AIR POLLUTION CONTROL CONSTRUCTION PERMIT

EI FACILITY NO: 471006470 CONSTRUCTION PERMIT NO.: 17-JJW-059

TYPE: Construction Permit for Process(es): P57, P43, P44A-K, P41, P42, P50, P51, P52, P53, P65, P70, P54, P71, P55, P56, P50B, P51B, P52B, P53B, P54B, P55B, P56B, F04, T02, T04, T01, T03, T10, T11, T12, F03, F06

In compliance with the provisions of Chapter 285, Wis. Stats., and Chapters NR 400 to NR 499, Wis. Adm. Code,

Name of Source: Fox River Valley Ethanol, LLC

Street Address: 4995 State Road 91
Oshkosh, Winnebago County, Wisconsin

Responsible Official, & Title: Mr. Neal Kemmet, President & General Manager

is authorized to increase the average monthly production limit for 200 proof ethanol, replace the existing slurry cook tank (P71), and install a modular ethanol dehydration system (P70), a second denatured ethanol truck loading rack (F06), a 489,000 gallon ethanol storage tank (T12), and installation of two approximately 366,600 gallon fermentation vessels (P44J/P44K) described in the plans and specifications dated March 30, 2017 and operate an ethanol fermentation and distillation plant in conformity with the conditions herein. The authority to construct, modify, replace and/or reconstruct any process covered in this construction permit expires **eighteen (18) months** from the date of issuance. This approved period to construct, modify, replace and/or reconstruct may be extended for up to 18 months upon request for cause, prior to expiration, unless otherwise specified by this construction permit. [s. 285.60(1), Wis. Stats.; s. NR 406.12, Wis. Adm. Code]

The conditions in this permit that originated in a construction permit are permanent and may only be revised through a revision of the construction permit condition, revision of a construction permit, or through the issuance of a new construction permit. [s. 285.66(1), Wis. Stats.] The specific conditions in this construction permit that are being established under construction permit 17-JJW-059 are identified by a citation of 17-JJW-059 in square brackets [ ] after the permit condition. Conditions that appear in the construction permit but are not identified by citation to 17-JJW-059 in square brackets are not being established under construction permit no. 17-DMM-059 and are provided for context.

Conditions of the permit marked with an asterisk (*) have been created outside of Wisconsin's federally approved State Implementation Plan (SIP) and are not federally enforceable.

This authorization requires compliance by the permit holder with the emission limitations, monitoring requirements and other terms and conditions set forth in all Parts hereof.

Dated at Oshkosh, Wisconsin June 13, 2017

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
For the Secretary

By /s/
Imelda Hofmeister, Environmental Engineer Supervisor

Part I

H. Process P30, Stack S31A, S33A, S35A, S36A - Cooling Towers (4) [14-JJW-037-EXM– 2 cells, 16-JJW-075 – 2 cells] Process P95, Stack S95 - Cooling Tower (1) [06-JJW-281]		
1. Pollutant: Particulate Matter Emissions		
a. Limitations	**b.** Compliance Demonstration	**c.** Reference Test Methods, Recordkeeping and Monitoring Requirements
(1) 0.197 pounds per hour PM / PM_{10} from each cooling tower stack, except for S95. (1.58 lbs/hr aggregate).[1] [ss. NR 404.08(2), and NR 406.04(1q), Wis. Adm. Code; 06-JJW-281; 14-JJW-037-EXM; 16-JJW-075] (2) 0.06 pound per hour PM / PM_{10} from cooling tower stack S95.[2] [s. NR 404.08(2), Wis. Adm. Code; 06-JJW-281] (3) Chromium compounds may not be added to the cooling water. [s. NR 406.10, Wis. Adm. Code; 06-JJW-281; 16-JJW-075] (4) Emissions may not exceed the more restrictive of: (a) 0.40 pounds of particulate matter per 1,000 pounds of gas; (b) The value of E in the equation $E = 17.31 \times P^{0.16}$; where E = Allowable particulate matter emission rate, in pounds per hour; and P = Process weight as defined in s. NR 415.05(2), Wis. Adm. Code. [ss. NR 415.05(1)(o) and (2), Wis. Adm. Code; 16-JJW-075] (5) See stack parameters in I.ZZZ.7. [s. 285.65(3), Stats.]	(1) The Total Dissolved Solids (TDS) or Total Solids (TS) concentration in the cooling water may not exceed 3,500 parts per million (ppmw), or 3,500 mg/l. The following information is the basis of the calculated potential to emit:[3] (a) Stack S31A - 4,000 gallon per minute design capacity and the design 0.001% max. circulation drift rate; (b) Stack S33A - 4,000 gallon per minute design capacity and the design 0.001% max. circulation drift rate; (c) Stack S35A - 7,250 gallon per minute design capacity and the design 0.001% max. circulation drift rate; (d) Stack S36A - 7,250 gallon per minute design capacity and the design 0.001% max. circulation drift rate; and (e) Stack S95- 1,650 gallon per minute design capacity and the design 0.002% max. circulation drift rate. [s. NR 439.04(1)(d), Wis. Adm. Code; 17-JJW-059]	(1) <u>Reference Test Method for Particulate Matter Emissions:</u> Whenever particulate matter emission testing is required, the permittee shall use US EPA Method 5 (including condensable particulate by US EPA Method 202). [s. NR 439.06(1), Wis. Adm. Code; 06-JJW-281; 16-JJW-075] (2) The permittee shall determine and record the concentration of Total Dissolved Solids (TDS) or Total Solids (TS) in the cooling water on a monthly basis or at the frequency required under any WPDES permit if either of these values are required to be measured and recorded under the WPDES permit (but not less than monthly). [s. NR 439.04, Wis. Adm. Code; 06-JJW-281; 16-JJW-075] (3) The facility shall keep and maintain documentation of the manufacture's design circulation flow rate and circulation drift rate specification for the cooling towers installed at the facility. [s. NR 439.04, Wis. Adm. Code; 06-JJW-281; 16-JJW-075] (4) The permittee shall maintain a description of the type of water treatment program used in the industrial process cooling tower(s), including the chemical name of each corrosion inhibitor / biocide ingredient used; the average concentration of those corrosion inhibitor / biocide ingredients maintained in the cooling water; and a copy of the material safety data sheet for each water treatment chemical or chemical compound used in the industrial process cooling tower. [ss. NR 439.04 and NR 468.30(4)(a), Wis. Adm. Code, 40 CFR 63.405(a); 06-JJW-281; 16-JJW-075]

[1] The particulate matter emissions limitation of 0.197 pounds per hour (from each cooling tower) is more restrictive than the applicable limitation of s. NR 415.05, Wis. Adm. Code. This is necessary to prevent a violation of an ambient air quality standard and/or increment. For Processes P31A and P33A, the particulate emission limitation also serves to demonstrate compliance with the exemption threshold under s. NR 406.04(1q), Wis. Adm. Code.

[2] The particulate matter emissions limitation of 0.06 pounds per hour is more restrictive than the applicable limitation of s. NR 415.05, Wis. Adm. Code. This is necessary to prevent a violation of an ambient air quality standard and/or increment.

[3] This requirement implies that compliance is demonstrated if either the TDS <u>or</u> TS values are not in excess of 3,500 ppmw or mg/l. The facility may elect to measure and record the values of either TDS or TS.

H. Process P30, Stack S31A, S33A, S35A, S36A - Cooling Towers (4) Process P95, Stack S95 - Cooling Tower (1)		
2. Pollutant: Visible Emissions		
a. Limitations	**b.** Compliance Demonstration	**c.** Reference Test Methods, Recordkeeping and Monitoring Requirements
(1) Emissions may not exceed 20% opacity. [s. NR 431.05(1), Wis. Adm. Code; 06-JJW-281; 16-JJW-075]	(1) The requirements in I.H.1.b. shall be used to show compliance with the visible emissions limitation. [s. 285.65(3), Wis. Stats.; 06-JJW-281; 16-JJW-075]	(1) Reference Test Method for Visible Emissions: Whenever visible emissions compliance testing is required, USEPA Method 9 in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04, Wis. Adm. Code shall be used. [s. NR 439.06(9)(a)1., Wis. Adm. Code; 06-JJW-281; 16-JJW-075] (2) The recordkeeping requirements in I.H.1.c shall be used for monitoring the compliance demonstration. [s. NR 439.04, Wis. Adm. Code; 06-JJW-281; 16-JJW-075]

I. Stack S40, Control C40, C40B - CO_2 Scrubbers (2), Process P57 - Ethanol Recovery Unit Condenser, Fermentation and Related Processes: Process P43 - Beerwell (424000 gallons); Process P44A-K - Fermenter #1 - #11 (366,600 gallon each); Process P41 - Yeast Tank #1 (180,000 gal.); Process P42 - Yeast Tank #2 (30,000 gal.)		
1. Pollutant: Volatile Organic Compound (VOC) Emissions		
a. Limitations	**b.** Compliance Demonstration	**c.** Reference Test Methods, Recordkeeping and Monitoring Requirements
(1) 85% overall control of VOC emissions from this process line. [s. NR 424.03(2)(c), Wis. Adm. Code; 17-JJW-059] (2) VOC emission from Stack S40 may not exceed 3.52 pounds per hour. [s. 285.65(3) & (7), Wis. Stats.; 17-JJW-059] (3) Total 200 proof ethanol production from these processes may not exceed 6.0 million gallons per calendar month averaged over each consecutive 12 calendar month period. [s. 285.65(7), Wis. Stats., Wis. Adm. Code; 17-JJW-059]	(1) Except as provided below, whenever ethanol is produced at the facility, the permittee shall direct the fermentation process exhaust to wet scrubber(s). During periods of limited production, defined as any 24 hour period of continuous plant operations with an ethanol yield of less than 80,000 gallons, the facility may route fermentation process exhaust through either scrubber. [s. NR 406.10, Wis. Adm. Code and s. 285.65(3), Wis. Stats.; 17-JJW-059] (2) The permittee shall operate, maintain and calibrate monitoring devices for measuring the liquid flow rate for each wet scrubber used to control emissions from these process lines. [s. NR 439.055(1)(a), Wis. Adm. Code; 17-JJW-059] (3) Each wet scrubber shall have a water flow rate through the scrubber of at least 20 gpm or an alternate range approved by the Department in writing using the procedures under ch. NR 407, Wis. Adm. Code. [s. 285.65(3), Wis. Stats. and s. NR 407.09(4)(a)3.b., Wis. Adm. Code; 17-JJW-059] (4) The permittee shall perform annual operational and internal inspections of each scrubber to ensure that the equipment is operating properly. The time interval between inspections may not exceed twelve (12) months. The inspections shall include, but are not be limited to, the following items: (a) The scrubber bottoms pump; and (b) The packing and demister. [s. 285.65(3), Wis. Stats. and s. NR 407.09(4)(a)3.b., Wis. Adm. Code; 17-JJW-059] (5) Within 180 days prior to the expiration date of the operation permit, the permittee shall perform a compliance test of Stack S40 to demonstrate	(1) <u>Reference Test Method for Volatile Organic Compound (VOC) Emissions:</u> Whenever VOC compliance testing is required, USEPA Method 18 or 25A, or another method approved by the Department in writing shall be used to demonstrate compliance. [s. NR 439.06(8), Wis. Adm. Code; 17-JJW-059] (2) The facility shall monitor and record the flow rate of water to each scrubber at least once every 8 hours or once per day, whichever yields the greatest number of measurements. [s. NR 439.055(2)(b), Wis. Adm. Code; 17-JJW-059-P20] (3) The permittee shall keep and maintain records of each scrubber inspection, including: (a) The date and name of the person(s) or the organization performing the scrubber inspections; (b) A list of the items inspected; and (c) Any maintenance or repairs performed as a result of these inspections and the findings of any inspection. [s. 285.65(10), Wis. Stats. and s. NR 439.04(1)(d), Wis. Adm. Code; 17-JJW-059] (4) The permittee shall keep and maintain the following records: (a) The start and end times and calendar dates of all 24 hour periods in which the facility routed fermentation process exhaust through a single scrubber; (b) The ethanol yield, in gallons, for any 24 hour period in which the facility routed fermentation process exhaust through a single scrubber; (c) the total amount of 200 proof ethanol produced by this facility in million gallons for each calendar month; (d) The total amount of 200 proof ethanol produced by this facility in million gallons per month averaged over each consecutive 12 calendar month period; and (e) Records of all compliance testing. [s. NR 439.04(1)(d), Wis. Adm. Code; 17-JJW-059]

