modification, if the proposed permit modification meets the following requirements:

1) Does not violate any applicable requirement.

2) Does not involve significant changes to existing monitoring, reporting, or recordkeeping requirements in this permit.

3) Does not require or change a case-by-case determination of an emission limitation or other standard, or a source-specific determination for temporary sources of ambient impacts, or a visibility or increment analysis.

4) Does not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject. Such terms and conditions include a federally enforceable emissions cap assumed to avoid classification as a modification under any provision of Title I of the Federal Clean Air Act; and alternative emissions limit approved pursuant to regulations promulgated under Section 112(i)(5) of the Federal Clean Air Act.

5) Is not a modification under NDAC 33.1-15-12, 33.1-15-13, and 33.1-15-15 or any provision of Title I of the Federal Clean Air Act.

6) Is not required to be processed as a significant modification.

Applicable Requirement: NDAC 33.1-15-14-06.6.e(1)

N. **Significant Modifications**:

1) Significant modification procedures shall be used for applications requesting permit modifications that do not qualify as minor permit modifications or as administrative amendments. Every significant change in existing monitoring permit terms or conditions and every relaxation of reporting or recordkeeping permit terms or conditions shall be considered significant. Nothing therein shall be construed to preclude the permittee from making changes consistent with this subsection that would render existing permit compliance terms and conditions irrelevant.

2) Significant permit modifications shall meet all Title V requirements, including those for applications, public participation, review by affected states, and review by the United States Environmental Protection Agency, as they apply to permit issuance and permit

renewal. The Department shall complete review of significant permit modifications within nine months after receipt of a complete application.

Applicable Requirement: NDAC 33.1-15-14-06.6.e(3)

O. **Operational Flexibility**: The permittee is allowed to make a limited class of changes within the permitted facility that contravene the specific terms of this permit without applying for a permit revision, provided the changes do not exceed the emissions allowable under this permit, are not Title I modifications and a Permit to Construct is not required. This class of changes does not include changes that would violate applicable requirements, or changes to federally-enforceable permit terms or conditions that are monitoring, recordkeeping, reporting, or compliance certification requirements.

The permittee is required to send a notice to both the Department and Air Program (8P-AR), Office of Partnerships & Regulatory Assistance, US EPA Region 8, 1595 Wynkoop Street, Denver, CO 80202-1129, at least seven days in advance of any change made under this provision. The notice must describe the change, when it will occur and any change in emissions, and identify any permit terms or conditions made inapplicable as a result of the change. The permittee shall attach each notice to its copy of this permit. Any permit shield provided in this permit does not apply to changes made under this provision.

Applicable Requirement: NDAC 33.1-15-14-06.6.b(2)

P. **Relationship to Other Requirements**: Nothing in this permit shall alter or affect the following:

1) The provisions of Section 303 of the Federal Clean Air Act (emergency orders), including the authority of the administrator of the United States Environmental Protection Agency under that section.

2) The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance.

3) The ability of the United States Environmental Protection Agency to obtain information from a source pursuant to Section 114 of the Federal Clean Air Act.

4) Nothing in this permit shall relieve the permittee of the requirement to obtain a Permit to Construct.

Applicable Requirements: NDAC 33.1-15-14-06.3 and NDAC 33.1-15-14-06.5.f(3)(a), (b) and (d)

Q. **Severability Clause**: The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

Applicable Requirement: NDAC 33.1-15-14-06.5.a(5)

R. **Circumvention**: The permittee shall not cause or permit the installation or use of any device of any means which conceals or dilutes an emission of air contaminants which would otherwise violate this permit.

Applicable Requirement: NDAC 33.1-15-01-08

9. **State Enforceable Only Conditions (not Federally enforceable)**:

A. **General Odor Restriction**: The permittee shall not discharge into the ambient air any objectionable odorous air contaminant which exceeds the limits established in NDAC 33.1-15-16.

Applicable Requirement: NDAC 33.1-15-16

Attachment A

Compliance Assurance Monitoring (CAM) Plan
for the
Red Trail Energy, LLC
Richardton Ethanol Plant
Title V Permit No. AOP-28453

EP S01	DDGS Cooling (baghouse)
EP S02	Ethanol Loadout (Truck/Rail) (flare)
EP S30	Hammermill (baghouse)
EP S40	Fermentation (scrubber)
EP S60	Distillation/DGS Dryer (RTO)
EP S60	Boiler EU P63 (baghouse)

DDGS COOLING BAGHOUSE CAM PLAN

Fabric filter for particulate matter (PM) control – Red Trail Energy, Richardton, ND. This is a dry-mill ethanol manufacturer that is Title V major for PM, sulfur dioxide (SO2), nitrogen oxide (NOx), and carbon monoxide (CO) and has included this CAM Plan with the initial application of the Title V Permit to Operate application.

I. BACKGROUND

A. Emission Unit

Description: Control for the DDGS cooling/conveying system
Identification: S01/C01
Facility: Red Trail Energy
3682 Highway 8 South
Richardton, ND 58652

B. Applicable Regulation, Emission Limit, Monitoring Requirements

Permit No.: ACP-17102 v1.2; AOP-28453
Emission Limits/Applicable Regulations:
PM: 0.004 grain per dry standard cubic foot (gr/dscf) – NDAC 33-15-15-01.2 and 0.96 pound per hour (lb/hr) – NDAC 33-15-15-01.2
Opacity: 0% - NDAC 33-15-15-01.2

Monitoring requirements: Visible emissions, baghouse pressure drop.

C. Control Technology

This source is controlled by a pulse-jet baghouse that filters approximately 28,000 standard cubic feet per minute of air. The precise pre-control potential emissions of PM are not known but are estimated to be more than 100 tons annually.

II. MONITORING APPROACH

A. Visible Emissions

1. *Indicator*

   Visible emissions (VE) from the baghouse exhaust will be monitored and recorded daily during routine operating conditions using a 6 minute VE-no VE check.

2. *Indicator Range*

   An excursion is defined as the presence of visible emissions. Excursions trigger an inspection, corrective action, and a reporting requirement.

3. *Quality Improvement Plan (QIP) Threshold*

   None selected.

B. Pressure Drop

1. *Indicator*

   Pressure drop across the baghouse is measured with a differential pressure gauge. It is continuously monitored and manually recorded daily.

2. *Indicator Range*

   An excursion is defined as a pressure drop greater than 6 inches of water column. Excursions trigger an inspection, corrective action and a reporting requirement. Readings less than 0.5 inch of water column require a system inspection.

3. *QIP Threshold*

   None selected.

III. PERFORMANCE CRITERIA

A. Data Representativeness

1. *Visible Emissions*

   Recorded observations will be completed during periods of normal operation by a competent observer.

2. *Pressure Drop*

   Pressure taps are located at the baghouse inlet and outlet. The gauge has a minimum accuracy of 0.25 inches water column.

B. Verification of Operational Status

1. *Visible Emissions*

   NA

2. *Pressure Drop*

   NA

C. QA/QC Practices and Criteria

1. *Visible Emissions*

   The observer will be familiar with baghouse operations.

2. *Pressure Drop*

   The pressure gauge is calibrated quarterly and pressure taps are checked for plugging monthly.

