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Air Title V Operating Permit (AOP) - Renewal

version 2.3

(Submission #: HPJ-3SV7-4GSFR, version 1)

Details

Submission ID HPJ-3SV7-4GSFR

Status In Process

Form Input

Form Instructions

In accordance with 33.1-15-14-04.c. of the North Dakota Air Pollution Control Rules, a Title V permit renewal application must be submitted to the Department at least six months, but no more than eighteen months, prior to the expiration date. Permit renewal applications are incomplete unless all information requested in SFN 52824 is supplied. The current Title V permit will be the baseline reference for a renewal. The requirements (40 CFR 70.5(c) & NDAC 33.1-15-14-06.4.c) to include a citation and description of all applicable requirements and a description of or reference to any applicable test method for determining compliance with each applicable requirement may be met by accomplishing either or both of the following: 1) provide an annotated (red-lined) copy of the current permit indicating all changes needed to reflect the current facility configuration, applicable requirements and test methods; 2) provide a narrative that conveys all changes needed to the current permit to reflect the current facility configuration, all applicable requirements and test methods.

FOR ACID RAIN UNITS ONLY ♦ Submit with the Title V permit renewal application all Acid Rain renewal applications (the Acid Rain Permit Application, the Phase II NOx Compliance Plan, and if applicable, the Phase II NOx Averaging Plan).

When completing the online application, if uploaded files are provided in each section (when indicated), do not include those same files in the General Document Upload/File Upload section. If uploading the application files in the General Document Upload/File Upload section, only fill out the required (asterisked) sections of the online application.

Section A - Permit Information

Permit Number

AOP-28453

Permit Version

2

Issue Date

01/29/2018

Expiration Date

12/06/2022

Permittee

Company Name

Red Trail Energy LLC

Address

3682 Highway 8 South

Richardton, North Dakota 58652

United States

Responsible Official

Prefix

NONE PROVIDED

First Name

Tyler

Last Name

Mock

Title

Lab & Environmental Manager - Safety Director

Phone Type

Business

Number

7019743308

Extension

1123

Email

tyler@redtrailenergy.com

Address

3682 Highway 8 South

Richardton, ND 58652

USA

Contact Person for Air Pollution Matters

Prefix

NONE PROVIDED

First Name

Tyler

Last Name

Mock

Title

Lab & Environmental Manager - Safety Director

Phone Type

Business

Number

7019743308

Extension

1123

Email

tyler@redtrailenergy.com

Address

3682 Highway 8 South

Richardton, ND 58652

USA

Section B (Part 1) - Facility Information

Facility Name

Red Trail Energy, LLC - Richardton Ethanol Plant

Have you added, removed, or made any modifications to equipment since your last operating permit issuance?

Yes

Is this source subject to Title IV Acid Rain regulations?

No

Is this a portable source?

No

Facility Location

3682 Highway 8 South

Richardton, ND 58652

United States

County

Stark

Facility Location:

46.87793600000000,-102.29656400000000

Please download the form linked here, complete it, and upload it to this application using the attachment control below.

When completing the online application, if uploaded files are provided in each section (when indicated), do not include those same files in the General Document Upload/File Upload section. If uploading the application files in the General Document Upload/File Upload section, only fill out the required (asterisked) sections of the online application.

[PERMIT APPLICATION FOR TITLE V PERMIT TO OPERATE \(SFN52858\)](#)

Attach completed form here

02_SF52858-Permit Application for Title V Permit.pdf - 06/01/2022 08:40 AM

Comment

NONE PROVIDED

Section B (Part 2) - Additional Location Information**Legal Description of Facility Site**

Qtr Qtr	Qtr	Section	Township	Range
SW	SW	4	139N	92W

Land area at facility site (indicate whether measurement is in acres or sq. ft.)

NONE PROVIDED

MSL elevation at facility

NONE PROVIDED

Section C - Nature of Business**General Nature of Business**

Describe Nature of Business	NAICS Code	SIC Code
Ethanol Production	325193	2869-Industrial Organic Chemicals
CO2 Sequestration	486990-All Other Pipeline Transportation	4619-Pipelines

Actual Start of Construction Date

NONE PROVIDED

Actual End of Construction Date

NONE PROVIDED

Facility Startup Date

NONE PROVIDED

Section D - Process Equipment Information (1 of 1)**Emission Unit -****Emission Unit ID**

NONE PROVIDED

Emission Unit Description

NONE PROVIDED

Emission Point ID

NONE PROVIDED

Emission Point Description

NONE PROVIDED

Emission Process Description

NONE PROVIDED

Emission Unit Status

NONE PROVIDED

Applicable PTCs

PTC Number

Applicable Federal Air Programs

Program Code

Applicable State Regulations

Regulation

Emission Unit form

Download the emission unit form linked here, complete it, and upload it to this application using the attachment control below.

When completing the online application, if uploaded files are provided in each section (when indicated), do not include those same files in the General Document Upload/File Upload section. If uploading the application files in the General Document Upload/File Upload section, only fill out the required (asterisked) sections of the online application.

[EMISSION UNIT FOR TITLE V PERMIT TO OPERATE \(SFN61006\)](#)

Attach Emission Unit Form

NONE PROVIDED

Comment

NONE PROVIDED

Section E - Control Equipment (1 of 1)

Emission Unit: `EU_ID` - `EU_DESC`

Control Equipment ID

S60

Emission units being controlled by this control unit

VOC, PM

Control Equipment Description

RTO

Control equipment form

Download the form linked here, complete it, and upload it to this application using the attachment control below.

When completing the online application, if uploaded files are provided in each section (when indicated), do not include those same files in the General Document Upload/File Upload section. If uploading the application files in the General Document Upload/File Upload section, only fill out the required (asterisked) sections of the online application.

[PERMIT APPLICATION FOR AIR POLLUTION CONTROL EQUIPMENT \(SFN8532\)](#)

Attach Control Equipment Form

03_FINAL_SF8532 RTO (S60).pdf - 06/02/2022 10:42 PM

Comment

NONE PROVIDED

Section F - Facility-Wide Applicable Regulations and Potential to Emit (PTE)

Applicable Federal Air Programs

Program Code

Applicable State Regulations

Regulation

Potential to Emit (PTE)

Pollutant	Tons Per Year Without Fugitives	Tons Per Year With Fugitives
NOx	90.3	90.3
CO	130.0	130.3
VOCs	94.6	128.6
SO2	33.3	33.3
PM	73.9	159.3
PM10	72.0	99.0
PM2.5	68.0	73.3
Total HAPs	15.1	17.1

Emission Calculations Document Upload

Using the attachment control below, upload emission calculations documents.

When completing the online application, if uploaded files are provided in each section (when indicated), do not include those same files in the General Document Upload/File Upload section. If uploading the application files in the General Document Upload/File Upload section, only fill out the required (asterisked) sections of the online application.

Attach Emission Calculations Documents

[RTE 2022 PTE calcs_20220602.pdf - 06/03/2022 10:22 AM](#)

Comment

NONE PROVIDED

Section G - Compliance Schedule

Will your facility be in compliance with all applicable requirements effective at the time of permit issuance?

Yes

Will your facility be in compliance with all applicable requirements effective after the time of permit issuance?

Yes

Section H - Flexible Permits

Are you requesting a flexible permit?

No

Section I - Compliance Assurance Monitoring (CAM)

To determine if your facility is subject to CAM, review the information provided at the following link.

[Compliance Assurance Monitoring \(CAM\) Guidance](#)

Is the facility identified in this application in compliance with applicable monitoring and compliance certification requirements?

Yes, the facility IS in compliance with applicable monitoring and compliance certification requirements.

Section K - Redline Permit Upload

Use the attachment control below to upload a redline version of your existing permit document, showing any changes.

When completing the online application, if uploaded files are provided in each section (when indicated), do not include those same files in the General Document Upload/File Upload section. If uploading the application files in the General Document Upload/File Upload section, only fill out the required (asterisked) sections of the online application.

Attach redline version of permit hereT5X12002_1_0_06012022.pdf - 06/02/2022 10:30 PM**Comment**

NONE PROVIDED

Section L - General Document Upload**File Upload**

Use the attachment control below to upload any other information necessary for application review, such as plot plans, process diagrams, maps, etc.

When completing the online application, if uploaded files are provided in each section (when indicated), do not include those same files in the General Document Upload/File Upload section. If uploading the application files in the General Document Upload/File Upload section, only fill out the required (asterisked) sections of the online application.

Attachments04_FINAL_SFN8535 USP Shift Tank (T12).pdf - 06/01/2022 03:27 PM05_FINAL_SFN8535 USP Bertha Tank (T13).pdf - 06/01/2022 03:27 PM06_FINAL_SFN8535 Corrosion Inhibitor Tank (T14).pdf - 06/01/2022 03:27 PMCAM_Plan_Revised_06022022.docx - 06/02/2022 09:03 AMRTE_Title V Renewal Cover Letter_2022_FINAL_with6V.pdf - 06/02/2022 10:38 PM**Comment**

NONE PROVIDED

Additional Forms

SFN8535 - Volatile Organic Compounds Storage Tank

[Link to SFN8535 - Volatile Organic Compounds Storage Tank](#)**Attachments**

Date	Attachment Name	Context	User
6/3/2022 10:22 AM	RTE 2022 PTE calcs_20220602.pdf	Attachment	Paul Mordorski
6/2/2022 10:42 PM	03_FINAL_SFN8532 RTO (S60).pdf	Attachment	Paul Mordorski
6/2/2022 10:38 PM	RTE_Title V Renewal Cover Letter_2022_FINAL_with6V.pdf	Attachment	Paul Mordorski
6/2/2022 10:30 PM	T5X12002_1_0_06012022.pdf	Attachment	Paul Mordorski
6/2/2022 9:03 AM	CAM_Plan_Revised_06022022.docx	Attachment	Paul Mordorski
6/1/2022 3:27 PM	06_FINAL_SFN8535 Corrosion Inhibitor Tank (T14).pdf	Attachment	Paul Mordorski
6/1/2022 3:27 PM	05_FINAL_SFN8535 USP Bertha Tank (T13).pdf	Attachment	Paul Mordorski
6/1/2022 3:27 PM	04_FINAL_SFN8535 USP Shift Tank (T12).pdf	Attachment	Paul Mordorski
6/1/2022 8:40 AM	02_SFN52858-Permit Application for Title V Permit.pdf	Attachment	Paul Mordorski

Status History

	User	Processing Status
6/1/2022 8:01:15 AM	Paul Mordorski	Draft
6/3/2022 3:55:26 PM	Tyler Mock	Submitting
6/3/2022 3:55:26 PM	Tyler Mock	Signing
6/3/2022 3:56:52 PM	Tyler Mock	Submitted
6/3/2022 3:57:02 PM	Tyler Mock	In Process

Agreements and Signature(s)

SUBMISSION AGREEMENTS

- I am the owner of the account used to perform the electronic submission and signature.
- I have the authority to submit the data on behalf of the facility I am representing.
- I agree that providing the account credentials to sign the submission document constitutes an electronic signature equivalent to my written signature.
- I have reviewed the electronic form being submitted in its entirety, and agree to the validity and accuracy of the information contained within it to the best of my knowledge.

I certify under penalty of law that the enclosed documents and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I also certify that the source(s) identified in this application is/are in compliance with all applicable requirements except those requirements for which a compliance schedule has been submitted in the Compliance Schedule Form or Compliance Schedule Section of the application. I understand that failure to comply with any term of a compliance schedule is considered to be a violation of regulation NDAC 33.1-15-14-06.1.e. The source will continue to comply with the current applicable requirements with which it is in compliance. The source will meet, on a timely basis, any applicable requirement, which becomes effective during the permit term. The source is properly implementing any required risk management plan in accordance with section 112(r) of the federal clean air act, if appropriate.

I certify, as the Responsible Official, that I have read and understood the above requirements and conditions applicable to my source/facility and that the information and attachments provided in this application are true, accurate, and complete to the best of my knowledge." Further, I agree to comply with the provisions of Chapter 23.1-06 of the North Dakota Century Code and all rules and regulations of the Department, or revisions thereof. I also understand a permit is nontransferable and, if granted a permit, I will promptly notify the Department upon sale or legal transfer of this permitted establishment.

Note: This certification must be signed by a "responsible official" as defined in NDAC 33.1-15-14-06.1.

Signed
By Tyler Mock on 06/03/2022 at 3:55 PM



RED TRAIL ENERGY, LLC

“Our Farms, Our Fuel, Our Future”

PO Box 11 Richardton, ND 58652 (701)-974-3308 FAX (701)-974-3309

June 3, 2022

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

Subject: Title V Permit Renewal Application
Red Trail Energy, Permit #: T5X12002

SUBMITTED ELECTRONICALLY IN CERIS

Dear DEQ Staff:

Red Trail Energy, LLC (RTE) submits this Title V Permit renewal application for our ethanol production facility in Richardton, North Dakota. We request that the permit be updated to change the operating temperature of the regenerative thermal oxidizer (RTO), add the following projects determined by the North Dakota Department of Environmental Quality (Department) to result in air pollution of minor significance, and make other administrative updates as indicated by tracked changes in the attached copy of permit T5X12002.

- Add a United States Pharmacopeia (USP)-grade ethanol process including the following:
 - USP Shift Tank (T12) is a 175,000-gallon capacity internal floating roof tank (IFRT). Determination of minor significance issued on January 29, 2021.
 - One truck and one rail loadout skid for the new USP process, included in the determination of minor significance on January 29, 2021. Emissions from these skids are controlled by the existing ethanol loadout flare (C02).
 - USP Bertha tank (T13) is a 750,000-gallon IFRT. Determination of minor significance issued on June 4, 2021.
 - Two distillation columns and an alcohol process scrubber (not control device). These are labeled P59a, P59b, and P59c.
- Add a second corrosion inhibitor tank (T14) with a capacity of 2,300 gallons.
- Replace the 18 million British thermal unit per hour (MMBtu/hr) RTO with a 12 MMBtu/hr RTO venting out stack S60. Determined to result in air pollution of minor significance on August 4, 2020.

- Increase the RTO temperature to 1,651.8 degrees Fahrenheit based on the latest stack testing that occurred May 4, 2022.
- Add carbon dioxide (CO₂) capture to the facility, determined to result in air pollution of minor significance on January 6, 2022. Addition of this system established a lower emitting operating scenario than venting scrubber (S40) emissions to atmosphere. RTE requests an update to the permit to specifically allow the water and chemical additive flows to be terminated with the CO₂ valve is diverting 100% of the CO₂ to the CO₂ capture system instead of the stack.
- Add a fourth molecular sieve to the existing distillation system, determined to result in air pollution of minor significance on May 11, 2021.
- Tanks T12 and T13 are subject to New Source Performance Standards (NSPS) subpart Kb. The fourth molecular sieve, USP process, and new tanks are subject to NSPS VVa. A portion of the USP process will be subject to the National Emission Standards for Hazardous Air Pollutions (NESHAP) Subpart VVVVVV (Subpart 6V). The requirements of Subpart 6V are summarized in the attachment. We have not attempted to make the NESHAP 6V additions to the operating permit because these will need to be completed in the manner ND DEQ believes is appropriate and consistent with North Dakota air permit structure.

Information about these changes is provided in the attached forms. If you have any questions, please contact me at the number below or Paul Mordorski, our environmental consultant, at (612) 643-5249

Sincerely,

Tyler Mock

Lab/Environmental Manager and Safety Director
701-974-3308 ex1123

enclosures: NESHAP 6V requirements – for USP process

NESHAP 6V requirements – for USP process

Red Trail Energy installed a United States Pharmacopeia (USP) grade ethanol process in 2021. The process consists of two distillation columns and associated reboilers, condensers, heat exchangers, intermediate (shift) storage, and final product storage. Two hundred proof (200P) ethanol from the existing fuel ethanol production process is fed to the distillation system where it is separated from trace contaminants such as acetaldehyde in the presence of an acid and a base. The final USP grade ethanol is fed to a shift tank for product quality testing prior to being transferred to a final product storage tank. In addition to the USP ethanol product, the distillation process generates a waste stream, referred to as technical alcohol, which is believed to potentially contain more than 0.1% by weight acetaldehyde. Based on historical testing of technical alcohol at other USP ethanol distillation processes, the acetaldehyde is largely in the form of acetals. Thus, the USP system may not contain any liquid streams with greater than 0.1% acetaldehyde. However, it was assumed that the technical alcohol for this stream would exceed 0.1% by weight acetaldehyde. Emissions from the distillation system consist of two process vents, both of which vent to the DDGS dryer exhaust duct prior to the regenerative thermal oxidizer (RTO). Final USP product is loaded onto trucks and the emissions from the tank trucks are controlled by the existing loadout flare.

NESHAP Subpart 6V applicability

As noted in the attached highlighted regulation, any chemical manufacturing process unit (CMPU) with a liquid stream greater than 0.1% by weight acetaldehyde is subject to NESHAP Subpart 6V.

NESHAP Subpart 6V Requirements

There are several types of emission sources within the CMPU that may be subject to requirements under NESHAP Subpart 6V. Below are the subject source types and the requirements under the regulation.

- Continuous process vents – The two vents off distillation are subject to the continuous process vent provisions, which require 95% total organic HAP reduction by weight or 20 part per million by volume. Demonstration with this emission limit must be met through performance testing or a design evaluation. Because the CMPU is not operating, a performance test is not possible. As such, a design evaluation has been completed which demonstrates that the HAP emissions from the RTO will be well below the 20 ppmv concentration and that that THAP reduction is expected to be more than 95% across the RTO.
- Storage tanks – storage tanks are a regulated source type, however, the regulation specifically excludes tanks that store organic liquids containing HAP only as impurities. The acetaldehyde only exists in the USP ethanol as an impurity.
- Ethanol loadout – the USP ethanol loadout is subject to best management practices (BMPs). These BMPs may include, among other things, a submerged fill pipe or closed vent system with a control device. The loadout system at Red Trail Energy complies with these requirements using a closed vent system equipped with a flare. The truck loadout also has a submerged fill location on each tanker truck.
- Leaks – The CMPU must be inspected at least quarterly for leaks. This is being performed as a part of Red Trail Energy's existing leak detection and repair (LDAR) program.
- Heat exchangers - Heat exchangers associated with the CMPU will utilize cooling water with flow less than 8,000 gpm and meet §63.104(a)(5) [recirculating heat exchange system is used to cool process fluids that contain less than 5 percent by weight of total hazardous air pollutants]. As such, the heat exchangers in the USP process at Red Trail Energy are not

subject to the management practices identified in section 63.11495(b) for small heat exchange systems.

- Wastewater – noncontact cooling water is not considered wastewater under NESHAP Subpart 6V.

Subpart VVVVV—National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources

Contents

APPLICABILITY AND COMPLIANCE DATES

§63.11494 What are the applicability requirements and compliance dates?

STANDARDS AND COMPLIANCE REQUIREMENTS

§63.11495 What are the management practices and other requirements?

§63.11496 What are the standards and compliance requirements for process vents?

§63.11497 What are the standards and compliance requirements for storage tanks?

§63.11498 What are the standards and compliance requirements for wastewater systems?

§63.11499 What are the standards and compliance requirements for heat exchange systems?

§63.11500 What compliance options do I have if part of my plant is subject to both this subpart and another Federal standard?

§63.11501 What are the notification, recordkeeping, and reporting requirements, and how may I assert an affirmative defense for violation of emission standards during malfunction?

OTHER REQUIREMENTS AND INFORMATION

§63.11502 What definitions apply to this subpart?

§63.11503 Who implements and enforces this subpart?

Table 1 to Subpart VVVVV of Part 63—Hazardous Air Pollutants Used To Determine Applicability of Chemical Manufacturing Operations

Table 2 to Subpart VVVVV of Part 63—Emission Limits and Compliance Requirements for Batch Process Vents

Table 3 to Subpart VVVVV of Part 63—Emission Limits and Compliance Requirements for Continuous Process Vents

Table 4 to Subpart VVVVV of Part 63—Emission Limits and Compliance Requirements for Metal HAP Process Vents

Table 5 to Subpart VVVVV of Part 63—Emission Limits and Compliance Requirements for Storage Tanks

Table 6 to Subpart VVVVV of Part 63—Emission Limits and Compliance Requirements for Wastewater Systems

Table 7 to Subpart VVVVV of Part 63—Partially Soluble HAP

Table 8 to Subpart VVVVV of Part 63—Emission Limits and Compliance Requirements for Heat Exchange Systems

Table 9 to Subpart VVVVV of Part 63—Applicability of General Provisions to Subpart VVVVV

SOURCE: 74 FR 56041, Oct. 29, 2009, unless otherwise noted.

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APPLICABILITY AND COMPLIANCE DATES

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§63.11494 What are the applicability requirements and compliance dates?

(a) Except as specified in paragraph (c) of this section, you are subject to this subpart if you own or operate a chemical manufacturing process unit (CMPU) that meets the conditions specified in paragraphs (a)(1) and (2) of this section.

(1) The CMPU is located at an area source of hazardous air pollutant (HAP) emissions.

(2) HAP listed in Table 1 to this subpart (Table 1 HAP) are present in the CMPU, as specified in paragraph (a)(2)(i), (ii), (iii), or (iv) of this section.

(i) The CMPU uses as feedstock, any material that contains quinoline, manganese, and/or trivalent chromium at an individual concentration greater than 1.0 percent by weight, or any other Table 1 HAP at an individual concentration greater than 0.1 percent by weight. To determine the Table 1 HAP content of feedstocks, you may rely on formulation data provided by the manufacturer or supplier, such as the Material Safety Data Sheet (MSDS) for the material. If the concentration in an MSDS is presented as a range, use the upper bound of the range.

(ii) Quinoline is generated as byproduct and is present in the CMPU in any liquid stream (process or waste) at a concentration greater than 1.0 percent by weight.

(iii) Hydrazine and/or Table 1 organic HAP other than quinoline are generated as byproduct and are present in the CMPU in any liquid stream (process or waste), continuous process vent, or batch process vent at an individual concentration greater than 0.1 percent by weight.

(iv) Hydrazine or any Table 1 HAP is produced as a product of the CMPU.

(b) A CMPU includes all process vessels, equipment, and activities necessary to operate a chemical manufacturing process that produces a material or a family of materials described by North American Industry Classification System (NAICS) code 325. A CMPU consists of one or more unit operations and any associated recovery devices. A CMPU also includes each storage tank, transfer operation, surge control vessel, and bottoms receiver associated with the production of such NAICS code 325 materials.

(c) This subpart does not apply to the operations specified in paragraphs (c)(1) through (6) of this section.

(1) Affected sources under the following chemical manufacturing area source categories listed pursuant to Clean Air Act (CAA) section 112(c)(3) and 112(k)(3)(B)(ii) that are subject to area source standards under this part:

(i) Manufacture of Paint and Allied Products, subject to subpart CCCCCC of this part.

(ii) Mercury Emissions from Mercury Cell Chlor-Alkali Plants, subject to subpart IIIII of this part.

(iii) Polyvinyl Chloride and Copolymers Production, subject to subpart DDDDDD of this part.

(iv) Acrylic and Modacrylic Fibers Production, subject to subpart LLLLLL of this part.

(v) Carbon Black Production, subject to subpart MMMMMM of this part.

(vi) Chemical Manufacturing Area Sources: Chromium Compounds, subject to subpart NNNNNN of this part.

(vii) Lead oxide production at Lead Acid Battery Manufacturing Facilities, subject to subpart PPPPPP of this part.

(2) Production of the following chemical manufacturing materials described in NAICS code 325:

(i) Manufacture of radioactive elements or isotopes, radium chloride, radium luminous compounds, strontium, uranium.

(ii) Manufacture of photographic film, paper, and plate where the material is coated with or contains chemicals. This subpart does apply to the manufacture of photographic chemicals.

(iii) Fabricating operations (such as spinning or compressing a solid polymer into its end use); compounding operations (in which blending, melting, and resolidification of a solid polymer product occurs for the purpose of incorporating additives, colorants, or stabilizers); and extrusion and drawing operations (converting an already produced solid polymer into a different shape by melting or mixing the polymer and then forcing it or pulling it through an orifice to create an extruded product). An operation is subject if it involves processing with Table 1 HAP solvent or if an intended purpose of the operation is to remove residual Table 1 HAP monomer.

(iv) Manufacture of chemicals classified in NAICS code 325222, 325314, 325413, or 325998.

(3) Research and development facilities, as defined in CAA section 112(c)(7).

(4) Quality assurance/quality control laboratories.

(5) Ancillary activities, as defined in §63.11502(b).

(6) Metal HAP in structures or existing as articles as defined in 40 CFR 372.3.

(d) This subpart applies to each new or existing affected source. The affected source is the facility-wide collection of CMPUs and each heat exchange system and wastewater system associated with a CMPU that meets the criteria specified in paragraphs (a) and (b) of this section. A CMPU using only Table 1 organic HAP is required to control only total CAA section 112(b) organic HAP. A CMPU using only Table 1 metal HAP is required to control only total CAA section 112(b) metal HAP in accordance with §63.11495 and, if applicable, §63.11496(f).