I. Stack S40, Control C40, C40B - CO_2 Scrubbers (2), Process P57 - Ethanol Recovery Unit Condenser, Fermentation and Related Processes: Process P43 - Beerwell (424000 gallons); Process P44A-K - Fermenter #1 - #11 (366,600 gallon each); Process P41 - Yeast Tank #1 (180,000 gal.); Process P42 - Yeast Tank #2 (30,000 gal.)		
1. Pollutant: Volatile Organic Compound (VOC) Emissions		
a. Limitations	**b.** Compliance Demonstration	**c.** Reference Test Methods, Recordkeeping and Monitoring Requirements
	compliance with the limitations in I.I.1.a.(1)&(2). [s. 285.65(3), Wis. Stats. and ss. NR 439.06 and NR 439.075(b), Wis. Adm. Code; 17-JJW-059]	

I. Stack S40, Control C40, C40B - CO_2 Scrubbers (2), Process P57 - Ethanol Recovery Unit Condenser, Fermentation and Related Processes: Process P43 - Beerwell (424000 gallons); Process P44A-K - Fermenter #1 - #11 (366,600 gallon each); Process P41 - Yeast Tank #1 (180,000 gal.); Process P42 - Yeast Tank #2 (30,000 gal.)		
2. Pollutant: Visible Emissions		
a. Limitations	**b.** Compliance Demonstration	**c.** Reference Test Methods, Recordkeeping and Monitoring Requirements
(1) Emissions of shade or density may not be greater than number 1 of the Ringlemann chart or 20% opacity.. [s. NR 431.05, Wis. Adm. Code; 17-JJW-059]	(1) The requirements in 1.I.1.b.(1)-(3) shall be used to show compliance with the visible emissions limitation. [s. 285.65(3), Wis. Adm. Code and s. NR 407.09(4)(a)3.b., Wis. Adm. Code; 17-JJW-059]	(1) Reference Test Method for Visible Emissions: Whenever visible emissions compliance testing is required, USEPA Method 9 in 40 CFR Part 60, Appendix A, incorporated by reference in s. NR 484.04, Wis. Adm. Code shall be used. [s. NR 439.06(9)(a)1., Wis. Adm. Code; 17-JJW-059] (2) The recordkeeping requirements in I.I.1.c.(2)-(3) shall be used for monitoring the compliance demonstration. [s. 285.65(3), Wis. Stats. and s. NR 407.09(1)(c)1.b., Wis. Adm. Code; 17-JJW-059]

I. Stack S40, Control C40, C40B - CO_2 Scrubbers (2), Process P57 - Ethanol Recovery Unit Condenser, Fermentation and Related Processes: Process P43 - Beerwell (424000 gallons); Process P44A-K - Fermenter #1 - #11 (366,600 gallon each); Process P41 - Yeast Tank #1 (180,000 gal.); Process P42 - Yeast Tank #2 (30,000 gal.)		
3. Pollutant: Malodorous Emissions		
a. Limitations	**b.** Compliance Demonstration	**c.** Reference Test Methods, Recordkeeping and Monitoring Requirements
(1) General Limitations. No person may allow or permit emissions into the ambient air any substance or combination of substances in such quantities that an objectionable odor is determined to result unless preventative measures satisfactory to the Department are taken to abate or control such emission. [s. NR 429.03(1), Wis. Adm. Code; 17-JJW-059]*	(1) The permittee shall prepare and implement an Odor Prevention and Abatement Plan. [s. NR 429.03, Wis. Adm. Code; 17-JJW-059]* (2) The Odor Prevention and Abatement Plan shall include a process to document and investigate complaints related to malodorous emissions. The permittee shall investigate each complaint related to malodorous emissions as expeditiously as practicable. [s. NR 429.03, Wis. Adm. Code; 17-JJW-059]* (3) If malodorous emissions are determined to exist or persist as a result of process operations, the	(1) The facility shall keep and maintain the following records: (a) A record of all complaints related to malodorous emissions. The record shall include the date, time, and name of the complainant. (b) A record of the results of each investigation related to a malodorous emissions complaint. (c) The most recent version of the Odor Prevention and Abatement Plan. [s. NR 439.04(1)(d), Wis. Adm. Code; 17-JJW-059]*

I. Stack S40, Control C40, C40B - CO_2 Scrubbers (2), Process P57 - Ethanol Recovery Unit Condenser, Fermentation and Related Processes: Process P43 - Beerwell (424000 gallons); Process P44A-K - Fermenter #1 - #11 (366,600 gallon each); Process P41 - Yeast Tank #1 (180,000 gal.); Process P42 - Yeast Tank #2 (30,000 gal.)		
3. Pollutant: Malodorous Emissions		
a. Limitations	**b.** Compliance Demonstration	**c.** Reference Test Methods, Recordkeeping and Monitoring Requirements
	facility shall propose additional means of odor control by amending the Odor Prevention and Abatement Plan and proposing the actions or controls needed to minimize the odors. The facility shall implement the additional measures to reduce odors as expeditiously as practicable. [s. NR 429.03, Wis. Adm. Code; 17-JJW-059]*	

J. Stack S50; Control C50; Distillation and Related Processes: Process P50 - Molecular Sieve; Process P51 - Evaporator; Process P52 - Rectifier; Process P53 - Side Stripper; Process P65 – Liquefaction Tank (45,000 gal.); Process P70 - Modular Ethanol Dehydration System; Process P54 and Process P71 - Slurry Tank; Process P55 - Beer Stripper; Process P56 - De-Gas vessel; Process P50B - Molecular Sieve; Process P51B - Evaporator; Process P52B - Rectifier; Process P53B - Side Stripper; Process P54B - Slurry Tank; Process P55B - Beer Stripper; Process P56B - De-Gas Vessel.		
1. Pollutant: Volatile Organic Compound (VOC) Emissions		
a. Limitations	**b.** Compliance Demonstration	**c.** Reference Test Methods, Recordkeeping and Monitoring Requirements
(1) 85% overall control of VOC emissions from this process line. [s. NR 424.03(2)(c), Wis. Adm. Code; 17-JJW-059] (2) VOC emission from Stack S50 may not exceed 1.95 pounds per hour. [s. 285.65(3) & (7), Wis. Stats.; 17-JJW-059] (3) Total 200 proof ethanol production from these processes may not exceed 6.0 million gallons per calendar month averaged over each consecutive 12 calendar month period. [s. 285.65(7), Wis. Stats., Wis. Adm. Code; 17-JJW-059]	(1) Whenever ethanol is produced at the facility, the permittee shall direct the distillation process to an operating wet scrubber. [s. NR 406.10, Wis. Adm. Code and s. 285.65(3), Wis. Stats.; 17-JJW-059] (2) Each wet scrubber shall have a water flow rate through the scrubber of at least 4.0 gpm or an alternate range approved by the Department in writing using the procedures under ch. NR 407, Wis. Adm. Code. [s. 285.65(3), Wis. Stats. and s. NR 407.09(4)(a)3.b., Wis. Adm. Code; 17-JJW-059] (3) The permittee shall perform annual operational and internal inspections of each scrubber to ensure that the equipment is operating properly. The time interval between inspections may not exceed twelve (12) months. The inspections shall include, but are not be limited to the following items: (a) The scrubber bottoms pump; and (b) The packing and demister. [s. 285.65(3), Wis. Stats. and s. NR 407.09(4)(a)3.b., Wis. Adm. Code; 17-JJW-059] (4) Within 180 days prior to the expiration date of the operation permit, the permittee shall perform a compliance test of Stack S40 to demonstrate compliance with the limitations in I.J.1.a.(1)&(2). [s. 285.65(3), Wis. Stats. and ss. NR 439.06 and NR 439.075(b), Wis. Adm. Code; 17-JJW-059]	(1) <u>Reference Test Method for Volatile Organic Compound (VOC) Emissions:</u> Whenever VOC compliance testing is required, USEPA Method 18 or 25A, or another method approved by the Department in writing shall be used to demonstrate compliance. [s. NR 439.06(8), Wis. Adm. Code; 17-JJW-059] (2) The facility shall monitor and record the flow rate of water to the scrubber at least once every 8 hours or once per day, whichever yields the greatest number of measurements. [s. NR 439.055(2)(b), Wis. Adm. Code; 17-JJW-059-P20] (3) The permittee shall keep and maintain records of each scrubber inspection, including: (a) The date and name of the person(s) or organization performing the scrubber inspections; (b) A list of the items inspected; and (c) Any maintenance or repairs performed as a result of these inspections. [s. 285.65(10), Wis. Stats. and s. NR 439.04(1)(d), Wis. Adm. Code; 17-JJW-059] (4) The facility shall keep and maintain the following records: (a) The total amount of 200 proof ethanol produced by this facility in million gallons for each calendar month; and (b) The total amount of 200 proof ethanol produced by this facility in million gallons per month averaged over each consecutive 12 calendar month period; (c) Records of all compliance testing. [s. NR 439.04(1)(d), Wis. Adm. Code; 17-JJW-059]

J. Stack S50; Control C50; Distillation and Related Processes: Process P50 - Molecular Sieve; Process P51 - Evaporator; Process P52 - Rectifier; Process P53 - Side Stripper; Process P65 – Liquefaction Tank (45,000 gal.); Process P70 - Modular Ethanol Dehydration System; Process P54 and Process P71 - Slurry Tank; Process P55 - Beer Stripper; Process P56 - De-Gas vessel; Process P50B - Molecular Sieve; Process P51B - Evaporator; Process P52B - Rectifier; Process P53B - Side Stripper; Process P54B - Slurry Tank; Process P55B - Beer Stripper; Process P56B - De-Gas Vessel.		
2. Pollutant: Visible Emissions		
a. Limitations	**b.** Compliance Demonstration	**c.** Reference Test Methods, Recordkeeping and Monitoring Requirements
(1) Emissions of shade or density may not be greater than number 1 of the Ringlemann chart or 20% opacity.. [s. NR 431.05, Wis. Adm. Code; 17-JJW-059]	(1) The requirements in 1.J.1.b.(1)-(3) shall be used to show compliance with the visible emissions limitation. [s. 285.65(3), Wis. Adm. Code and s. NR 407.09(4)(a)3.b., Wis. Adm. Code; 17-JJW-059]	(1) Reference Test Method for Visible Emissions: Whenever visible emissions compliance testing is required, USEPA Method 9 in 40 CFR Part 60, Appendix A, incorporated by reference in s. NR 484.04, Wis. Adm. Code shall be used. [s. NR 439.06(9)(a)1., Wis. Adm. Code; 17-JJW-059] (2) The recordkeeping requirements in I.J.1.c.(2)-(3) shall be used for monitoring the compliance demonstration. [s. 285.65(3), Wis. Stats. and s. NR 407.09(1)(c)1.b., Wis. Adm. Code; 17-JJW-059]