D. Monitoring Frequency

1. *Visible Emissions*

   A 6-minute VE observation is performed daily.

2. *Pressure Drop*

   Pressure drop is monitored continuously.

E. Data Collection Procedure

1. *Visible Emissions*

   The VE observation is documented by the observer and recorded daily. The observation log includes the observation date, time, and results.

2. *Pressure Drop*

   Pressure drop is manually recorded daily. The observation log includes the observation date, time, and pressure drop.

F. Averaging Period

1. *Visible Emissions*

   6-Minute

2. *Pressure Drop*

   NA – Daily instantaneous reading

IV. Justification

A. Rationale for Selection of Performance Indicators

1. *Visible Emissions*

   Visible emissions were selected as a performance indicator because it is indicative of good operation and maintenance of the baghouse. When the baghouse is operating properly, there will not be any visible emissions from the exhaust. Any increase in visible emissions indicates reduced performance of a particulate control device.

2. *Pressure Drop*

   In general, baghouses are designed to operate at a relatively constant pressure drop. Monitoring pressure drop provides a means of detecting a change in operation that could lead to an increase in emissions. An increase in pressure drop can indicate that the cleaning cycle is not frequent enough, cleaning equipment is damaged, the bags are becoming inefficient, or the airflow has increased. A decrease in pressure drop may indicate broken or loose bags, but this is also indicated by the presence of visible emissions, indicator No. 1. A pressure drop across the baghouse also serves to indicate that there is airflow through the control device.

B. Rationale for Selection of Indicator Ranges

1. *Visible Emissions*

   The selected indicator range is the presence of no visible emissions. When an excursion occurs, corrective action will be initiated, beginning with an evaluation of the occurrence to determine the action required to correct the situation. All excursions will be documented and reported.

An indicator range of no visible emissions was selected because: (1) an increase in visible emissions is indicative of an increase in particulate emissions; and (2) a monitoring technique which does not require a Method 9 certified observer is desired. No QIP threshold has been selected for this indicator.

2. *Pressure Drop*

   The indicator range chosen for the baghouse pressure drop is less than 6 inches of water column. An excursion triggers an inspection, corrective action, and a reporting requirement. The pressure drop is recorded daily. As the pressure drop approaches 6 inches of water column, the bags are scheduled for replacement. This indicator is also used to monitor for bypass of the control device. If the pressure drop falls below 1 inch of water column during normal process operation, the possibility of bypass is investigated. No QIP threshold has been selected for this indicator.

C. Performance test

In June 2007, a performance test was performed on the baghouse. This testing was performed under conditions of maximum emissions potential (i.e., maximum production capacity). The calculated PM emissions were 0.598 lb/hr. This is well within the permit limit.

During the performance test, no visible emissions were observed.

The baghouse pressure drop was also recorded. This testing confirmed that the chosen indicator range for the pressure drop correlates with compliance with the particulate limit.

A copy of the performance test report (including these observation data) was provided to NDDEQ on August 20, 2007.

No notable changes have taken place to the DDGS cooling system or the baghouse since the performance test. Therefore, this CAM Plan meets the requirements of 40 CFR 64.

ETHANOL LOADING RACK FLARE CAM PLAN

Flare for volatile organic compound (VOC) control – Red Trail Energy, Richardton, ND. This is a dry-mill ethanol manufacturer that is Title V major for particulate matter (PM), sulfur dioxide (SO2), nitrogen oxide (NOx), and carbon monoxide (CO) and has included this CAM Plan with the initial application of the Title V Permit to Operate application.

V. BACKGROUND

A. Emission Unit

Description: Control of VOC emissions from the ethanol loading rack
Identification: S02/C02
Facility: Red Trail Energy
3682 Highway 8 South
Richardton, ND 58652

B. Applicable Regulation, Emission Limit, Monitoring Requirements

Permit No.: ACP-17102 v1.2; AOP-28453

Emission Limits/Applicable Regulations:
VOC: 98% reduction – NDAC 33-15-15-01.2, or
10 milligrams per liter (mg/L) – NDAC 33-15-15-01.2

Monitoring requirements: Temperature

C. Control Technology

This source is controlled by an enclosed flare that destroys VOCs by thermal oxidation. The ethanol loading rack has pre-control VOC potential emissions of up to 208 tons annually.

VI. MONITORING APPROACH

A. Temperature

1. *Indicator*

   Temperature will be monitored and recorded continuously during routine operating conditions using a pen chart.

2. *Indicator Range*

   An excursion is defined as a temperature reading of less than 1,300 °F. Excursions trigger an inspection, corrective action, and a reporting requirement.

3. *Quality Improvement Plan (QIP) Threshold*

   None selected.

VII. PERFORMANCE CRITERIA

A. Data Representativeness

Measurements are made in the flare combustion zone.

B. Verification of Operational Status

NA

C. QA/QC Practices and Criteria

The thermocouple is calibrated quarterly.

D. Monitoring Frequency

Temperature is monitored continuously.

E. Data Collection Procedure

Temperature is automatically logged by pen chart.

F. Averaging Period

NA

VIII. Justification

A. Rationale for Selection of Performance Indicators

Temperature was selected as a performance indicator because it is indicative of proper operation of the flare. The thermocouple reading indicates the presence of a flame. If the flame is present, the VOCs generated from ethanol loading will be adequately destroyed. If the flame is not present, it will be evident in the thermocouple reading.

B. Rationale for Selection of Indicator Ranges

The selected indicator range indicates the presence of a flame. When an excursion occurs, corrective action will be initiated, beginning with an evaluation of the occurrence to determine the action required to correct the situation. All excursions will be documented and reported. An indicator range of at least 1,300 °F was selected because if the flame is present there will be a significant temperature in the combustion area. The combustible VOC in the waste stream being controlled will be within the flammable concentration range necessary for oxidation. As long as a flame is present the flare will meet the applicable emission limits with reasonable assurance. The minimum temperature of 1,300 °F is adequate to demonstrate the presence of a flame in the flare. No QIP threshold has been selected for this indicator.

C. Performance test

In June 2007, a performance test was performed on the flare. This testing was performed under conditions of maximum emissions potential (i.e., maximum production capacity). The calculated VOC control efficiency was 99.96%. This is well within the permit limit.

During the performance test, temperature readings were observed. At no time was ethanol loading occurring with a temperature reading of less than 1,300 °F.

A copy of the performance test report (including these observation data) was provided to NDDEQ on August 20, 2007.

No notable changes have taken place to the ethanol loading rack or the flare since the performance test. Therefore, this CAM Plan meets the requirements of 40 CFR 64.

Fabric filter for particulate matter (PM) control – Red Trail Energy, Richardton, ND. This is a dry-mill ethanol manufacturer that is Title V major for PM, sulfur dioxide (SO2), nitrogen oxide (NOx), and carbon monoxide (CO) and has included this CAM Plan with the initial application of the Title V Permit to Operate application.

IX. BACKGROUND

A. Emission Unit

Description: Control for the grain milling process
Identification: S30/C30
Facility: Red Trail Energy
3682 Highway 8 South
Richardton, ND 58652

B. Applicable Regulation, Emission Limit, Monitoring Requirements

Permit No.: ACP-17102 v1.2; AOP-28453

Emission Limits/Applicable Regulations:

PM: 0.004 grain per dry standard cubic foot (gr/dscf) – NDAC 33-15-15-01.2 and 0.96 pound per hour (lb/hr) – NDAC 33-15-15-01.2

Opacity: 0% - NDAC 33-15-15-01.2

Monitoring requirements: Visible emissions, baghouse pressure drop.