(1) An affected source is an existing source if you commenced construction or reconstruction of the affected source before October 6, 2008.

(2) An affected source is a new source if you commenced construction or reconstruction of the affected source on or after October 6, 2008.

(e) Any area source that installed a federally-enforceable control device on an affected CMPU is required to obtain a permit under 40 CFR part 70 or 40 CFR part 71 **if the control device on the affected CMPU is necessary to maintain the source's emissions at area source levels.** For new and existing sources subject to this rule on December 21, 2012 and subject to title V as a result of this rule, a complete title V permit application must be submitted no later than December 21, 2013. **New and existing sources that become subject to this rule after December 21, 2012 must submit a complete title V permit application no later than 12 months after becoming subject to this rule if the source is subject to title V as a result of this rule.** Otherwise, you are exempt from the obligation to obtain a permit under 40 CFR part 70 or 40 CFR part 71, provided you are not otherwise required by law to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a). Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart.

(f) If you own or operate an existing affected source, you must achieve compliance with the applicable provisions in this subpart no later than March 21, 2013.

(g) If you start up a new affected source on or before October 29, 2009, you must achieve compliance with the applicable provisions of this subpart no later than October 29, 2009.

(h) If you start up a new affected source after October 29, 2009, you must achieve compliance with the provisions in this subpart upon startup of your affected source.

[74 FR 56041, Oct. 29, 2009, as amended at 77 FR 75756, Dec. 21, 2012]

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STANDARDS AND COMPLIANCE REQUIREMENTS

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§63.11495 What are the management practices and other requirements?

(a) *Management practices.* If you have a CMPU subject to this subpart, you must comply with paragraphs (a)(1) through (5) of this section.

(1) Each process vessel must be equipped with a cover or lid that must be closed at all times when it is in organic HAP service or metal HAP service, except for manual operations that require access, such as material addition and removal, inspection, sampling and cleaning. This requirement does not apply to process vessels containing only metal HAP that are in a liquid solution or other form that will not result in particulate emissions of metal HAP (e.g., metal HAP that is in ingot, paste, slurry, or moist pellet form or other form).

(2) You must use any of the methods listed in paragraphs (a)(2)(i) through (iv) of this section to control total organic HAP emissions from transfer of liquids containing Table 1 organic HAP to tank trucks or railcars. You are not required to comply with this paragraph (a)(2) if you have notified the Administrator in your initial notification that a material is reactive or resinous, and you will not be able to comply with any of the methods in paragraphs (a)(2)(i) through (iv) of this section for the transfer of such material.

(i) Use submerged loading or bottom loading.

(ii) Route emissions to a fuel gas system or process in accordance with §63.982(d) of subpart SS.

(iii) Vapor balance back to the storage tank or another storage tank connected by a common header.

(iv) Vent through a closed-vent system to a control device.

(3) You must conduct inspections of process vessels and equipment for each CMPU in organic or metal HAP service, as specified in paragraphs (a)(3)(i) through (v) of this section, to demonstrate compliance with paragraph (a)(1) of this section and to determine that the process vessels and equipment are sound and free of leaks. Alternatively, except when the subject CMPU contains metal HAP as particulate, inspections may be conducted while the subject process vessels and equipment are in VOC service, provided that leaks can be detected when in VOC service.

(i) Inspections must be conducted at least quarterly.

(ii) For these inspections, detection methods incorporating sight, sound, or smell are acceptable. Indications of a leak identified using such methods constitute a leak unless you demonstrate that the indications of a leak are due to a condition other than loss of HAP. If indications of a leak are determined not to be HAP in one quarterly monitoring period, you must still perform the inspection and demonstration in the next quarterly monitoring period.

(iii) As an alternative to conducting inspections, as specified in paragraph (a)(3)(ii) of this section, you may use Method 21 of 40 CFR part 60, appendix A-7, with a leak definition of 500 ppmv to detect leaks. You may also use Method 21 with a leak definition of 500 ppmv to determine if indications of a leak identified during an inspection conducted in accordance with paragraph (a)(3)(ii) of this section are due to a condition other than loss of HAP. The procedures in this paragraph (a)(3)(iii) may not be used as an alternative to the inspection required by paragraph (a)(3)(ii) of this section for process vessels that contain metal HAP as particulate.

(iv) Inspections must be conducted while the subject CMPU is operating.

(v) No inspection is required in a calendar quarter during which the subject CMPU does not operate for the entire calendar quarter and is not in organic HAP service or metal HAP service. If the CMPU operates at all during a calendar quarter, an inspection is required.

(4) You must repair any leak within 15 calendar days after detection of the leak, or document the reason for any delay of repair. For the purposes of this paragraph (a)(4), a leak will be considered "repaired" if a condition specified in paragraph (a)(4)(i), (ii), or (iii) of this section is met.

(i) The visual, audible, olfactory, or other indications of a leak to the atmosphere have been eliminated, or

(ii) No bubbles are observed at potential leak sites during a leak check using soap solution, or

(iii) The system will hold a test pressure.

(5) You must keep records of the dates and results of each inspection event, the dates of equipment repairs, and, if applicable, the reasons for any delay in repair.

(b) *Small heat exchange systems.* For each heat exchange system subject to this subpart with a cooling water flow rate less than 8,000 gallons per minute (gal/min) and not meeting one or more of the conditions in §63.104(a), you must comply with paragraphs (b)(1) through (3) of this section, or as an alternative, you may comply with any one of the requirements in Item 1.a or 1.b of Table 8 to this subpart.

(1) You must develop and operate in accordance with a heat exchange system inspection plan. The plan must describe the inspections to be performed that will provide evidence of hydrocarbons in the cooling water. Among other things, inspections may include checks for visible floating hydrocarbon on the water, hydrocarbon odor, discolored water, and/or chemical addition rates. You must conduct inspections at least once per quarter, even if the previous inspection determined that the indications of a leak did not constitute a leak as defined by §63.104(b)(6).

(2) You must perform repairs to eliminate the leak and any indications of a leak or demonstrate that the HAP concentration in the cooling water does not constitute a leak, as defined by §63.104(b)(6), within 45 calendar days after indications of the leak are identified, or you must document the reason for any delay of repair in your next semiannual compliance report.

(3) You must keep records of the dates and results of each inspection, documentation of any demonstrations that indications of a leak do not constitute a leak, the dates of leak repairs, and, if applicable, the reasons for any delay in repair.

(c) *Startup, shutdown and malfunction.* Startup, shutdown, and malfunction (SSM) provisions in subparts that are referenced in paragraphs (a) and (b) of this section do not apply.

(d) *General duty.* At all times, you must operate and maintain any affected CMPU, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator, which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the CMPU.

[74 FR 56041, Oct. 29, 2009, as amended at 77 FR 75756, Dec. 21, 2012]

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§63.11496 What are the standards and compliance requirements for process vents?

(a) *Organic HAP emissions from batch process vents.* You must comply with the requirements in paragraphs (a)(1) through (4) of this section for organic HAP emissions from your batch process vents for each CMPU using Table 1 organic HAP. If uncontrolled organic HAP emissions from all batch process vents from a CMPU subject to this subpart are equal to or greater than 10,000 pounds per year (lb/yr), you must also comply with the emission limits and other requirements in Table 2 to this subpart.

(1) You must determine the sum of actual organic HAP emissions from all of your batch process vents within a CMPU subject to this subpart using process knowledge, engineering assessment, or test data. Emissions for a standard batch in a process may be used to represent actual emissions from each batch in that process. You must maintain records of the calculations. Calculations of annual emissions are not required if you meet the emission standards for batch process vents in Table 2 to this subpart.

(2) As an alternative to calculating actual emissions for each affected CMPU at your facility, you may elect to estimate emissions for each CMPU based on the emissions for the worst-case CMPU. The worst-case CMPU means the CMPU at the affected source with the highest organic HAP emissions per batch. The worst-case emissions per batch are used with the number of batches run for other affected CMPU. Process knowledge, engineering assessment, or test data may be used to identify the worst-case process. You must keep records of the information and procedures used to identify the worst-case process.

(3) If your current estimate is that emissions from batch process vents from a CMPU are less than 10,000 pounds per year (lb/yr), then you must keep a record of the number of batches of each process operated per month. Also, you must reevaluate your total emissions from batch process vents prior to making any process changes that affect emission calculations in paragraphs (a)(1) and (2) of this section. If projected emissions increase to 10,000 lb/yr or more, you must be in compliance options for batch process vents in Table 2 to this subpart upon initiating operation under the new operating conditions. You must maintain records documenting the results of all updated emissions calculations.

(4) As an alternative to determining the HAP emissions, you may elect to demonstrate that the amount of organic HAP used in the process is less than 10,000 lb/yr. You must keep monthly records of the organic HAP usage.

(b) *Organic HAP emissions from continuous process vents.* You must comply with the requirements in paragraphs (b)(1) through (3) of this section for organic HAP emissions from your continuous process vents for each CMPU subject to this subpart using Table 1 organic HAP. If the total resource-effectiveness (TRE) index value for a continuous process vent is less than or equal to 1.0, you must also comply with the emission limits and other requirements in Table 3 to this subpart.

(1) You must determine the TRE index value according to the procedures in §63.115(d), except as specified in paragraphs (b)(1)(i) through (iii) of this section.

(i) You are not required to calculate the TRE index value if you control emissions in accordance with Table 3 to this subpart.

(ii) Sections 63.115(d)(1)(i) and (ii) are not applicable for the purposes of this paragraph (b)(1)(ii).

(iii) You may assume the TRE for a vent stream is >1.0 if the amount of organic HAP emitted in the vent stream is less than 0.1 pound per hour.

(2) If the current TRE index value is greater than 1, you must recalculate the TRE index value before you make any process or operational change that affects parameters in the calculation. If the recalculated TRE is less than or equal to 1.0, then you must comply with one of the compliance options for continuous process vents in Table 3 to this subpart before operating under the new operating conditions. You must maintain records of all TRE calculations.

(3) If a recovery device as defined in §63.11502 is used to maintain the TRE index value at a level greater than 1.0 and less than or equal to 4.0, you must comply with §63.982(e) and the requirements specified therein.

(c) *Combined streams.* If you combine organic HAP emissions from batch process vents and continuous process vents, you must comply with the more stringent standard in Table 2 or Table 3 to this subpart that applies to any portion of the combined stream, or you must comply with Table 2 for the batch process vents and Table 3 for the continuous process vents. The TRE index value for continuous process vents and the annual emissions from batch process vents shall be determined for the individual streams before they are combined, and prior to any control (e.g., by subtracting any emission contributions from storage tanks, continuous process vents or batch process vents, as applicable), in order to determine the most stringent applicable requirements.

(d) *Halogenated streams.* You must determine if an emission stream is a halogenated vent stream by calculating the mass emission rate of halogen atoms in accordance with §63.115(d)(2)(v). Alternatively, you may elect to designate the emission stream as halogenated. If you use a combustion device to comply with the emission limits for organic HAP from a halogenated batch process vent or a halogenated continuous process vent, you must use a halogen reduction device to meet the emission limit in either paragraph (d)(1) or (d)(2) of this section and in accordance with §63.994 and the requirements referenced therein.

(1) Reduce overall emissions of hydrogen halide and halogen HAP after the combustion device by greater than or equal to 95 percent, to less than or equal to 0.45 kilograms per hour (kg/hr), or to a concentration less than or equal to 20 parts per million by volume (ppmv).

(2) Reduce the halogen atom mass emission rate before the combustion device to less than or equal to 0.45 kg/hr or to a concentration less than or equal to 20 ppmv.

(e) *Alternative standard for organic HAP.* Exceptions to the requirements for the alternative standard requirements specified in Tables 2 and 3 to this subpart and §63.2505 are specified in paragraphs (e)(1) through (6) of this section.

(1) When §63.2505 of subpart FFFF refers to Tables 1 and 2 to subpart FFFF and §§63.2455 and 63.2460, it means Tables 2 and 3 to this subpart and §63.11496(a) and (b).

(2) Sections 63.2505(a)(2) and (b)(9) do not apply.

(3) When §63.2505(b) references §63.2445 it means §63.11494(f) through (h).

(4) The requirements for hydrogen halide and halogen HAP apply only to hydrogen halide and halogen HAP generated in a combustion device that is used to comply with the alternative standard.

(5) When §63.1258(b)(5)(ii)(B)(2) refers to a “notification of process change” report, it means the semi-annual compliance report required by §63.11501(d) for the purposes of this subpart.

(6) CEMS requirements and data reduction requirements for CEMS specified in §63.2450(j) apply.

(f) *Emissions from metal HAP process vents.* You must comply with the requirements in paragraphs (f)(1) and (2) of this section for metal HAP emissions from each CMPU using Table 1 metal HAP. If the collective uncontrolled metal HAP emissions from all metal HAP process vents from a CMPU are equal to or greater than 400 lb/yr, then you must also comply with the emission limits and other requirements in Table 4 to this subpart and in paragraph (f)(3), (4), or (5) of this section. The requirements of this paragraph (f) do not apply to metal HAP process vents from CMPU containing only metal HAP that are in a liquid solution or other form that will not result in particulate emissions of metal HAP (e.g., metal HAP that is in ingot, paste, slurry, or moist pellet form or other form).

(1) You must determine the sum of metal HAP emissions from all metal HAP process vents within a CMPU subject to this subpart, except you are not required to determine the annual emissions if you control the metal HAP process vents within a CMPU in accordance with Table 4 to this subpart or if you determine your total metal HAP usage in the process unit is less than 400 lb/yr. To determine the mass emission rate you may use process knowledge, engineering assessment, or test data. You must keep records of the emissions calculations.

(2) If your current estimate is that total uncontrolled metal HAP emissions from a CMPU subject to this subpart are less than 400 lb/yr, then you must keep records of either the number of batches operated per month (batch vents) or the process operating hours (continuous vents). Also, you must reevaluate your total emissions before you make any process or operational change that affects emissions of metal HAP. If projected emissions increase to 400 lb/yr or more, then you must be in compliance with one of the options for metal HAP process vents in Table 4 to this subpart upon initiating operation under the new operating conditions. You must keep records of all recalculated emissions determinations.

(3) If you have an existing source subject to the HAP metals emission limits specified in Table 4 to this subpart, you must comply with the initial compliance and monitoring requirements in

paragraphs (f)(3)(i) through (iii) of this section. You must keep records of monitoring results to demonstrate continuous compliance.

(i) You must prepare a monitoring plan containing the information in paragraphs (f)(3)(i)(A) through (E) of this section. The plan must be maintained on-site and be available on request. You must operate and maintain the control device according to a site-specific monitoring plan at all times.

(A) A description of the device;

(B) Results of a performance test or engineering assessment conducted in accordance with paragraph (f)(3)(ii) of this section verifying the performance of the device for reducing HAP metals or particulate matter (PM) to the levels required by this subpart;

(C) Operation and maintenance plan for the control device (including a preventative maintenance schedule consistent with the manufacturer's instructions for routine and long-term maintenance) and continuous monitoring system (CMS).

(D) A list of operating parameters that will be monitored to maintain continuous compliance with the applicable emissions limits; and

(E) Operating parameter limits based on either monitoring data collected during the performance test or established in the engineering assessment.

(ii) You must conduct a performance test or an engineering assessment for each CMPU subject to a HAP metals emissions limit in Table 4 to this subpart and report the results in your Notification of Compliance Status (NOCS). Each performance test or engineering assessment must be conducted under representative operating conditions, and sampling for each performance test must be conducted at both the inlet and outlet of the control device. Upon request, you shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests. If you own or operate an existing affected source, you are not required to conduct a performance test if a prior performance test was conducted within the 5 years prior to the effective date using the same methods specified in paragraph (f)(3)(iii) of this section, and, either no process changes have been made since the test, or, if you can demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process changes.

(iii) If you elect to conduct a performance test, it must be conducted according to requirements in §63.11410(j)(1). As an alternative to conducting a performance test using Method 5 or 5D to determine the concentration of PM, you may use Method 29 in 40 CFR part 60, appendix A-8 to determine the concentration of HAP metals. You have demonstrated initial compliance if the overall reduction of either HAP metals or total PM is equal to or greater than 95 percent.

(4) If you have a new source using a baghouse as a control device, you must install, operate, and maintain a bag leak detection system on all baghouses used to comply with the HAP metals emissions limit in Table 4 to this subpart. You must comply with the testing, monitoring, and recordkeeping requirements in §63.11410(g), (i), and (j)(1), except you are not required to submit the monitoring plan required by §63.11410(g)(2) for approval.

(5) If you have a new source using a control device other than a baghouse to comply with the HAP metals emission limits in Table 4 to this subpart, you must comply with the initial compliance and monitoring requirements in paragraphs (f)(3)(i) through (iii) of this section.

(g) *Exceptions and alternatives to 40 CFR part 63, subpart SS.* If you are complying with the emission limits and other requirements for continuous process vents in Table 3 to this subpart, the provisions in paragraphs (g)(1) through (7) and (9) of this section apply in addition to the provisions in 40 CFR part 63, subpart SS. If you are complying with the emission limits and other requirements for batch process vents in Table 2 to this subpart, the provisions in paragraphs (g)(1) through (8) of this section apply in addition to the provisions in subpart SS.

(1) *Requirements for performance tests.* (i) The requirements specified in §63.2450(g)(1) through (4) apply instead of, or in addition to, the requirements specified in 40 CFR part 63, subpart SS.

(ii) Upon request, you shall make available to the Administrator, such records as may be necessary to determine the conditions of performance tests.

(2) *Design evaluation.* To determine initial compliance with a percent reduction or outlet concentration emission limit, you may elect to conduct a design evaluation as specified in §63.1257(a)(1) instead of a performance test as specified in subpart SS of this part 63. You must establish the value(s) and basis for the operating limits as part of the design evaluation. For continuous process vents, the design evaluation must be conducted at maximum representative operating conditions for the process, unless the Administrator specifies or approves alternate operating conditions. For batch process vents, the design evaluation must be conducted under worst-case conditions, as specified in §63.2460(c)(2).

(3) *Outlet concentration correction for combustion devices.* When §63.997(e)(2)(iii)(C) requires you to correct the measured concentration at the outlet of a combustion device to 3 percent oxygen if you add supplemental combustion air, the requirements in either paragraph (g)(3)(i) or (g)(3)(ii) of this section apply for the purposes of this subpart.

(i) You must correct the concentration in the gas stream at the outlet of the combustion device to 3 percent oxygen if you add supplemental gases, as defined in §63.2550, to the vent stream, or;

(ii) You must correct the measured concentration for supplemental gases using Equation 1 of §63.2460; you may use process knowledge and representative operating data to determine the fraction of the total flow due to supplemental gas.

(4) *Continuous parameter monitoring.* The provisions in §63.2450(k)(1) through (6) apply in addition to the requirements for continuous parameter monitoring systems (CPMS) in subpart SS of this part 63, except as specified in paragraphs (g)(4)(i) and (ii) of this section.

(i) You may measure pH or caustic strength of the scrubber effluent at least once per day for any halogen scrubber within a CMPU subject to this rule.

(ii) The requirements in §63.2450(k)(6) to request approval of a procedure to monitor operating parameters does not apply for the purposes of this subpart. You must provide the required information in your NOCS report required by §63.11501(b).

(5) *Startup, shutdown, malfunction (SSM).* Sections 63.996(c)(2)(ii) and 63.998(b)(2)(iii), (b)(6)(i)(A), (c)(1)(ii)(E) and (d)(3) do not apply for the purposes of this subpart.

(6) *Excused excursions.* Excused excursions, as defined in subpart SS of this part 63, are not allowed.

(7) *Energetics and organic peroxides.* If an emission stream contains energetics or organic peroxides that, for safety reasons, cannot meet an applicable emission limit specified in this subpart, then you must submit an application to the Administrator explaining why an undue safety hazard would be created if the air emission controls were installed, and you must describe the procedures that you will implement to minimize HAP emissions from these vent streams in lieu of the emission limitations in this section.

(8) *Additional requirements for batch process vents.* The provisions specified in §63.2460(c) apply in addition to the provisions in subpart SS of this part 63, except as specified in paragraphs (g)(8)(i) through (iii) of this section.

(i) References to emission limits in Table 2 to subpart FFFF mean the emission limits in Table 2 to this subpart.

(ii) References to MCPU mean CMPU for purposes of this subpart.

(iii) Section 63.2460(c)(8) does not apply for the purposes of this subpart.

(9) *Parameter monitoring averaging periods.* Daily averages required in §63.998(b)(3) apply at all times except during startup and shutdown. Separate averages shall be determined for each period of startup and period of shutdown.

(h) *Surge control vessels and bottoms receivers.* For each surge control vessel and bottoms receiver that meets the applicability criteria for storage tanks specified in Table 5 to this subpart, you must meet the emission limits and control requirements specified in Table 5 to this subpart.

(i) *Startup, shutdown, and malfunction (SSM).* References to SSM provisions in subparts that are referenced in paragraphs (a) through (h) of this section or Tables 2 through 5 to this subpart do not apply.

[74 FR 56041, Oct. 29, 2009, as amended at 77 FR 75757, Dec. 21, 2012]

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§63.11497 What are the standards and compliance requirements for storage tanks?

(a) You must comply with the emission limits and other requirements in Table 5 to this subpart and in paragraph (b) of this section for organic HAP emissions from each of your storage tanks that meet the applicability criteria in Table 5 to this subpart.

(b) *Planned routine maintenance for a control device.* Operate in accordance with paragraphs (b)(1) through (3) of this section for periods of planned routine maintenance of a control device for storage tanks.

(1) Add no material to the storage tank during periods of planned routine maintenance.

(2) Limit periods of planned routine maintenance for each control device (or series of control devices) to no more than 240 hours per year (hr/yr), or submit an application to the Administrator requesting an extension of this time limit to a total of 360 hr/yr. The application must explain why the extension is needed and it must be submitted at least 60 days before the 240-hour limit will be exceeded.

(3) Keep records of the day and time at which planned routine maintenance periods begin and end, and keep a record of the type of maintenance performed.

(c) References to SSM provisions in subparts that are referenced in paragraphs (a) or (b) of this section or Table 5 to this subpart do not apply.

(d) *Combustion of halogenated streams.* If you use a combustion device to comply with the emission limits for organic HAP from a halogenated vent stream from a storage tank, you must reduce emissions in accordance with §63.11496(d) and the requirements referenced therein.

[74 FR 56041, Oct. 29, 2009, as amended at 77 FR 75757, Dec. 21, 2012]

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§63.11498 What are the standards and compliance requirements for wastewater systems?

(a) You must comply with the requirements in paragraph (a)(1) and (2) of this section and in Table 6, Item 1 to this subpart for all wastewater streams from a CMPU subject to this subpart. If the partially soluble HAP concentration in a wastewater stream is equal to or greater than 10,000 parts per million by weight (ppmw) and the wastewater stream contains a separate organic phase, then you must also comply with Table 6, Item 2 to this subpart for that wastewater stream. Partially soluble HAP are listed in Table 7 to this subpart.

(1) Except as specified in paragraph (a)(2) of this section, you must determine the total concentration of partially soluble HAP in each wastewater stream using process knowledge, engineering assessment, or test data. Also, you must reevaluate the concentration of partially soluble HAP if you make any process or operational change that affects the concentration of partially soluble HAP in a wastewater stream.

(2) You are not required to determine the partially soluble concentration in wastewater that is hard piped to a combustion unit or hazardous waste treatment unit, as specified in Table 6, Item 2.b to this subpart.

(3) Separated organic material that is recycled to a process is no longer wastewater and no longer subject to the wastewater requirements after it has been recycled.

(b) The requirements in Item 2 of Table 6 to this subpart do not apply during periods of startup or shutdown. References to SSM provisions in subparts that are referenced in paragraph (a) of this section or Table 6 to this subpart do not apply.

[74 FR 56041, Oct. 29, 2009, as amended at 77 FR 75757, Dec. 21, 2012]

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§63.11499 What are the standards and compliance requirements for heat exchange systems?

(a) If the cooling water flow rate in your heat exchange system is equal to or greater than 8,000 gal/min and is not meeting one or more of the conditions in §63.104(a), then you must comply with one of the requirements specified in Table 8 to this subpart.

(b) For equipment that meets Current Good Manufacturing Practice (CGMP) requirements of 21 CFR part 211, you may use the physical integrity of the reactor as the surrogate indicator of heat exchanger system leaks when complying with Item 1.a in Table 8 to this subpart.

(c) Any reference to SSM provisions in other subparts that are referenced in paragraphs (a) and (b) of this section or Table 8 to this subpart do not apply.

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§63.11500 What compliance options do I have if part of my plant is subject to both this subpart and another Federal standard?