J. Stack S50; Control C50; Distillation and Related Processes: Process P50 - Molecular Sieve; Process P51 - Evaporator; Process P52 - Rectifier; Process P53 - Side Stripper; Process P65 – Liquefaction Tank (45,000 gal.); Process P70 - Modular Ethanol Dehydration System; Process P54 and Process P71 - Slurry Tank; Process P55 - Beer Stripper; Process P56 - De-Gas vessel; Process P50B - Molecular Sieve; Process P51B - Evaporator; Process P52B - Rectifier; Process P53B - Side Stripper; Process P54B - Slurry Tank; Process P55B - Beer Stripper; Process P56B - De-Gas Vessel.		
3. Pollutant: Malodorous Emissions		
a. Limitations	**b.** Compliance Demonstration	**c.** Reference Test Methods, Recordkeeping and Monitoring Requirements
(1) General Limitations. No person may allow or permit emissions into the ambient air any substance or combination of substances in such quantities that an objectionable odor is determined to result unless preventative measures satisfactory to the Department are taken to abate or control such emission. [s. NR 429.03(1), Wis. Adm. Code; 17-JJW-059]*	(1) The permittee shall prepare and implement an Odor Prevention and Abatement Plan. [s. NR 429.03, Wis. Adm. Code; 17-JJW-059]* (2) The Odor Prevention and Abatement Plan shall include a process to document and investigate complaints related to malodorous emissions. The permittee shall investigate each complaint related to malodorous emissions as expeditiously as practicable. [s. NR 429.03, Wis. Adm. Code; 17-JJW-059]* (3) If malodorous emissions are determined to exist or persist as a result of process operations, the facility shall propose additional means of odor control by amending the Odor Prevention and Abatement Plan and proposing the actions or controls needed to minimize the odors. The facility shall implement the additional measures to reduce	(1) The facility shall keep and maintain the following records: (a) A record of all complaints related to malodorous emissions. The record shall include the date, time, and name of the complainant. (b) A record of the results of each investigation related to a malodorous emissions complaint. (c) The most recent version of the Odor Prevention and Abatement Plan. [s. NR 439.04(1)(d), Wis. Adm. Code; 17-JJW-059]*

J. Stack S50; Control C50; Distillation and Related Processes: Process P50 - Molecular Sieve; Process P51 - Evaporator; Process P52 - Rectifier; Process P53 - Side Stripper; Process P65 – Liquefaction Tank (45,000 gal.); Process P70 - Modular Ethanol Dehydration System; Process P54 and Process P71 - Slurry Tank; Process P55 - Beer Stripper; Process P56 - De-Gas vessel; Process P50B - Molecular Sieve; Process P51B - Evaporator; Process P52B - Rectifier; Process P53B - Side Stripper; Process P54B - Slurry Tank; Process P55B - Beer Stripper; Process P56B - De-Gas Vessel.		
3. Pollutant: Malodorous Emissions		
a. Limitations	**b.** Compliance Demonstration	**c.** Reference Test Methods, Recordkeeping and Monitoring Requirements
	odors as expeditiously as practicable. [s. NR 429.03, Wis. Adm. Code; 17-JJW-059]*	

L. Process F04 - Process Equipment (Valves, Pumps, Flanges, etc.) Leaks.

1. Pollutant: Volatile Organic Compound (VOC) Emissions

a. Conditions

40 CFR 60.480a Applicability and designation of affected facility.

(a) (1) The provisions of this subpart apply to affected facilities in the synthetic organic chemicals manufacturing industry.

(2) The group of all equipment (defined in 40 CFR 60.481a) within a process unit is an affected facility.

(b) Any affected facility under paragraph (a) of this section that commences construction, reconstruction, or modification after November 7, 2006, shall be subject to the requirements of this subpart.

(c) Addition or replacement of equipment for the purpose of process improvement which is accomplished without a capital expenditure shall not by itself be considered a modification under this subpart.

(d) (1) If an owner or operator applies for one or more of the exemptions in this paragraph, then the owner or operator shall maintain records as required in 40 CFR 60.486a(i).

(2) Any affected facility that has the design capacity to produce less than 1,000 Mg/yr (1,102 ton/yr) of a chemical listed in 40 CFR 60.489 is exempt from 40 CFR 60.482–1a through 60.482–11a.

(3) If an affected facility produces heavy liquid chemicals only from heavy liquid feed or raw materials, then it is exempt from 40 CFR 60.482–1a through 60.482–11a.

(4) Any affected facility that produces beverage alcohol is exempt from 40 CFR 60.482–1a through 60.482–11a.

(5) Any affected facility that has no equipment in volatile organic compounds (VOC) service is exempt from 40 CFR 60.482–1a through 60.482–11a.

(e) *Alternative means of compliance —*

(1) *Option to comply with part 65.*

(i) Owners or operators may choose to comply with the provisions of 40 CFR part 65, subpart F, to satisfy the requirements of 40 CFR 60.482–1a through 60.487a for an affected facility. When choosing to comply with 40 CFR part 65, subpart F, the requirements of 40 CFR 60.485a(d), (e), and (f), and 60.486a(i) and (j) still apply. Other provisions applying to an owner or operator who chooses to comply with 40 CFR part 65 are provided in 40 CFR 65.1.

(ii) *Part 60, subpart A.* Owners or operators who choose to comply with 40 CFR part 65, subpart F must also comply with 40 CFR 60.1, 60.2, 60.5, 60.6, 60.7(a)(1) and (4), 60.14, 60.15, and 60.16 for that equipment. All sections and paragraphs of subpart A of this part that are not mentioned in this paragraph (e)(1)(ii) do not apply to owners or operators of equipment subject to this subpart complying with 40 CFR part 65, subpart F, except that provisions required to be met prior to implementing 40 CFR part 65 still apply. Owners and operators who choose to comply with 40 CFR part 65, subpart F, must comply with 40 CFR part 65, subpart A.

(2) *Part 63, subpart H.*

(i) Owners or operators may choose to comply with the provisions of 40 CFR part 63, subpart H, to satisfy the requirements of 40 CFR 60.482–1a through 60.487a for an affected facility. When choosing to comply with 40 CFR part 63, subpart H, the requirements of 40 CFR 60.485a(d), (e), and (f), and 40 CFR 60.486a(i) and (j) still apply.

(ii) *Part 60, subpart A.* Owners or operators who choose to comply with 40 CFR part 63, subpart H must also comply with 40 CFR 60.1, 60.2, 60.5, 60.6, 60.7(a)(1) and (4), 60.14, 60.15, and 60.16 for that equipment. All sections and paragraphs of subpart A of this part that are not mentioned in this paragraph (e)(2)(ii) do not apply to owners or operators of equipment subject to this subpart complying with 40 CFR part 63, subpart H, except that provisions required to be met prior to implementing 40 CFR part 63 still apply. Owners and operators who choose to comply with 40 CFR part 63, subpart H, must comply with 40 CFR part 63, subpart A.

(f) *Stay of standards.*

(1) Owners or operators that start a new, reconstructed, or modified affected source prior to November 16, 2007 are not required to comply with the requirements in this paragraph until EPA takes final action to require compliance and publishes a document in the Federal Register.

(i) The definition of "capital expenditure" in 40 CFR 60.481a of this subpart. While the definition of "capital expenditure" is stayed, owners or operators should use the definition found in 40 CFR 60.481 of subpart VV of this part.

(ii) [Reserved]

(2) Owners or operators are not required to comply with the requirements in this paragraph until EPA takes final action to require compliance and publishes a document in the Federal Register.

(i) The definition of "process unit" in 40 CFR 60.481a of this subpart. While the definition of "process unit" is stayed, owners or operators should use the following

L. Process F04 - Process Equipment (Valves, Pumps, Flanges, etc.) Leaks.

1. Pollutant: Volatile Organic Compound (VOC) Emissions

a. Conditions

definition:

Process unit means components assembled to produce, as intermediate or final products, one or more of the chemicals listed in 40 CFR 60.489 of this part. A process unit can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for the product.

(ii) The method of allocation of shared storage vessels in 40 CFR 60.482–1a(g) of this subpart.

(iii) The standards for connectors in gas/vapor service and in light liquid service in 40 CFR 60.482–11a of this subpart.

[72 FR 64883, Nov. 16, 2007, as amended at 73 FR 31375, June 2, 2008]

[s. 285.65(13), Wis. Stats., 40 CFR 60.480a; 17-JJW-059]

40 CFR 60.481a Definitions.

As used in section I.X. of this permit, all terms not defined herein shall have the meaning given them in the Clean Air Act (CAA) or in subpart A of part 60, and the following terms shall have the specific meanings given them.

Capital expenditure means, in addition to the definition in 40 CFR 60.2, an expenditure for a physical or operational change to an existing facility that:

(a) Exceeds P, the product of the facility's replacement cost, R, and an adjusted annual asset guideline repair allowance, A, as reflected by the following equation: $P = R \times A$, where:

(1) The adjusted annual asset guideline repair allowance, A, is the product of the percent of the replacement cost, Y, and the applicable basic annual asset guideline repair allowance, B, divided by 100 as reflected by the following equation:

$A = Y \times (B \div 100)$;

(2) The percent Y is determined from the following equation: $Y = 1.0 - 0.575 \log X$, where X is 2006 minus the year of construction; and

(3) The applicable basic annual asset guideline repair allowance, B, is selected from the following table consistent with the applicable subpart:

Table for Determining Applicable Value for B

Subpart applicable to facility	Value of B to be used in equation
VVa	12.5
GGGa	7.0

(see below), and the replacement definition under 40 CFR 60.480a(f)(1)(i) which references the subpart VV definition under 40 CFR 60.481 for sources constructed or modified prior to Nov. 16, 2007. This facility was modified after this date.

Closed-loop system means an enclosed system that returns process fluid to the process.

Closed-purge system means a system or combination of systems and portable containers to capture purged liquids. Containers for purged liquids must be covered or closed when not being filled or emptied.

Connector means flanged, screwed, or other joined fittings used to connect two pipe lines or a pipe line and a piece of process equipment or that close an opening in a pipe that could be connected to another pipe. Joined fittings welded completely around the circumference of the interface are not considered connectors for the purpose of this regulation.

Control device means an enclosed combustion device, vapor recovery system, or flare.

Distance piece means an open or enclosed casing through which the piston rod travels, separating the compressor cylinder from the crankcase.

Double block and bleed system means two block valves connected in series with a bleed valve or line that can vent the line between the two block valves.

Duct work means a conveyance system such as those commonly used for heating and ventilation systems. It is often made of sheet metal and often has sections connected by screws or crimping. Hard-piping is not ductwork.