C. Control Technology

This source is controlled by a pulse-jet baghouse that filters approximately 28,000 standard cubic feet per minute of air. The precise pre-control potential emissions of PM are not known but are estimated to be more than 100 tons annually.

X. MONITORING APPROACH

A. Visible Emissions

1. *Indicator*

   Visible emissions (VE) from the baghouse exhaust will be monitored and recorded daily during routine operating conditions using a 6 minute VE-no VE check.

2. *Indicator Range*

   An excursion is defined as the presence of visible emissions. Excursions trigger an inspection, corrective action, and a reporting requirement.

3. *Quality Improvement Plan (QIP) Threshold*

   None selected.

B. Pressure Drop

1. *Indicator*

   Pressure drop across the baghouse is measured with a differential pressure gauge. It is continuously monitored and manually recorded daily.

2. *Indicator Range*

   An excursion is defined as a pressure drop greater than 6 inches of water column. Excursions trigger an inspection, corrective action, and a reporting requirement. Readings less than 0.5 inch of water column require a system inspection.

3. *QIP Threshold*

   None selected.

XI. PERFORMANCE CRITERIA

A. Data Representativeness

1. *Visible Emissions*

   Recorded observations will be completed during periods of normal operation by a competent observer.

2. *Pressure Drop*

   Pressure taps are located at the baghouse inlet and outlet. The gauge has a minimum accuracy of 0.25 inches water column.

B. Verification of Operational Status

1. *Visible Emissions*

   NA

2. *Pressure Drop*

   NA

C. QA/QC Practices and Criteria

1. *Visible Emissions*

   The observer will be familiar with baghouse operations.

2. *Pressure Drop*

   The pressure gauge is calibrated quarterly and pressure taps are checked for plugging monthly.

D. Monitoring Frequency

1. *Visible Emissions*

   A 6-minute VE observation is performed daily.

2. *Pressure Drop*

   Pressure drop is monitored continuously.

E. Data Collection Procedure

1. *Visible Emissions*

   The VE observation is documented by the observer and recorded daily. The observation log includes the observation date, time, and results.

2. *Pressure Drop*

   Pressure drop is manually recorded daily. The observation log includes the observation date, time, and pressure drop.

F. Averaging Period

1. *Visible Emissions*

   6-Minute

2. *Pressure Drop*

   NA – Daily instantaneous reading

XII. Justification

A. Rationale for Selection of Performance Indicators

1. *Visible Emissions*

   Visible emissions were selected as a performance indicator because it is indicative of good operation and maintenance of the baghouse. When the baghouse is operating properly, there will not be any visible emissions from the exhaust. Any increase in visible emissions indicates reduced performance of a particulate control device.

2. *Pressure Drop*

   In general, baghouses are designed to operate at a relatively constant pressure drop. Monitoring pressure drop provides a means of detecting a change in operation that could lead to an increase in emissions. An increase in pressure drop can indicate that the cleaning cycle is not frequent enough, cleaning equipment is damaged, the bags are becoming inefficient, or the airflow has increased. A decrease in pressure drop may indicate broken or loose bags, but this is also indicated by the presence of visible emissions, indicator No. 1. A pressure drop across the baghouse also serves to indicate that there is airflow through the control device.

B. Rationale for Selection of Indicator Ranges

1. *Visible Emissions*

   The selected indicator range is the presence of no visible emissions. When an excursion occurs, corrective action will be initiated, beginning with an evaluation of the occurrence to determine the action required to correct the situation. All excursions will be documented and reported. An indicator range of no visible emissions was selected because: (1) an increase in visible emissions is indicative of an increase in particulate emissions; and (2) a monitoring technique which does not require a Method 9 certified observer is desired. No QIP threshold has been selected for this indicator.

2. *Pressure Drop*

   The indicator range chosen for the baghouse pressure drop is less than 6 inches of water column. An excursion triggers an inspection, corrective action, and a reporting requirement. The pressure drop is recorded daily. As the pressure drop approaches 6 inches of water column, the bags are scheduled for replacement. This indicator is also used to monitor for bypass of the control device. If the pressure drop falls below 0.5 inch of water column during normal process operation, the possibility of bypass is investigated. No QIP threshold has been selected for this indicator.

C. Performance test

In June 2007, a performance test was performed on the baghouse. This testing was performed under conditions of maximum emissions potential (i.e., maximum production capacity). The calculated emissions were 0.456 lb/hr. This is well within the permit limit.

During the performance test, no visible emissions were observed.

The baghouse pressure drop was also recorded. This testing confirmed that the chosen indicator range for the pressure drop correlates with compliance with the particulate limit.

A copy of the performance test report (including these observation data) was provided to NDDEQ on August 20, 2007.

No notable changes have taken place to the grain milling process or the baghouse since the performance test. Therefore, this CAM Plan meets the requirements of 40 CFR 64.

Emissions leaving the scrubber are injected into a deep geological well located on RTE property. When the capture system is operating (primary operating scenario), there are intermittent vents with insignificant potential emissions emitted to the atmosphere. When the capture system is not operating, the scrubber is expected to vent regulated pollutant emissions to the atmosphere.

Wet scrubber for volatile organic compound (VOC) control – Red Trail Energy, Richardton, ND. This is a dry-mill ethanol manufacturer that is Title V major for particulate matter (PM), sulfur dioxide (SO2), nitrogen oxide (NOx), and carbon monoxide (CO) and has included this CAM Plan with the initial application of the Title V Permit to Operate application.

XIII. BACKGROUND

A. Emission Unit

Description: Control for the ethanol fermentation process
Identification: S40/C40
Facility: Red Trail Energy
3682 Highway 8 South
Richardton, ND 58652

B. Applicable Regulation, Emission Limit, Monitoring Requirements

Permit No.: ACP-17102 v1.2; AOP-28453

Emission Limits/Applicable Regulations:
VOC: 98% VOC reduction – NDAC 33-15-15-01.2

Monitoring requirements: water flow rate, sodium bisulfite addition rate, and VOxOut addition rate

C. Control Technology

This source is controlled by a wet scrubber that removes VOC from approximately 6,500 standard cubic feet per minute of gas generated by the ethanol fermentation process. The pre-control potential emissions of VOC are estimated to be more than 1,256 tons annually.

XIV. MONITORING APPROACH

A. Water Flow Rate

1. *Indicator*

   Water flow rate into the scrubber will be monitored continuously and recorded daily.

2. *Indicator Range*

   An excursion is defined as water flow rate of less than 47.2 gallons per minute when using sodium bisulfite or 40.3 gallons per minute when using VOxOut. Excursions trigger an inspection, corrective action, and a reporting requirement.

3. *Quality Improvement Plan (QIP) Threshold*

None selected.

B. Sodium Bisulfite Addition Rate

1. *Indicator*

Sodium bisulfite in the scrubber water is monitored by the rate of chemical addition. It is manually recorded daily.