For any CMPU, heat exchange system, or wastewater system subject to the provisions of both this subpart and another rule, you may elect to comply only with the more stringent provisions as specified in paragraphs (a) through (d) of this section. You must consider all provisions of the rules, including monitoring, recordkeeping, and reporting. You must identify the subject CMPU, heat exchange system, and/or wastewater system, and the provisions with which you will comply in your NOCS report required by §63.11501(b). You also must demonstrate in your NOCS report that each provision with which you will comply is at least as stringent as the otherwise applicable requirement in this subpart VVVVVV. You are responsible for making accurate determinations concerning the more stringent standards and noncompliance with this rule is not excused if it is later determined that your determination was in error and, as a result, you are violating this subpart. Compliance with this rule is your responsibility and the NOCS report does not alter or affect that responsibility.

(a) *Compliance with other subparts of this part 63.* (1) If any part of a CMPU that is subject to the provisions of this subpart is also subject to the provisions of another subpart of 40 CFR part 63, then compliance with any of the requirements in the other subpart of this part 63 that are at least as stringent as the corresponding requirements in this subpart VVVVVV constitutes compliance with this subpart VVVVVV.

(2) After the compliance dates specified in §63.11494, at an offsite reloading or cleaning facility subject to §63.1253(f), as referenced from §63.2470(e) and Table 4 to subpart VVVVVV, compliance with the monitoring, recordkeeping, and reporting provisions of any other subpart of this part 63 constitutes compliance with the monitoring, recordkeeping, and reporting provisions of §63.1253(f)(7)(ii) or (iii). You must identify in your notification of compliance status report required by §63.11501(b) the subpart of this part 63 with which the owner or operator of the offsite reloading or cleaning facility complies.

(b) *Compliance with subparts of 40 CFR part 60.* If any part of a CMPU that is subject to the provisions of this subpart is also subject to the provisions of subpart VV, DDD, III, NNN, RRR, or YYY in 40 CFR part 60, then compliance with any of the requirements in 40 CFR part 60, subpart VV, DDD, III, NNN, RRR, or YYY that are at least as stringent as the corresponding requirements in this subpart VVVVVV constitutes compliance with this subpart VVVVVV.

(c) *Compliance with subparts of 40 CFR part 61.* If any part of a CMPU that is subject to the provisions of this subpart is also subject to the provisions of subpart V, Y, BB, or FF of 40 CFR part 61, then compliance with any of the requirements in 40 CFR part 61, subpart V, Y, BB, or FF that are at least as stringent as the corresponding requirements in this subpart VVVVVV constitutes compliance with this subpart VVVVVV.

(d) *Compliance with 40 CFR parts 260 through 272.* If any part of a CMPU that is subject to the provisions of this subpart is also subject to the provisions of 40 CFR parts 260 through 272, then

compliance with any of the requirements in 40 CFR part 260 through 272 rule that are at least as stringent as the corresponding requirements in this subpart VVVVVV constitutes compliance with this subpart VVVVVV.

[74 FR 56041, Oct. 29, 2009, as amended at 77 FR 75757, Dec. 21, 2012]

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§63.11501 What are the notification, recordkeeping, and reporting requirements, and how may I assert an affirmative defense for violation of emission standards during malfunction?

(a) *General provisions.* You must meet the requirements of the General Provisions in 40 CFR part 63, subpart A, as shown in Table 9 to this subpart. The General Provisions in other parts do not apply except when a requirement in an overlapping standard, which you determined is at least as stringent as subpart VVVVVV and with which you have opted to comply, requires compliance with general provisions in another part.

(b) *Notification of compliance status (NOCS).* Your NOCS required by §63.9(h) must include the following additional information as applicable:

(1) This certification of compliance, signed by a responsible official:

(i) "This facility complies with the management practices in §63.11495."

(ii) "This facility complies with the requirements in §63.11496 for HAP emissions from process vents."

(iii) "This facility complies with the requirements in §63.11496 and §63.11497 for surge control vessels, bottoms receivers, and storage tanks."

(iv) "This facility complies with the requirements in §63.11498 to treat wastewater streams."

(v) "This facility complies with the requirements in §63.11499 for heat exchange systems."

(2) If you comply with the alternative standard as specified in Table 2 to this subpart or Table 3 to this subpart, include the information specified in §63.1258(b)(5), as applicable.

(3) If you establish an operating limit for a parameter that will not be monitored continuously in accordance with §§63.11496(g)(4) and 63.2450(k)(6), provide the information as specified in §§63.11496(g)(4) and 63.2450(k)(6).

(4) A list of all transferred liquids that are reactive or resinous materials, as defined in §63.11502(b).

(5) If you comply with provisions in an overlapping rule in accordance with §63.11500, identify the affected CMPU, heat exchange system, and/or wastewater system; provide a list of the specific provisions with which you will comply; and demonstrate that the provisions with which you will comply are at least as stringent as the otherwise applicable requirements, including monitoring, recordkeeping, and reporting requirements, in this subpart VVVVVV.

(c) *Recordkeeping.* You must maintain files of all information required by this subpart for at least 5 years following the date of each occurrence according to the requirements in §63.10(b)(1). If you are subject, you must comply with the recordkeeping and reporting requirements of §63.10(b)(2)(iii) and (vi) through (xiv), and the applicable requirements specified in paragraphs (c)(1) through (8) of this section.

(1) For each CMPU subject to this subpart, you must keep the records specified in paragraphs (c)(1)(i) through (viii) of this section.

(i) Records of management practice inspections, repairs, and reasons for any delay of repair, as specified in §63.11495(a)(5).

(ii) Records of small heat exchange system inspections, demonstrations of indications of leaks that do not constitute leaks, repairs, and reasons for any delay in repair as specified in §63.11495(b).

(iii) If batch process vent emissions are less than 10,000 lb/yr for a CMPU, records of batch process vent emission calculations, as specified in §63.11496(a)(1), the number of batches operated each month, as specified in §63.11496(a)(3), and any updated emissions calculations, as specified in §63.11496(a)(3). Alternatively, keep records of the worst-case processes or organic HAP usage, as specified in §63.11496(a)(2) and (4), respectively.

(iv) Records of all TRE calculations for continuous process vents as specified in §63.11496(b)(2).

(v) Records of metal HAP emission calculations as specified in §63.11496(f)(1) and (2). If total uncontrolled metal HAP process vent emissions from a CMPU subject to this subpart are estimated to be less than 400 lb/yr, also keep records of either the number of batches per month or operating hours, as specified in §63.11496(f)(2).

(vi) Records identifying wastewater streams and the type of treatment they receive, as specified in Table 6 to this subpart.

(vii) Records of the date, time, and duration of each malfunction of operation of process equipment, control devices, recovery devices, or continuous monitoring systems used to comply with this subpart that causes a failure to meet a standard. The record must include a list of the affected sources or equipment, an estimate of the volume of each regulated pollutant emitted over the standard, and a description of the method used to estimate the emissions.

(viii) Records of actions taken during periods of malfunction to minimize emissions in accordance with §63.11495(d), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

(2) For batch process vents subject to Table 2 to this subpart and continuous process vents subject to Table 3 to this subpart, you must keep records specified in paragraphs (c)(2)(i) or (ii) of this section, as applicable.

(i) If you route emissions to a control device other than a flare, keep records of performance tests, if applicable, as specified in §63.998(a)(2)(ii) and (4), keep records of the monitoring system and the monitored parameters, as specified in §63.998(b) and (c), and keep records of the closed-vent system, as specified in §63.998(d)(1). If you use a recovery device to maintain the TRE above

1.0 for a continuous process vent, keep records of monitoring parameters during the TRE index value determination, as specified in §63.998(a)(3).

(ii) If you route emissions to a flare, keep records of the flare compliance assessment, as specified in §63.998(a)(1)(i), keep records of the pilot flame monitoring, as specified in §63.998(a)(1)(ii) and (iii), and keep records of the closed-vent system, as specified in §63.998(d)(1).

(3) For metal HAP process vents subject to Table 4 to this subpart, you must keep records specified in paragraphs (c)(3)(i) or (ii) of this section, as applicable.

(i) For a new source using a control device other than a baghouse and for any existing source, maintain a monitoring plan, as specified in §63.11496(f)(3)(i), and keep records of monitoring results, as specified in §63.11496(f)(3).

(ii) For a new source using a baghouse to control metal HAP emissions, keep a site-specific monitoring plan, as specified in §§63.11496(f)(4) and 63.11410(g), and keep records of bag leak detection systems, as specified in §§63.11496(f)(4) and 63.11410(g)(4).

(4) For each storage tank subject to Table 5 to this subpart, you must keep records specified in paragraphs (c)(4)(i) through (vi) of this section, as applicable.

(i) Keep records of the vessel dimensions, capacity, and liquid stored, as specified in §63.1065(a).

(ii) Keep records of each inspection of an internal floating roof, as specified in §63.1065(b)(1).

(iii) Keep records of each seal gap measurement for external floating roofs, as specified in §63.1065(b)(2), and keep records of inspections of external floating roofs, as specified in §63.1065(b)(1).

(iv) If you vent emissions to a control device other than a flare, keep records of the operating plan and measured parameter values, as specified in §§63.985(c) and 63.998(d)(2).

(v) If you vent emissions to a flare, keep records of all periods of operation during which the flare pilot flame is absent, as specified in §§63.987(c) and 63.998(a)(1), and keep records of closed-vent systems, as specified in §63.998(d)(1).

(vi) For periods of planned routine maintenance of a control device, keep records of the day and time at which each maintenance period begins and ends, and keep records of the type of maintenance performed, as specified in §63.11497(b)(3).

(5) For each wastewater stream subject to Item 2 in Table 6 to this subpart, keep records of the wastewater stream identification and the disposition of the organic phase(s), as specified in Item 2 to Table 6 to this subpart.

(6) For each large heat exchange system subject to Table 8 to this subpart, you must keep records of detected leaks; the date the leak was detected; if demonstrated not to be a leak, the basis for that determination; the date of efforts to repair the leak; and the date the leak is repaired, as specified in Table 8 to this subpart.

(7) You must keep a record of all transferred liquids that are reactive or resinous materials, as defined in §63.11502(b), and not included in the NOCS.

(8) For continuous process vents subject to Table 3 to this subpart, keep records of the occurrence and duration of each startup and shutdown of operation of process equipment, or of air pollution control and monitoring equipment.

(d) *Semiannual Compliance Reports.* You must submit semiannual compliance reports that contain the information specified in paragraphs (d)(1) through (7) of this section, as applicable. Reports are required only for semiannual periods during which you experienced any of the events described in paragraphs (d)(1) through (8) of this section.

(1) *Deviations.* You must clearly identify any deviation from the requirements of this subpart.

(2) *Delay of repair for a large heat exchange system.* You must include the information specified in §63.104(f)(2) each time you invoke the delay of repair provisions for a heat exchange system with a cooling water flow rate equal to or greater than 8,000 gal/min.

(3) *Delay of leak repair.* You must provide the following information for each delay of leak repair beyond 15 days for any process equipment, storage tank, surge control vessel, bottoms receiver, and each delay of leak repair beyond 45 days for any heat exchange system with a cooling water flow rate less than 8,000 gal/min: information on the date the leak was identified, the reason for the delay in repair, and the date the leak was repaired.

(4) *Process change.* You must report each process change that affects a compliance determination and submit a new certification of compliance with the applicable requirements in accordance with the procedures specified in paragraph (b) of this section.

(5) *Data for the alternative standard.* If you comply with the alternative standard, as specified in Table 2 to this subpart or Table 3 to this subpart, report the information required in §63.1258(b)(5).

(6) *Overlapping rule requirements.* Report any changes in the overlapping provisions with which you comply.

(7) *Reactive and resinous materials.* Report any transfer of liquids that are reactive or resinous materials, as defined in §63.11502(b), and not included in the NOCS.

(8) *Malfunctions.* If a malfunction occurred during the reporting period, the report must include the number of instances of malfunctions that caused emissions in excess of a standard. For each malfunction that caused emissions in excess of a standard, the report must include a list of the affected sources or equipment, an estimate of the volume of each regulated pollutant emitted over the standard, and a description of the method used to estimate the emissions. The report must also include a description of actions you took during a malfunction of an affected source to minimize emissions in accordance with §63.11495(d), including actions taken to correct a malfunction.

(e) *Affirmative defense for violation of emission standards during malfunction.* In response to an action to enforce the standards set forth in §§63.11495 through 63.11499, you may assert an affirmative defense to a claim for civil penalties for violations of such standards that are caused by malfunction, as defined at 40 CFR 63.2. Appropriate penalties may be assessed if you fail to meet your burden of proving all of the requirements in the affirmative defense. The affirmative defense shall not be available for claims for injunctive relief.

(1) To establish the affirmative defense in any action to enforce such a standard, you must timely meet the notification requirements in paragraph (e)(2) of this section, and must prove by a preponderance of evidence that:

(i) The violation:

(A) Was caused by a sudden, infrequent, and unavoidable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner; and

(B) Could not have been prevented through careful planning, proper design, or better operation and maintenance practices; and

(C) Did not stem from any activity or event that could have been foreseen and avoided, or planned for; and

(D) Was not part of a recurring pattern indicative of inadequate design, operation, or maintenance; and

(ii) Repairs were made as expeditiously as possible when a violation occurred. Off-shift and overtime labor were used, to the extent practicable to make these repairs; and

(iii) The frequency, amount, and duration of the violation (including any bypass) were minimized to the maximum extent practicable; and

(iv) If the violation resulted from a bypass of control equipment or a process, then the bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; and

(v) All possible steps were taken to minimize the impact of the violation on ambient air quality, the environment and human health; and

(vi) All emissions monitoring and control systems were kept in operation if at all possible, consistent with safety and good air pollution control practices; and

(vii) All of the actions in response to the violation were documented by properly signed, contemporaneous operating logs; and

(viii) At all times, the affected CPMU was operated in a manner consistent with good practices for minimizing emissions; and

(ix) A written root cause analysis has been prepared, the purpose of which is to determine, correct, and eliminate the primary causes of the malfunction and the violation resulting from the malfunction event at issue. The analysis must also specify, using best monitoring methods and engineering judgment, the amount of any emissions that were the result of the malfunction.

(2) *Report.* If you seek to assert an affirmative defense, you must submit a written report to the Administrator, with all necessary supporting documentation, that you have met the requirements set forth in paragraph (e)(1) of this section. This affirmative defense report must be included in the first periodic compliance report, deviation report, or excess emission report otherwise required after the initial occurrence of the violation of the relevant standard (which may be the end of any applicable averaging period). If such compliance report, deviation report, or excess emission report is due less than 45 days after the initial occurrence of the violation, the affirmative defense report may be

included in the second compliance report, deviation report, or excess emission report due after the initial occurrence of the violation of the relevant standard.

[74 FR 56041, Oct. 29, 2009, as amended at 77 FR 75758, Dec. 21, 2012]

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OTHER REQUIREMENTS AND INFORMATION

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§63.11502 What definitions apply to this subpart?

(a) The following terms used in this subpart have the meaning given them in the CAA, §63.2, subpart SS (§63.981), subpart WW (§63.1061), 40 CFR 60.111b, subpart F (§63.101), subpart G (§63.111), subpart FFFF (§63.2550), as specified after each term:

Administrator (§63.2)

Article (40 CFR 372.3)

Batch operation (§63.2550)

Boiler (§63.111)

Bottoms receiver (§63.2550)

CAA (§63.2)

Closed-vent system (§63.981)

Combustion device (§63.111)

Commenced (§63.2)

Compliance date (§63.2)

Container (§63.111)

Continuous monitoring system (§63.2)

Continuous operation (§63.2550)

Control device (§63.111)

Distillation unit (§63.111)

Emission standard (§63.2)

EPA (§63.2)

Fill or filling (§63.111)

Floating roof (§63.1061)

Fuel gas system (§63.981)

Halogen atoms (§63.2550)

Halogenated vent stream (§63.2550)
Halogens and hydrogen halides (§63.2550)
Hazardous air pollutant (§63.2)
Heat exchange system (§63.101)
Incinerator (§63.111)
Isolated intermediate (§63.2550)
Maintenance wastewater (§63.2550)
Major source (§63.2)
Maximum true vapor pressure (§63.111)
Oil-water separator or organic-water separator (§63.111)
Operating permit (§63.101)
Owner or operator (§63.2)
Performance test (§63.2)
Permitting authority (§63.2)
Process condenser (§63.2550)
Process heater (§63.111)
Process tank (§63.2550)
Process wastewater (§63.101)
Reactor (§63.111)
Responsible official (§63.2)
State (§63.2)
Supplemental gases (§63.2550)
Surge control vessel (§63.2550)
Test method (§63.2)
Unit operation (§63.101)

(b) All other terms used in this subpart shall have the meaning given them in this section. If a term is defined in the CAA, §63.2, subpart SS (§63.981), subpart WW (§63.1061), 40 CFR 60.111b, subpart F (§63.101), subpart G (§63.111), or subpart FFFF (§63.2550), and in this section, it shall have the meaning given in this section for purposes of this subpart.

Affirmative defense means, in the context of an enforcement proceeding, a response or defense put forward by a defendant, regarding which the defendant has the burden of proof, and the merits of which are independently and objectively evaluated in a judicial or administrative proceeding.

Ancillary activities means boilers, incinerators, and process heaters not used to comply with the emission standards in §§63.11495 through 63.11500, chillers and other refrigeration systems, and other equipment and activities that are not directly involved (i.e., they operate within a closed system and materials are not combined with process fluids) in the processing of raw materials or the manufacturing of a product or intermediates used in the production of the product.

Batch process vent means a vent from a CMPU or vents from multiple CMPUs within a process that are manifolded together into a common header, through which a HAP-containing gas stream is, or has the potential to be, released to the atmosphere. Batch process vents include vents from batch operations and vents with intermittent flow from continuous operations that are not combined with any stream that originated as a continuous gas stream from the same continuous process. Examples of batch process vents include, but are not limited to, vents on condensers used for product recovery, reactors, filters, centrifuges, and process tanks. **The following are not batch process vents** for the purposes of this subpart:

- (1) Continuous process vents;
- (2) Bottoms receivers;
- (3) **Surge control vessels**;
- (4) Gaseous streams routed to a fuel gas system(s);
- (5) A gas stream routed to other processes for reaction or other use in another process (i.e., for chemical value as a product, isolated intermediate, byproduct, or coproduct, or for heat value).
- (6) **Vents on storage tanks** or wastewater systems;
- (7) Drums, pails, and totes; and
- (8) Emission streams from emission episodes that are undiluted and uncontrolled containing less than 50 ppmv HAP are not part of any batch process vent. The HAP concentration may be determined using any of the following: process knowledge, an engineering assessment, or test data.

Byproduct means a chemical (liquid, gas, or solid) that is produced coincidentally during the production of the product.

Chemical manufacturing process means all equipment which collectively functions to produce a product or isolated intermediate. A process includes, but is not limited to any, all, or a combination of reaction, recovery, separation, purification, or other activity, operation, manufacture, or treatment which are used to produce a product or isolated intermediate. A process is also defined by the following:

- (1) All cleaning operations;
- (2) Each nondedicated solvent recovery operation is considered a single process;
- (3) Each nondedicated formulation operation is considered a single process;
- (4) Quality assurance/quality control laboratories are not considered part of any process;

(5) Ancillary activities are not considered a process or part of any process; and

(6) The end of a process that produces a solid material is either up to and including the dryer or extruder, or for a polymer production process without a dryer or extruder, it is up to and including the die plate or solid-state reactor, except in two cases. If the dryer, extruder, die plate, or solid-state reactor is followed by an operation that is designed and operated to remove HAP solvent or residual monomer from the solid, then the solvent removal operation is the last step in the process. If the dried solid is diluted or mixed with a HAP-based solvent, then the solvent removal operation is the last step in the process.

Continuous process vent means a “process vent” as defined in §63.101 in subpart F of this part, except:

(1) The reference in §63.107(e) to a chemical manufacturing process unit that meets the criteria of §63.100(b) means a CMPU that meets the criteria of §63.11494(a) and (b);

(2) The reference in §63.107(h)(2) to subpart H means §63.11495(a) for the purposes of this subpart;

(3) The reference in §63.107(h)(4) to §63.113 means Tables 2 and 3 to this subpart;

(4) The reference in §63.107(h)(7) to §63.119 means Table 5 to this subpart, and the reference to §63.126 does not apply for the purposes of this subpart;

(5) The second sentence in the definition of “process vent” in §63.101 does not apply for the purposes of this subpart;

(6) The references to an “air oxidation reactor, distillation unit, or reactor” in §63.107 means any continuous operation for the purposes of this subpart;

(7) Section §63.107(h)(8) does not apply for the purposes of this subpart; and

(8) A separate determination is required for the emissions from each CMPU, even if emission streams from two or more CMPU are combined prior to discharge to the atmosphere or to a control device.

Co-Product means a chemical that is produced during the production of another chemical, both for their intended production.

Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source fails to meet any requirement or obligation established by this subpart, including, but not limited to any emissions limitation or management practice; or fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit.

Engineering assessment means, but is not limited to, the following:

(1) Previous test results provided the tests are representative of current operating practices at the process unit.

(2) Bench-scale or pilot-scale test data representative of the process under representative operating conditions.

(3) Maximum flow rate, TOC emission rate, organic HAP emission rate, metal HAP emission rate, or net heating value limit specified or implied within a permit limit applicable to the process vent.

(4) Design analysis based on accepted chemical engineering principles, measurable process parameters, or physical or chemical laws or properties. Examples of analytical methods include, but are not limited to:

(i) Use of material balances based on process stoichiometry to estimate maximum organic HAP or metal HAP concentrations;

(ii) Estimation of maximum flow rate based on physical equipment design such as pump or blower capacities;

(iii) Estimation of TOC, organic HAP, or metal HAP concentrations based on saturation conditions; or

(iv) Estimation of maximum expected net heating value based on the vent stream concentration of each organic compound or, alternatively, as if all TOC in the vent stream were the compound with the highest heating value.

(5) All data, assumptions, and procedures used in the engineering assessment shall be documented.

Equipment means each pump, compressor, agitator, pressure relief device, sampling connection system, open-ended valve or line, valve, connector, and instrumentation system in or associated with a CPMU.

Family of materials means a grouping of materials that have the same basic composition or the same basic end use or functionality; are produced using the same basic feedstocks, the same manufacturing equipment configuration and in the same sequence of steps; and whose production results in emissions of the same Table 1 HAP at approximately the same rate per pound of product produced. Examples of families of materials include multiple grades of same product or different variations of a product (e.g., blue, black and red resins).

Feedstock means any raw material, reactant, solvent, additive, or other material introduced to a CPMU.

Hazardous waste treatment, as used in the wastewater requirements, means treatment in any of the following units:

(1) A hazardous waste incinerator for which you have been issued a final permit under 40 CFR part 270 and comply with the requirements of 40 CFR part 264, subpart O, for which you have certified compliance with the interim status requirements of 40 CFR part 265, subpart O, or for which you have submitted a Notification of Compliance under 40 CFR 63.1207(j) and comply with the requirements of 40 CFR part 63, subpart EEE at all times (including times when non-hazardous waste is being burned);

(2) A process heater or boiler for which you have been issued a final permit under 40 CFR part 270 and comply with the requirements of 40 CFR part 266, subpart H, for which you have certified compliance with the interim status requirements of 40 CFR part 266, subpart H, or for which you have submitted a Notification of Compliance under 40 CFR 63.1207(j) and comply with the requirements of 40 CFR part 63, subpart EEE at all times (including times when non-hazardous waste is being burned); or

(3) An underground injection well for which you have been issued a final permit under 40 CFR part 270 or 40 CFR part 144 and comply with the requirements of 40 CFR part 122.

In metal HAP service means that a process vessel or piece of equipment either contains or contacts a feedstock, byproduct, or product that contains metal HAP. A process vessel is no longer in metal HAP service after the vessel has been emptied to the extent practicable (*i.e.*, a vessel with liquid left on process vessel walls or as bottom clingage, but not in pools, due to floor irregularity, is considered completely empty) and any cleaning has been completed.

In organic HAP service means that a process vessel or piece of equipment either contains or contacts a feedstock, byproduct, or product that contains an organic HAP, excluding any organic HAP used in manual cleaning activities. A process vessel is no longer in organic HAP service after the vessel has been emptied to the extent practicable (*i.e.*, a vessel with liquid left on process vessel walls or as bottom clingage, but not in pools, due to floor irregularity, is considered completely empty) and any cleaning has been completed.

In VOC service means that a process vessel or piece of equipment either contains or contacts a fluid that contains VOC.

Metal HAP means the compounds containing metals listed as HAP in section 112(b) of the CAA.

Metal HAP process vent means the point of discharge to the atmosphere (or inlet to a control device, if any) of a metal HAP-containing gas stream from any CMPU at an affected source containing at least 50 ppmv metal HAP. The metal HAP concentration may be determined using any of the following: process knowledge, an engineering assessment, or test data.

Organic HAP means any organic HAP listed in section 112(b) of the CAA. For the purposes of requirements in this subpart VVVVV, hydrazine is to be considered an organic HAP.