Equipment means each pump, compressor, pressure relief device, sampling connection system, open-ended valve or line, valve, and flange or other connector in VOC service and

L. Process F04 - Process Equipment (Valves, Pumps, Flanges, etc.) Leaks.

1. Pollutant: Volatile Organic Compound (VOC) Emissions

a. Conditions

any devices or systems required by this subpart.
First attempt at repair means to take action for the purpose of stopping or reducing leakage of organic material to the atmosphere using best practices.
Fuel gas means gases that are combusted to derive useful work or heat.
Fuel gas system means the offsite and onsite piping and flow and pressure control system that gathers gaseous stream(s) generated by onsite operations, may blend them with other sources of gas, and transports the gaseous stream for use as fuel gas in combustion devices or in-process combustion equipment, such as furnaces and gas turbines, either singly or in combination.
Hard-piping means pipe or tubing that is manufactured and properly installed using good engineering judgment and standards such as ASME B31.3, Process Piping (available from the American Society of Mechanical Engineers, P.O. Box 2300, Fairfield, NJ 07007–2300).
In gas/vapor service means that the piece of equipment contains process fluid that is in the gaseous state at operating conditions.
In heavy liquid service means that the piece of equipment is not in gas/vapor service or in light liquid service.
In light liquid service means that the piece of equipment contains a liquid that meets the conditions specified in 40 CFR 60.485a(e).
In-situ sampling systems means non-extractive samplers or in-line samplers.
In vacuum service means that equipment is operating at an internal pressure which is at least 5 kilopascals (kPa) (0.7 psia) below ambient pressure.
In VOC service means that the piece of equipment contains or contacts a process fluid that is at least 10 percent VOC by weight. (The provisions of 40 CFR 60.485a(d) specify how to determine that a piece of equipment is not in VOC service.)
Initial calibration value means the concentration measured during the initial calibration at the beginning of each day required in 40 CFR 60.485a(b)(1), or the most recent calibration if the instrument is recalibrated during the day (i.e., the calibration is adjusted) after a calibration drift assessment.
Liquids dripping means any visible leakage from the seal including spraying, misting, clouding, and ice formation.
Open-ended valve or line means any valve, except safety relief valves, having one side of the valve seat in contact with process fluid and one side open to the atmosphere, either directly or through open piping.
Pressure release means the emission of materials resulting from system pressure being greater than set pressure of the pressure relief device.
Process improvement means routine changes made for safety and occupational health requirements, for energy savings, for better utility, for ease of maintenance and operation, for correction of design deficiencies, for bottleneck removal, for changing product requirements, or for environmental control.
~~*Process unit* means the components assembled and connected by pipes or ducts to process raw materials and to produce, as intermediate or final products, one or more of the chemicals listed in 40 CFR 60.489. A process unit can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for the product. For the purpose of this subpart, process unit includes any feed, intermediate and final product storage vessels (except as specified in 40 CFR 60.482–1a(g)), product transfer racks, and connected ducts and piping. A process unit includes all equipment as defined in this subpart.~~ (*see below*), and the replacement definition noted under 40 CFR 60.480a(f)(2)(i).
Process unit shutdown means a work practice or operational procedure that stops production from a process unit or part of a process unit during which it is technically feasible to clear process material from a process unit or part of a process unit consistent with safety constraints and during which repairs can be accomplished. The following are not considered process unit shutdowns:

(1) An unscheduled work practice or operational procedure that stops production from a process unit or part of a process unit for less than 24 hours.
(2) An unscheduled work practice or operational procedure that would stop production from a process unit or part of a process unit for a shorter period of time than would be required to clear the process unit or part of the process unit of materials and start up the unit, and would result in greater emissions than delay of repair of leaking components until the next scheduled process unit shutdown.
(3) The use of spare equipment and technically feasible bypassing of equipment without stopping production.

Quarter means a 3-month period; the first quarter concludes on the last day of the last full month during the 180 days following initial startup.
Repaired means that equipment is adjusted, or otherwise altered, in order to eliminate a leak as defined in the applicable sections of this subpart and, except for leaks identified in accordance with 40 CFR 60.482–2a(b)(2)(ii) and (d)(6)(ii) and (d)(6)(iii), 60.482–3a(f), and 60.482–10a(f)(1)(ii), is re-monitored as specified in 40 CFR 60.485a(b) to verify that emissions from the equipment are below the applicable leak definition.
Replacement cost means the capital needed to purchase all the depreciable components in a facility.

L. Process F04 - Process Equipment (Valves, Pumps, Flanges, etc.) Leaks.

1. Pollutant: Volatile Organic Compound (VOC) Emissions

a. Conditions

Sampling connection system means an assembly of equipment within a process unit used during periods of representative operation to take samples of the process fluid. Equipment used to take non-routine grab samples is not considered a sampling connection system.
Sensor means a device that measures a physical quantity or the change in a physical quantity such as temperature, pressure, flow rate, pH, or liquid level.
Storage vessel means a tank or other vessel that is used to store organic liquids that are used in the process as raw material feedstocks, produced as intermediates or final products, or generated as wastes. Storage vessel does not include vessels permanently attached to motor vehicles, such as trucks, railcars, barges or ships.
Synthetic organic chemicals manufacturing industry means the industry that produces, as intermediates or final products, one or more of the chemicals listed in 40 CFR 60.489.
Transfer rack means the collection of loading arms and loading hoses, at a single loading rack, that are used to fill tank trucks and/or railcars with organic liquids.
Volatile organic compounds or VOC means, for the purposes of this subpart, any reactive organic compounds as defined in 40 CFR 60.2 Definitions.
Effective Date Note: 40 CFR 60.480a (f) *Stay of standards.* (1) Owners or operators that start a new, reconstructed, or modified affected source prior to November 16, 2007 are not required to comply with the requirements in this paragraph until EPA takes final action to require compliance and publishes a document in the Federal Register .
At 73 FR 31376, June 2, 2008, in 40 CFR 60.481a, the definitions of "capital expenditure" and "process unit" were stayed until further notice.
(2) Owners or operators are not required to comply with the requirements in this paragraph until EPA takes final action to require compliance and publishes a document in the Federal Register .
(i) The definition of "process unit" in 40 CFR 60.481a of this subpart. While the definition of "process unit" is stayed, owners or operators should use the following definition:
Process unit means components assembled to produce, as intermediate or final products, one or more of the chemicals listed in 40 CFR 60.489 of this part. A process unit can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for the product.
[s. 285.65(13), Wis. Stats., 40 CFR 60.481a; 17-JJW-059]

40 CFR 60.482-1a Standards: General.
(a) Each owner or operator subject to the provisions of this subpart shall demonstrate compliance with the requirements of 40 CFR 60.482–1a through 60.482–10a or 40 CFR 60.480a(e) for all equipment within 180 days of initial startup *(following modification)*.
(b) Compliance with 40 CFR 60.482–1a to 60.482–10a will be determined by review of records and reports, review of performance test results, and inspection using the methods and procedures specified in 40 CFR 60.485a.
(c) (1) An owner or operator may request a determination of equivalence of a means of emission limitation to the requirements of 40 CFR 60.482–2a, 60.482–3a, 60.482–5a, 60.482–6a, 60.482–7a, 60.482–8a, and 60.482–10a as provided in 40 CFR 60.484a.
(2) If the Administrator makes a determination that a means of emission limitation is at least equivalent to the requirements of 40 CFR 60.482–2a, 60.482–3a, 60.482–5a, 60.482–6a, 60.482–7a, 60.482–8a, or 60.482–10a, an owner or operator shall comply with the requirements of that determination.
(d) Equipment that is in vacuum service is excluded from the requirements of 40 CFR 60.482–2a through 60.482–10a if it is identified as required in 40 CFR 60.486a(e)(5).
(e) Equipment that an owner or operator designates as being in VOC service less than 300 hr/yr is excluded from the requirements of 40 CFR 60.482–2a through 60.482–11a if it is identified as required in 40 CFR 60.486a(e)(6) and it meets any of the conditions specified in paragraphs (e)(1) through (3) of this section.
(1) The equipment is in VOC service only during startup and shutdown, excluding startup and shutdown between batches of the same campaign for a batch process.
(2) The equipment is in VOC service only during process malfunctions or other emergencies.
(3) The equipment is backup equipment that is in VOC service only when the primary equipment is out of service.
(f) (1) If a dedicated batch process unit operates less than 365 days during a year, an owner or operator may monitor to detect leaks from pumps, valves, and open-ended valves or lines at the frequency specified in the following table instead of monitoring as specified in 40 CFR 60.482–2a, 60.482–7a, and 60.483.2a:

Operating time (percent of hours during year)	Equivalent monitoring frequency time in use		
	Monthly	Quarterly	Semiannually
0 to <25	Quarterly	Annually	Annually.
25 to <50	Quarterly	Semiannually	Annually.

L. Process F04 - Process Equipment (Valves, Pumps, Flanges, etc.) Leaks.

1. Pollutant: Volatile Organic Compound (VOC) Emissions

a. Conditions

50 to <75	Bimonthly	Three quarters	Semiannually.
75 to 100	Monthly	Quarterly	Semiannually.

(2) Pumps and valves that are shared among two or more batch process units that are subject to this subpart may be monitored at the frequencies specified in paragraph (f)(1) of this section, provided the operating time of all such process units is considered.

(3) The monitoring frequencies specified in paragraph (f)(1) of this section are not requirements for monitoring at specific intervals and can be adjusted to accommodate process operations. An owner or operator may monitor at any time during the specified monitoring period (e.g., month, quarter, year), provided the monitoring is conducted at a reasonable interval after completion of the last monitoring campaign. Reasonable intervals are defined in paragraphs (f)(3)(i) through (iv) of this section.

(i) When monitoring is conducted quarterly, monitoring events must be separated by at least 30 calendar days.

(ii) When monitoring is conducted semiannually (*i.e.* , once every 2 quarters), monitoring events must be separated by at least 60 calendar days.

(iii) When monitoring is conducted in 3 quarters per year, monitoring events must be separated by at least 90 calendar days.

(iv) When monitoring is conducted annually, monitoring events must be separated by at least 120 calendar days.

[s. 285.65(13), Wis. Stats., 40 CFR 60.482-1a. Standards: General (a) – (f); 17-JJW-059

~~(g) If the storage vessel is shared with multiple process units, the process unit with the greatest annual amount of stored materials (predominant use) is the process unit the storage vessel is assigned to. If the storage vessel is shared equally among process units, and one of the process units has equipment subject to this subpart, the storage vessel is assigned to that process unit. If the storage vessel is shared equally among process units, none of which have equipment subject to this subpart of this part, the storage vessel is assigned to any process unit subject to subpart VV of this part. If the predominant use of the storage vessel varies from year to year, then the owner or operator must estimate the predominant use initially and reassess every 3 years. The owner or operator must keep records of the information and supporting calculations that show how predominant use is determined. All equipment on the storage vessel must be monitored when in VOC service.~~

Effective Date Note: At 73 FR 31376, June 2, 2008, in 40 CFR 60.482–1a, paragraph (g) was stayed until further notice.

[s. 285.65(13), Wis. Stats., 40 CFR 60.482-1a Standards: General. (g); 17-JJW-059

40 CFR 60.482-2a Standards: Pumps in light liquid service.

(a) (1) Each pump in light liquid service shall be monitored monthly to detect leaks by the methods specified in 40 CFR 60.485a(b), except as provided in 40 CFR 60.482–1a(c) and (f) and paragraphs (d), (e), and (f) of this section. A pump that begins operation in light liquid service after the initial startup date for the process unit must be monitored for the first time within 30 days after the end of its startup period, except for a pump that replaces a leaking pump and except as provided in 40 CFR 60.482–1a(c) and paragraphs (d), (e), and (f) of this section.