2. *Indicator Range*

An excursion is defined as sodium bisulfite addition rate of less than 2.1 gallons per hour. Excursions trigger an inspection, corrective action, and a reporting requirement.

3. *QIP Threshold*

None selected.

C. VOxOut Addition Rate

1. *Indicator*

VOxOut in the scrubber water is monitored by the rate of chemical addition. It is manually recorded daily.

2. *Indicator Range*

An excursion is defined as VOxOut addition rate of less than 1.0 gallons per hour. Excursions trigger an inspection, corrective action, and a reporting requirement.

3. *QIP Threshold*

None selected.

XV. PERFORMANCE CRITERIA

A. Data Representativeness

1. *Water Flow Rate*

Water flow rate will be recorded by operating personnel during normal operation of the facility. The flow meter monitoring the WFR will be within +\- 2 gallons per minute.

2. *Sodium Bisulfite Addition Rate*

SBAR will be monitored at the chemical addition pump using a graduated cylinder and stop watch.

3. *VOxOut Addition Rate*

VAR will be monitored at the chemical addition pump using a graduated cylinder and stop watch.

B. Verification of Operational Status

1. *Water Flow Rate*
   NA

2. *Sodium Bisulfite Addition Rate*
   NA

3. *VOxOut Addition Rate*
   NA

C. QA/QC Practices and Criteria

1. *Water Flow Rate*
   The water flow rate is measured with a magnetic flow meter. This meter is calibrated upon installation and does not require recalibration because it has no internal moving parts. Alarms will be set for the water flow rate monitoring system to indicate to the plant operator when the water flow rate is out of the appropriate range.

2. *Sodium Bisulfite Addition Rate*
   The SBAR is measured manually on a daily basis by operators trained to measure the SBAR.

3. *VOxOut Addition Rate*
   The VAR is measured manually on a daily basis by operators trained to measure the VAR.

D. Monitoring Frequency

1. *Water Flow Rate*
   The WFR is monitored continuously.

2. *Sodium Bisulfite Addition Rate*
   The SBAR is monitored daily.

3. *VOxOut Addition Rate*
   The VAR is monitored daily.

E. Data Collection Procedure

1. *Water Flow Rate*
   The WFR is documented by the operator and recorded daily. The observation log includes the observation date, time, and WFR.

2. *Sodium Bisulfite Addition Rate*
   The SBAR is documented by the operator and recorded daily. The observation log includes the observation date, time, and SBAR.

3. *VOxOut Addition Rate*

The VAR is documented by the operator and recorded daily. The observation log includes the observation date, time, and VAR.

F. Averaging Period

1. *Water Flow Rate*

NA

2. *Sodium Bisulfite Addition Rate*

NA

3. *VOxOut Addition Rate*

NA

XVI. Justification

A. Rationale for Selection of Performance Indicators

1. *Water Flow Rate*

Water flow rate was selected as a performance indicator because it is indicative of good operation of the wet scrubber. In order to properly control emissions from fermentation there must be adequate water in the scrubber to contact the fermentation exhaust. The scrubber water flow rate established in the compliance testing is capable of meeting the permit limits at maximum production capacity. Any reduction in production rate will reduce fermentation exhaust volume and the amount of water necessary to control the VOC emissions. Therefore, a water flow rate of equal or greater value than that of the compliance testing will adequately control VOC emissions.

2. *Sodium Bisulfite Addition Rate*

There must be sodium bisulfite available to react with the VOCs in order to ensure compliance with the permitted VOC emission limit.

3. *VOxOut Addition Rate*

There must be VOxOut available to react with the VOCs in order to ensure compliance with the permitted VOC emission limit.

B. Rationale for Selection of Indicator Ranges

1. *Water Flow Rate*

The selected indicator range is a minimum water flow rate of 47.2 gallons per minute (when using sodium bisulfite) and 40.3 (when using VOxOut). When an excursion occurs, corrective action will be initiated, beginning with an evaluation of the occurrence to determine the action required to correct the situation. In most cases, the water flow rate will simply be increased in order to correct the excursion. All excursions will

be documented and reported. No QIP threshold has been selected for this indicator.

2. *Sodium Bisulfite Addition Rate*

   The indicator range chosen for the SBAR is a minimum of 2.1 gallons per hour. An excursion triggers an inspection, corrective action, and a reporting requirement. The SBAR is recorded daily. No QIP threshold has been selected for this indicator.

3. *VOxOut Addition Rate*

   The indicator range chosen for the VAR is a minimum of 1.0 gallons per hour. An excursion triggers an inspection, corrective action, and a reporting requirement. The VAR is recorded daily. No QIP threshold has been selected for this indicator.

C. Performance test

In January 2014, a performance test was performed on the scrubber. This testing was performed under conditions of maximum emissions potential (i.e., maximum production capacity). Two tests were performed for different chemical additives (sodium bisulfite and VOxOut) that enhance emission control. For sodium bisulfite, the calculated VOC reduction in emissions was 99.6%. For VOxOut, the calculated VOC reduction in emissions was 99.7%. These values are well within the permit limit.

Water flow rate and chemical additive rate were recorded during each test. The values for the sodium bisulfite testing were 47.2 gallons per minute (WFR) and 2.1 gallons per hour (SBAR). For the VOxOut test, the values were 40.3 gallons per hour (WFR) and 1.0 gallons per hour (VAR). These values correspond to the proposed indicator ranges.

A copy of the performance test report (including these observation data) was provided to NDDEQ on March 28, 2014.

Due to the recent timing of the performance test, it is representative of current operations at the plant. Therefore, this CAM Plan meets the requirements of 40 CFR 64.

DDGS DRYER REGENRATIVE THERMAL OXIDIZER CAM PLAN

Regenerative thermal oxidizer for volatile organic compound (VOC) control – Red Trail Energy, Richardton, ND. This is a dry-mill ethanol manufacturer that is Title V major for particulate matter (PM), sulfur dioxide (SO2), nitrogen oxide (NOx), and carbon monoxide (CO) and has included this CAM Plan with the initial application of the Title V Permit to Operate application.

XVII. BACKGROUND

A. Emission Unit

Description: Control of VOC emissions from the DDGS drying system
Identification: S60/C60
Facility: Red Trail Energy
3682 Highway 8 South
Richardton, ND 58652

B. Applicable Regulation, Emission Limit, Monitoring Requirements

Permit No.: ACP-17102 v1.2; AOP-28453

Emission Limits/Applicable Regulations:
VOC: 98% reduction – NDAC 33-15-15-01.2, or
10 parts per million, wet basis (10 ppmw) – NDAC 33-15-15-01.2

Monitoring requirements: Combustion temperature

C. Control Technology

This source is controlled by a 12 million British thermal units per hour (MMBtu/hr) regenerative thermal oxidizer that destroys VOCs by thermal oxidation. The DDGS dryer system has estimated pre-control VOC potential emissions of 716 tons annually.

XVIII. MONITORING APPROACH

A. Combustion Temperature

1. *Indicator*

   Temperature will be monitored continuously at the RTO and recorded daily.

2. *Indicator Range*

   An excursion is defined as a temperature reading of less than 1,652 °F. Excursions trigger an inspection, corrective action, and a reporting requirement.

3. *Quality Improvement Plan (QIP) Threshold*

   None selected.