Point of determination means "point of determination" as defined in §63.111 in subpart G of this part, except:

(1) The reference to Table 8 or Table 9 compounds means Table 9 (subpart G) or Table 7 (subpart VVVVV) compounds;

(2) The reference to "as determined in §63.144 of this subpart" does not apply for the purposes of this subpart; and

(3) The point of determination is made at the point where the stream exits the CMPU. If a recovery device is used, the point of determination is after the last recovery device.

Process vessel means each vessel, except hand-held containers, used in the processing of raw materials to chemical products. Examples include, but are not limited to reactors, distillation units, centrifuges, mixing vessels, and process tanks.

Product means a compound or chemical which is manufactured as the intended product of the CMPU. Products include co-products. By-products, impurities, wastes, and trace contaminants are not considered products.

Reactive material means energetics, organic peroxides, and unstable chemicals such as chemicals that react violently with water and chemicals that vigorously polymerize, decompose, or become self-reactive under conditions of pressure or temperature.

Recovery device means an individual unit of equipment capable of and normally used for the purpose of recovering organic chemicals or metal-containing chemicals for fuel value (i.e., net positive heating value), use, reuse, or for sale for fuel value, use, or reuse. Examples of equipment that may be recovery devices include absorbers, carbon adsorbers, condensers, oil-water separators or organic-water separators, or organic removal devices such as decanters, strippers, or thin-film evaporation units.

Resinous material means a viscous, high-boiling point material resembling pitch or tar, such as plastic resin, that sticks to or hardens in the fill pipe under normal transfer conditions.

Shutdown, for a unit operation with a continuous process vent, means the cessation of the unit operation for any purpose. Shutdown begins with the initiation of steps as described in a written standard operating procedures (SOP) or shutdown plan to cease normal/stable operation (e.g., reducing or immediately stopping feed).

Startup, for a unit operation with a continuous process vent, means the setting in operation of the unit for any purpose. The period of startup ends upon completion of the transient, non-equilibrium step at the time operating conditions reach steady state for operating parameters such as temperature, pressure, composition, feed rate, and production rate. Periods of startup described by SOP manuals at the affected source may be used to determine the period of startup.

Storage tank means a tank or other vessel that is used to store liquids that contain organic HAP and that are part of a CMPU subject to this subpart VVVVVV. **The following are not considered storage tanks** for the purposes of this subpart:

- (1) Vessels permanently attached to motor vehicles such as trucks, railcars, barges, or ships;
- (2) Pressure vessels designed to operate in excess of 204.9 kilopascals (kPa) and without emissions to the atmosphere;
- (3) Process tanks;
- (4) **Tanks storing organic liquids containing HAP only as impurities;**
- (5) Surge control vessels;
- (6) Bottoms receivers; and
- (7) Wastewater storage tanks.

Transfer operations means all product loading into tank trucks and rail cars of liquid containing organic HAP from a transfer rack. Transfer operations do not include the loading to other types of containers such as cans, drums, and totes.

Transfer rack means the system used to load organic liquids into tank trucks and railcars at a single geographic site. It includes all loading arms, pumps, meters, shutoff valves, relief valves, and other piping and equipment necessary for the transfer operation. Transfer equipment that are physically separate (i.e., do not share common piping, valves, and other equipment) are considered to be separate transfer racks.

Uncontrolled emissions means organic HAP process vent emissions or metal HAP process vent emissions, as applicable, at the outlet of the last recovery device, if any, and prior to any control device. In the absence of both recovery devices and control devices, uncontrolled emissions are the emissions discharged to the atmosphere.

Wastewater means water that is discarded from a CMPU or control device and that contains at least 5 ppmw of any HAP listed in Table 9 to 40 CFR part 63, subpart G and has an annual average flow rate of 0.02 liters per minute. Wastewater means both process wastewater and maintenance wastewater that is discarded from a CMPU or control device. The following are not considered wastewater for the purposes of this subpart:

- (1) Stormwater from segregated sewers;
- (2) Water from fire-fighting and deluge systems, including testing of such systems;
- (3) Spills;
- (4) Water from safety showers;
- (5) Samples of a size not greater than reasonably necessary for the method of analysis that is used;
- (6) Equipment leaks;
- (7) Wastewater drips from procedures such as disconnecting hoses after cleaning lines; and
- (8) Noncontact cooling water.

Wastewater stream means a single point discharge of wastewater from a CMPU or control device.

Wastewater treatment means chemical, biological, and mechanical procedures applied to wastewater to remove or reduce HAP or other chemical constituents.

[74 FR 56041, Oct. 29, 2009, as amended at 77 FR 75759, Dec. 21, 2012]

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§63.11503 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by the U.S. EPA or a delegated authority such as a State, local, or tribal agency. If the U.S. EPA Administrator has delegated authority to a State, local, or tribal agency pursuant to 40 CFR part 63, subpart E, then that Agency has the authority to implement and enforce this subpart. You should contact your U.S. EPA Regional Office to find out if this subpart is delegated to a State, local, or tribal agency within your State.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under 40 CFR part 63, subpart E, the approval authorities contained in paragraphs (b)(1) through (4) of this section are retained by the Administrator of the U.S. EPA and are not transferred to the State, local, or tribal agency.

(1) Approval of an alternative non-opacity emissions standard under §63.6(g).

(2) Approval of a major change to a test method. A “major change to test method” is defined in §63.90.

(3) Approval of a major change to monitoring under §63.8(f). A “major change to monitoring” is defined in §63.90.

(4) Approval of a major change to recordkeeping/reporting under §63.10(f). A “major change to recordkeeping/reporting” is defined in §63.90.

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Table 1 to Subpart VVVVVV of Part 63—Hazardous Air Pollutants Used To Determine Applicability of Chemical Manufacturing Operations

As required in §63.11494(a), chemical manufacturing operations that process, use, or produce the HAP shown in the following table are subject to subpart VVVVVV.

Type of HAP	Chemical name	CAS No.
1. Organic compounds	a. 1,3-butadiene	106990
	b. 1,3-dichloropropene	542756
	c. Acetaldehyde	75070
	d. Chloroform	67663
	e. Ethylene dichloride	107062
	f. Hexachlorobenzene	118741
	g. Methylene chloride	75092
	h. Quinoline	91225
2. Metal compounds	a. Arsenic compounds	
	b. Cadmium compounds	
	c. Chromium compounds	
	d. Lead compounds	

	e. Manganese compounds	
	f. Nickel compounds	
3. Others	a. Hydrazine	302012

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Table 2 to Subpart VVVVV of Part 63—Emission Limits and Compliance Requirements for Batch Process Vents

As required in §63.11496, you must comply with the requirements for batch process vents as shown in the following table.

For * * *	You must * * *	Except * * *
1. Batch process vents in a CPMU at an existing source for which the total organic HAP emissions are equal to or greater than 10,000 lb/yr	a. Reduce collective uncontrolled total organic HAP emissions from the sum of all batch process vents by ≥85 percent by weight or to ≤20 ppmv by routing emissions from a sufficient number of the batch process vents through a closed vent system to any combination of control devices (except a flare) in accordance with the requirements of §63.982(c) and the requirements referenced therein; or	i. Compliance may be based on either total organic HAP or total organic carbon (TOC); and ii. As specified in §63.11496(g).
	b. Route emissions from batch process vents containing at least 85 percent of the uncontrolled total organic HAP through a closed-vent system to a flare (except that a flare may not be used to control halogenated vent streams) in accordance with the requirements of §63.982(b) and the requirements referenced therein; or	i. Not applicable.
	c. Comply with the alternative standard specified in §63.2505 and the requirements referenced therein; or	i. As specified in §63.11496(e) of this subpart.
	d. Comply with combinations of the requirements in Items a., b., and c. of this Table for different groups of batch process vents	i. The information specified above for Items a., b., and c., as applicable.
2. Batch process vents in a CPMU at a new source for which the total organic HAP emissions are equal to or greater than 10,000 lb/yr	a. Comply with any of the emission limits in Items 1.a through 1.d of this Table, except 90 percent reduction applies instead of 85 percent reduction in Item 1.a, and 90 percent of the emissions must be routed to a flare instead of 85 percent in Item 1.b	i. The information specified above for Items 1.a., 1.b., 1.c., and 1.d, as applicable.
3. Halogenated batch process vent stream at a new or existing source that is controlled through combustion	a. Comply with the requirements for halogen scrubbers in §63.11496(d).	

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Table 3 to Subpart VVVVV of Part 63—Emission Limits and Compliance Requirements for Continuous Process Vents

[As required in §63.11496, you must comply with the requirements for continuous process vents as shown in the following table]

For . . .	You must . . .	Except . . .
1. Each continuous process vent with a TRE ≤1.0	a. Reduce emissions of total organic HAP by ≥95 percent by weight (≥85 percent by weight for periods of startup or shutdown) or to ≤20 ppmv by routing emissions through a closed vent system to any combination of control devices (except a flare) in accordance with the requirements of §63.982(c) and the requirements referenced therein; or	i. Compliance may be based on either total organic HAP or TOC; and ii. As specified in §63.11496(g).
	b. Reduce emissions of total organic by HAP by routing all emissions through a closed-vent system to a flare (except that a flare may not be used to control halogenated vent streams) in accordance with the requirements of §63.982(b) and the requirements referenced therein, or	i. Not applicable.
	c. Comply with the alternative standard specified in §63.2505 and the requirements referenced therein	i. As specified in §63.11496(e).
2. Halogenated vent stream that is controlled through combustion	a. Comply with the requirements for halogen scrubbers in §63.11496(d).	
3. Each continuous process vent with a TRE >1.0 but ≤4.0	a. Comply with the requirements of §63.982(e) and the requirements specified therein if a recovery device, as defined in §63.11502, is used to maintain a TRE >1.0 but ≤4.0.	

[77 FR 75760, Dec. 21, 2012]

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Table 4 to Subpart VVVVV of Part 63—Emission Limits and Compliance Requirements for Metal HAP Process Vents

As required in §63.11496(f), you must comply with the requirements for metal HAP process vents as shown in the following table.

For * * *	You must * * *	Except * * *
Each CMPU with total metal HAP	Reduce collective uncontrolled emissions of total metal HAP emissions by ≥95 percent by weight by routing emissions from a sufficient number of the metal process vents through a closed-vent	Not applicable.

emissions \geq 400 lb/yr	system to any combination of control devices, according to the requirements of §63.11496(f)(3), (4), or (5)	
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Table 5 to Subpart VVVVV of Part 63—Emission Limits and Compliance Requirements for Storage Tanks

As required in §63.11497, you must comply with the requirements for storage tanks as shown in the following table.

For each * * *	You must * * *	Except * * *
1. Storage tank with a design capacity \geq 40,000 gallons, storing liquid that contains organic HAP listed in Table 1 to this subpart, and for which the maximum true vapor pressure (MTVP) of total organic HAP at the storage temperature is \geq 5.2 kPa and $<$ 76.6 kPa.	a. Comply with the requirements of subpart WW of this part;	i. All required seals must be installed by the compliance date in §63.11494.
	b. Reduce total organic HAP emissions by \geq 95 percent by weight by operating and maintaining a closed-vent system and control device (other than a flare) in accordance with §63.982(c); or	i. Compliance may be based on either total organic HAP or TOC; ii. When the term storage vessel is used in subpart SS of this part, the term storage tank, surge control vessel, or bottoms receiver, as defined in §63.11502 of this subpart, applies; and iii. The requirements do not apply during periods of planned routine maintenance of the control device, as specified in §63.11497(b).
	c. Reduce total HAP emissions by operating and maintaining a closed-vent system and a flare in accordance with §63.982(b); or	i. The requirements do not apply during periods of planned routine maintenance of the flare, as specified in §63.11497(b); and ii. When the term storage vessel is used in subpart SS of this part, it means storage tank, surge control vessel, or bottoms receiver, as defined in §63.11502 of this subpart.
	d. Vapor balance in accordance with §63.2470(e); or	i. To comply with §63.1253(f)(6)(i), the owner or operator of an offsite cleaning or reloading facility must comply with §63.11494 and §63.11502 instead of complying with §63.1253(f)(7)(ii), except as specified in item 1.d.ii and 1.2.iii of this table.

		<p>ii. The reporting requirements in §63.11501 do not apply to the owner or operator of the offsite cleaning or reloading facility.</p> <p>iii. As an alternative to complying with the monitoring, recordkeeping, and reporting provisions in §§63.11494 through 63.11502, the owner or operator of an offsite cleaning or reloading facility may comply as specified in §63.11500 with any other subpart of this part 63 which has monitoring, recordkeeping, and reporting provisions as specified in §63.11500.</p>
	e. Route emissions to a fuel gas system or process in accordance with the requirements in §63.982(d) and the requirements referenced therein.	i. When the term storage vessel is used in subpart SS of this part, it means storage tank, surge control vessel, or bottoms receiver, as defined in §63.11502.
2. Storage tank with a design capacity $\geq 20,000$ gallons and $< 40,000$ gallons, storing liquid that contains organic HAP listed in Table 1 to this subpart, and for which the MTVP of total organic HAP at the storage temperature is ≥ 27.6 kPa and < 76.6 kPa	a. Comply with one of the options in Item 1 of this table	i. The information specified above for Items 1.a., 1.b., 1.c., 1.d, and 1.e, as applicable.
3. Storage tank with a design capacity $\geq 20,000$ gallons, storing liquid that contains organic HAP listed in Table 1 to this subpart, and for which the MTVP of total organic HAP at the storage temperature is ≥ 76.6 kPa	a. Comply with option b, c, d, or e in Item 1 of this table	i. The information specified above for Items 1.b., 1.c., 1.d, and 1.e, as applicable.
4. Storage tank described by Item 1, 2, or 3 in this table and emitting a halogenated vent stream that is controlled with a combustion device	a. Reduce emissions of hydrogen halide and halogen HAP by ≥ 95 percent by weight, or to ≤ 0.45 kg/hr, or to ≤ 20 ppmv by using a halogen reduction device after the combustion device according to the requirements in §63.11496(d); or	
	b. Reduce the halogen atom mass emission rate to ≤ 0.45	

	kg/hr or to ≤20 ppmv by using a halogen reduction device before the combustion device according to the requirements in §63.11496(d).	
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[74 FR 56041, Oct. 29, 2009, as amended at 77 FR 75760, Dec. 21, 2012]

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Table 6 to Subpart VVVVV of Part 63—Emission Limits and Compliance Requirements for Wastewater Systems

[As required in §63.11498, you must comply with the requirements for wastewater systems as shown in the following table]

For each . . .	You must . . .	And you must . . .
1. Wastewater stream	a. Discharge to onsite or offsite wastewater treatment or hazardous waste treatment	i. Maintain records identifying each wastewater stream and documenting the type of treatment that it receives. Multiple wastewater streams with similar characteristics and from the same type of activity in a CMPU may be grouped together for recordkeeping purposes.
2. Wastewater stream containing partially soluble HAP at a concentration ≥10,000 ppmw and separate organic and water phases	a. Use a decanter, steam stripper, thin film evaporator, or distillation unit to separate the water phase from the organic phase(s); or	i. For the water phase, comply with the requirements in Item 1 of this table, and ii. For the organic phase(s), recycle to a process, use as fuel, or dispose as hazardous waste either onsite or offsite, and iii. Keep records of the wastewater streams subject to this requirement and the disposition of the organic phase(s).
	b. Hard pipe the entire wastewater stream to onsite treatment as a hazardous waste, or hard pipe the entire wastewater stream to a point of transfer to onsite or offsite hazardous waste treatment.	i. Keep records of the wastewater streams subject to this requirement and the disposition of the wastewater streams.

[77 FR 75761, Dec. 21, 2012]

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Table 7 to Subpart VVVVV of Part 63—Partially Soluble HAP

As required in §63.11498(a), you must comply with emission limits for wastewater streams that contain the partially soluble HAP listed in the following table.

Partially soluble HAP name	CAS No.
1. 1,1,1-Trichloroethane (methyl chloroform)	71556
2. 1,1,2,2-Tetrachloroethane	79345
3. 1,1,2-Trichloroethane	79005
4. 1,1-Dichloroethylene (vinylidene chloride)	75354
5. 1,2-Dibromoethane	106934
6. 1,2-Dichloroethane (ethylene dichloride)	107062
7. 1,2-Dichloropropane	78875
8. 1,3-Dichloropropene	542756
9. 2,4,5-Trichlorophenol	95954
10. 1,4-Dichlorobenzene	106467
11. 2-Nitropropane	79469
12. 4-Methyl-2-pentanone (MIBK)	108101
13. Acetaldehyde	75070
14. Acrolein	107028
15. Acrylonitrile	107131
16. Allyl chloride	107051
17. Benzene	71432
18. Benzyl chloride	100447
19. Biphenyl	92524
20. Bromoform (tribromomethane)	75252
21. Bromomethane	74839
22. Butadiene	106990
23. Carbon disulfide	75150
24. Chlorobenzene	108907
25. Chloroethane (ethyl chloride)	75003
26. Chloroform	67663
27. Chloromethane	74873
28. Chloroprene	126998
29. Cumene	98828
30. Dichloroethyl ether	111444

31. Dinitrophenol	51285
32. Epichlorohydrin	106898
33. Ethyl acrylate	140885
34. Ethylbenzene	100414
35. Ethylene oxide	75218
36. Ethylidene dichloride	75343
37. Hexachlorobenzene	118741
38. Hexachlorobutadiene	87683
39. Hexachloroethane	67721
40. Methyl methacrylate	80626
41. Methyl-t-butyl ether	1634044
42. Methylene chloride	75092
43. N-hexane	110543
44. N,N-dimethylaniline	121697
45. Naphthalene	91203
46. Phosgene	75445
47. Propionaldehyde	123386
48. Propylene oxide	75569
49. Styrene	100425
50. Tetrachloroethylene (per- chloroethylene)	127184
51. Tetrachloromethane (carbon tetrachloride)	56235
52. Toluene	108883
53. Trichlorobenzene (1,2,4-)	120821
54. Trichloroethylene	79016
55. Trimethylpentane	540841
56. Vinyl acetate	108054
57. Vinyl chloride	75014
58. Xylene (m)	108383
59. Xylene (o)	95476
60. Xylene (p)	106423

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Table 8 to Subpart VVVVV of Part 63—Emission Limits and Compliance Requirements for Heat Exchange Systems

[As required in §63.11499, you must comply with the requirements for heat exchange systems as shown in the following table]

For . . .	You must . . .	Except . . .
1. Each heat exchange system with a cooling water flow rate ≥8,000 gal/min and not meeting one or more of the conditions in §63.104(a)	a. Comply with the monitoring requirements in §63.104(c), the leak repair requirements in §63.104(d) and (e), and the recordkeeping and reporting requirements in §63.104(f); or	i. The reference to monthly monitoring for the first 6 months in §63.104(b)(1) and (c)(1)(iii) does not apply. Monitoring shall be no less frequent than quarterly; ii. The reference in §63.104(f)(1) to record retention requirements in §63.103(c)(1) does not apply. Records must be retained as specified in §§63.10(b)(1) and 63.11501(c); and iii. The reference in §63.104(f)(2) to “the next semi-annual periodic report required by §63.152(c)” means the next semi-annual compliance report required by §63.11501(f).
	b. Comply with the heat exchange system requirements in §63.104(b) and the requirements referenced therein.	i. Not applicable.

[77 FR 75762, Dec. 21, 2012]

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Table 9 to Subpart VVVVV of Part 63—Applicability of General Provisions to Subpart VVVVV

As required in §63.11501(a), you must comply with the requirements of the NESHAP General Provisions (40 CFR part 63, subpart A) as shown in the following table.

Citation	Subject	Applies to Subpart VVVVV?	Explanation
63.1(a)(1), (a)(2), (a)(3), (a)(4), (a)(6), (a)(10)-(a)(12) (b)(1), (b)(3), (c)(1), (c)(2), (c)(5), (e)	Applicability	Yes	
63.1(a)(5), (a)(7)-(a)(9), (b)(2), (c)(3), (c)(4), (d)	Reserved	No	
63.2	Definitions	Yes	

63.3	Units and Abbreviations	Yes	
63.4	Prohibited Activities and Circumvention	Yes	
63.5	Preconstruction Review and Notification Requirements	Yes	
63.6(a), (b)(1)-(b)(5), (b)(7), (c)(1), (c)(2), (c)(5), (e)(1)(iii), (g), (i), (j)	Compliance with Standards and Maintenance Requirements	Yes	
63.6(b)(6), (c)(3), (c)(4), (d), (h)(3), (h)(5)(iv)	Reserved	No	
63.6(e)(1)(i) and (ii), (e)(3), and (f)(1)	SSM Requirements	No	See §63.11495(d) for general duty requirement.
63.6(h)(1)-(h)(4), (h)(5)(i)-(h)(5)(iii), (h)(6)-(h)(9)		No	Subpart VVVVVV does not include opacity or visible emissions (VE) standards or require a continuous opacity monitoring system (COMS).
63.7(a)(1), (a)(3), (a)(4), (c), (e)(4), and (f)-(h)	Performance Testing Requirements	Yes	
63.7(a)(2), (b), (d), (e)(2)-(e)(3)	Performance Testing Schedule, Notification of Performance Test, Performance Testing Facilities, and Conduct of Performance Tests	Yes/No	Requirements apply if conducting test for metal HAP control; requirements in §§63.997(c)(1), (d), (e), and 63.999(a)(1) apply, as referenced in §63.11496(g), if conducting test for organic HAP or hydrogen halide and halogen HAP control device.
63.7(e)(1)	Performance Testing	No	See §63.11496(f)(3)(ii) if conducting a test for metal HAP emissions. See §§63.11496(g) and 63.997(e)(1) if conducting a test for continuous process vents or for hydrogen halide and halogen emissions. See §§63.11496(g) and 63.2460(c) if conducting a test for batch process vents.
63.8(a)(1), (a)(4), (b), (c)(1)(ii), (c)(2)-(c)(3), (f)(1)-(5)	Monitoring Requirements	Yes	
63.8(a)(2)	Monitoring Requirements	No	
63.8(a)(3)	Reserved	No	

63.8(c)(1)(i)	General Duty to Minimize Emissions and CMS Operation	No	
63.8(c)(1)(iii)	Requirement to Develop SSM Plan for CMS	No	
63.8(c)(4)		Yes	Only for CEMS. CPMS requirements in 40 CFR part 63, subpart SS are referenced from §63.11496. Requirements for COMS do not apply because subpart VVVVVV does not require COMS.
63.8(c)(5)		No	Subpart VVVVVV does not require COMS.
63.8(c)(6)-(c)(8), (d)(1)-(d)(2), (e), (f)(6)		Yes	Requirements apply only if you use a continuous emission monitoring system (CEMS) to demonstrate compliance with the alternative standard in §63.11496(e).
63.8(d)(3)	Written Procedures for CMS	Yes	Requirement applies except for last sentence, which refers to an SSM plan. SSM plans are not required.
63.8(g)(1)-(g)(4)		Yes	Data reduction requirements apply only if you use CEMS to demonstrate compliance with alternative standard in §63.11496(e). COMS requirements do not apply. Requirement in §63.8(g)(2) does not apply because data reduction for CEMS are specified in 40 CFR part 63, subpart FFFF.
63.8(g)(5)		No	Data reduction requirements for CEMS are specified in §63.2450(j)(4), as referenced from §63.11496. CPMS requirements are specified in 40 CFR part 63, subpart SS, as referenced from §63.11496.
63.9(a), (b)(1), (b)(2), (b)(4), (b)(5), (c), (d), (e), (i)	Notification Requirements	Yes	
63.9(b)(3), (h)(4)	Reserved	No	
63.9(f)		No	Subpart VVVVVV does not contain opacity or VE limits.
63.9(g)		Yes	Additional notification requirement applies only if you use CEMS to demonstrate compliance with alternative standard in §63.11496(e).

63.9(h)(1)-(h)(3), (h)(5)-(h)(6)		Yes	Except subpart VVVVV does not contain opacity or VE limits.
63.9(i)		Yes	
63.9(j)	Change in Information Already Provided	No	Notification of process changes that affect a compliance determination are required in §63.11501(d)(4).
63.10(a)	Recordkeeping Requirements	Yes	
63.10(b)(1)		Yes	
63.10(b)(2)(i)	Recordkeeping of Occurrence and Duration of Startups and Shutdowns	No	See §63.11501(c)(8) for recordkeeping of occurrence and duration of each startup and shutdown for continuous process vents that are subpart to Table 3 to this subpart.
63.10(b)(2)(ii)	Recordkeeping of Malfunctions	No	See §63.11501(c)(1)(vii) and (viii) for recordkeeping of (1) date, time, duration, and volume of excess emissions and (2) actions taken during malfunction.
63.10(b)(2)(iii)	Maintenance Records	Yes	
63.10(b)(2)(iv) and (v)	Actions Taken to Minimize Emissions During SSM	No	
63.10(b)(2)(vi), (x), (xi), (xiii)		Yes	Apply only if you use CEMS to demonstrate compliance with alternative standard in §63.11496(e).
63.10(b)(2)(vii)- (b)(2)(ix), (b)(2)(xii), (b)(2)(xiv)		Yes	
63.10(b)(3)		Yes	
63.10(c)(1), (c)(5)- (c)(6), (c)(13)-(c)(14)		Yes	Apply only if you use CEMS to demonstrate compliance with alternative standard in §63.11496(e).
63.10(c)(7)-(8)	Additional Recordkeeping Requirements for CMS—Identifying Exceedances and Excess Emissions	Yes	
63.10(c)(10)	Recordkeeping Nature and Cause of Malfunctions	No	See §63.11501(c)(1)(vii) and (viii) for malfunctions recordkeeping requirements.