(2) Each pump in light liquid service shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal, except as provided in 40 CFR 60.482–1a(f).

(b) (1) The instrument reading that defines a leak is specified in paragraphs (b)(1)(i) and (ii) of this section.

(i) 5,000 parts per million (ppm) or greater for pumps handling polymerizing monomers;

(ii) 2,000 ppm or greater for all other pumps.

(2) If there are indications of liquids dripping from the pump seal, the owner or operator shall follow the procedure specified in either paragraph (b)(2)(i) or (ii) of this section. This requirement does not apply to a pump that was monitored after a previous weekly inspection and the instrument reading was less than the concentration specified in paragraph (b)(1)(i) or (ii) of this section, whichever is applicable.

(i) Monitor the pump within 5 days as specified in 40 CFR 60.485a(b). A leak is detected if the instrument reading measured during monitoring indicates a leak as specified in paragraph (b)(1)(i) or (ii) of this section, whichever is applicable. The leak shall be repaired using the procedures in paragraph (c) of this section.

(ii) Designate the visual indications of liquids dripping as a leak, and repair the leak using either the procedures in paragraph (c) of this section or by eliminating the visual indications of liquids dripping.

(c) (1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in 40 CFR 60.482–9a.

L. Process F04 - Process Equipment (Valves, Pumps, Flanges, etc.) Leaks.

1. Pollutant: Volatile Organic Compound (VOC) Emissions

a. Conditions

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected. First attempts at repair include, but are not limited to, the practices described in paragraphs (c)(2)(i) and (ii) of this section, where practicable.

(i) Tightening the packing gland nuts;

(ii) Ensuring that the seal flush is operating at design pressure and temperature.

(d) Each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of paragraph (a) of this section, provided the requirements specified in paragraphs (d)(1) through (6) of this section are met.

(1) Each dual mechanical seal system is:

(i) Operated with the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure; or

(ii) Equipped with a barrier fluid degassing reservoir that is routed to a process or fuel gas system or connected by a closed vent system to a control device that complies with the requirements of 40 CFR 60.482–10a; or

(iii) Equipped with a system that purges the barrier fluid into a process stream with zero VOC emissions to the atmosphere.

(2) The barrier fluid system is in heavy liquid service or is not in VOC service.

(3) Each barrier fluid system is equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both.

(4) (i) Each pump is checked by visual inspection, each calendar week, for indications of liquids dripping from the pump seals.

(ii) If there are indications of liquids dripping from the pump seal at the time of the weekly inspection, the owner or operator shall follow the procedure specified in either paragraph (d)(4)(ii)(A) or (B) of this section prior to the next required inspection.

(A) Monitor the pump within 5 days as specified in 40 CFR 60.485a(b) to determine if there is a leak of VOC in the barrier fluid. If an instrument reading of 2,000 ppm or greater is measured, a leak is detected.

(B) Designate the visual indications of liquids dripping as a leak.

(5) (i) Each sensor as described in paragraph (d)(3) is checked daily or is equipped with an audible alarm.

(ii) The owner or operator determines, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

(iii) If the sensor indicates failure of the seal system, the barrier fluid system, or both, based on the criterion established in paragraph (d)(5)(ii) of this section, a leak is detected.

(6) (i) When a leak is detected pursuant to paragraph (d)(4)(ii)(A) of this section, it shall be repaired as specified in paragraph (c) of this section.

(ii) A leak detected pursuant to paragraph (d)(5)(iii) of this section shall be repaired within 15 days of detection by eliminating the conditions that activated the sensor.

(iii) A designated leak pursuant to paragraph (d)(4)(ii)(B) of this section shall be repaired within 15 days of detection by eliminating visual indications of liquids dripping.

(e) Any pump that is designated, as described in 40 CFR 60.486a(e)(1) and (2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraphs (a), (c), and (d) of this section if the pump:

(1) Has no externally actuated shaft penetrating the pump housing;

(2) Is demonstrated to be operating with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background as measured by the methods specified in 40 CFR 60.485a(c); and

(3) Is tested for compliance with paragraph (e)(2) of this section initially upon designation, annually, and at other times requested by the Administrator.

(f) If any pump is equipped with a closed vent system capable of capturing and transporting any leakage from the seal or seals to a process or to a fuel gas system or to a control device that complies with the requirements of 40 CFR 60.482–10a, it is exempt from paragraphs (a) through (e) of this section.

(g) Any pump that is designated, as described in 40 CFR 60.486a(f)(1), as an unsafe-to-monitor pump is exempt from the monitoring and inspection requirements of paragraphs (a) and (d)(4) through (6) of this section if:

(1) The owner or operator of the pump demonstrates that the pump is unsafe-to-monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (a) of this section; and

(2) The owner or operator of the pump has a written plan that requires monitoring of the pump as frequently as practicable during safe-to-monitor times, but not more

L. Process F04 - Process Equipment (Valves, Pumps, Flanges, etc.) Leaks.

1. Pollutant: Volatile Organic Compound (VOC) Emissions

a. Conditions

frequently than the periodic monitoring schedule otherwise applicable, and repair of the equipment according to the procedures in paragraph (c) of this section if a leak is detected.

(h) Any pump that is located within the boundary of an unmanned plant site is exempt from the weekly visual inspection requirement of paragraphs (a)(2) and (d)(4) of this section, and the daily requirements of paragraph (d)(5) of this section, provided that each pump is visually inspected as often as practicable and at least monthly.

[s. 285.65(13), Wis. Stats., 40 CFR 60.482-2a; 17-JJW-059]

40 CFR 60.482-3a Standards: Compressors.

(a) Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of VOC to the atmosphere, except as provided in 40 CFR 60.482–1a(c) and paragraphs (h), (i), and (j) of this section.

(b) Each compressor seal system as required in paragraph (a) of this section shall be:

(1) Operated with the barrier fluid at a pressure that is greater than the compressor stuffing box pressure; or

(2) Equipped with a barrier fluid system degassing reservoir that is routed to a process or fuel gas system or connected by a closed vent system to a control device that complies with the requirements of 40 CFR 60.482–10a; or

(3) Equipped with a system that purges the barrier fluid into a process stream with zero VOC emissions to the atmosphere.

(c) The barrier fluid system shall be in heavy liquid service or shall not be in VOC service.

(d) Each barrier fluid system as described in paragraph (a) shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both.

(e) (1) Each sensor as required in paragraph (d) of this section shall be checked daily or shall be equipped with an audible alarm.

(2) The owner or operator shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

(f) If the sensor indicates failure of the seal system, the barrier system, or both based on the criterion determined under paragraph (e)(2) of this section, a leak is detected.

(g) (1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in 40 CFR 60.482–9a.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(h) A compressor is exempt from the requirements of paragraphs (a) and (b) of this section, if it is equipped with a closed vent system to capture and transport leakage from the compressor drive shaft back to a process or fuel gas system or to a control device that complies with the requirements of 40 CFR 60.482–10a, except as provided in paragraph (i) of this section.

(i) Any compressor that is designated, as described in 40 CFR 60.486a(e)(1) and (2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraphs (a) through (h) of this section if the compressor:

(1) Is demonstrated to be operating with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the methods specified in 40 CFR 60.485a(c); and

(2) Is tested for compliance with paragraph (i)(1) of this section initially upon designation, annually, and at other times requested by the Administrator.

(j) Any existing reciprocating compressor in a process unit which becomes an affected facility under provisions of 40 CFR 60.14 or 40 CFR 60.15 is exempt from paragraphs (a) through (e) and (h) of this section, provided the owner or operator demonstrates that recasting the distance piece or replacing the compressor are the only options available to bring the compressor into compliance with the provisions of paragraphs (a) through (e) and (h) of this section.

[s. 285.65(13), Wis. Stats., 40 CFR 60.482-3a; 17-JJW-059]

40 CFR 60.482-4a Standards: Pressure relief devices in gas/vapor service.

(a) Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as determined by the methods specified in 40 CFR 60.485a(c).

(b) (1) After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as soon as practicable, but no later than 5 calendar days after the pressure release, except as provided in 40 CFR 60.482–9a.

L. Process F04 - Process Equipment (Valves, Pumps, Flanges, etc.) Leaks.

1. Pollutant: Volatile Organic Compound (VOC) Emissions

a. Conditions

(2) No later than 5 calendar days after the pressure release, the pressure relief device shall be monitored to confirm the conditions of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, by the methods specified in 40 CFR 60.485a(c).

(c) Any pressure relief device that is routed to a process or fuel gas system or equipped with a closed vent system capable of capturing and transporting leakage through the pressure relief device to a control device as described in 40 CFR 60.482–10a is exempted from the requirements of paragraphs (a) and (b) of this section.

(d)(1) Any pressure relief device that is equipped with a rupture disk upstream of the pressure relief device is exempt from the requirements of paragraphs (a) and (b) of this section, provided the owner or operator complies with the requirements in paragraph (d)(2) of this section.

(2) After each pressure release, a new rupture disk shall be installed upstream of the pressure relief device as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided in 40 CFR 60.482–9a.

[s. 285.65(13), Wis. Stats., 40 CFR 60.482-4a; 17-JJW-059]

40 CFR 60.482-5a Standards: Sampling connection systems.

(a) Each sampling connection system shall be equipped with a closed-purge, closed-loop, or closed-vent system, except as provided in 40 CFR 60.482–1a(c) and paragraph (c) of this section.

(b) Each closed-purge, closed-loop, or closed-vent system as required in paragraph (a) of this section shall comply with the requirements specified in paragraphs (b)(1) through (4) of this section.

(1) Gases displaced during filling of the sample container are not required to be collected or captured.

(2) Containers that are part of a closed-purge system must be covered or closed when not being filled or emptied.

(3) Gases remaining in the tubing or piping between the closed-purge system valve(s) and sample container valve(s) after the valves are closed and the sample container is disconnected are not required to be collected or captured.

(4) Each closed-purge, closed-loop, or closed-vent system shall be designed and operated to meet requirements in either paragraph (b)(4)(i), (ii), (iii), or (iv) of this section.

(i) Return the purged process fluid directly to the process line.

(ii) Collect and recycle the purged process fluid to a process.

(iii) Capture and transport all the purged process fluid to a control device that complies with the requirements of 40 CFR 60.482–10a.

(iv) Collect, store, and transport the purged process fluid to any of the following systems or facilities:

(A) A waste management unit as defined in 40 CFR 63.111, if the waste management unit is subject to and operated in compliance with the provisions of 40 CFR part 63, subpart G, applicable to Group 1 wastewater streams;

(B) A treatment, storage, or disposal facility subject to regulation under 40 CFR part 262, 264, 265, or 266;

(C) A facility permitted, licensed, or registered by a state to manage municipal or industrial solid waste, if the process fluids are not hazardous waste as defined in 40 CFR part 261;

(D) A waste management unit subject to and operated in compliance with the treatment requirements of 40 CFR 61.348(a), provided all waste management units that collect, store, or transport the purged process fluid to the treatment unit are subject to and operated in compliance with the management requirements of 40 CFR 61.343 through 40 CFR 61.347; or

(E) A device used to burn off-specification used oil for energy recovery in accordance with 40 CFR part 279, subpart G, provided the purged process fluid is not hazardous waste as defined in 40 CFR part 261.