XIX. PERFORMANCE CRITERIA

A. Data Representativeness

Temperature measurements are made in the RTO combustion chamber.

B. Verification of Operational Status

NA

C. QA/QC Practices and Criteria

The thermocouple is calibrated quarterly.

D. Monitoring Frequency

Temperature is monitored continuously.

E. Data Collection Procedure

Temperature is manually recorded daily.

F. Averaging Period

NA

XX. Justification

A. Rationale for Selection of Performance Indicators

Temperature was selected as a performance indicator because it is indicative of proper operation of the RTO. The thermocouple reading indicates the proper heating of the dryer waste gas in order to initiate thermal oxidation. Since the minimum temperature was determined using compliance testing at or near maximum production, the residence time in the RTO will only increase as production rate decreases, thus, the VOC control efficiency is expected to increase during reduced DDGS production when the RTO operation temperature is maintained above 1,652 °F.

B. Rationale for Selection of Indicator Ranges

The selected indicator range is a minimum operating temperature of 1,651.8°F. When an excursion occurs, corrective action will be initiated, beginning with an evaluation of the occurrence to determine the action required to correct the situation. In most cases, when the RTO temperature drops below 1,651.8°F, the fuel rate at the RTO burner will be increased to add additional heat to the system. All excursions will be documented and reported. No QIP threshold has been selected for this indicator.

C. Performance test

In May 2022, a performance test was performed on the RTO. The testing was performed under conditions of maximum emissions potential (i.e., maximum production capacity). The calculated VOC control efficiency was 98%. This is within the permit limit.

During the performance test, temperature readings were observed. The average temperature of the RTO was 1,651.8°F. This temperature is higher than the performance testing in 2007, and is set as the new standard limit for the RTO.

No notable changes have taken place to the DDGS dryer system or the RTO since the performance test. Therefore, this CAM Plan meets the requirements of 40 CFR 64.

BOILER BAGHOUSE CAM PLAN

Fabric filter for particulate matter (PM) control – Red Trail Energy, Richardton, ND. This is a dry-mill ethanol manufacturer that is Title V major for PM, sulfur dioxide (SO2), nitrogen oxide (NOx), and carbon monoxide (CO) and has included this CAM Plan with the initial application of the Title V Permit to Operate application.

XXI. BACKGROUND

A. Emission Unit

Description: Control for the coal-fired boiler system
Identification: S60/C64
Facility: Red Trail Energy
3682 Highway 8 South
Richardton, ND 58652

B. Applicable Regulation, Emission Limit, Monitoring Requirements

Permit No.: ACP-17102 v1.2; AOP-28453

Emission Limits/Applicable Regulations:

PM: 0.167 pound (total) per million British thermal units (lb/MMbtu)– NDAC 33-15-15-01.2,
36.7 pounds (total) per hour (lb/hr) – NDAC 33-15-15-01.2, and
0.02 lb/MMBtu (filterable) – NDAC 33-15-15-01.2

Opacity: 20% (27% for one 6-minute period per hour) - NDAC 33-15-15-01.2

Monitoring requirements: Baghouse pressure drop, and opacity monitoring.

C. Control Technology

This source is controlled by a pulse-jet baghouse that filters the boiler exhaust prior to discharge to atmosphere with the DDGS drying system exhaust. The precise pre-control potential emissions of PM are not known but are estimated to be more than 100 tons annually.

XXII. MONITORING APPROACH

A. Pressure Drop

1. *Indicator*

   Pressure drop across the baghouse is measured with a differential pressure gauge. It is continuously monitored and manually recorded daily.

2. *Indicator Range*

   An excursion is defined as a pressure drop greater than 7 inches of water column. Excursions trigger an inspection, corrective action, and a reporting requirement. Readings less than 1 inch water column require a system inspection.

3. *QIP Threshold*

   None selected.

B. Opacity Monitoring

1. *Indicator*

   Opacity of stack emissions is measured using a continuous opacity monitoring system (COMS).

2. *Indicator Range*

   An excursion is defined as 1-minute opacity monitor values that increase 1.0% or more above the previous 1-minute average during three consecutive pulse jet cleaning cycles.

3. *QIP Threshold*

   None selected.

XXIII. PERFORMANCE CRITERIA

A. Data Representativeness

1. *Pressure Drop*

   Pressure taps are located at the baghouse inlet and outlet. The gauge has a minimum accuracy of 0.25 inches water column.

2. *Opacity Monitoring*

   The COMS is an in-situ device that measures opacity of the common stack for the boiler and RTO.

B. Verification of Operational Status

1. *Pressure Drop*

   NA

2. *Opacity Monitoring*

   NA

C. QA/QC Practices and Criteria

1. *Pressure Drop*

   The pressure gauge is calibrated quarterly. Pressure taps are not checked regularly because they are not safely accessible.

2. *Opacity Monitoring*

   The COMS will be calibrated and operated according to manufacturer's specifications and applicable regulations.

D. Monitoring Frequency

1. *Pressure Drop*

   Pressure drop is monitored continuously.

2. *Opacity Monitoring*

   Opacity readings will be recorded continuously. An opacity variation assessment will be completed once every 12 hours.

E. Data Collection Procedure

1. *Pressure Drop*

   Pressure drop is manually recorded daily. Datum points are recorded every minute in the computer.

2. *Opacity Monitoring*

   Opacity data will be recorded continuously in the facility DCS. Once every 12 hours the boiler operator will review opacity data for the last four cleaning cycles.

F. Averaging Period

1. *Pressure Drop*

   NA – Daily instantaneous reading

2. *Opacity Monitoring*

   1-minute

XXIV. Justification

A. Rationale for Selection of Performance Indicators

1. *Pressure Drop*

   In general, baghouses are designed to operate at a relatively constant pressure drop (assuming the inlet flow rate is nearly constant). Monitoring pressure drop provides a means of detecting a change in operation that could lead to an increase in emissions. An increase in pressure drop can indicate that the cleaning cycle is not frequent enough, cleaning equipment is damaged, the bags are becoming inefficient, or the airflow has increased. A decrease in pressure drop may indicate broken or loose bags, but this is also indicated by the presence of visible emissions, indicator No. 1. A pressure drop across the baghouse also serves to indicate that there is airflow through the control device.

2. *Opacity Monitoring*

   The facility is currently required to monitor opacity from the boiler under NSPS Subpart Db. The opacity readings are generally an indicator of

PM emissions. However, based on historical data, baghouse performance is best judged by the short-term variations in opacity during pulse jet cleanings. This variation typically indicates the possibility of compromised filter medium integrity.

B. Rationale for Selection of Indicator Ranges

1. *Pressure Drop*

   The indicator range chosen for the baghouse pressure drop is less than 7 inches of water column. An excursion triggers an inspection, corrective action, and a reporting requirement. The pressure drop is recorded daily. As the pressure drop approaches 7 inches of water column, the bags are scheduled for replacement. This indicator is also used to monitor for bypass of the control device. If the pressure drop falls below 1 inch of water column during normal process operation, the possibility of bypass is investigated. No QIP threshold has been selected for this indicator.