63.10(c)(11)	Recording Corrective Actions	No	See §63.11501(c)(1)(vii) and (viii) for malfunctions recordkeeping requirements.
63.10(c)(12)		Yes	
63.10(c)(15)	Use of SSM Plan	No	
63.10(c)(2)-(c)(4), (c)(9)	Reserved	No	
63.10(d)(1), (d)(2), (d)(4), (e)(1), (e)(2), (f)	Reporting Requirements	Yes	
63.10(d)(3)		No	Subpart VVVVVV does not include opacity or VE limits.
63.10(d)(5)	SSM Reports	No	See §63.11501(d)(8) for reporting requirements for malfunctions.
63.10(e)(1)-(e)(2)		Yes	Apply only if you use CEMS to demonstrate compliance with alternative standard in §63.11496(e).
63.10(e)(3)		Yes	
63.10(e)(4)		No	Subpart VVVVVV does not include opacity or VE limits.
63.11	Control Device Requirements	Yes	
63.12	State Authorities and Delegations	Yes	
63.13	Addresses	Yes	
63.14	Incorporations by Reference	Yes	
63.15	Availability of Information and Confidentiality	Yes	
63.16	Performance Track Provisions	Yes	

§63.2450

(k) *Continuous parameter monitoring.* The provisions in paragraphs (k)(1) through (8) of this section apply in addition to the requirements for continuous parameter monitoring system (CPMS) in subpart SS of this part.

(1) You must comply with paragraphs (k)(1)(i) and (ii) of this section.

(i) Except as specified in paragraph (k)(1)(ii) of this section, record the results of each calibration check and all maintenance performed on the CPMS as specified in §63.998(c)(1)(ii)(A).

(ii) Beginning no later than the compliance dates specified in §63.2445(g), paragraph (k)(1)(i) of this section no longer applies. Instead, you must record the results of each calibration check and all maintenance performed on the CPMS as specified in §63.998(c)(1)(ii)(A), except you must record all maintenance, not just preventative maintenance.

(2) When subpart SS of this part 63 uses the term “a range” or “operating range” of a monitored parameter, it means an “operating limit” for a monitored parameter for the purposes of this subpart.

(3) As an alternative to continuously measuring and recording pH as specified in §§63.994(c)(1)(i) and 63.998(a)(2)(ii)(D), you may elect to continuously monitor and record the caustic strength of the effluent. For halogen scrubbers used to control only batch process vents you may elect to monitor and record either the pH or the caustic strength of the scrubber effluent at least once per day.

(4) As an alternative to the inlet and outlet temperature monitoring requirements for catalytic incinerators as specified in §63.988(c)(2) and the related recordkeeping requirements specified in §63.998(a)(2)(ii)(B)(2) and (c)(2)(ii), you may elect to comply with the requirements specified in paragraphs (k)(4)(i) through (iv) of this section.

(i) Monitor and record the inlet temperature as specified in subpart SS of this part 63.

(ii) Check the activity level of the catalyst at least every 12 months and take any necessary corrective action, such as replacing the catalyst to ensure that the catalyst is performing as designed.

(iii) Maintain records of the annual checks of catalyst activity levels and the subsequent corrective actions.

(iv) Recording the downstream temperature and temperature difference across the catalyst bed as specified in §63.998(a)(2)(ii)(B)(2) and (c)(2)(ii) is not required.

(5) For absorbers that control organic compounds and use water as the scrubbing fluid, you must conduct monitoring and recordkeeping as specified in paragraphs (k)(5)(i) through (iii) of this section instead of the monitoring and recordkeeping requirements specified in §§63.990(c)(1), 63.993(c)(1), and 63.998(a)(2)(ii)(C).

(i) You must use a flow meter capable of providing a continuous record of the absorber influent liquid flow.

(ii) You must determine gas stream flow using one of the procedures specified in §63.994(c)(1)(ii)(A) through (D).

(iii) You must record the absorber liquid-to-gas ratio averaged over the time period of any performance test.

(6) For a control device with total inlet HAP emissions less than 1 tpy, you must establish an operating limit(s) for a parameter(s) that you will measure and record at least once per averaging period (i.e., daily or block) to verify that the control device is operating properly. You may elect to

measure the same parameter(s) that is required for control devices that control inlet HAP emissions equal to or greater than 1 tpy. If the parameter will not be measured continuously, you must request approval of your proposed procedure in the precompliance report. You must identify the operating limit(s) and the measurement frequency, and you must provide rationale to support how these measurements demonstrate the control device is operating properly.

§63.994(c)(1)(ii)(A) through (D)

Gas stream flow shall be determined using one of the procedures specified in paragraphs (c)(1)(ii)(A) through (D) of this section.

(A) The owner or operator may determine gas stream flow using the design blower capacity, with appropriate adjustments for pressure drop.

(B) The owner or operator may measure the gas stream flow at the scrubber inlet.

(C) If the scrubber is subject to regulations in 40 CFR parts 264 through 266 that have required a determination of the liquid to gas (L/G) ratio prior to the applicable compliance date for the process unit of which it is part as specified in a referencing subpart, the owner or operator may determine gas stream flow by the method that had been utilized to comply with those regulations. A determination that was conducted prior to that compliance date may be utilized to comply with this subpart if it is still representative.

(D) The owner or operator may prepare and implement a gas stream flow determination plan that documents an appropriate method that will be used to determine the gas stream flow. The plan shall require determination of gas stream flow by a method that will at least provide a value for either a representative or the highest gas stream flow anticipated in the scrubber during representative operating conditions other than start-ups, shutdowns, or malfunctions. The plan shall include a description of the methodology to be followed and an explanation of how the selected methodology will reliably determine the gas stream flow, and a description of the records that will be maintained to document the determination of gas stream flow. The owner or operator shall maintain the plan as specified in a referencing subpart.



PERMIT APPLICATION FOR AIR POLLUTION CONTROL EQUIPMENT

NORTH DAKOTA DEPARTMENT OF ENVIRONMENTAL QUALITY
 DIVISION OF AIR QUALITY
 SFN 8532 (9-2021)

NOTE: READ INSTRUCTIONS BEFORE COMPLETING THIS FORM.

- **Must also include forms SFN 8516 or SFN 52858**

SECTION A – GENERAL INFORMATION

Name of Firm or Organization	Facility Name
Source ID No. of Equipment being Controlled	

SECTION B – EQUIPMENT

Type:	<input type="checkbox"/> Cyclone	<input type="checkbox"/> Multiclone	<input type="checkbox"/> Baghouse	<input type="checkbox"/> Electrostatic Precipitator
	<input type="checkbox"/> Wet Scrubber	<input type="checkbox"/> Spray Dryer	<input type="checkbox"/> Flare/Combustor	
	<input type="checkbox"/> Other – Specify:	Fuel grade and USP grade ethanol distillation and evaporation processes controlled by a regenerative thermal oxidizer.		
Name of Manufacturer	Model Number	Date to Be Installed		
Application:	<input type="checkbox"/> Boiler	<input type="checkbox"/> Kiln	<input type="checkbox"/> Engine	<input type="checkbox"/> Other – Specify:
Pollutants Removed				
Design Efficiency (%)				
Operating Efficiency (%)				
Describe method used to determine operating efficiency:				

SECTION CD – GAS CONDITIONS

Gas Conditions		Inlet	Outlet
Gas Volume (SCFM; 68°F; 14.7 psia)			
Gas Temperature (°F)			
Gas Pressure (in. H ₂ O)			
Gas Velocity (ft/sec)			
Pollutant Concentration (Specify Pollutant and Unit of Concentration)	Pollutant	Unit of Concentration	
Pressure Drop Through Gas Cleaning Device (in. H ₂ O)			

INSTRUCTIONS FOR PERMIT APPLICATION FOR AIR POLLUTION CONTROL EQUIPMENT

1. Complete this form for each piece of equipment or process, which has air pollution control equipment installed, described in the following Permit Applications: Hazardous Air Pollutant (HAP) Sources (SFN 8329), Fuel Burning Equipment for Indirect Heating (SFN 8518); Manufacturing or Processing Equipment (SFN 8520); Incinerators/Crematories (SFN 8522); Internal Combustion Engines and Turbines (SFN 8891); and Glycol Dehydration Units (SFN 58923). Print or type all information. If an item does not apply, place NA in the appropriate space.
2. Type of Equipment - If the type is not one of those listed; provide enough information so the operating principal of the equipment can be determined.
3. List each pollutant which the device is intended to control, the efficiency of removal intended by the designer, and the actual efficiency under operating conditions.
4. Please attach the following:
 - A brief description and sketch of the air pollution control device if it is of unusual design or used in conjunction with other control devices. Show any bypass of the device and specify the conditions under which the bypass is used.
 - A description of what is done with collected air contaminants from the time they are collected until they reach the final disposal point. Include a description of the transportation methods used.
 - If a stack test has been conducted, attach a copy of the results, date of the test, a description of the techniques used, and the name and address of the organization which performed the test.
5. If the control device is a combustor (e.g.: thermal oxidizer, vapor combustion unit, etc.), include an estimate of potential greenhouse gas emissions (CO₂e).

SUBMIT YOUR APPLICATION WITH ALL SUPPORTING DOCUMENTS, ALONG WITH THE FORMS SPECIFIED IN THE FIRST PARAGRAPH ABOVE, TO:

North Dakota Department of Environmental Quality
Division of Air Quality
4201 Normandy Street, 2nd Floor
Bismarck, ND 58503-1324
(701) 328-5188



PERMIT APPLICATION FOR VOLATILE ORGANIC COMPOUNDS STORAGE TANK

NORTH DAKOTA DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF AIR QUALITY
SFN 8535 (9-2021)

NOTE: READ INSTRUCTIONS BEFORE COMPLETING THIS FORM.
- Must include SFN 8516 or SFN 52858

SECTION A – GENERAL INFORMATION

Name of Firm or Organization Red Trail Energy, LLC	Facility Name Red Trail Energy, LLC
---	--

SECTION B – TANK DATA

Source ID Number (From SFN 8516) T12				
Capacity	Barrels		Gallons 175,000	
Dimensions	Diameter 33.17 ft	Height 30 ft	Length	Width
Shape	<input checked="" type="checkbox"/> Cylindrical		<input type="checkbox"/> Spherical	<input type="checkbox"/> Other – Specify:
Materials of Construction (i.e., steel)	Steel			
Construction	<input type="checkbox"/> Riveted		<input checked="" type="checkbox"/> Welded	<input type="checkbox"/> Other – Specify:
Color	White			
Condition	<input type="checkbox"/> Good		<input checked="" type="checkbox"/> Fair	<input type="checkbox"/> Poor
Status	<input checked="" type="checkbox"/> New Construction		<input type="checkbox"/> Alteration	<input type="checkbox"/> Existing (Give Date Constructed):
Type of Tank	<input type="checkbox"/> Fixed Roof		<input type="checkbox"/> External Floating	<input checked="" type="checkbox"/> Internal Floating
	<input type="checkbox"/> Variable Vapor Space		<input type="checkbox"/> Other – Specify:	
	<input type="checkbox"/> Pressure (low or high)			
Type of Roof	<input type="checkbox"/> Pan	<input type="checkbox"/> Double Deck	<input checked="" type="checkbox"/> Pontoon	<input type="checkbox"/> Other – Specify:
Type of Seal	Metallic Shoe Seal	Liquid Mounted Resilient Seal	Vapor Mounted Resilient Seal	
	<input type="checkbox"/> Primary Seal Only	<input type="checkbox"/> Primary Seal Only	<input checked="" type="checkbox"/> Primary Seal Only	
	<input type="checkbox"/> With Rim Mounted Seal	<input type="checkbox"/> With Rim Mounted Seal	<input type="checkbox"/> With Rim Mounted Seal	
	<input type="checkbox"/> With Shoe Mounted Secondary Seal	<input type="checkbox"/> With Weather Shield	<input type="checkbox"/> With Weather Shield	

SECTION C – TANK CONTENTS

Name all liquids, vapors, gases, or mixtures of such materials to be stored in the tank. Give density (lbs per gal) or A.P.I. Ethyl Alcohol 6.59 lb/gal

SECTION D – VAPOR DISPOSAL

<input checked="" type="checkbox"/> Atmosphere	<input type="checkbox"/> Vapor Recovery Unit	<input type="checkbox"/> Flare	<input type="checkbox"/> Enclosed Combustor	<input type="checkbox"/> Other – Specify:
--	--	--------------------------------	---	---

SECTION E – VAPOR PRESSURE DATA

psia	
Maximum True Vapor Pressure 1.031	Maximum Reid Vapor Pressure

SECTION F – OPERATIONAL DATA

Maximum Filling Rate (barrels per hour or gallons per hour) 2,700 gal/hr	Vapor Space Outage (See AP-42, 7.1-92, Equation 1-15) 26.05
Average Throughput (barrels per day or gallons per day) 64,800 gal/day	Tank Turnovers per Year 135.15

SECTION G – SOLUTION STORAGE

If material stored is a solution, supply the following information:	
Name of Solvent	Name of Material Dissolved
Concentration of Material Dissolved (% by weight or % by volume or lbs/gal)	

SECTION H – AIR CONTAMINANTS EMITTED

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
VOC	0.034	0.149	AP-42 Chapter 7 Tank Calculator

* Include an estimate of greenhouse gas emissions (CO₂e)

SECTION I – STANDARDS OF PERFORMANCE

Tank subject to: 40 CFR 60, Subpart K 40 CFR 60, Subpart Ka 40 CFR 60, Subpart Kb

40 CFR 60, Subpart OOOO 40 CFR 60, Subpart OOOOa

Are the standards of performance for new stationary sources; petroleum liquid storage vessels, 40 CFR Part 60, Subparts K, Ka, and Kb, OOOO, OOOOa being adhered to, where applicable?

Yes No – Explain:

SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:

North Dakota Department of Environmental Quality
 Division of Air Quality
 4201 Normandy Street, 2nd Floor
 Bismarck, ND 58503-1324
 (701) 328-5188



PERMIT APPLICATION FOR VOLATILE ORGANIC COMPOUNDS STORAGE TANK

NORTH DAKOTA DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF AIR QUALITY
SFN 8535 (9-2021)

NOTE: READ INSTRUCTIONS BEFORE COMPLETING THIS FORM.
- Must include SFN 8516 or SFN 52858

SECTION A – GENERAL INFORMATION

Name of Firm or Organization Red Trail Energy, LLC	Facility Name Red Trail Energy, LLC
---	--

SECTION B – TANK DATA

Source ID Number (From SFN 8516) T13				
Capacity	Barrels		Gallons 750,000	
Dimensions	Diameter 43.88ft	Height 54 ft	Length	Width
Shape	<input checked="" type="checkbox"/> Cylindrical		<input type="checkbox"/> Spherical	<input type="checkbox"/> Other – Specify:
Materials of Construction (i.e., steel)	Steel			
Construction	<input type="checkbox"/> Riveted		<input checked="" type="checkbox"/> Welded	<input type="checkbox"/> Other – Specify:
Color	White			
Condition	<input type="checkbox"/> Good		<input checked="" type="checkbox"/> Fair	<input type="checkbox"/> Poor
Status	<input checked="" type="checkbox"/> New Construction		<input type="checkbox"/> Alteration	<input type="checkbox"/> Existing (Give Date Constructed):
Type of Tank	<input type="checkbox"/> Fixed Roof		<input type="checkbox"/> External Floating	<input checked="" type="checkbox"/> Internal Floating
	<input type="checkbox"/> Variable Vapor Space		<input type="checkbox"/> Other – Specify:	
	<input type="checkbox"/> Pressure (low or high)			
Type of Roof	<input type="checkbox"/> Pan	<input type="checkbox"/> Double Deck	<input checked="" type="checkbox"/> Pontoon	<input type="checkbox"/> Other – Specify:
Type of Seal	Metallic Shoe Seal	Liquid Mounted Resilient Seal	Vapor Mounted Resilient Seal	
	<input type="checkbox"/> Primary Seal Only	<input type="checkbox"/> Primary Seal Only	<input checked="" type="checkbox"/> Primary Seal Only	
	<input type="checkbox"/> With Rim Mounted Seal	<input type="checkbox"/> With Rim Mounted Seal	<input type="checkbox"/> With Rim Mounted Seal	
	<input type="checkbox"/> With Shoe Mounted Secondary Seal	<input type="checkbox"/> With Weather Shield	<input type="checkbox"/> With Weather Shield	

SECTION C – TANK CONTENTS

Name all liquids, vapors, gases, or mixtures of such materials to be stored in the tank. Give density (lbs per gal) or A.P.I. Ethyl Alcohol 6.59 lb/gal

SECTION D – VAPOR DISPOSAL

<input checked="" type="checkbox"/> Atmosphere	<input type="checkbox"/> Vapor Recovery Unit	<input type="checkbox"/> Flare	<input type="checkbox"/> Enclosed Combustor	<input type="checkbox"/> Other – Specify:
--	--	--------------------------------	---	---

SECTION E – VAPOR PRESSURE DATA

psia	
Maximum True Vapor Pressure 1.031	Maximum Reid Vapor Pressure

SECTION F – OPERATIONAL DATA

Maximum Filling Rate (barrels per hour or gallons per hour) 2,700 gal/hr	Vapor Space Outage (See AP-42, 7.1-92, Equation 1-15) 34.46
Average Throughput (barrels per day or gallons per day) 64,800 gal/day	Tank Turnovers per Year 31.54

SECTION G – SOLUTION STORAGE

If material stored is a solution, supply the following information:	
Name of Solvent	Name of Material Dissolved
Concentration of Material Dissolved (% by weight or % by volume or lbs/gal)	

SECTION H – AIR CONTAMINANTS EMITTED

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
VOC	0.035	0.153	AP-42 Chapter 7 Tank Calculator

* Include an estimate of greenhouse gas emissions (CO₂e)

SECTION I – STANDARDS OF PERFORMANCE

Tank subject to: 40 CFR 60, Subpart K 40 CFR 60, Subpart Ka 40 CFR 60, Subpart Kb

40 CFR 60, Subpart OOOO 40 CFR 60, Subpart OOOOa

Are the standards of performance for new stationary sources; petroleum liquid storage vessels, 40 CFR Part 60, Subparts K, Ka, and Kb, OOOO, OOOOa being adhered to, where applicable?

Yes No – Explain:

SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:

North Dakota Department of Environmental Quality
 Division of Air Quality
 4201 Normandy Street, 2nd Floor
 Bismarck, ND 58503-1324
 (701) 328-5188



PERMIT APPLICATION FOR VOLATILE ORGANIC COMPOUNDS STORAGE TANK

NORTH DAKOTA DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF AIR QUALITY
SFN 8535 (9-2021)

NOTE: READ INSTRUCTIONS BEFORE COMPLETING THIS FORM.
- Must include SFN 8516 or SFN 52858

SECTION A – GENERAL INFORMATION

Name of Firm or Organization Red Trail Energy, LLC	Facility Name Red Trail Energy, LLC
---	--

SECTION B – TANK DATA

Source ID Number (From SFN 8516) T14				
Capacity	Barrels		Gallons 2,300	
Dimensions	Diameter 7ft	Height 5.5 ft	Length	Width
Shape	<input checked="" type="checkbox"/> Cylindrical		<input type="checkbox"/> Spherical	<input type="checkbox"/> Other – Specify:
Materials of Construction (i.e., steel)	Steel			
Construction	<input type="checkbox"/> Riveted		<input type="checkbox"/> Welded	<input type="checkbox"/> Other – Specify:
Color	White			
Condition	<input type="checkbox"/> Good		<input checked="" type="checkbox"/> Fair	<input type="checkbox"/> Poor
Status	<input checked="" type="checkbox"/> New Construction		<input type="checkbox"/> Alteration	<input type="checkbox"/> Existing (Give Date Constructed):
Type of Tank	<input checked="" type="checkbox"/> Fixed Roof		<input type="checkbox"/> External Floating	<input type="checkbox"/> Internal Floating
	<input type="checkbox"/> Variable Vapor Space		<input type="checkbox"/> Other – Specify:	
	<input type="checkbox"/> Pressure (low or high)			
Type of Roof	<input type="checkbox"/> Pan	<input type="checkbox"/> Double Deck	<input type="checkbox"/> Pontoon	<input checked="" type="checkbox"/> Other – Specify: Fixed Roof
Type of Seal	Metallic Shoe Seal	Liquid Mounted Resilient Seal	Vapor Mounted Resilient Seal	
	<input type="checkbox"/> Primary Seal Only	<input type="checkbox"/> Primary Seal Only	<input type="checkbox"/> Primary Seal Only	
	<input type="checkbox"/> With Rim Mounted Seal	<input type="checkbox"/> With Rim Mounted Seal	<input type="checkbox"/> With Rim Mounted Seal	
	<input type="checkbox"/> With Shoe Mounted Secondary Seal	<input type="checkbox"/> With Weather Shield	<input type="checkbox"/> With Weather Shield	

SECTION C – TANK CONTENTS

Name all liquids, vapors, gases, or mixtures of such materials to be stored in the tank. Give density (lbs per gal) or A.P.I.
Corrosion Inhibitor 8.59 lb/gal

SECTION D – VAPOR DISPOSAL

<input checked="" type="checkbox"/> Atmosphere	<input type="checkbox"/> Vapor Recovery Unit	<input type="checkbox"/> Flare	<input type="checkbox"/> Enclosed Combustor	<input type="checkbox"/> Other – Specify:
--	--	--------------------------------	---	---

SECTION E – VAPOR PRESSURE DATA

psia	
Maximum True Vapor Pressure 0.01	Maximum Reid Vapor Pressure

SECTION F – OPERATIONAL DATA

Maximum Filling Rate (barrels per hour or gallons per hour) 0.4gal/hr	Vapor Space Outage (See AP-42, 7.1-92, Equation 1-15) 2.75
Average Throughput (barrels per day or gallons per day) 10 gal/day	Tank Turnovers per Year 1.53

SECTION G – SOLUTION STORAGE

If material stored is a solution, supply the following information:	
Name of Solvent	Name of Material Dissolved
Concentration of Material Dissolved (% by weight or % by volume or lbs/gal)	

SECTION H – AIR CONTAMINANTS EMITTED

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
VOC	1.36E-08	1.19E-04	AP-42 Chapter 7 Tank Calculator

* Include an estimate of greenhouse gas emissions (CO₂e)

SECTION I – STANDARDS OF PERFORMANCE

Tank subject to: 40 CFR 60, Subpart K 40 CFR 60, Subpart Ka 40 CFR 60, Subpart Kb

40 CFR 60, Subpart OOOO 40 CFR 60, Subpart OOOOa

Are the standards of performance for new stationary sources; petroleum liquid storage vessels, 40 CFR Part 60, Subparts K, Ka, and Kb, OOOO, OOOOa being adhered to, where applicable?