(c) In-situ sampling systems and sampling systems without purges are exempt from the requirements of paragraphs (a) and (b) of this section.

[s. 285.65(13), Wis. Stats., 40 CFR 60.482-5a; 17-JJW-059]

40 CFR 60.482-6a Standards: Open-ended valves or lines.

(a) (1) Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve, except as provided in 40 CFR 60.482–1a(c) and paragraphs (d) and (e) of this section.

L. Process F04 - Process Equipment (Valves, Pumps, Flanges, etc.) Leaks.

1. Pollutant: Volatile Organic Compound (VOC) Emissions

a. Conditions

(2) The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line.
(b) Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed.
(c) When a double block-and-bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with paragraph (a) of this section at all other times.
(d) Open-ended valves or lines in an emergency shutdown system which are designed to open automatically in the event of a process upset are exempt from the requirements of paragraphs (a), (b), and (c) of this section.
(e) Open-ended valves or lines containing materials which would autocatalytically polymerize or would present an explosion, serious overpressure, or other safety hazard if capped or equipped with a double block and bleed system as specified in paragraphs (a) through (c) of this section are exempt from the requirements of paragraphs (a) through (c) of this section.
[s. 285.65(13), Wis. Stats., 40 CFR 60.482-6a; 17-JJW-059]

40 CFR 60.482-7a Standards: Valves in gas/vapor service and in light liquid service.
(a) (1) Each valve shall be monitored monthly to detect leaks by the methods specified in 40 CFR 60.485a(b) and shall comply with paragraphs (b) through (e) of this section, except as provided in paragraphs (f), (g), and (h) of this section, 40 CFR 60.482–1a(c) and (f), and 40 CFR 60.483–1a and 60.483–2a.
(2) A valve that begins operation in gas/vapor service or light liquid service after the initial startup date for the process unit must be monitored according to paragraphs (a)(2)(i) or (ii), except for a valve that replaces a leaking valve and except as provided in paragraphs (f), (g), and (h) of this section, 40 CFR 60.482–1a(c), and 40 CFR 60.483–1a and 60.483–2a.
(i) Monitor the valve as in paragraph (a)(1) of this section. The valve must be monitored for the first time within 30 days after the end of its startup period to ensure proper installation.
(ii) If the existing valves in the process unit are monitored in accordance with 40 CFR 60.483–1a or 40 CFR 60.483–2a, count the new valve as leaking when calculating the percentage of valves leaking as described in 40 CFR 60.483–2a(b)(5). If less than 2.0 percent of the valves are leaking for that process unit, the valve must be monitored for the first time during the next scheduled monitoring event for existing valves in the process unit or within 90 days, whichever comes first.
(b) If an instrument reading of 500 ppm or greater is measured, a leak is detected.
(c) (1) (i) Any valve for which a leak is not detected for 2 successive months may be monitored the first month of every quarter, beginning with the next quarter, until a leak is detected.
(ii) As an alternative to monitoring all of the valves in the first month of a quarter, an owner or operator may elect to subdivide the process unit into two or three subgroups of valves and monitor each subgroup in a different month during the quarter, provided each subgroup is monitored every 3 months. The owner or operator must keep records of the valves assigned to each subgroup.
(2) If a leak is detected, the valve shall be monitored monthly until a leak is not detected for 2 successive months.
(d) (1) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in 40 CFR 60.482–9a.
(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.
(e) First attempts at repair include, but are not limited to, the following best practices where practicable:
(1) Tightening of bonnet bolts;
(2) Replacement of bonnet bolts;
(3) Tightening of packing gland nuts;
(4) Injection of lubricant into lubricated packing.
(f) Any valve that is designated, as described in 40 CFR 60.486a(e)(2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraph (a) of this section if the valve:
(1) Has no external actuating mechanism in contact with the process fluid,

L. Process F04 - Process Equipment (Valves, Pumps, Flanges, etc.) Leaks.

1. Pollutant: Volatile Organic Compound (VOC) Emissions

a. Conditions

(2) Is operated with emissions less than 500 ppm above background as determined by the method specified in 40 CFR 60.485a(c), and

(3) Is tested for compliance with paragraph (f)(2) of this section initially upon designation, annually, and at other times requested by the Administrator.

(g) Any valve that is designated, as described in 40 CFR 60.486a(f)(1), as an unsafe-to-monitor valve is exempt from the requirements of paragraph (a) of this section if:

(1) The owner or operator of the valve demonstrates that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (a) of this section, and

(2) The owner or operator of the valve adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times.

(h) Any valve that is designated, as described in 40 CFR 60.486a(f)(2), as a difficult-to-monitor valve is exempt from the requirements of paragraph (a) of this section if:

(1) The owner or operator of the valve demonstrates that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface.

(2) The process unit within which the valve is located either:

(i) Becomes an affected facility through 40 CFR 60.14 or 40 CFR 60.15 and was constructed on or before January 5, 1981; or

(ii) Has less than 3.0 percent of its total number of valves designated as difficult-to-monitor by the owner or operator.

(3) The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year.

[s. 285.65(13), Wis. Stats., 40 CFR 60.482-7a; 17-JJW-059]

40 CFR 60.482-8a Standards: Pumps, valves, and connectors in heavy liquid service and pressure relief devices in light liquid or heavy liquid service.

(a) If evidence of a potential leak is found by visual, audible, olfactory, or any other detection method at pumps, valves, and connectors in heavy liquid service and pressure relief devices in light liquid or heavy liquid service, the owner or operator shall follow either one of the following procedures:

(1) The owner or operator shall monitor the equipment within 5 days by the method specified in 40 CFR 60.485a(b) and shall comply with the requirements of paragraphs (b) through (d) of this section.

(2) The owner or operator shall eliminate the visual, audible, olfactory, or other indication of a potential leak within 5 calendar days of detection.

(b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(c) (1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in 40 CFR 60.482–9a.

(2) The first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(d) First attempts at repair include, but are not limited to, the best practices described under 40 CFR 60.482–2a(c)(2) and 60.482–a(e).

[s. 285.65(13), Wis. Stats., 40 CFR 60.482-8a; 17-JJW-059]

40 CFR 60.482-9a Standards: Delay of repair.

(a) Delay of repair of equipment for which leaks have been detected will be allowed if repair within 15 days is technically infeasible without a process unit shutdown. Repair of this equipment shall occur before the end of the next process unit shutdown. Monitoring to verify repair must occur within 15 days after startup of the process unit.

(b) Delay of repair of equipment will be allowed for equipment which is isolated from the process and which does not remain in VOC service.

(c) Delay of repair for valves and connectors will be allowed if:

(1) The owner or operator demonstrates that emissions of purged material resulting from immediate repair are greater than the fugitive emissions likely to result from delay of repair, and

(2) When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with 40 CFR 60.482–10a.

(d) Delay of repair for pumps will be allowed if:

(1) Repair requires the use of a dual mechanical seal system that includes a barrier fluid system, and

(2) Repair is completed as soon as practicable, but not later than 6 months after the leak was detected.

(e) Delay of repair beyond a process unit shutdown will be allowed for a valve, if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next process unit shutdown

L. Process F04 - Process Equipment (Valves, Pumps, Flanges, etc.) Leaks.

1. Pollutant: Volatile Organic Compound (VOC) Emissions

a. Conditions

will not be allowed unless the next process unit shutdown occurs sooner than 6 months after the first process unit shutdown.
(f) When delay of repair is allowed for a leaking pump, valve, or connector that remains in service, the pump, valve, or connector may be considered to be repaired and no longer subject to delay of repair requirements if two consecutive monthly monitoring instrument readings are below the leak definition.
[s. 285.65(13), Wis. Stats., 40 CFR 60.482-9a; 17-JJW-059]

40 CFR 60.482-10a Standards: Closed vent systems and control devices.
(a) Owners or operators of closed vent systems and control devices used to comply with provisions of this subpart shall comply with the provisions of this section.
(b) Vapor recovery systems (for example, condensers and absorbers) shall be designed and operated to recover the VOC emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume (ppmv), whichever is less stringent.
(c) Enclosed combustion devices shall be designed and operated to reduce the VOC emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 ppmv, on a dry basis, corrected to 3 percent oxygen, whichever is less stringent or to provide a minimum residence time of 0.75 seconds at a minimum temperature of 816 °C.
(d) Flares used to comply with this subpart shall comply with the requirements of 40 CFR 60.18.
(e) Owners or operators of control devices used to comply with the provisions of this subpart shall monitor these control devices to ensure that they are operated and maintained in conformance with their designs.
(f) Except as provided in paragraphs (i) through (k) of this section, each closed vent system shall be inspected according to the procedures and schedule specified in paragraphs (f)(1) and (2) of this section.
(1) If the vapor collection system or closed vent system is constructed of hard-piping, the owner or operator shall comply with the requirements specified in paragraphs (f)(1)(i) and (ii) of this section:
(i) Conduct an initial inspection according to the procedures in 40 CFR 60.485a(b); and
(ii) Conduct annual visual inspections for visible, audible, or olfactory indications of leaks.
(2) If the vapor collection system or closed vent system is constructed of ductwork, the owner or operator shall:
(i) Conduct an initial inspection according to the procedures in 40 CFR 60.485a(b); and
(ii) Conduct annual inspections according to the procedures in 40 CFR 60.485a(b).
(g) Leaks, as indicated by an instrument reading greater than 500 ppmv above background or by visual inspections, shall be repaired as soon as practicable except as provided in paragraph (h) of this section.
(1) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.
(2) Repair shall be completed no later than 15 calendar days after the leak is detected.
(h) Delay of repair of a closed vent system for which leaks have been detected is allowed if the repair is technically infeasible without a process unit shutdown or if the owner or operator determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be complete by the end of the next process unit shutdown.
(i) If a vapor collection system or closed vent system is operated under a vacuum, it is exempt from the inspection requirements of paragraphs (f)(1)(i) and (f)(2) of this section.
(j) Any parts of the closed vent system that are designated, as described in paragraph (l)(1) of this section, as unsafe to inspect are exempt from the inspection requirements of paragraphs (f)(1)(i) and (f)(2) of this section if they comply with the requirements specified in paragraphs (j)(1) and (2) of this section:
(1) The owner or operator determines that the equipment is unsafe to inspect because inspecting personnel would be exposed to an imminent or potential danger as a consequence of complying with paragraphs (f)(1)(i) or (f)(2) of this section; and
(2) The owner or operator has a written plan that requires inspection of the equipment as frequently as practicable during safe-to-inspect times.
(k) Any parts of the closed vent system that are designated, as described in paragraph (l)(2) of this section, as difficult to inspect are exempt from the inspection requirements of paragraphs (f)(1)(i) and (f)(2) of this section if they comply with the requirements specified in paragraphs (k)(1) through (3) of this section:
(1) The owner or operator determines that the equipment cannot be inspected without elevating the inspecting personnel more than 2 meters above a support surface; and

L. Process F04 - Process Equipment (Valves, Pumps, Flanges, etc.) Leaks.

1. Pollutant: Volatile Organic Compound (VOC) Emissions

a. Conditions

(2) The process unit within which the closed vent system is located becomes an affected facility through 40 CFR 60.14 or 60.15, or the owner or operator designates less than 3.0 percent of the total number of closed vent system equipment as difficult to inspect; and

(3) The owner or operator has a written plan that requires inspection of the equipment at least once every 5 years. A closed vent system is exempt from inspection if it is operated under a vacuum.