2. *Opacity Monitoring*

   The indicator range chosen for the baghouse opacity monitoring is 1-minute opacity monitor values that increase 1.0% or more above the previous 1-minute average during three consecutive pulse jet cleaning cycles. Based on historical data, a 1.0% increase in the 1-minute average opacity readings following consecutive pulse jet cycles seems to indicate potential compromise in the fabric filter medium. An excursion triggers an inspection, corrective action, and a reporting requirement. Opacity assessments are performed every 12 hours when the boiler is operating. The results will be recorded at the time of each assessment. Cells of the baghouse in which the opacity monitoring values approach the 1.0% threshold will be noted by RTE maintenance staff for inspection during the next scheduled boiler shutdown and replaced as necessary. No QIP threshold has been selected for this indicator.

C. Performance test

In March 2012, a performance test was performed on the baghouse. This testing was performed under conditions of maximum emissions potential (i.e., maximum production capacity). The total PM emissions measured during these tests in lb/hr, total PM in lb/MMBtu and filterable PM in lb/MMBtu were 10.75 lb/hr, 0.05 lb/MMbtu, and 0.011 lb/MMbtu, respectively. These values are well within the permitted limits.

During the performance tests, no visible emissions were noted.

The baghouse pressure drop and stack opacity were recorded. The testing confirmed that the chosen indicator range for the pressure drop correlates with compliance with the particulate limit. Based on opacity data between performance tests from August 2011 and November 2011, the proposed opacity variation would be sufficient to detect any possible bag integrity issues. Monitoring the VE,

pressure drop, and opacity variations will provide adequate assurance that the filterable PM emissions are adequately controlled by the baghouse.

No notable changes have taken place to the boiler system or the baghouse since the performance test. Therefore, this CAM Plan meets the requirements of 40 CFR 64.

Attachment B

U.S. EPA Boiler Monitoring Approval

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 8
1595 Wynkoop Street
DENVER, CO 80202-1129
Phone 800-227-8917
http://www.epa.gov/region08

Ref: 8ENF-AT

JAN 15 2008

Mick Miller
Red Trail Energy, LLC
P.O. Box 11
3682 HWY 8 S
Richardton, ND 58652

RE: Approval of Alternative Monitoring Location for Compliance with 40 CFR §60 Subpart Db- Standards for Performance for Industrial – Commercial- Institutional Steam Generating Units for Red Trail Ethanol Plant

Dear Mr. Miller:

This letter is in response to your request dated October 16, 2007, for approval of an alternative monitoring location for a continuous emissions monitor (CEM) required under 40 CFR §60 Subpart Db. Upon construction of Red Trail Ethanol Plant, emissions from the thermal oxidizer and the coal fired boiler were routed through a common stack. Due to miscommunication between consulting groups constructing the plant, the CEM was located in the common stack, where it monitors emissions from both the thermal oxidizer and the boiler. 40 CFR §60 Subpart Db requires the CEM to measure emissions from the boiler alone. Red Trail investigated whether the CEM could be moved to another location. Due to the configuration of the ductwork, there is not a location to monitor the emissions from only the boiler. Red Trail would have to make major modifications to the current stack and ductwork to get a CEM location that meets the requirements of Subpart Db. Instead of modifying the ductwork, Red Trail seeks to have the current CEM location approved as an alternative monitoring location.

A stack test conducted by Red Trial on June 6, 2007, demonstrated that the combined emissions through the common stack were lower than the emissions limits in 40 CFR §60 Subpart Db for the boiler. The results of the stack test are shown below.

From June 6, 2007 Stack Test, using EPA Reference Methods 1-5, 3A, 6C, 7E			
Pollutant	Emissions Limit (lb/MMBtu)	Total Emissions from the Combined Stack (lb/MMBtu)	Emissions from the Boiler (lb/MMBtu)
NOx	0.60	0.118	0.120
SO_2	0.09	0.075	0.075

The thermal oxidizer burns natural gas, and may have a diluting effect on the emissions from the coal fired-boiler. It can be seen from the table above that this is true, but the emissions are still well below the required limit and the dilution effect is minor. It is likely that the reason dilution is a minimal concern is that the gas flow from the thermal oxidizer is approximately 10,000 dscfm and the boiler gas flow is 120,000 dscfm. The heat generated by each unit is 3 MMBtu/hr for the thermal oxidizer compared to the boiler at 220 MMBtu/hr. For this reason, the total emissions read by the CEM are reasonably accurate of the boiler emissions. The current CEM location also has the benefit of documenting the total emissions from the plant instead of just the boiler. Red Trail has indicated that it is willing to put into its permit an enforceable condition that limits the common stack to the limits for the boiler alone for subpart Db.

EPA approves the current alternative location of the CEM on the condition that Red Trail revises its permit to include a permit condition requiring all emissions that are read by the CEM will be contributed to the boiler for demonstrating compliance with 40 CFR §60 Subpart Db. If you have any questions concerning our response, please contact Joshua Rickard of my staff at 303-312-6460.

Sincerely,

for

Martin Hestmark, Director
Technical Enforcement Program

cc: Jim Semerad, NDDOH

Red Trail Energy, LLC
Richardton Ethanol Plant
Permit to Operate No. AOP-28453 v3.0
(Previously T5-X12002)
Statement of Basis
(5/13/24)

Facility Background: Red Trail Energy (RTE) Richardton Ethanol Plant is a corn based, fuel-grade ethanol production facility in Richardton (Stark County), North Dakota, rated at approximately 70 million gallons of undenatured alcohol per year. Bulk ethanol is shipped primarily by railcar and spent grain is dried and sold as animal feed. The main process units with emissions to the atmosphere include grain unloading, grain preparation (cleaning and hammermilling), fermentation, distillation, distillers dry grains and solubles (DDGS) drying and handling, ethanol storage and handling, coal receiving and handling, and steam generation.

The plant has three process boilers: two 120 million British thermal units per hour (x 10^6 Btu/hr) natural gas-fired boilers with low-NO_x burners and flue gas recirculation (main source of steam); and a coal-fired fluidized bed boiler rated at 220 x 10^6 Btu/hr which combusts lignite and subbituminous coal as well as several biofuels in limited quantities and natural gas. The coal boiler is equipped with limestone injection for SO_2 control, and over-fire air and urea/ammonia injection for selective non-catalytic reduction (SNCR) of NO_x emissions. The coal boiler exhaust is treated with sodium bicarbonate for additional SO_2 control followed by a baghouse for particulate control. Coal is received by rail and fugitive emissions are controlled by a baghouse and spray nozzles. The facility receives corn by truck and railcar. Receiving pits are aspirated to a baghouse to collect the dust generated during receiving operations. The coal boiler has not operated since February 2015.

Corn is stored in bins prior to processing, reclaimed from storage, ground using hammermills, and conveyed to the mash process where the corn is mixed with water to create a slurry. The slurry is cooked, liquefacted with enzymes, and the resultant mash is cooled. The mash is mixed with yeast and more enzymes in a fermentation tank where the mash is allowed to ferment. After fermentation, the resultant liquid (beer) contains 12%-16% ethanol by weight. The beer is processed in a distillation system. The resultant products are ethanol (95% ethanol and 5% water, or 190-proof) and whole stillage consisting of solids and water. Using molecular sieves, the remaining 5% water is removed from the 190-proof ethanol resulting in 100% ethanol (200-proof). The product is then combined with 5% natural gasoline and sold as denatured ethanol.