Yes No – Explain:

Not applicable

SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:

North Dakota Department of Environmental Quality
 Division of Air Quality
 4201 Normandy Street, 2nd Floor
 Bismarck, ND 58503-1324
 (701) 328-5188



PERMIT APPLICATION FOR TITLE V PERMIT TO OPERATE
 NORTH DAKOTA DEPARTMENT OF ENVIRONMENTAL QUALITY
 DIVISION OF AIR QUALITY
 SFN 52858 (9-2021)

SECTION A - FACILITY INFORMATION

Name of Firm or Organization				
Responsible Person				
Title		Telephone Number		E-mail Address
Mailing Address (Street & Number)				
City		State		ZIP Code
Contact Person for Air Pollution Matters				
Title		Telephone Number		E-mail Address
Mailing Address (Street & Number)				
City		State		ZIP Code
Facility Name				
Facility Address (Street & Number)				
City		State		ZIP Code
County	Latitude (decimal degrees)		Longitude (decimal degrees)	
Legal Description of Facility Site				
Quarter	Quarter	Section	Township	Range
Land Area at Facility Site Acres (or) Sq. Ft.		MSL Elevation at Facility		

SECTION B – GENERAL NATURE OF BUSINESS

Describe Nature of Business	North American Industry Classification System Code (NAICS)	Standard Industrial Classification Code (SIC)

SECTION C – GENERAL PERMIT INFORMATION

Type of Permit to Operate? <input type="checkbox"/> Initial <input type="checkbox"/> Minor Modification <input type="checkbox"/> Significant Modification	
If application is for renewal or revision of an existing Title V permit, please provide the following data:	
Current Permit to Operate Number: _____ Renewal: _____ Revision: _____	Current Permit to Operate Expiration Date: _____

		<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Add additional pages if necessary

SECTION F1 – IDENTIFICATION OF AIR CONTAMINANTS

Check all which are emitted in measurable quantities into the atmosphere from any operation at facility			
<input type="checkbox"/> Arsenic	<input type="checkbox"/> Chlorine Compounds	<input type="checkbox"/> Sulfur Compounds	<input type="checkbox"/> Radioisotopes
<input type="checkbox"/> Asbestos	<input type="checkbox"/> Chromium Compounds	<input type="checkbox"/> Hydrogen Sulfide	<input type="checkbox"/> Visible Emissions
<input type="checkbox"/> Beryllium	<input type="checkbox"/> Fluoride Compounds	<input type="checkbox"/> Odors	<input type="checkbox"/> Particulates (specify)
<input type="checkbox"/> Cadmium	<input type="checkbox"/> Volatile Organic Compounds	<input type="checkbox"/> Carbon Monoxide	<input type="checkbox"/> Dust
<input type="checkbox"/> Lead	<input type="checkbox"/> Other Organic Compounds	<input type="checkbox"/> Nitrogen Compounds	<input type="checkbox"/> Silica
<input type="checkbox"/> Mercury	<input type="checkbox"/> Greenhouse Gases (CO ₂ e)	<input type="checkbox"/> Pesticides	<input type="checkbox"/> Other (specify)
List Specific Compounds:			

SECTION F2 – IDENTIFICATION OF AIR CONTAMINANTS

Has emission unit testing been done at the facility? <input type="checkbox"/> Yes <input type="checkbox"/> No			
Emission Unit No.	Last Date when a Testing Program was Completed	If Program is Continuous, Give Approximate Testing Frequency	Regulation requiring frequency (NSPS, MACT, Permit Requirement-list permit number)

Add additional pages if necessary

SECTION G1 – ADDITIONAL FORMS

Indicate which of the following forms are attached and made part of the application	
<input type="checkbox"/> Emission Unit Information (SFN 61006)	<input type="checkbox"/> Flexible Permits (SFN 61007)
<input type="checkbox"/> Compliance Schedule and Plan (SFN 61008)	<input type="checkbox"/> Potential To Emit Table

SECTION G2 – OTHER ATTACHMENTS INCLUDED AS PART OF THIS APPLICATION

1.		4.	
2.		5.	
3.		6.	

I, the undersigned applicant, am fully aware that statements made in this application and the attached exhibits and statements constitute the application for Permit to Operate Air Contaminant sources from the North Dakota Department of Environmental Quality and certify that the information in this application is true, correct and complete to the best of my knowledge and belief. Further, I agree to comply with the provisions of Chapter 23.1-06 of the North Dakota Century Code and all rules and regulations of the Department, or revisions thereof. I also understand the permit is nontransferable and, if granted a permit, I will promptly notify the Department upon sale or legal transfer of this permitted establishment.

Signature of Applicant	Date
------------------------	------

INSTRUCTIONS

These instructions are intended to assist permit applicants in the completion of the enclosed forms with the degree of accuracy and detail necessary to allow the determination of whether to grant or deny a permit to operate an air contaminant source or modification.

All information included in the application, including maximum estimated emission rates, will be used to make the above determination. The information that is supplied in the application may be used to establish permit conditions. The emission rates provided should be based on the most credible data available. Although AP-42 provides general information, it should not be solely relied on to develop emission rates. Other sources of information that accurately represent the actual conditions that the emission unit will be operated under, such as actual test data or manufacturer's data, may be preferable.

For any air contaminant source or modification described in SFN 52858, SFN 61006 must also be completed and attached for each emission unit. For the facility's compliance schedule, SFN 61008 must be completed and submitted. If the facility requests a flexible permit SFN 61007, must be completed and submitted.

Those existing sources of air contaminants which are proven by the applicant to be designed or controlled so as to operate without emitting air contaminants in violation of air pollution rules and regulations will be granted a permit to operate.

Certain sizes and types of existing or new sources are exempted from the requirement to obtain a permit to continue operating or to construct. These sizes are specified in the instruction sheets for the relevant permit application forms or can be obtained by contacting the Department.

Any information included on the forms, other than emission data, that would divulge production or sales figures or methods, processes or production unique to such person or would otherwise tend to affect adversely the competitive position of such person by revealing trade secrets should be noted by inserting the word "confidential" in the margin next to the appropriate item. Any information, other than production figures, that is requested to be kept in confidence must be justified by a written statement setting forth the reasons for the request. All information not marked confidential will be available for public inspection.

These forms are intended to inform permit applicants of the type of information required in order that a permit to operate or construct be granted. It is not possible to design forms which are ideally suited to every conceivable operation. Permit applicants are encouraged to submit additional supplementary material when it is felt that the completion of these forms does not provide an adequate explanation of the operation.

It will be necessary to refer to the North Dakota Air Pollution Control Rules (Article 33.1-15 NDAC; online at www.legis.nd.gov/information/acdata/html/33.1-15.html), especially those parts which deal with the permit system and those chapters which specify emission limitations for each air contaminant, in order to satisfactorily complete a permit application. Electronic copies of air pollution control permit application forms are available online at www.deq.nd.gov/AQ/forms.aspx. Paper copies of all forms, as well as the rules, are available on request. To cover the costs of printing and postage, the charge for a copy of the North Dakota Air Pollution Control Rules is \$15.00.

Applicants should contact the Department prior to preparation and submittal of an application to determine what additional information will be required for a particular source or modification and the method to be used in performing the analyses.

SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:

North Dakota Department of Environmental Quality
Division of Air Quality
4201 Normandy Street, 2nd Floor
Bismarck, ND 58503-1324
(701) 328-5188

**AIR POLLUTION CONTROL
TITLE V PERMIT TO OPERATE**

Permittee: Name: Red Trail Energy, LLC	Permit Number: T5-X12002
Address: P.O. Box 11 Richardton, ND 58652	Source Name: Richardton Ethanol Plant
Source Location: 3682 Highway 8 South Richardton, ND 58652 Stark County	Source Type: Ethanol Production
Expiration Date: December 6, 2022	

Pursuant to Chapter 23-25 of the North Dakota Century Code, and the Air Pollution Control Rules of the State of North Dakota, Article 33-15 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 Health 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 No. 1: TBD
Revision No. 0: _____

Terry L. O'Clair, P.E.
Director
Division of Air Quality

Richardton Ethanol Plant
Title V Permit to Operate
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8. Facility Wide Operating Conditions	32
9. General Conditions	38
10. State Enforceable Only Conditions (not Federally enforceable)	44
Attachment A - Compliance Assurance Monitoring (CAM) Plan – EP S01, S02, S30, S40, and S60	
Attachment B - U.S. EPA Boiler Monitoring Approval	

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
Bio-methanator	Bio-methanator	P03	S03	Boiler & enclosed flare	C03
Fire water pump engine	Diesel engine-driven fire water pump rated at 300 hp (built February 2006)	P04	S04	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			
	Surge bin	P32			
	Hammermill #3	P33			
	Hammermill #4	P34			
Fermentation	Fermenter #1	P40	S40	Scrubber	C40
	Fermenter #2	P41			
	Fermenter #3	P42			
	Fermenter #4	P43			
	Beer well	P44			
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				

Process Unit	Emission Unit Description	Emission Unit (EU)	Emission Point EP)	Air Pollution Control Equipment	Control Equipment ID
USP Distillation Process	ARC-I (C-1461) Column and ancillaries ARC-II (C-1471) Column and ancillaries Alcohol scrubber (C-1421)	P59a P59b P59c	S60	Regenerative Thermal Oxidizer (RTO)	---
DGS dryers	DGS dryer A (boiler steam heated)	P61	S60	Multiclone/RTO	C60
	DGS dryer B (boiler steam heated)	P62	S60	Multiclone/RTO	C60
Boiler	Fluidized bed coal boiler nominally rated at 220 million Btu/hr (built 2006)	P63	S60	Over-fire air, limestone injection, SNCR, sodium bicarbonate injection & baghouse	C63, C64, C65
Boiler #2	Natural gas boiler rated at 120.4 million Btu/hr (built 2015)	P64	S64	Low NOx burners (LNB) & Flue gas recirculation (FGR)	---
Boiler #3	Natural gas boiler rated at 120.4 million Btu/hr (built 2015)	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*	Fugitive (FUG)	Spray nozzles, dust suppression surfactants & wind fence	---
	Coal terminal haul road	F12*	FUG	Chemical spraying	---
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	Natural gas-fired 4SRB emergency generator engine rated at 225 hp (built March 2010)	P180	S180	None	---
Truck traffic	Truck traffic	F01*	FUG	N/A	---

Process Unit	Emission Unit Description	Emission Unit (EU)	Emission Point EP)	Air Pollution Control Equipment	Control Equipment ID
Uncaptured grain handling emissions	Uncaptured grain handling emissions	F02*	FUG	N/A	--
Uncaptured DDGS handling emissions	Uncaptured DDGS handling emissions (Includes DDGS Storage Bldg.)	F03*	FUG	N/A	---
Cooling towers	Cooling towers	F04*	FUG	Mist eliminators	---
Equipment leaks	Equipment leaks	F05*	FUG	N/A	---
Uncaptured coal handling emissions	Uncaptured coal handling emissions	F06*	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.)	T01	T01	Internal floating roof (IFR)	---
Denaturant storage tank	Denaturant storage tank (165,000 gal.)	T02	T02	IFR	---
Denatured ethanol storage tank	Denatured ethanol storage tank (750,000 gal.)	T03	T03	IFR	---
200 Proof storage tank	200 Proof storage tank (165,000 gal.)	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.)	T06	T06	IFR	---
No. 2 diesel fuel storage tank	Diesel fuel Tank (500 gal.)	T07*	T07	None	---
Corn oil tanks	Two corn oil storage tanks	T08*, T09*	T08, T09	None	---
Gasoline storage tank	Gasoline storage tank (500 gal.)	T10*	T10	None	---
Diesel Fuel Tank	Diesel storage tank (1,000 gal.)	T11*	T11	SFP	---
Unsheltered corn storage	Corn storage pile No. 1 (1.5 x 10 ⁶ bushels)	F13*	FUG	N/A	---
Haul road	Haul road for EU F13	F15*	FUG	N/A	---
Space heaters	Two 200,000 Btu/hr natural gas-fired Dayton space heaters for the HRSG unit	P160*/P161*	S160/S161	None	---
Corn oil loadout	Corn oil truck loading rack	F16*	FUG	None	---
Haul Road	Corn Oil Haul Road to Railcar Loadout	F17*	FUG	None	---

Process Unit	Emission Unit Description	Emission Unit (EU)	Emission Point EP)	Air Pollution Control Equipment	Control Equipment ID
USP Shift Tank	USP Shift Tank (175,000 gal.)	T12	T12	IFR	---
USP Bertha Tank	USP Product Tank (750,000 gal.)	T13	T13	IFR	---
Fuel additive	Corrosion Inhibitor tank (2,300 gal.)	T14	T14	SFP	---

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

2. **Fuel Restrictions:**

A. Engine Fuels:

- 1) The permittee shall purchase only distillate oil containing no more than 0.0015 percent sulfur by weight for the operation of the fire water pump engine (EU P04). This fuel restriction ensures compliance with NDAC 33-15-06-01.2.
- 2) 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 33-15-14-02.9.f and NDAC 33-15-06-01.2

B. Boiler Fuel: The boiler (EU P63) shall be fired on lignite or subbituminous coal and bio-methanator off-gas. The following fuels may be combusted provided the firing rate does not exceed the limits in this condition:

- Clean Wood: $\leq 10\%$ of Annual Heat Input [12 month rolling average (m.r.a.)]
- DDGS: $\leq 10\%$ of Annual Heat Input (12 m.r.a.)
- Corn: $\leq 10\%$ of Annual Heat Input (12 m.r.a.)
- Syrup Mixture: ≤ 40 gpm
- Renewable Oil: ≤ 20 gpm
- Natural Gas: see Cond. 2.E for restriction

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 Requirement: NDAC 33-15-14-02.9.f

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

Applicable Requirement: NDAC 33-15-22-03, Subpart 6J

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

Applicable Requirement: NDAC 33-15-14-02.9.f

- D. 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 33-15-06-01.2.

Applicable Requirements: NDAC 33-15-14-02.9.f and NDAC 33-15-06-01.2

- E. 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 containing no more than 2 grains of sulfur per 100 standard cubic feet when EU P64 and/or P65 are operating. The heat input to EU P63 shall not exceed 60×10^6 Btu/hr while operating on natural gas.

Applicable Requirement: PTC14033

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

- A. New Source Performance Standards (NSPS): The permittee shall comply with all applicable requirements of the following NDAC 33-15-12-02 and 40 CFR 60 subparts in addition to complying with Subpart A – General Provisions.

- 1) Subpart Db – Industrial-commercial-institutional steam generating units (boilers, EU P63, P64 and P65).

Applicable Requirement: NDAC 33-15-12-02, Subpart Db

- 2) Subpart Kb – Volatile organic liquid storage vessels (including petroleum liquid storage vessels) for which construction, reconstruction, or modification commenced after July 5, 1984 (EU T01 through T04, T06, T12, and T13).


Applicable Requirement: NDAC 33-15-12-02, Subpart Kb

- 3) Subpart VVa – Equipment leaks of VOC in the synthetic organic chemicals manufacturing industry for which construction, reconstruction, or modification commenced after November 7, 2006.

Applicable Requirement: NDAC 33-15-12-02, Subpart VVa

- 4) Subpart JJJJ – Stationary Spark Ignition Internal Combustion Engines, applies to the emergency generator engine (EU P180).

Applicable Requirement: NDAC 33-15-12-02, Subpart JJJJ

B.  Maximum Achievable Control Technology (MACT): The permittee shall comply with all applicable requirements of the following NDAC 33-15-22-03 and 40 CFR 63 subparts in addition to complying with Subpart A – General Provisions.

- 1) Subpart ZZZZ – Stationary reciprocating internal combustion engines (fire water pump engine, EU P04 and emergency generator engine, EU P180). The North Dakota Department of Health 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
Denver, CO 80202-1129

Applicable Requirement: 40 CFR 63, Subpart ZZZZ

- 2) Subpart JJJJJ (6J) – Area source industrial, commercial and institutional boilers (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.

Applicable Requirement: NDAC 33-15-22-03, Subpart 6J

C. Flares:

- 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 33-15-07-02.
- 3) The presence of a flame shall be monitored using a thermocouple or any other equivalent device approved by the Department.

Applicable Requirements: NDAC 33-15-07-02, NDAC 33-15-14-03.6 and NDAC 33-15-15-01.4.c(2)

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

Applicable Requirement: NDAC 33-15-07-01.3

- E. 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 shall be conducted to confirm compliance with the emission limits within 180 days after start-up of the new engine.

Applicable Requirement: NDAC 33-15-14-03.6

4. **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.)	33-15-15-01.2 - BACT 33-15-15-01.2
			Opacity	0% (6-min avg.)	33-15-15-01.2 - BACT
			VOC	0.19 lb VOC/ton DDGS (3-hr avg.)	33-15-15-01.2 - BACT
Ethanol loadout (truck/rail) flare	P02	S02	VOC	98% reduction (3-hr avg.) or 10 mg/l (3-hr avg.) (see Cond. 4.D)	33-15-15-01.2 - BACT 33-15-15-01.2 - BACT
			Opacity	0% (see Cond. 4.B.2)	33-15-15-01.2 - BACT
Bio-methanator flare	P03	S03	NO _x /SO ₂ / VOC	BMP (see Cond. 3.C, 4.C & 4.E.2)	33-15-15-01.2 - BACT
			Opacity	0% (see Cond. 4.B.2)	33-15-15-01.2 - BACT
Fire water pump engine	P04	S04	NO _x /CO/VOC	BMP (see Cond. 4.C) & (see Cond. 3.B.1)	33-15-15-01.2 - BACT & 40 CFR 63, Sub. ZZZZ
			SO ₂	Low sulfur diesel fuel (see Cond. 2.A.1)	33-15-14-02.9.f
			Opacity	20% (6-min avg.) (see Cond. 4.B.1)	33-15-15-01.2 - BACT & 33-15-03-02
			Operating Hours	(see Cond. 4.E.3)	33-15-14-02.9.f
DDGS storage building	P05	S05	PM/PM ₁₀	BMP (see Cond. 4.C)	33-15-15-01.2 - BACT
			Opacity	20% (see Cond. 4.B.1)	33-15-03-03
Grain unloading	P10-14	S10	PM/PM ₁₀	0.004 gr/dscf (3-hr avg.) & 1.34 lb/hr (3-hr avg.)	33-15-15-01.2 - BACT 33-15-15-01.2
			Opacity	0% (6-min avg.)	33-15-15-01.2 - BACT
DDGS loading	P20-23	S20	PM/PM ₁₀	0.004 gr/dscf (3-hr avg.) & 0.13 lb/hr (3-hr avg.)	33-15-15-01.2 - BACT 33-15-15-01.2
			Opacity	0% (6-min avg.)	33-15-15-01.2 - BACT
Hammermilling	P30-34	S30	PM/PM ₁₀	0.004 gr/dscf (3-hr avg.) & 0.96 lb/hr (3-hr avg.)	33-15-15-01.2 - BACT 33-15-15-01.2
			Opacity	0% (6-min avg.)	33-15-15-01.2 - BACT

Process Unit	EU	EP	Pollutant/ Parameter	Emission Limit/Design/ Work Practice	NDAC Applicable Requirement
Fermentation	P40-44	S40	VOC	98% Reduction (3-hr avg.)	33-15-15-01.2 - BACT
			Opacity	20% (6-min avg.) (see Cond. 4.B.1)	33-15-03-02
			Acetaldehyde ^A	1.49 lb/hr (3-hr avg.)	33-15-02-04.3
Distillation/DGS dryers (RTO)	P50-62	S60	PM/PM ₁₀ (filterable and condensable)	11.66 lb/hr (3-hr avg.)	33-15-15-01.2
			NO _x	7.1 lb/hr (24-hr block avg.)	33-15-15-01.2
			VOC	98% Reduction or 10 ppmvw as carbon (3-hr avg.)	33-15-15-01.2 - BACT
			Opacity	20% (6-min. avg.) (see Cond 4.B.4)	33-15-15-01.2 - BACT

Process Unit	EU	EP	Pollutant/ Parameter	Emission Limit/Design/ Work Practice	NDAC Applicable Requirement
Boiler ^B	P63	S60 (EU P63 only)	PM/PM ₁₀ (filterable and condensable)	0.167 lb/10 ⁶ Btu (3-hr avg.) & 36.7 lb/hr (3-hr avg.)	33-15-15-01.2 - BACT 33-15-15-01.2
			PM/PM ₁₀ (filterable)	0.02 lb/10 ⁶ Btu (3-hr avg.)	33-15-15-01.2 - BACT
			NO _x	0.20 lb/10 ⁶ Btu (30 d.r.a.) & 44.0 lb/hr (24-hr block avg.)	33-15-15-01.2 – BACT & 33-15-12-02, Subpart Db 33-15-15-19
			SO ₂	0.09 lb/10 ⁶ Btu (30 d.r.a.) & 22.5 lb/hr (24-hr block avg.)	33-15-15-01.2 - BACT 33-15-02-04
			CO	0.11 lb/10 ⁶ Btu (3-hr avg.) & 420 ppmvd @ 3% O ₂	33-15-15-01.2 - BACT 33-15-22-03, Subpart 6J
			VOC ^C	2.50 lb/hr as carbon (3-hr avg.)	33-15-15-01.2 - BACT
			Opacity	20% (6-min. avg.) (see Cond. 4.B.4)	33-15-15-01.2 - BACT & 33-15-12-02, Subpart Db
			Hg	0.000022 lb/MMBtu	33-15-22-03, Subpart 6J
			Heat Input	(see Cond. 2.E)	33-15-15-01.2 - BACT
			Maximum Operating Load	D	33-15-22-03, Subpart 6J
			Minimum Oxygen Level	E	33-15-22-03, Subpart 6J
Boiler #2	P64	S64	NO _x	0.07 lb/10 ⁶ Btu (30 d.r.a.)	33-15-12-02, Subpart Db
			Opacity	20% (6-min. avg.) (see Cond. 4.B.5)	33-15-12-02
Boiler #3	P65	S65	NO _x	0.07 lb/10 ⁶ Btu (30 d.r.a.)	33-15-12-02, Subpart Db
			Opacity	20% (6-min. avg.) (see Cond. 4.B.5)	33-15-12-02

Process Unit	EU	EP	Pollutant/ Parameter	Emission Limit/Design/ Work Practice	NDAC Applicable Requirement
Distillation/DGS dryers/RTO/ boiler	P50-63	S60	<u>Boiler (EU P63) operating:</u>		
			NO _x	253.0 lb/hr (1-hr avg.)	33-15-02-04.1
			SO ₂	200.0 lb/hr (1-hr avg.)	33-15-02-04.1
			Opacity	20% (6 min. avg.)	33-15-01.2 - BACT
			<u>Boiler (EU P63) not operating:</u>	See Distillation/DGS dryers (RTO) above (EU P50-62)	33-15-14-06.5.b(1)
Flyash conveyor and storage	P120	S120	PM/PM ₁₀	0.004 gr/dscf (3-hr avg.)	33-15-15-01.2 - BACT
			Opacity	5% (6-min. avg.)	33-15-15-01.2 - BACT
Coal handling	P130	S130	PM/PM ₁₀	0.004 gr/dscf (3-hr avg.) & 0.69 lb/hr (3-hr avg.)	33-15-15-01.2 - BACT 33-15-15-01.2
			Opacity	0% (6-min avg.)	33-15-15-01.2 - BACT
	F10	S170	PM/PM ₁₀	0.005 gr/dscf (3-hr avg.)	33-15-15-01.2
	F11-12	FUG	PM/PM ₁₀	BMP (see Cond. 4.B.3 & 4.C)	33-15-17-02
			Opacity	(see Cond. 4.B.3)	33-15-03-03
Limestone storage and transfer	P140	S140	PM/PM ₁₀	0.004 gr/dscf (3-hr avg.)	33-15-15-01.2 - BACT
			Opacity	5% (6-min. avg.)	33-15-15-01.2 - BACT
FGD silo bin vent	P150	S150	PM/PM ₁₀	0.14 lb/hr (3-hr avg.)	33-15-02-04.1
			Opacity	20% (6-min. avg.) (see Cond. 4.B.1)	33-15-03-02
Emergency generator engine	P180	S180	NO _x	2.0 g/hp-hr (1-hr avg.)	33-15-12-03, Subpart JJJJ
			CO	4.0 g/hp-hr (1-hr avg.)	33-15-12-03, Subpart JJJJ
			VOC	1.0 g/hp-hr (1-hr avg.)	33-15-12-03, Subpart JJJJ
			Opacity	20% (6-min. avg.)	33-15-12-03, Subpart JJJJ
Truck traffic	F01	FUG	PM/PM ₁₀	BMP (see Cond. 4.C)	33-15-15-01.2 - BACT
Uncaptured DDGS handling emissions	F03	FUG	PM/PM ₁₀	BMP (see Cond. 4.C)	33-15-15-01.2 - BACT
Wet Cake/DGS storage and handling	F07-08	FUG	PM/PM ₁₀ /VOC	BMP (see Cond. 4.C)	33-15-15-01.2 - BACT

Process Unit	EU	EP	Pollutant/ Parameter	Emission Limit/Design/ Work Practice	NDAC Applicable Requirement
Cooling towers	F04	FUG	PM/PM ₁₀	Mist Eliminators/BMP (see Cond. 4.E.5 and 4.C)	33-15-15-01.2 - BACT
Equipment leaks	F05	FUG	VOC	NSPS Subpart VVa (see Cond. 3.A.3)	33-15-15-01.4.c(2) - BACT
Uncaptured coal handling emissions	F06	FUG	PM/PM ₁₀	BMP (see Cond. 4.C)	33-15-15-01.4.c(2) - BACT
190 Proof storage tank	T01	T01	VOC	NSPS Subpart Kb – IFR (see Cond. 3.A.2)	33-15-15-01.4.c(2) - BACT
Denaturant storage tank	T02	T02	VOC	NSPS Subpart Kb - IFR (see Cond. 3.A.2)	33-15-15-01.4.c(2) - BACT
Denatured ethanol storage tank	T03	T03	VOC	NSPS Subpart Kb - IFR (see Cond. 3.A.2)	33-15-15-01.4.c(2) - BACT
200 Proof storage tank	T04	T04	VOC	NSPS Subpart Kb - IFR (see Cond. 3.A.2)	33-15-15-01.4.c(2) - BACT
Fuel additive storage tank	T05	T05	VOC	SFP	33-15-15-01.4.c(2) - BACT
Denatured ethanol storage tank	T06	T06	VOC	NSPS Subpart Kb - IFR (see Cond. 3.A.2)	33-15-15-01.4.c(2) - BACT
Unsheltered corn storage	F13	FUG	PM/PM ₁₀	BMP (see Cond. 4.B.3 & 4.C)	33-15-17-02
			Opacity	(see Cond. 4.B.3)	33-15-03-03
Haul road	F15	FUG	PM/PM ₁₀	BMP (see Cond. 4.B.3 & 4.C)	33-15-17-02
			Opacity	(see Cond. 4.B.3)	33-15-03-03
USP Shift Tank	T12	T12	VOC	NSPS Subpart Kb - IFR (see Cond. 3.A.2)	33-15-12-02
USP Bertha Tank	T13	T13	VOC	NSPS Subpart Kb - IFR (see Cond. 3.A.2)	33-15-12-02
Corrosion Inhibitor Tank	T14	T14	VOC	SFP	33-15-07-01.3
Plant-wide	--	--	Ethanol production	(see Cond. 4.E.1)	33-15-14-02.9.f

A State enforceable only; emission limits are derived from the North Dakota Air Toxics Policy to ensure the maintenance of public health and welfare.