(l) The owner or operator shall record the information specified in paragraphs (l)(1) through (5) of this section.

(1) Identification of all parts of the closed vent system that are designated as unsafe to inspect, an explanation of why the equipment is unsafe to inspect, and the plan for inspecting the equipment.

(2) Identification of all parts of the closed vent system that are designated as difficult to inspect, an explanation of why the equipment is difficult to inspect, and the plan for inspecting the equipment.

(3) For each inspection during which a leak is detected, a record of the information specified in 40 CFR 60.486a(c).

(4) For each inspection conducted in accordance with 40 CFR 60.485a(b) during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

(5) For each visual inspection conducted in accordance with paragraph (f)(1)(ii) of this section during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

(m) Closed vent systems and control devices used to comply with provisions of this subpart shall be operated at all times when emissions may be vented to them.

[s. 285.65(13), Wis. Stats., 40 CFR 60.482-10a; 17-JJW-059]

~~*40 CFR 60.482-11a - Standards: Connectors in gas/vapor service and in light liquid service.*~~

~~(a) The owner or operator shall initially monitor all connectors in the process unit for leaks by the later of either 12 months after the compliance date or 12 months after initial startup. If all connectors in the process unit have been monitored for leaks prior to the compliance date, no initial monitoring is required provided either no process changes have been made since the monitoring or the owner or operator can determine that the results of the monitoring, with or without adjustments, reliably demonstrate compliance despite process changes. If required to monitor because of a process change, the owner or operator is required to monitor only those connectors involved in the process change.~~

~~(b) Except as allowed in 40 CFR 60.482-1a(c), 40 CFR 60.482-10a, or as specified in paragraph (e) of this section, the owner or operator shall monitor all connectors in gas and vapor and light liquid service as specified in paragraphs (a) and (b)(3) of this section.~~

~~(1) The connectors shall be monitored to detect leaks by the method specified in 40 CFR 60.485a(b) and, as applicable, 40 CFR 60.485a(c).~~

~~(2) If an instrument reading greater than or equal to 500 ppm is measured, a leak is detected.~~

~~(3) The owner or operator shall perform monitoring, subsequent to the initial monitoring required in paragraph (a) of this section, as specified in paragraphs (b)(3)(i) through (iii) of this section, and shall comply with the requirements of paragraphs (b)(3)(iv) and (v) of this section. The required period in which monitoring must be conducted shall be determined from paragraphs (b)(3)(i) through (iii) of this section using the monitoring results from the preceding monitoring period. The percent leaking connectors shall be calculated as specified in paragraph (c) of this section.~~

~~(i) If the percent leaking connectors in the process unit was greater than or equal to 0.5 percent, then monitor within 12 months (1 year).~~

~~(ii) If the percent leaking connectors in the process unit was greater than or equal to 0.25 percent but less than 0.5 percent, then monitor within 4 years. An owner or operator may comply with the requirements of this paragraph by monitoring at least 40 percent of the connectors within 2 years of the start of the monitoring period, provided all connectors have been monitored by the end of the 4-year monitoring period.~~

~~(iii) If the percent leaking connectors in the process unit was less than 0.25 percent, then monitor as provided in paragraph (b)(3)(iii)(A) of this section and either paragraph (b)(3)(iii)(B) or (b)(3)(iii)(C) of this section, as appropriate.~~

~~(A) An owner or operator shall monitor at least 50 percent of the connectors within 4 years of the start of the monitoring period.~~

~~(B) If the percent of leaking connectors calculated from the monitoring results in paragraph (b)(3)(iii)(A) of this section is greater than or equal to 0.35 percent of the monitored connectors, the owner or operator shall monitor as soon as practical, but within the next 6 months, all connectors that have not yet been monitored during the monitoring period. At the conclusion of monitoring, a new monitoring period shall be started pursuant to paragraph (b)(3) of this section, based on the percent of~~

L. Process F04 - Process Equipment (Valves, Pumps, Flanges, etc.) Leaks.

1. Pollutant: Volatile Organic Compound (VOC) Emissions

a. Conditions

~~leaking connectors within the total monitored connectors.~~

~~(C) If the percent of leaking connectors calculated from the monitoring results in paragraph (b)(3)(iii)(A) of this section is less than 0.35 percent of the monitored connectors, the owner or operator shall monitor all connectors that have not yet been monitored within 8 years of the start of the monitoring period.~~

~~(iv) If, during the monitoring conducted pursuant to paragraphs (b)(3)(i) through (iii) of this section, a connector is found to be leaking, it shall be re-monitored once within 90 days after repair to confirm that it is not leaking.~~

~~(v) The owner or operator shall keep a record of the start date and end date of each monitoring period under this section for each process unit.~~

~~(c) For use in determining the monitoring frequency, as specified in paragraphs (a) and (b)(3) of this section, the percent leaking connectors as used in paragraphs (a) and (b)(3) of this section shall be calculated by using the following equation:~~

~~$\%C_L = C_L / C_t * 100$~~

~~Where:~~

~~$\%C_L$ = Percent of leaking connectors as determined through periodic monitoring required in paragraphs (a) and (b)(3)(i) through (iii) of this section.~~

~~C_L = Number of connectors measured at 500 ppm or greater, by the method specified in 40 CFR 60.485a(b).~~

~~C_t = Total number of monitored connectors in the process unit or affected facility.~~

~~(d) When a leak is detected pursuant to paragraphs (a) and (b) of this section, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in 40 CFR 60.482-9a. A first attempt at repair as defined in this subpart shall be made no later than 5 calendar days after the leak is detected.~~

~~(e) Any connector that is designated, as described in 40 CFR 60.486a(f)(1), as an unsafe-to-monitor connector is exempt from the requirements of paragraphs (a) and (b) of this section if:~~

~~(1) The owner or operator of the connector demonstrates that the connector is unsafe-to-monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraphs (a) and (b) of this section; and~~

~~(2) The owner or operator of the connector has a written plan that requires monitoring of the connector as frequently as practicable during safe-to-monitor times but not more frequently than the periodic monitoring schedule otherwise applicable, and repair of the equipment according to the procedures in paragraph (d) of this section if a leak is detected.~~

~~(f) *Inaccessible, ceramic, or ceramic-lined connectors.*~~

~~(1) Any connector that is inaccessible or that is ceramic or ceramic-lined (e.g., porcelain, glass, or glass-lined), is exempt from the monitoring requirements of paragraphs (a) and (b) of this section, from the leak repair requirements of paragraph (d) of this section, and from the recordkeeping and reporting requirements of 40 CFR 63.1038 and 63.1039. An inaccessible connector is one that meets any of the provisions specified in paragraphs (f)(1)(i) through (vi) of this section, as applicable:~~

~~(i) Buried;~~

~~(ii) Insulated in a manner that prevents access to the connector by a monitor probe;~~

~~(iii) Obstructed by equipment or piping that prevents access to the connector by a monitor probe;~~

~~(iv) Unable to be reached from a wheeled scissor-lift or hydraulic-type scaffold that would allow access to connectors up to 7.6 meters (25 feet) above the ground;~~

~~(v) Inaccessible because it would require elevating the monitoring personnel more than 2 meters (7 feet) above a permanent support surface or would require the erection of scaffold; or~~

~~(vi) Not able to be accessed at any time in a safe manner to perform monitoring. Unsafe access includes, but is not limited to, the use of a wheeled scissor-lift on unstable or uneven terrain, the use of a motorized man-lift basket in areas where an ignition potential exists, or access would require near proximity to hazards such as electrical lines, or would risk damage to equipment.~~

~~(2) If any inaccessible, ceramic, or ceramic-lined connector is observed by visual, audible, olfactory, or other means to be leaking, the visual, audible, olfactory, or other indications of a leak to the atmosphere shall be eliminated as soon as practical.~~

~~(g) Except for instrumentation systems and inaccessible, ceramic, or ceramic-lined connectors meeting the provisions of paragraph (f) of this section, identify the connectors subject to the requirements of this subpart. Connectors need not be individually identified if all connectors in a designated area or length of pipe subject to the provisions of this~~

L. Process F04 - Process Equipment (Valves, Pumps, Flanges, etc.) Leaks.

1. Pollutant: Volatile Organic Compound (VOC) Emissions

a. Conditions

~~subpart are identified as a group, and the number of connectors subject is indicated.~~

EFFECTIVE DATE NOTE: At 73 FR 31376, June 2, 2008, 40 CFR 60.482-11a was stayed until further notice.

[s. 285.65(13), Wis. Stats., 40 CFR 60.482-11a; 17-JJW-059]

40 CFR 60.483-1a Alternative standards for valves—allowable percentage of valves leaking.

(a) An owner or operator may elect to comply with an allowable percentage of valves leaking of equal to or less than 2.0 percent.

(b) The following requirements shall be met if an owner or operator wishes to comply with an allowable percentage of valves leaking:

(1) An owner or operator must notify the Administrator that the owner or operator has elected to comply with the allowable percentage of valves leaking before implementing this alternative standard, as specified in 40 CFR 60.487a(d).

(2) A performance test as specified in paragraph (c) of this section shall be conducted initially upon designation, annually, and at other times requested by the Administrator.

(3) If a valve leak is detected, it shall be repaired in accordance with 40 CFR 60.482–7a(d) and (e).

(c) Performance tests shall be conducted in the following manner:

(1) All valves in gas/vapor and light liquid service within the affected facility shall be monitored within 1 week by the methods specified in 40 CFR 60.485a(b).

(2) If an instrument reading of 500 ppm or greater is measured, a leak is detected.

(3) The leak percentage shall be determined by dividing the number of valves for which leaks are detected by the number of valves in gas/vapor and light liquid service within the affected facility.

(d) Owners and operators who elect to comply with this alternative standard shall not have an affected facility with a leak percentage greater than 2.0 percent, determined as described in 40 CFR 60.485a(h).

[s. 285.65(13), Wis. Stats., 40 CFR 60.483-1a; 17-JJW-059]

40 CFR 60.483-2a Alternative standards for valves—skip period leak detection and repair.

(a) (1) An owner or operator may elect to comply with one of the alternative work practices specified in paragraphs (b)(2) and (3) of this section.

(2) An owner or operator must notify the Administrator before implementing one of the alternative work practices, as specified in 40 CFR 60.487(d)a.

(b) (1) An owner or operator shall comply initially with the requirements for valves in gas/vapor service and valves in light liquid service, as described in 40 CFR 60.482–7a.

(2) After 2 consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0, an owner or operator may begin to skip 1 of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.

(3) After 5 consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0, an owner or operator may begin to skip 3 of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.

(4) If the percent of valves leaking is greater than 2.0, the owner or operator shall comply with the requirements as described in 40 CFR 60.482–7a but can again elect to use this section.

(5) The percent of valves leaking shall be determined as described in 40 CFR 60.485a(h).

(6) An owner or operator must keep a record of the percent of valves found leaking during each leak detection period.

(7) A valve that begins operation in gas/vapor service or light liquid service after the initial startup date for a process unit following one of the alternative standards in this section must be monitored in accordance with 40 CFR 60.482–7a(a)(2)(i) or (ii) before the provisions of this section can be applied to that valve.