Whole stillage is centrifuged to remove the water. The removed water is evaporated until a syrup remains. The syrup is combined with the spent grain prior to entering the dryer system. The dried grain, known as dried distiller's grain and solubles (DDGS), is then cooled and conveyed by drag conveyors to storage silos. The spent grain material is shipped via truck and railcar. Emissions from the truck loading station are controlled by a retractable hood that is connected to a baghouse. Emissions generated by the ethanol loading rack are controlled with an enclosed natural gas-fired flare. The emissions generated by the fermentation and distillation equipment are vented to a wet scrubber to control VOC emissions. The emissions generated from the DGS dryers are vented to a thermal oxidizer for VOC control.

The Richardton Ethanol Plant, under ownership of Red Trail Energy, LLC, received an initial Permit to Construct (ACP-17102 v1.0 (PTC04004)) on 8/4/2004. On 5/25/2007 Amendment No. 1 to PTC04004 (ACP-17102 v1.1) was issued to permit the construction of the regenerative thermal oxidizer, use of sodium bicarbonate injection, an increase in the size of several tanks and other minor changes. On 4/9/2008 ACP-17161 v1.0 (PTC08006) was issued and permitted construction of the coal terminal receiving, coal and corn storage piles, and two haul roads. On 3/9/2011 Amendment No. 2 to PTC04004 (ACP-17102 v1.2) was issued to revise certain emission limits at the facility.

RTE submitted to the Department an application dated 12/31/2007 requesting an initial Title V operating permit. RTE submitted letters dated 2/20/2008 and 3/18/2008 providing responses to Department comments on the application. The issuance of the Title V permit was withheld pending successful completion of compliance testing. The plant demonstrated full compliance during stack testing on March 13, 2012. RTE submitted a revision to the Title V permit application dated August 22, 2012, and the initial Title V Permit No. AOP-28453 v1.0 (T5-X12002) was issued December 6, 2012. Revision No. 1 (Admin.) to the Title V permit (AOP-28453 v1.1) was issued 5/14/2014 to incorporate a CAM Plan revision to update scrubber chemical additive and water flow rates based on the latest stack testing.

RTE submitted an application dated 9/1/2015 for a Title V permit revision to incorporate the conditions of ACP-17623 v1.0 (PTC14033) , which permitted construction of two natural gas-fired boilers (EU P64 and P65). The Title V PTO Renewal No. 0, Revision No. 2 (AOP-28453 v1.2) was issued to RTE March 8, 2016. The renewed Title V PTO was issued January 29, 2018.

ACP-18188 v1.0, issued June 1, 2023, permitted a change in stack height for the DDGS cooling (EU P01/EP S01).

ACP-18227 v1.0, issued May 10, 2024, rescinded the ethanol production limitation for the Richardton Ethanol Plant, but retained ethanol production tracking.

Current Action: On June 3, 2022 the Department received a timely permit renewal application through CERIS-ND from RTE for their North Dakota Air Pollution Control Title V Permit to Operate No. AOP-28453. The changes in the draft permit include revisions permitted by ACP-18188 v1.0 and ACP-18227 v1.0, the incorporation of units/processes that did not require Permits to Construct (USP Distillation process units and associated tanks and carbon/emissions sequestration from EP S40), updates to the applicable requirements and standard conditions and other administrative updates.

The Department proposes to issue Title V Permit to Operate No. AOP-28453 v3.0 after the required 30-day public comment period and subsequent 45-day EPA review. This statement of basis summarizes the relevant information considered during this renewal of the Title V permit. The legal basis for each permit condition is stated in the draft permit under the heading of "Applicable Requirement."

Applicable Programs/As-Needed Topics:

1. **Title V.** The facility requires a Title V permit to operate because potential emissions of SO_2, NO_x and CO each exceed the Title V major source threshold of 100 tons per year. RTE is considered to be a minor/area source of hazardous air pollutant (HAP) emissions.

2. **New Source Performance Standards (NSPS).** The following NDAC 33.1-15-12-03 and 40 CFR 60 subparts apply to the facility.

   Subpart A, General Provisions, applies to each source unit to which another NSPS subpart applies.

   Subpart Db, Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units; applies to the three boilers (EU P63, P64 and P65) because each is rated at more than 100 MMBtu/hr of heat input and was constructed after 6/19/84 (built 2006, 2015 and 2015, respectively).

   Subpart Kb, Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction or Modification Commenced After 7/23/84; applies to the five storage tanks (EU T01 through T04, T06, T12 and T13) because they store volatile organic liquids with a maximum true vapor pressure equal to or greater than 3.5 kPa, have capacities greater than 39,890 gallons, and were constructed after 7/23/84 (built 2006).

   Subpart VVa, Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for which Construction, Reconstruction or Modification Commenced After November 7, 2006; applies to various units throughout the plant because the facility has the design capacity to produce 1,102 tons/year or more of ethanol and modification/reconstruction was after 11/7/06.

   Subpart JJJJ, Standards of Performance for Stationary Spark Ignition Internal Combustion Engines; applies to the emergency generator engine (EU P180).

3. **National Emission Standards for Hazardous Air Pollutants (NESHAP).** No NDAC 33.1-15-13 and 40 CFR 61 subparts apply to the facility, with the following possible exception of NDAC 33.1-15-13-02 (40 CFR 61, Subpart M, National Emission Standard for Asbestos), which may apply during facility modifications involving asbestos.

4. **Maximum Achievable Control Technology (MACT).** The following NDAC 33.1-15-22-03 and 40 CFR 63 subpart applies to the facility, which is an area source of HAP emissions.

   Subpart A, General Provisions, applies to each source unit to which another MACT subpart applies.

Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines; applies to the fire water pump engine (EU P04) and emergency generator engine (EU P180). EU P180 meets the requirements of Subpart ZZZZ by complying with NSPS Subpart JJJJ. The Department has not adopted the area source provisions this subpart; all required reports and documentation must be submitted to EPA Region 8.

Subpart JJJJJJ (6J), National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial and Institutional Boilers Area Sources; applies to the coal boiler (EU P63).

Subpart VVVVVV (6V), National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources; applies to the USP process and loadout: may include continuous process vents, ethanol loadout and/or leaks. The Department has not adopted the area source provisions this subpart; all required reports and documentation must be submitted to EPA Region 8.

Note: 40 CFR 63, Subpart FFFF, Miscellaneous Organic Chemical Manufacturing does not apply to the facility because the facility is not a major source of HAP emissions due to HAP emissions control by the regenerative thermal oxidizer (RTO), wet scrubber and enclosed flare.

5. **Acid Rain.** NDAC 33.1-15-21 (40 CFR 72 through 78) does not apply to the facility since it is not an electrical generating unit providing any electricity for sale.

6. **Prevention of Significant Deterioration (PSD).** The facility is not a major source under PSD because it is not one of the 28 named PSD source categories and the facility does not have the potential to emit more than 250 tons per year of a criteria pollutant.

7. **BACT.** When PTC04004 (ACP-17102 v1.0) was initially issued, the facility was permitted as a major source subject to the PSD rules because it was one of the 28 named PSD source categories. Since then, EPA has changed its interpretation of the definition of major source for fuel ethanol production facilities. Based on the current rule, the facility is now considered a minor source for criteria pollutants under the PSD program. However, BACT limits and conditions previously established remain.