B 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 33-15-22-03 (40 CFR 63), Subpart 6J.

Applicable Requirements: PTC14033, NDAC 33-15-14-06 and NDAC 33-15-22-03, Subpart 6J

C 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: PTC14033

D 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.

Applicable Requirement: NDAC 33-15-22-03, Subpart 6J

E 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.

Applicable Requirement: NDAC 33-15-22-03, Subpart 6J

B. Opacity Limits: The emission units listed above, other than those which have a limit of 0% and 5% opacity, shall not exceed the following opacity limits:

- 1) Point Sources: Twenty percent, except that a maximum of 40% is permissible for not more than one six-minute period per hour. This standard applies at all times, except as allowed by NDAC 33-15-03-04. Compliance with this visible emissions standard shall be determined by conducting observations in accordance with NDAC 33-15-03-05 (Reference Method 9 of 40 CFR 60, Appendix A as incorporated by reference into NDAC 33-15-12).

Applicable Requirement: NDAC 33-15-03-02

- 2) Flares: 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 this visible emissions provision.

Applicable Requirement: 33-15-15-01.2 – BACT

- 3) Fugitive Emissions: The permittee shall not 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 by the permittee to prevent and/or minimize fugitive emissions from the operation of the sources identified.

Applicable Requirements: NDAC 33-15-03-03 and NDAC 33-15-17-03

- 4) Opacity Limit (Boiler, EU P63): The permittee shall not discharge into the atmosphere any gases that exhibit greater than 20% opacity (six-minute average), except for one six-

minute period per hour of not more than 27% opacity.

Applicable Requirements: NDAC 33-15-15-01.4.c(2) – BACT, Subpart Db and
NDAC 33-15-12

- 5) Opacity Limit (Boilers EU P64 and P65): The permittee shall not discharge into the atmosphere any gases that exhibit greater than 20% opacity (six-minute average), except for one six-minute period per hour of not more than 40% opacity.

Applicable Requirements: NDAC 33-15-03-02

- C. 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: NDAC 33-15-15-01.4.c(2) - BACT

- D. Loading Rack Vapor Collection: 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: NDAC 33-15-15-01.4.c(2) – BACT

- E. Process Restrictions:

- 1) Ethanol Production: This permit is based on an annual production rate of 65 million gallons per year. The permittee shall not exceed a total production rate of 65 million gallons of undenatured 200 proof alcohol in any 12-month period (12-month rolling total). This limit includes all forms of ethanol (fuel grade and United States Pharmacopeia (USP) grade).

Applicable Requirement: NDAC 33-15-14-02.9.f

- 2) 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 that is operated and monitored in accordance with this permit.

Applicable Requirement: NDAC 33-15-14-02.9.f

- 3) 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: NDAC 33-15-14-02.9.f

- 4) Stack Heights: The emissions from the facility shall be vented through stacks that

meet the following requirements:

<u>EP</u>	<u>Minimum Stack Height (ft.) Above Ground Level</u>
S01	135
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: NDAC 33-15-15-01.2

- 5) 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: NDAC 33-15-15-01.4.c(2) – BACT

- 6) Emergency Generator (EU P180): The engine shall not be operated more than 100 hours in any 12-month period (12-month rolling total) for maintenance checks and readiness testing. There is no limit to the hours of operation for emergency use.

Applicable Requirement: NDAC 33-15-12-02, Subpart JJJJ

5. **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)	5.B.1 & 5.B.7	33-15-14-06.10 33-15-14-02.9.a
		VOC	Emissions Test	5.B.3	33-15-14-06.5.a(3)(a)
		Opacity	Visible Emissions Observations (VEO)	5.B.8	33-15-14-06.5.a(3)(a)

Process Unit	EP	Pollutant/ Parameter	Monitoring Requirement (Method)	Condition Number	NDAC Applicable Requirement
Ethanol loadout (truck/rail) flare	S02	VOC	CAM & Thermocouple	4.D, 5.B.1 & 5.B.6	33-15-14-06.10 & 33-15-14-06.5.a(3)(a)
		Opacity	VEO	5.B.8	33-15-14-02.9.a
Bio-methanator flare	S03	NO _x /SO ₂ /VOC	Best Management Practices (BMP)	3.C & 4.C	33-15-14-06.5.a(3)(a)
		Opacity	VEO	5.B.8	33-15-14-02.9.a
Fire water pump engine	S04	NO _x /CO/VOC	Recordkeeping	3.B.1 & 4.C	40 CFR 63, Sub. ZZZZ & 33-15-14-06.5.a(3)(a)
		SO ₂ /Opacity	Recordkeeping	5.B.2	33-15-14-06.5.a(3)(a)
		Operating Hours	Recordkeeping	5.B.13	33-15-14-06.5.a(3)(a)
Grain unloading	S10	PM/PM ₁₀	BMP	4.C & 5.B.14	33-15-14-06.5.a(3)(a)
		Opacity	VEO	5.B.8	33-15-14-06.5.a(3)(a)
DDGS loading	S20	PM/PM ₁₀	BMP	4.C & 5.B.14	33-15-14-06.5.a(3)(a)
		Opacity	VEO	5.B.8	33-15-14-06.5.a(3)(a)
Hammermilling	S30	PM/PM ₁₀	CAM	5.B.1 & 5.B.7	33-15-14-06.10
		Opacity	VEO	5.B.8	33-15-14-06.5.a(3)(a)
Fermentation	S40	VOC	CAM	5.B.1 & 5.B.9	33-15-14-06.10 & 33-15-14-02.9.a
		Opacity	VEO	5.B.8	33-15-14-06.5.a(3)(a)
		Acetaldehyde*	Recordkeeping	5.B.18	33-15-14-06.5.a(3)(a) (See CAM Plan)

Process Unit	EP	Pollutant/ Parameter	Monitoring Requirement (Method)	Condition Number	NDAC Applicable Requirement	
Distillation/DGS dryers (RTO)	S60	<u>When the boiler (EU P63) is burning fuels other than natural gas:</u>				
		PM/PM ₁₀ (filterable and condensable)	CAM	5.B.1	33-15-14-06.10	
		NO _x	CERMS	5.B.5	33-15-14-06.5.a(3)(a)	
		VOC	CAM	5.B.1 & 5.B.11	33-15-14-06.10	
		Opacity	COMS	5.B.4	33-15-14-06.5.a(3)(a)	
		<u>When the boiler (EU P63) is burning natural gas or not operating:</u>				
		PM/PM ₁₀ (filterable and condensable)	Emissions Test	5.B.15	33-15-14-06.5.a(3)(a)	
		NO _x	Emissions Test	5.B.15	33-15-14-06.5.a(3)(a)	
		VOC	CAM	5.B.1 & 5.B.11	33-15-14-06.10	
		Opacity	Recordkeeping	5.B.2	33-15-14-06.5.a(3)(a)	

Process Unit	EP	Pollutant/ Parameter	Monitoring Requirement (Method)	Condition Number	NDAC Applicable Requirement
Boiler	S60 (EU P63 only)	PM/PM ₁₀ (filterable and condensable)	CAM and Emissions Test	5.B.1, 5.B.7 & 5.B.10	33-15-14-06.10 & 33-15-14-02.9.a
		PM/PM ₁₀ (filterable)	CAM and Emissions Test	5.B.1, 5.B.7 & 5.B.10	33-15-14-06.10 & 33-15-14-02.9.a
		NO _x	CEMS/CERMS	5.B.4 & 5.B.5	33-15-12-02, Subpart Db
		SO ₂	CEMS/CERMS	5.B.4 & 5.B.5	33-15-12-02, Subpart Db
		CO (lb/MMBtu) & (ppmvd)	Emissions Test	5.B.3	33-15-12-02, Subpart Db
			Emissions Test	5.B.3	33-15-22-03, Subpart 6J
		VOC	Emissions Test	5.B.3	33-15-14-06.5.a(3)(a)
		Opacity	COMS	5.B.4	33-15-14-06.5.a(3)(a)
		Hg	Fuel Analysis	2.B	33-15-22-03, Subpart 6J
		Heat Input	Recordkeeping	5.B.16	PTC14033
		Maximum Operating Load	Recordkeeping	4.A Table ^C	33-15-22-03, Subpart 6J
Minimum Oxygen Level	Recordkeeping	4.A Table ^D	33-15-22-03, Subpart 6J		
Fuel Usage	Recordkeeping	5.B.17	33-15-22-03, Subpart 6J		
Boiler #2	S64	NO _x	CEMS	5.B.4 & 5.B.5	33-15-12-02, Subpart Db
		Opacity	Recordkeeping	5.B.2	33-15-14-06.5.a(3)(a)
Boiler #3	S65	NO _x	CEMS	5.B.4 & 5.B.5	33-15-12-02, Subpart Db
		Opacity	Recordkeeping	5.B.2	33-15-14-06.5.a(3)(a)

Process Unit	EP	Pollutant/ Parameter	Monitoring Requirement (Method)	Condition Number	NDAC Applicable Requirement
Distillation/DGS dryers/RTO/boiler	S60	<u>When the boiler (EU P63) is burning fuels other than natural gas:</u>			
		NO _x	CERMS	5.B.5	33-15-14-06.5.a(3)(a)
		SO ₂	CERMS	5.B.5	33-15-12-02, Subpart Db
		Opacity	COMS	5.B.4	33-15-14-06.5.a(3)(a)
<u>When the boiler (EU P63) is burning natural gas:</u> See Distillation/DGS dryers (RTO) above (EU P50-62)					
Flyash conveyor and storage	S120	PM/PM ₁₀	BMP	4.C & 5.B.14	33-15-14-06.5.a(3)(a)
		Opacity	VEO	5.B.8	33-15-14-06.5.a(3)(a)
Coal handling	S130	PM/PM ₁₀	BMP	4.C & 5.B.14	33-15-14-06.5.a(3)(a)
		Opacity	VEO	5.B.8	33-15-14-06.5.a(3)(a)
	S170	PM/PM ₁₀	BMP	4.C & 5.B.14	33-15-14-06.5.a(3)(a)
		Opacity	VEO	5.B.8	33-15-14-06.5.a(3)(a)
Limestone storage and transfer	S140	PM/PM ₁₀	BMP	4.C	33-15-14-06.5.a(3)(a)
		Opacity	VEO	5.B.8	33-15-14-06.5.a(3)(a)
FGD silo bin vent	S150	PM/PM ₁₀	BMP	4.C & 5.B.14	33-15-14-06.5.a(3)(a)
		Opacity	VEO	5.B.8	33-15-14-06.5.a(3)(a)
Emergency generator engine	S180	Operating Hours	Recordkeeping	5.B.13	33-15-12-02, Subpart JJJ
Truck traffic	FUG	PM/PM ₁₀	BMP	5.B.14	33-15-14-06.5.a(3)(a)
Uncaptured grain handling emissions and temporary grain storage	FUG	PM/PM ₁₀	BMP	5.B.14	33-15-14-06.5.a(3)(a)
Uncaptured DDGS handling emissions	FUG	PM/PM ₁₀	BMP	5.B.14	33-15-14-06.5.a(3)(a)

Process Unit	EP	Pollutant/ Parameter	Monitoring Requirement (Method)	Condition Number	NDAC Applicable Requirement
Wet Cake/DDGS storage and handling	FUG	PM/PM ₁₀	BMP	5.B.14	33-15-14-06.5.a(3)(a)
		VOC	BMP	5.B.14	33-15-14-06.5.a(3)(a)
Cooling towers	FUG	PM/PM ₁₀	BMP	5.B.14	33-15-14-06.5.a(3)(a)
Equipment leaks	FUG	VOC	BMP	3.A.3	33-15-14-06.5.a(3)(a)
Uncaptured coal handling emissions	FUG	PM/PM ₁₀	BMP	5.B.14	33-15-14-06.5.a(3)(a)
190 Proof storage tank	T01	VOC	Inspections & Recordkeeping	3.A.2	33-15-12-02, Sub. Kb
Denaturant storage tank	T02	VOC	Inspections & Recordkeeping	3.A.2	33-15-12-02, Sub. Kb
Denatured ethanol storage tank	T03	VOC	Inspections & Recordkeeping	3.A.2	33-15-12-02, Sub. Kb
200 Proof storage tank	T04	VOC	Inspections & Recordkeeping	3.A.2	33-15-12-02, Sub. Kb
Fuel additive storage tank	T05	VOC	BMP	5.B.14	33-15-14-06.5.a(3)(a)
Denatured ethanol storage tank	T06	VOC	Inspections & Recordkeeping	3.A.2	33-15-12-02, Sub. Kb
Unsheltered corn storage	FUG	PM/PM ₁₀	BMP	5.B.14	33-15-14-06.5.a(3)(a)
Haul road	FUG	PM/PM ₁₀	BMP	5.B.14	33-15-14-06.5.a(3)(a)
USP Shift Tank	T12	VOC	Inspections & Recordkeeping	3.A.2	33-15-12-02, Sub. Kb
USP Bertha Tank	T13	VOC	Inspections & Recordkeeping	3.A.2	33-15-12-02, Sub. Kb
Corrosion Inhibitor Tank	T14	VOC	BMP	5.B.14	33-15-14-06.5.a(3)(a)
Ethanol production	--	See Cond. 4.F.1	Recordkeeping	5.B.12	33-15-14-06.5.a(3)(a)

* State enforceable only

B. Monitoring Conditions:

- 1) The permittee shall conduct the monitoring, recordkeeping and reporting as required by applicable subparts of NDAC 33-15-14-06.10 (40 CFR 64). Monitoring for the emission unit shall be conducted in accordance with the Compliance Assurance Monitoring (CAM) plan in Attachment A of this permit. 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	≥ 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
Fermentation (S40)	Scrubber (VOC)	Water flow rate: Sodium Bisulfite VO _x Out	≥ 47.2 gal./min. ≥ 40.3 gal./min.	Monitored continuously & recorded daily
		Chemical addition rate: Sodium Bisulfite* VO _x Out*	≥ 2.1 gal./hr. ≥ 1.0 gal./hr.	Monitored & recorded daily
DGS dryer RTO (S60)	Regenerative thermal oxidizer (VOC)	Temperature	≥ 1,651.8° F	Monitored & recorded continuously
Boiler (S60)	Baghouse (PM/PM ₁₀)	Baghouse pressure drop	≥ 1 & ≤ 7 in. w.c.	Monitored continuously & recorded daily
		Opacity variation	1.0% or greater variation in 1-minute data from previous three cleaning cycles	Assessed once every 12 hours

* 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, shall be considered credible evidence of compliance with any applicable opacity, particulate or SO₂ 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, for evidence of compliance or noncompliance with any applicable opacity, particulate and SO₂ emission limit, in the event of enforcement action.
- 3) Performance test for CO and VOC 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 SO₂ 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 SO₂ (boiler EU P63 only) on a lb/10⁶ 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 33-15-12-02 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: The monitoring systems shall report NO_x and SO₂ (boiler EU P63 only) emissions on a lb/10⁶ 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 SO₂ emission limits when boilers are operating. 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 SO₂ 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.

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) 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/PM₁₀ emission limit in Condition 4.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): The permittee shall observe the emission points at least once per week in which the emission unit is operated to determine if visible emissions are present. If no visible emissions are present, the permittee shall record the date, time and observation results. If the observation indicates visible emissions are present, the permittee must investigate the problem within eight hours. Any malfunctions shall be corrected as soon as practicable. All investigations of malfunctions shall be recorded. The permittee shall comply with the opacity and particulate limits in Condition 4.A and nothing in this condition authorizes noncompliance.

For flares only, if corrective action fails to eliminate the visible emissions, the permittee shall conduct a RM 22 test in accordance with Condition 4.B.2.

- 9) Fermentation Scrubber: 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 $\pm 5\%$.
 - 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 4.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_x Out 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 for acetaldehyde provided the Department approves it in advance.
 - c) During the final two years of each 5-year permit period, prior to submitting each Title V permit renewal application, the permittee shall conduct stack tests on the fermentation scrubber (EP S40) to ensure compliance with the emission limit for acetaldehyde 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.
 - d) During periods of CO_2 capture, when the CO_2 diversion valve is completely closed (all CO_2 is being directed to the CO_2 capture system), the permittee may cease the use of water and chemical additive in the fermentation scrubber as long as CO_2 is not be vented to atmosphere prior to processing through the CO_2 liquefaction system.
- 10) Within one year following the permit initial issuance/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 4.A when the emission unit (EU P63) is operating on solid or liquid fuel. 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 the renewed permit issuance, the unit shall be tested within one year of commencing operation with solid or liquid fuel.
- 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 5-year permit period, 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 VOC, CO, PM/PM10 and acetaldehyde. Any resulting changes to CAM indicators will 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.
- 13) Fire Water Pump Engine (EU P04) and Emergency Generator Engine (EU P180): Each engine shall be equipped with a non-resettable hour meter. 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). Anytime an operating hours limit in Condition 4.A is exceeded, inform the Department of the exceedances no later than the 30th day of the month in which the calculation is made.
- 14) Fugitive Emissions Management Plan: 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 which will be used for all source units listing BMP as the emission limit from Condition 4.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 permit, the permittee shall conduct an emissions test to measure NO_x and PM/PM₁₀ 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. The permittee may use other compliance assurance monitoring for acetaldehyde provided it is approved in advance by the Department. See the CAM Plan for additional monitoring details.

6. Recordkeeping Requirements:

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

- 1) Records of the amount of ethanol produced on a monthly and 12-month rolling total basis.
- 2) The results of all visible emissions observations and any corrective actions taken.
- 3) Liquid flow rate data and sodium bisulfite (or other approved chemical) addition rate for the fermentation scrubber.
- 4) Hours of operation of the diesel engine fire pump and natural gas emergency generator engine on a monthly and 12-month rolling total basis.
- 5) RTO combustion chamber temperature records.
- 6) All stack tests results including field data, laboratory analysis data, and quality assurance data.
- 7) The date, place (as defined in the permit) and time of sampling or measurement.
- 8) The date(s) testing was performed.
- 9) The company, entity, or person that performed the testing.
- 10) The testing techniques or methods used.
- 11) The results of such testing including field data, laboratory analysis data, and quality assurance data.
- 12) The operating conditions that existed at the time of sampling or measurement.

Applicable Requirement: NDAC 33-15-14-06.5.a(3)(b)[1]

Monitoring Records

Process Unit	EP	Pollutant/Parameter	Compliance Monitoring Record
DDGS cooling	S01	PM/PM ₁₀	CAM Data
		VOC	Emissions Test Data
		Opacity	VEO Data
Ethanol loadout (truck/rail) flare	S02	VOC	CAM & Temperature Data
		Opacity	VEO Data
Bio-methanator flare	S03	NO _x /SO ₂ /VOC	Temperature & BMP Data
		Opacity	VEO Data

Process Unit	EP	Pollutant/Parameter	Compliance Monitoring Record
Fire water pump engine	S04	NO _x /CO/VOC	See Cond. 3.B.2
		SO ₂ /Opacity	Type of Fuel Data
		Operating Hours	Operating Hours Data
Grain unloading	S10	PM/PM ₁₀	BMP Data
		Opacity	VEO Data
DDGS loading	S20	PM/PM ₁₀	BMP Data
		Opacity	VEO Data
Hammermilling	S30	PM/PM ₁₀	CAM Data
		Opacity	VEO Data

DRAFT

Process Unit	EP	Pollutant/Parameter	Compliance Monitoring Record
Fermentation	S40	VOC Opacity Acetaldehyde*	CAM Data VEO Data Chemical addition and water flow rates (see CAM Plan)
Distillation/DGS dryers (RTO)	S60	<u>When the boiler (EU P63) is burning fuels other than natural gas:</u> PM/PM ₁₀ (filterable and condensable) NO _x VOC Opacity	CAM Data CEMS/CERMS Data CAM Data COMS Data
		<u>When the boiler (EU P63) is not operating/burning natural gas:</u> PM/PM ₁₀ (filterable and condensable) NO _x VOC Opacity Heat Input (burning natural gas only)	Emission Test Data Emission Test Data CAM Data Type of Fuel Usage Amount and Heating Value of Natural Gas Combusted

Process Unit	EP	Pollutant/Parameter	Compliance Monitoring Record
Boiler	S60 (EU P63 only)	PM/PM ₁₀ (filterable and condensable)	CAM & Emissions Test Data
		PM/PM ₁₀ (filterable)	CAM & Emissions Test Data
		NO _x	CEMS/CERMS Data
		SO ₂	CEMS/CERMS Data
		CO	Emissions Test Data
		VOC	Emissions Test Data
		Opacity	COMS Data
		Hg	Fuel Analysis Data
		Heat Input	Heat Input Data
		Maximum Operating Load	Steam Production Data
Minimum 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
Distillation/DGS dryers/RTO/boiler	S60	NO _x	CEMS/CERMS Data
		SO ₂	CEMS/CERMS Data
		Opacity	COMS Data
Flyash conveyor and storage	S120	PM/PM ₁₀	BMP Data
		Opacity	VEO Data
Coal handling	S130	PM/PM ₁₀	BMP Data
		Opacity	VEO Data
	S170	PM/PM ₁₀	BMP Data
		Opacity	VEO Data
Limestone storage and transfer	S140	PM/PM ₁₀	BMP Data
		Opacity	VEO Data

Process Unit	EP	Pollutant/Parameter	Compliance Monitoring Record
FGD silo bin vent	S150	PM/PM ₁₀ Opacity	BMP Data VEO Data
Emergency generator engine	S180	Operating Hours	Operating Hours
Truck traffic	FUG	PM/PM ₁₀	BMP Data
Uncaptured grain handling emissions	FUG	PM/PM ₁₀	BMP Data
Uncaptured DDGS handling emissions	FUG	PM/PM ₁₀	BMP Data
Wet Cake/DGS storage and handling	FUG	PM/PM ₁₀ VOC	BMP Data BMP Data
Cooling towers	FUG	PM/PM ₁₀	BMP Data
Equipment leaks	FUG	VOC	Inspection & Recordkeeping Data
Uncaptured coal handling emissions	FUG	PM/PM ₁₀	BMP 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	BMP Data
Denatured ethanol storage tank	T06	VOC	Inspection & Recordkeeping Data
Unsheltered corn storage	FUG	PM/PM ₁₀	BMP Data
Haul road	FUG	PM/PM ₁₀	BMP Data
USP shift tank	T12	VOC	Inspection & Recordkeeping Data
USP storage tank	T13	VOC	Inspection & Recordkeeping Data
Fuel additive storage tank	T14	VOC	BMP Data
Ethanol production	--	See Cond. 4.E.1	Ethanol Production Data

* State enforceable only

- B. 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 33-15-14-06.5.a(3)(b)[2]

7. Reporting:

- A. Reporting for emission units subject to CAM (NDAC 33-15-14-06.10) shall be in accordance with 40 CFR 64, Section 64.9 - Reporting and Recordkeeping Requirements, Paragraph (b)

General Recordkeeping Requirements.

Applicable Requirement: 33-15-14-06.10

- 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 4.A. Excess emissions shall be reported for the following:

<u>Parameter</u>	<u>Averaging Period</u>
<i>P63:</i>	
SO ₂ (lb/10 ⁶ Btu)	30 d.r.a.
SO ₂ (lb/hr)	24-hour (block)
NO _x (lb/10 ⁶ Btu)	30 d.r.a.
NO _x (lb/hr)	24-hour (block)
Opacity	6-minute
<i>P64 & P65:</i>	
NO _x (lb/10 ⁶ Btu)	30 d.r.a.

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.

For purposes of demonstrating compliance with the 30-day rolling averages for SO₂ and NO_x on a lb/10⁶ Btu/hr 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.