8. **Gap Filling for Periodic Monitoring.** This permit contains gap filling for testing, monitoring or recordkeeping not otherwise required by rule. The gap filling conditions are generally identified by the applicable requirement: NDAC 33.1-15-14-06.5.a(3)(a).

9. **Streamlining Decisions.** Some emission limits that would have been otherwise applicable are not represented in the permit because identical or more stringent limits apply.

a) ND Air Pollution Control Rules: For various units various emission limits from NDAC 33.1-15-03 (opacity), NDAC 33.1-15-05 (PM) and NDAC 33.1-15-06 (SO_2).

b) NSPS Subpart Db: Boiler (NO_x) because the BACT limits are the same as the subpart Db limits.

10. **Compliance Assurance Monitoring (CAM).** CAM applies to the DDGS cooling system (EP S01, PM/PM_{10}), the ethanol loadout (truck/rail) flare (EP SO_2, VOC), hammermilling (EP S30, PM/PM_{10}), fermentation (EP S40, VOC and acetaldehyde), the DGS drying system (EP S60, VOC) and the boiler (EP S60, PM/PM_{10}) because emissions from these source units would exceed 100 tons/year of criteria pollutants or 10/25 tons per year of HAPs without the add-on air pollution control equipment and no continuous emissions monitoring system is installed.

11. **Permit Shield.** This permit to operate does not contain a permit shield.

12. **New Conditions/Limits.** The draft permit contains new conditions and emission limits for units associated with the USP distillation process and associated tanks. Specific changes are identified in the "Permit Changes by Section" below.

13. **40 CFR 98 - Mandatory Greenhouse Gas Reporting.** This rule requires sources above certain emission thresholds to calculate, monitor, and report greenhouse gas emissions. According to the definition of "applicable requirement" in 40 CFR 70.2, neither Subpart 98, nor Clean Air Act Section 307(d)(1)(V), the CAA authority under which Subpart 98 was promulgated, are listed as applicable requirements for the purpose of Title V permitting. Although the rule is not an applicable requirement under 40 CFR 70, the source is not relieved from the requirement to comply with the rule separately from compliance with their Part 70 operating permit. It is the responsibility of each source to determine applicability to the subpart and to comply, if necessary.

Permit Changes by Section in this Draft Permit:

Note: Administrative changes were made to some sections of the permit to update to the current North Dakota (ND) format and to correct errors. In addition, the Permit to Operate number and references to Permit to Construct numbers have been updated to accommodate a new database (CERIS-ND). These changes may not be specifically addressed below.

Cover: Permit Number and renewal was updated.

Table of Contents: Condition nomenclature and page numbers were revised.

1. **Emission Unit Identification**: Emission units for the USP distillation process and associated tanks were added (EU P59a, P59b, P59c, T12, T13 and T14). The enclosed flare was added as an emission unit line item in the table; not a new unit and has been the

air pollution control for EP S02 in previous permits. EU P05 was provided in the table, which was in the emission limits table of the previous permit, but not previously provided in the emission unit table. Table footnote A was provided for a primary (carbon/emissions capture system) and secondary (venting emissions) operating scenario for EP S40.

2. **Applicable Standards, Restrictions and Miscellaneous Conditions** (previously Condition No. 3): The fuel restrictions were added to this section and all consecutive sections were updated accordingly. Best Management Practices (BMP), Loading Rack Vapor Collection, Process Restrictions, Flare Restrictions and Tanks requirements from the emission limits section in the previous permit were moved to this section. The applicable requirement standard text was updated and 40 CFR 63, Subpart VVVVVV was added for the USP distillation process. Per ACP-18188 v1.0, the stack height for the DDGS cooling (EU P01/EP S01) was updated. Per ACP-18227 v1.0, the ethanol production limit was removed from this section.

3. **Emission Unit Limits** (previously Condition No. 4): Emission limits for the USP distillation process tanks were added to the table. Limits for EU 50 to P63/EP S60 were in the permit previously and did not change with the addition of the USP distillation process. BMP, Loading Rack Vapor Collection, Process Restrictions, Flare Restrictions and Tanks requirements were moved from here and added to the applicable standards, restrictions and miscellaneous conditions section. Table footnote A was provided for secondary (venting emissions) operating scenario emission limits on EP S40. Per ACP-18227 v1.0, the ethanol production limit was removed from this section.

4. **Monitoring Requirements and Conditions** (previously Condition No. 5): Monitoring requirements and conditions for the USP distillation process tanks were added. Monitoring for EP S60 was in the permit previously and did not change with the addition of the USP distillation process. EP S05 monitoring was added for the limits indicated in the permit. Flare monitoring and emergency engine monitoring were updated to the current standard conditions. Condition 4.C was added for the applicable regulation monitoring requirements. Table footnote A was provided for secondary (venting emissions) operating scenario emission monitoring for EP S40. Per ACP-18227 v1.0, the ethanol production monitoring was updated.

5. **Recordkeeping Requirements** (previously Condition No. 6): Recordkeeping requirements for the USP distillation process tanks were added. Recordkeeping for EP S60 was in the permit previously and did not change with the addition of the USP distillation process. EP S05 recordkeeping was added for the limits and monitoring indicated in the permit. Emergency engine recordkeeping was updated to the current standard recordkeeping. Fugitive Emissions Management Plan (FEMP) was clarified as a recordkeeping requirements for several fugitive emission sources (previously shown as BMP). Condition 5.B was added for the applicable regulation recordkeeping requirements. Table footnote A was provided for secondary (venting emissions) operating scenario emission recordkeeping for EP S40. Ethanol production recordkeeping was updated.

6. **Reporting** (previously Condition No. 7): Condition 6.A was added for the applicable regulation reporting requirements. Condition Nos. 6. B, C, D and F were updated to reflect the current ND reporting conditions.

7. **Facility Wide Operating Conditions** (previously Condition No. 8): Condition No. 7. J was revised to reflect the current ND facility wide operating conditions. The Noncompliance Due to an Emergency condition was removed from this section per EPA's Affirmative Defense Provision Rule effective 8/21/23.

8. **General Conditions** (previously Condition No. 9): Condition Nos. 8.E, F and G were revised to reflect the current ND general conditions.

9. **State Enforceable Only Conditions (not Federally enforceable)** (previously Condition No. 10): No change.

Attachment A - Compliance Assurance Monitoring (CAM) Plan - EP S01, S02, S30, S40 and S60: CAM for EP S60 based on 2022 testing was administratively updated. References to the permit to construct and Title V permit numbers were updated to the current numbers provided in CERIS-ND. CAM was provided as a secondary (venting emissions) operating scenario for EP S40. CAM for EP S40 acetaldehyde was removed from the scrubber portion (EP S40); the ND Air Toxics Policy was rescinded 12/18/23; VOC CAM remains in place.

Attachment B - U.S. EPA Boiler Monitoring Approval: No change.

Comments/Recommendations: It is recommended that Title V Permit to Operate No. AOP-28453 v3.0 be processed and considered for issuance following a 30-day public comment period and a subsequent 45-day EPA review period.