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 33-15-12 and NDAC 33-15-14-02.9.d

- C. The permittee shall submit a semi-annual monitoring report for all monitoring records required under Condition 6 on forms supplied 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 33-15-14-06.5.a(3)(c)[1] and [2]

- D. The permittee shall submit an annual compliance certification report in accordance with NDAC 33-15-14-06.5.c (5) within 45 days after December 31 of each year on forms supplied or approved

by the Department, as required by 40 CFR 70 (Title V). 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 Requirements: NDAC 33-15-14-06.5.c(5) and NDAC 33-15-22-03, 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 33-15-14-06.5.a(6)(e)

- F. The permittee shall submit an annual emission inventory report on forms supplied 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 33-15-14-06.5.a(7) and NDAC 33-15-23-04

8. **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 33-15-02, 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 33-10.
- 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 33-15-02-04 and 40 CFR 50.1(e)

- B. **Fugitive Emissions:** The release of fugitive emissions shall comply with the applicable requirements in NDAC 33-15-17.

Applicable Requirement: NDAC 33-15-17

- 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 33-15-04-02 and may not

conduct, cause, or permit the conduct of a salvage operation by open burning. Any permissible open burning under NDAC 33-15-04-02 must comply with the requirements of that section.

Applicable Requirement: NDAC 33-15-04

- D. **Asbestos Renovation or Demolition:** Any asbestos renovation or demolition at the facility shall comply with emission standard for asbestos in NDAC 33-15-13.

Applicable Requirement: NDAC 33-15-13-02

- 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 process operations and which contain hydrogen sulfide shall be incinerated, flared or treated in an equally effective manner before being released to the ambient air.
- 2) Each flare must be equipped and operated with an automatic ignitor or a continuous burning pilot.

Applicable Requirement: NDAC 33-15-07-02

- 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 33-15-07-01.5

- 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 twenty-four 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 shutdown 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 33-15-01-13.1

2) Malfunctions.

- a) When a malfunction in any installation occurs that can be expected to last longer than twenty-four 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 twenty-four-hour state radio emergency number 1-800-472-2121. If calling from out of state, the twenty-four-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 thirty days of the end of the calendar quarter in which the malfunction occurred or within thirty 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 33-15-01-13.2

- 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 33-15-21 (40 CFR 75, Acid Rain Program).

Applicable Requirement: NDAC 33-15-01-13.3

H. Noncompliance Due to an Emergency: The permittee may seek to establish that noncompliance with a technology-based emission limitation under this permit was due to an emergency. To do so, the permittee shall demonstrate the affirmative defense of emergency through properly signed, contemporaneous operating logs, or other relevant evidence that:

- 1) An emergency occurred and that the permittee can identify the cause(s) of the emergency;
- 2) The permitted facility was at the time being properly operated;
- 3) During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards, or other requirements in this permit; and

- 4) The permittee submitted notice of the emergency to the Department within one working day of the time when emission limitations were exceeded longer than 24-hours due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken. Those emergencies not reported within one working day, as well as those that were, will be included in the semi-annual report.

In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.

Technology-based emission limits are those established on the basis of emission reductions achievable with various control measures or process changes (e.g., a New Source Performance Standard) rather than those established to attain a health based air quality standard.

An “emergency” means any situation arising from sudden and reasonably unforeseeable events beyond the control of this source, including acts of God, which requires immediate corrective action to restore normal operation, and that causes this source to exceed a technology-based emission limitation under this permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

Applicable Requirement: NDAC 33-15-14-06.5.g

- I. **Air Pollution from Internal Combustion Engines:** The permittee shall comply with all applicable requirements of NDAC 33-15-08-01 – Internal Combustion Engine Emissions Restricted.

Applicable Requirement: NDAC 33-15-08-01

- J. **Prohibition of Air Pollution:**

- 1) The permittee shall not permit or cause air pollution, as defined in NDAC 33-15-01-04.
- 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 33-15-01-15

- K. **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 23-25. 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 Health 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 holes in 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 33-15-01-12

- 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 33-15-14-06.5.a(3)(a), NDAC 33-15-12-02 Subpart A (40 CFR 60.8), NDAC 33-15-13-01.2 Subpart A (40 CFR 61.13), NDAC 33-15-22-03 Subpart A (40 CFR 63.7)

- L. **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 33-15-10.

Applicable Requirements: NDAC 33-15-10-01 and NDAC 33-15-10-02

- M. **Air Pollution Emergency Episodes:** When an air pollution emergency episode is declared by the Department, the permittee shall comply with the requirements in NDAC 33-15-11.

Applicable Requirements: NDAC 33-15-11-01 through NDAC 33-15-11-04

- N. **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

O. **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

P. **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 33-15-14-06.5.b(1)

Q. **Prevention of Significant Deterioration of Air Quality** (40 CFR 52.21 as incorporated by NDAC Chapter 33-15-15): 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 33-15-15-01.2

9. **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 sixty 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 33-15-14-06.5.a(7) and NDAC 33-15-23-04

- B. **Permit Renewal and Expiration:** This permit shall be effective from the date of its issuance for a fixed period of 5 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 eighteen months, prior to the date of permit expiration. The Department shall approve or disapprove the renewal application within sixty 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 33-15-14-06.4 and NDAC 33-15-14-06.6

- C. **Transfer of Ownership or Operation:** This permit may not be transferred except by procedures allowed in Chapter 33-15-14 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 33-15-14-06.6.d

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

Applicable Requirement: NDAC 33-15-14-06.5.a(6)(d)

- E. **Submissions:**

- 1) Reports, test data, monitoring data, notifications, and requests for renewal shall be submitted to:

North Dakota Department of Health
Division of Air Quality
918 E Divide Avenue, 2nd Floor
Bismarck, ND 58501-1947

- 2) Any document submitted shall be certified as being true, accurate, and complete by a responsible official.

Applicable Requirement: NDAC 33-15-14-06.4.d

- F. **Right of Entry:** Any duly authorized officer, employee or agent of the North Dakota Department of Health 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 33-15-14-06.5.c(2) and NDAC 33-15-01-06

- 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 23-25 and NDAC 33-15. 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 23-25. 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 33-15-14-06.5.a(6)(a) and NDAC 33-15-14-06.5.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 33-15-14-06.5.a(6)(e), NDAC 33-15-14-06.6.b(3) and NDAC 33-15-14-06.4.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 eighteen 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 33-15-14-06.6.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 33-15-14-06.5.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 33-15-14-02 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 33-15-14-06. 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 33-15-14-06.6.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 33-15-14-06.6.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) Are not modifications under NDAC 33-15-12, 33-15-13, and 33-15-15 or any provision of Title I of the Federal Clean Air Act.
- 6) Are not required to be processed as a significant modification.

Applicable Requirement: NDAC 33-15-14-06.6.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 33-15-14-06.6.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 33-15-14-06.6.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 33-15-14-06.3 and NDAC 33-15-14-06.5.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 33-15-14-06.5.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 33-15-01-08

10. **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 33-15-16.

Applicable Requirement: NDAC 33-15-16

Attachment A

Compliance Assurance Monitoring (CAM) Plan
for the
Red Trail Energy, LLC
Richardton Ethanol Plant
Title V Permit No. T5X12002

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)

Attachment B

U.S. EPA Boiler Monitoring Approval

DRAFT

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 (NO_x), 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.: PTC 04004; T5X12002

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 NDDOH 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 (NO_x), 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.: PTC 04004; T5X12002

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 NDDOH 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.

HAMMERMILL 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 (NO_x), 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.: PTC 04004; T5X12002

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 NDDOH 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.

FERMENTATION SCRUBBER CAM PLAN

Wet scrubber for volatile organic compound (VOC) and acetaldehyde 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 (NO_x), 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.: PTC 04004; T5X12002

Emission Limits/Applicable Regulations:

VOC: 98% VOC reduction – NDAC 33-15-15-01.2

Acetaldehyde: 1.49 pound per hour (lb/hr) – NDAC 33-15-02-04.3

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 and acetaldehyde 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. The precise pre-control acetaldehyde emissions from the fermentation process are not known; however, they are believed to be greater than 10 tons per year.

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 acetaldehyde in order to ensure compliance with the permitted acetaldehyde emission limit. If the WFR is at or above the necessary level to control VOC emissions, the acetaldehyde control can be directly correlated to, and monitored by, the SBAR.

3. *VOxOut Addition Rate*

There must be VOxOut available to react with the acetaldehyde in order to ensure compliance with the permitted acetaldehyde emission limit. If the WFR is at or above the necessary level to control VOC emissions, the acetaldehyde control can be directly correlated to, and monitored by, the VAR.

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 acetaldehyde control. For sodium bisulfite, the calculated VOC reduction and acetaldehyde emissions were 99.6% and 1.24 lb/hr, respectively. For VOxOut, the calculated VOC reduction and acetaldehyde emissions were 99.7% and 0.27 lb/hr, respectively. 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 NDDOH 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 REGENERATIVE 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 (NO_x), 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.: PTC 04004; T5X12002

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 an 18 million British thermal units per hour (MMBtu/hr) regenerative thermal oxidizer that destroys VOCs by thermal oxidation. The DDGS dryer system has pre-control VOC potential emissions of up to 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 1,635 °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 1,635 °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 June 2007, a performance test was performed on the RTO. This testing was performed under conditions of maximum emissions potential (i.e., maximum production capacity). The calculated VOC control efficiency was 99.4%. This is well within the permit limit.

During the performance test, temperature readings were observed. The average temperature of the RTO was 1,635 °F.

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

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 will be 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 (NO_x), 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.: PTC 04004; T5X12002

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.

Potential to Emit Summary

Stack ID	Control Equipment ID	Emission Unit ID	Emission Unit Description	Criteria Pollutants						
				PM (tpy)	PM10 (tpy)	PM2.5 (tpy)	SO2 (tpy)	NOx (tpy)	VOC (tpy)	CO (tpy)
S01	C01	P01	DDGS Cooling Conveyor	4.20	4.20	4.20	---	---	20.48	---
S02	C02	P02	Ethanol Loadout Flare	---	---	---	0.00	0.27	4.51	1.22
S03	C03	P03	Bio-Methanator Flare	---	---	---	0.0004	0.05	0.03	0.25
S04	---	P04	Emergency Fire Water Pump	0.17	0.17	0.17	0.16	2.33	0.19	0.53
S10	C10	P10	Grain Dump Pit/Auger	---	---	---	---	---	---	---
S10	C10	P11	Grain Elevator #1	---	---	---	---	---	---	---
S10	C10	P12	Grain Elevator #2	---	---	---	---	---	---	---
S10	C10	P13	Grain Silo #1	---	---	---	---	---	---	---
S10	C10	P14	Grain Silo #2	---	---	---	---	---	---	---
S10	C10	P15	Grain Silo #3	---	---	---	---	---	---	---
S10	---	S10	Grain Receiving Baghouse	5.86	5.86	5.86	---	---	---	---
S20	C20	P20	DDGS Dump Pit / Auger	---	---	---	---	---	---	---
S20	C20	P21	Screw Conveyor	---	---	---	---	---	---	---
S20	C20	P22	DDGS Elevator	---	---	---	---	---	---	---
S20	C20	P23	Truck/Rail Load Spout	---	---	---	---	---	---	---
S20	---	S20	DDGS Loading	0.56	0.56	0.56	---	---	---	---
S30	C30	P30	Hammermill #1	---	---	---	---	---	---	---
S30	C30	P31	Hammermill #2	---	---	---	---	---	---	---
S30	C30	P33	Hammermill #3	---	---	---	---	---	---	---
S30	C30	P34	Hammermill #4	---	---	---	---	---	---	---
S30	C30	P32	Surge Bin	---	---	---	---	---	---	---
S30	---	S30	Hammermilling	4.20	4.20	4.20	---	---	---	---
S40	C40	P40	Fermenter #1	---	---	---	---	---	---	---
S40	C40	P41	Fermenter #2	---	---	---	---	---	---	---
S40	C40	P42	Fermenter #3	---	---	---	---	---	---	---
S40	C40	P43	Fermenter #4	---	---	---	---	---	---	---
S40	C40	P44	Beer Well	---	---	---	---	---	---	---
S40	---	S40	Fermentation (CO2) Scrubber	---	---	---	---	---	21.33	---
S60	C60	P50	Slurry Tank #1	---	---	---	---	---	---	---
S60	C60	P57	Slurry Tank #2	---	---	---	---	---	---	---
S60	C60	P51	Evaporator	---	---	---	---	---	---	---
S60	C60	P52	Yeast Tank #1	---	---	---	---	---	---	---
S60	C60	P58	Yeast Tank #2	---	---	---	---	---	---	---
S60	C60	P53	Beer Column	---	---	---	---	---	---	---
S60	C60	P54	Side Stripper	---	---	---	---	---	---	---
S60	C60	P55	Rectifier Column	---	---	---	---	---	---	---
S60	C60	P56	Molecular Sieve	---	---	---	---	---	---	---
S60	C60	P59a	ARC-I Distillation Column	---	---	---	---	---	---	---
S60	C60	P59b	ARC-II Distillation Column	---	---	---	---	---	---	---
S60	C60	P59c	USP Ethanol process scrubber	---	---	---	---	---	---	---
S60	C60	P61	DDGS Dryer A	---	---	---	---	---	---	---
S60	C60	P62	DDGS Dryer B	---	---	---	---	---	---	---
S60	C63-C65	P63	Fluid Bed Boiler	---	---	---	---	---	---	---
S60	---	S60	DDGS Dryer / Regenerative Thermal Oxidizer	51.07	51.07	51.07	32.50	13.62	39.99	40.95
S64	---	P64	Natural Gas Boiler	3.93	2.95	0.98	0.31	36.91	2.84	43.43
S65	---	P65	Natural Gas Boiler	3.93	2.95	0.98	0.31	36.91	2.84	43.43
S120	C120	P120	Flyash Conveying and Storage Bin Vent	0.00	0.00	0.00	---	---	---	---
S130	C130	P130	Coal Receiving-Truck Receiving Pits	---	---	---	---	---	---	---
S130	C130	P132	Coal conveying to silos	---	---	---	---	---	---	---
S130	C130	P133	Coal Silos	---	---	---	---	---	---	---
S130	---	S130	Coal Handling Bin Vent	0.00	0.00	---	---	---	---	---
S140	C140	P140	Limestone Storage/Transfer Bin Vent	0.00	0.00	0.00	---	---	---	---
S150	C150	P150	FGD Silo Bin Vent	0.00	0.00	0.00	---	---	---	---
---	---	P160	Space Heater 200,000 Btu/hr	---	---	---	---	---	---	---
---	---	P161	Space Heater 200,000 Btu/hr	---	---	---	---	---	---	---
S170	C170	P170	Coal Unloading Pit	---	---	---	---	---	---	---
S170	C170	P171	Inclined Belt Conveyor	---	---	---	---	---	---	---
S170	C170	P172	Transfer Belt Conveyor	---	---	---	---	---	---	---
S170	C170	P173	Coal Stacker Transition	---	---	---	---	---	---	---
S170	C170	S170	Coal Terminal Baghouse	0.00	0.00	---	---	---	---	---
S180	S180	P180	Natural Gas Emergency Generator	0.01	0.01	0.01	0.00	0.25	0.12	0.50
		F01	Truck Traffic	4.77	0.95	0.23	---	---	---	---
		F02	Uncaptured Grain Handling Emissions	0.61	0.14	0.02	---	---	---	---
		F03	Uncaptured DDGS Handling Emissions	0.15	0.04	0.04	---	---	---	---
		F04	Cooling Towers	1.80	1.80	1.80	---	---	---	---
		F05	Equipment Leaks	---	---	---	---	---	30.42	---
		F06	Uncaptured Coal Handling Emissions	0.00	0.00	---	---	---	---	---
		F07	Wet Cake Storage	---	---	---	---	---	3.33	---
		F08	Modified Wet Cake Handling Emissions	0.66	0.17	---	---	---	---	---
		F10	Coal Terminal Receiving	0.00	0.00	---	---	---	---	---
		F11	Coal Storage Potential Emissions	0.00	0.00	0.00	---	---	---	---
		F12	Coal Terminal Haul Road	0.00	0.00	0.00	---	---	---	---
		F13	Corn Storage Bags and Pile	31.17	10.72	1.82	---	---	---	---
		F15	Corn Pile Unpaved Haul Road	29.90	8.52	0.85	---	---	---	---
		F16	Corn Oil Truck Loading Rack	---	---	---	---	---	0.25	---
		F17	Corn Oil Haul Road to Railcar Loadout	16.33	4.66	0.47	---	---	---	---
		T01	190 Proof Storage Tank	---	---	---	---	---	0.30	---
		T02	Denaturant Storage Tank	---	---	---	---	---	0.95	---
		T03	Denatured Ethanol Storage Tank	---	---	---	---	---	0.19	---
		T04	200 Proof Storage Tank	---	---	---	---	---	0.31	---
		T05	Fuel Additive	---	---	---	---	---	0.00	---
		T06	Denatured Ethanol Storage Tank	---	---	---	---	---	0.19	---
		T07	Diesel Fuel Tank	---	---	---	---	---	0.00	---
		T08	Corn Oil Storage Tank	---	---	---	---	---	0.00	---
		T09	Corn Oil Storage Tank	---	---	---	---	---	0.00	---
		T10	Gasoline Storage Tank	---	---	---	---	---	0.00	---
		T11	Diesel Storage Tank	---	---	---	---	---	0.00	---
		T12	USP Shift Tank	---	---	---	---	---	0.15	---
		T13	USP Bertha Tank	---	---	---	---	---	0.15	---
		T14	Fuel Additive	---	---	---	---	---	0.00	---
TOTAL (less fugitives and insignificants)				73.93	71.97	68.04	33.28	90.34	94.58	130.30
TOTAL (fugitives only)				85.39	26.99	5.23	0.00	0.00	34.00	0.00
TOTAL				159.32	98.96	73.27	33.28	90.34	128.59	130.30

Red Trail Energy, LLC
Potential to Emit Summary
Hazardous Air Pollutant (HAP) - Summary

Pollutant	S01 DDGS Cooler (tons)	S04 Water Pump (tons)	S40 Fermentation (tons)	S60 RTO (tons)	S64 Boiler #2 (tons)	S65 Boiler #3 (tons)	S180 Generator Stack (tons)	F05 Equipment Leaks (tons)	F07 Wet Cake Loadout (tons)	Tanks (tons)	Total (tons)
1,1,2,2-Tetrachloroethane (79-34-5)	-	-	-	-	-	-	1.26E-05	-	-	-	1.3E-05
1,2,4 - Trimethylbenzene (95-63-6)	-	-	-	-	-	-	-	-	-	0.00E+00	0.0E+00
1,1,2-Trichloroethane (79-00-5)	-	-	-	-	-	-	7.61E-06	-	-	-	7.6E-06
1,3-Butadiene (106-99-0)	-	7.82E-06	-	-	-	-	3.30E-04	-	-	-	3.4E-04
1,3-Dichloropropene (542-75-6)	-	-	-	-	-	-	6.32E-06	-	-	-	6.3E-06
Acetaldehyde (75-07-0)	0.52	1.53E-04	6.53	0.6224	-	-	1.39E-03	0.0061	1.85E-02	-	7.7E+00
Acetophenone (98-86-2)	-	-	-	-	-	-	-	-	-	-	0.0E+00
Acrolein (107-02-8)	0.21	1.85E-05	0.16	2.7730	-	-	1.31E-03	-	2.77E-03	-	3.1E+00
Benzene (including benzene from gasolir	-	1.87E-04	-	1.62E-04	1.09E-03	1.09E-03	7.86E-04	0.0761	-	3.86E-03	8.3E-02
Carbon Tetrachloride (56-23-5)	-	-	-	-	-	-	8.80E-06	-	-	-	8.8E-06
Carbon disulfide (75-15-0)	-	-	-	-	-	-	-	0.0006	-	-	6.1E-04
Chlorobenzene (108-90-7)	-	-	-	-	-	-	6.41E-06	-	-	-	6.4E-06
Chloroform (67-66-3)	-	-	-	-	-	-	6.81E-06	-	-	-	6.8E-06
Cumene (98-82-8)	-	-	-	-	-	-	-	0.0304	-	-	3.0E-02
Ethyl benzene (100-41-4)	-	-	-	-	-	-	1.23E-05	0.0015	-	1.73E-03	3.3E-03
Ethylene dibromide (Dibromoethane) (1	-	-	-	-	-	-	1.06E-05	-	-	-	1.1E-05
Formaldehyde (50-00-0)	0.10	2.36E-04	0.07	0.8138	0.0388	0.0388	1.02E-02	-	1.11E-01	-	1.2E+00
Hexane (110-54-3)	-	-	-	0.1391	0.9306	0.9306	-	1.5211	-	3.63E-03	3.5E+00
Methylene chloride (Dichloromethane) (-	-	-	-	-	-	2.05E-05	-	-	-	2.0E-05
PAH	-	-	-	-	-	-	7.01E-05	-	-	-	7.0E-05
Styrene (100-42-5)	-	-	-	-	-	-	5.92E-06	-	-	-	5.9E-06
Toluene (108-88-3)	-	8.18E-05	-	2.63E-04	1.76E-03	1.76E-03	2.77E-04	0.1521	-	0.00E+00	1.6E-01
Xylenes (isomers and mixture) (1330-20	-	5.70E-05	-	-	-	-	9.70E-05	0.0152	-	9.46E-03	2.5E-02
Arsenic (7784-42-1)	-	-	-	1.55E-05	1.05E-04	1.05E-04	-	-	-	-	2.3E-04
Beryllium (7740-41-7)	-	-	-	9.28E-07	6.20E-06	6.20E-06	-	-	-	-	1.3E-05
Cadmium	-	-	-	8.50E-05	5.69E-04	5.69E-04	-	-	-	-	1.2E-03
Chromium	-	-	-	1.08E-04	7.24E-04	7.24E-04	-	-	-	-	1.6E-03
Cobalt (7646-79-9)	-	-	-	6.49E-06	4.34E-05	4.34E-05	-	-	-	-	9.3E-05
Nickel	-	-	-	1.62E-04	1.09E-03	1.09E-03	-	-	-	-	2.3E-03
2-Methylnaphthalene (91-57-6)	-	-	-	1.86E-06	1.24E-05	1.24E-05	-	-	-	-	2.7E-05
3-Methylchloranthrene (56-49-5)	-	-	-	1.39E-07	9.31E-07	9.31E-07	-	-	-	-	2.0E-06
7,12-Dimethylbenz(a)anthracene (57-97	-	-	-	1.24E-06	8.27E-06	8.27E-06	-	-	-	-	1.8E-05
Acenaphthene (83-32-9)	-	-	-	1.39E-07	9.31E-07	9.31E-07	-	-	-	-	2.0E-06
Acenaphthylene (83-32-9)	-	-	-	1.39E-07	9.31E-07	9.31E-07	-	-	-	-	2.0E-06
Anthracene (120-12-7)	-	-	-	1.86E-07	1.24E-06	1.24E-06	-	-	-	-	2.7E-06
Benz(a)anthracene (56-55-3)	-	-	-	1.39E-07	9.31E-07	9.31E-07	-	-	-	-	2.0E-06
Benzo(a)pyrene (50-32-8)	-	-	-	9.28E-08	6.20E-07	6.20E-07	-	-	-	-	1.3E-06
Benzo(b)fluoranthene (205-99-2)	-	-	-	1.39E-07	9.31E-07	9.31E-07	-	-	-	-	2.0E-06
Benzo(g,h,i)perylene (191-24-2)	-	-	-	9.28E-08	6.20E-07	6.20E-07	-	-	-	-	1.3E-06
Benzo(k)fluoranthene (207-08-9)	-	-	-	1.39E-07	9.31E-07	9.31E-07	-	-	-	-	2.0E-06
Chrysene (218-01-9)	-	-	-	1.39E-07	9.31E-07	9.31E-07	-	-	-	-	2.0E-06
Dibenzo(a,h)anthracene (53-70-3)	-	-	-	9.28E-08	6.20E-07	6.20E-07	-	-	-	-	1.3E-06
Dichlorobenzene (106-46-7)	-	-	-	9.28E-05	6.20E-04	6.20E-04	-	-	-	-	1.3E-03
Fluoranthene (206-44-0)	-	-	-	2.32E-07	1.55E-06	1.55E-06	-	-	-	-	3.3E-06
Fluorene (86-73-7)	-	-	-	2.16E-07	1.45E-06	1.45E-06	-	-	-	-	3.1E-06
Naphthalene (91-20-3)	-	1.70E-05	-	4.71E-05	3.15E-04	3.15E-04	4.82E-05	-	-	5.00E-04	1.2E-03
Phenanathrene (85-01-8)	-	-	-	1.31E-06	8.79E-06	8.79E-06	-	-	-	-	1.9E-05
Pyrene (129-00-0)	-	-	-	3.86E-07	2.59E-06	2.59E-06	-	-	-	-	5.6E-06
Methanol (67-56-1)	0.21	-	0.55	0.4273	-	-	1.52E-03	6.08E-03	2.31E-02	-	1.2E+00
Vinyl Chloride (75-01-4)	-	-	-	-	-	-	3.57E-06	-	-	-	3.6E-06
Total	1.03E+00	7.58E-04	7.31E+00	4.78E+00	9.76E-01	9.76E-01	1.61E-02	1.81E+00	1.55E-01	1.92E-02	17.07
Total (without fugitives)											15.09