[s. 285.65(13), Wis. Stats., 40 CFR 60.483-2a; 17-JJW-059]

40 CFR 60.484a Equivalence of means of emission limitation.

(a) Each owner or operator subject to the provisions of this subpart may apply to the Administrator for determination of equivalence for any means of emission limitation that achieves a reduction in emissions of VOC at least equivalent to the reduction in emissions of VOC achieved by the controls required in this subpart.

(b) Determination of equivalence to the equipment, design, and operational requirements of this subpart will be evaluated by the following guidelines:

L. Process F04 - Process Equipment (Valves, Pumps, Flanges, etc.) Leaks.

1. Pollutant: Volatile Organic Compound (VOC) Emissions

a. Conditions

(1) Each owner or operator applying for an equivalence determination shall be responsible for collecting and verifying test data to demonstrate equivalence of means of emission limitation.

(2) The Administrator will compare test data for demonstrating equivalence of the means of emission limitation to test data for the equipment, design, and operational requirements.

(3) The Administrator may condition the approval of equivalence on requirements that may be necessary to assure operation and maintenance to achieve the same emission reduction as the equipment, design, and operational requirements.

(c) Determination of equivalence to the required work practices in this subpart will be evaluated by the following guidelines:

(1) Each owner or operator applying for a determination of equivalence shall be responsible for collecting and verifying test data to demonstrate equivalence of an equivalent means of emission limitation.

(2) For each affected facility for which a determination of equivalence is requested, the emission reduction achieved by the required work practice shall be demonstrated.

(3) For each affected facility, for which a determination of equivalence is requested, the emission reduction achieved by the equivalent means of emission limitation shall be demonstrated.

(4) Each owner or operator applying for a determination of equivalence shall commit in writing to work practice(s) that provide for emission reductions equal to or greater than the emission reductions achieved by the required work practice.

(5) The Administrator will compare the demonstrated emission reduction for the equivalent means of emission limitation to the demonstrated emission reduction for the required work practices and will consider the commitment in paragraph (c)(4) of this section.

(6) The Administrator may condition the approval of equivalence on requirements that may be necessary to assure operation and maintenance to achieve the same emission reduction as the required work practice.

(d) An owner or operator may offer a unique approach to demonstrate the equivalence of any equivalent means of emission limitation.

(e) (1) After a request for determination of equivalence is received, the Administrator will publish a notice in the Federal Register and provide the opportunity for public hearing if the Administrator judges that the request may be approved.

(2) After notice and opportunity for public hearing, the Administrator will determine the equivalence of a means of emission limitation and will publish the determination in the Federal Register.

(3) Any equivalent means of emission limitations approved under this section shall constitute a required work practice, equipment, design, or operational standard within the meaning of section 111(h)(1) of the CAA.

(f) (1) Manufacturers of equipment used to control equipment leaks of VOC may apply to the Administrator for determination of equivalence for any equivalent means of emission limitation that achieves a reduction in emissions of VOC achieved by the equipment, design, and operational requirements of this subpart.

(2) The Administrator will make an equivalence determination according to the provisions of paragraphs (b), (c), (d), and (e) of this section.

[s. 285.65(13), Wis. Stats., 40 CFR 60.484a; 17-JJW-059]

40 CFR 60.485a Test methods and procedures.

(a) In conducting the performance tests required in 40 CFR 60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in 40 CFR 60.8(b).

(b) The owner or operator shall determine compliance with the standards in 40 CFR 60.482-1a through 60.482-11a, 60.483a, and 60.484a as follows:

(1) Method 21 shall be used to determine the presence of leaking sources. The instrument shall be calibrated before use each day of its use by the procedures specified in Method 21 of appendix A-7 of this part. The following calibration gases shall be used:

(i) Zero air (less than 10 ppm of hydrocarbon in air); and

(ii) A mixture of methane or n-hexane and air at a concentration no more than 2,000 ppm greater than the leak definition concentration of the equipment monitored. If the monitoring instrument's design allows for multiple calibration scales, then the lower scale shall be calibrated with a calibration gas that is no higher than 2,000 ppm above the concentration specified as a leak, and the highest scale shall be calibrated with a calibration gas that is approximately equal to 10,000 ppm. If only one scale on

L. Process F04 - Process Equipment (Valves, Pumps, Flanges, etc.) Leaks.

1. Pollutant: Volatile Organic Compound (VOC) Emissions

a. Conditions

an instrument will be used during monitoring, the owner or operator need not calibrate the scales that will not be used during that day's monitoring.

(2) A calibration drift assessment shall be performed, at a minimum, at the end of each monitoring day. Check the instrument using the same calibration gas(es) that were used to calibrate the instrument before use. Follow the procedures specified in Method 21 of appendix A-7 of this part, Section 10.1, except do not adjust the meter readout to correspond to the calibration gas value. Record the instrument reading for each scale used as specified in 40 CFR 60.486a(e)(7). Calculate the average algebraic difference between the three meter readings and the most recent calibration value. Divide this algebraic difference by the initial calibration value and multiply by 100 to express the calibration drift as a percentage. If any calibration drift assessment shows a negative drift of more than 10 percent from the initial calibration value, then all equipment monitored since the last calibration with instrument readings below the appropriate leak definition and above the leak definition multiplied by (100 minus the percent of negative drift/divided by 100) must be re-monitored. If any calibration drift assessment shows a positive drift of more than 10 percent from the initial calibration value, then, at the owner/operator's discretion, all equipment since the last calibration with instrument readings above the appropriate leak definition and below the leak definition multiplied by (100 plus the percent of positive drift/divided by 100) may be re-monitored.

(c) The owner or operator shall determine compliance with the no-detectable-emission standards in 40 CFR 60.482-2a(e), 60.482-3a(i), 60.482-4a, 60.482-7a(f), and 60.482-10a(e) as follows:

(1) The requirements of paragraph (b) shall apply.

(2) Method 21 of appendix A-7 of this part shall be used to determine the background level. All potential leak interfaces shall be traversed as close to the interface as possible. The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance.

(d) The owner or operator shall test each piece of equipment unless he demonstrates that a process unit is not in VOC service, i.e., that the VOC content would never be reasonably expected to exceed 10 percent by weight. For purposes of this demonstration, the following methods and procedures shall be used:

(1) Procedures that conform to the general methods in ASTM E260-73, 91, or 96, E168-67, 77, or 92, E169-63, 77, or 93 (incorporated by reference—see 40 CFR 60.17) shall be used to determine the percent VOC content in the process fluid that is contained in or contacts a piece of equipment.

(2) Organic compounds that are considered by the Administrator to have negligible photochemical reactivity may be excluded from the total quantity of organic compounds in determining the VOC content of the process fluid.

(3) Engineering judgment may be used to estimate the VOC content, if a piece of equipment had not been shown previously to be in service. If the Administrator disagrees with the judgment, paragraphs (d)(1) and (2) of this section shall be used to resolve the disagreement.

(e) The owner or operator shall demonstrate that a piece of equipment is in light liquid service by showing that all the following conditions apply:

(1) The vapor pressure of one or more of the organic components is greater than 0.3 kPa at 20 °C (1.2 in. H_2O at 68 °F). Standard reference texts or ASTM D2879-83, 96, or 97 (incorporated by reference—see 40 CFR 60.17) shall be used to determine the vapor pressures.

(2) The total concentration of the pure organic components having a vapor pressure greater than 0.3 kPa at 20 °C (1.2 in. H_2O at 68 °F) is equal to or greater than 20 percent by weight.

(3) The fluid is a liquid at operating conditions.

(f) Samples used in conjunction with paragraphs (d), (e), and (g) of this section shall be representative of the process fluid that is contained in or contacts the equipment or the gas being combusted in the flare.

(g) The owner or operator shall determine compliance with the standards of flares as follows:

(1) Method 22 of appendix A-7 of this part shall be used to determine visible emissions.

(2) A thermocouple or any other equivalent device shall be used to monitor the presence of a pilot flame in the flare.

(3) The maximum permitted velocity for air assisted flares shall be computed using the following equation:

$V_{max} = K_1 + K_2H_T$

Where:

V_{max} = Maximum permitted velocity, m/sec (ft/sec).

H_T = Net heating value of the gas being combusted, MJ/scm (Btu/scf).

K_1 = 8.706 m/sec (metric units) = 28.56 ft/sec (English units).

L. Process F04 - Process Equipment (Valves, Pumps, Flanges, etc.) Leaks.

1. Pollutant: Volatile Organic Compound (VOC) Emissions

a. Conditions

K_2 = 0.7084 m^4/(MJ-sec) (metric units) = 0.087 ft^4/(Btu-sec) (English units).

(4) The net heating value (HT) of the gas being combusted in a flare shall be computed using the following equation:

$$H_T = K\sum_{i=1}^{n} C_i H_i$$

Where:

K = Conversion constant, 1.740×10^{-7} (g-mole)(MJ)/(ppm-scm-kcal) (metric units) = 4.674×10^{-6} [(g-mole)(Btu)/(ppm-scf-kcal)] (English units).

C_i = Concentration of sample component "i," ppm

H_i = net heat of combustion of sample component "i" at 25 °C and 760 mm Hg (77 °F and 14.7 psi), kcal/g-mole.

(5) Method 18 of appendix A-6 of this part or ASTM D6420-99 (2004) (where the target compound(s) are those listed in Section 1.1 of ASTM D6420-99, and the target concentration is between 150 parts per billion by volume and 100 ppmv) and ASTM D2504-67, 77, or 88 (Reapproved 1993) (incorporated by reference-see 40 CFR 60.17) shall be used to determine the concentration of sample component "i."

(6) ASTM D2382-76 or 88 or D4809-95 (incorporated by reference-see 40 CFR 60.17) shall be used to determine the net heat of combustion of component "i" if published values are not available or cannot be calculated.

(7) Method 2, 2A, 2C, or 2D of appendix A-7 of this part, as appropriate, shall be used to determine the actual exit velocity of a flare. If needed, the unobstructed (free) cross-sectional area of the flare tip shall be used.

(h) The owner or operator shall determine compliance with 40 CFR 60.483-1a or 40 CFR 60.483-2a as follows:

(1) The percent of valves leaking shall be determined using the following equation:

$$\%V_L = (V_L / V_T) * 100$$

Where:

$\%V_L$ = Percent leaking valves.

V_L = Number of valves found leaking.

V_T = The sum of the total number of valves monitored.

(2) The total number of valves monitored shall include difficult-to-monitor and unsafe-to-monitor valves only during the monitoring period in which those valves are monitored.

(3) The number of valves leaking shall include valves for which repair has been delayed.

(4) Any new valve that is not monitored within 30 days of being placed in service shall be included in the number of valves leaking and the total number of valves monitored for the monitoring period in which the valve is placed in service.

(5) If the process unit has been subdivided in accordance with 40 CFR 60.482-7a(c)(1)(ii), the sum of valves found leaking during a monitoring period includes all subgroups.

(6) The total number of valves monitored does not include a valve monitored to verify repair.

[s. 285.65(13), Wis. Stats., 40 CFR 60.485a; 17-JJW-059]

40 CFR 60.486a Recordkeeping requirements.

(a) (1) Each owner or operator subject to the provisions of this subpart shall comply with the recordkeeping requirements of this section.

(2) An owner or operator of more than one affected facility subject to the provisions of this subpart may comply with the recordkeeping requirements for these facilities in one recordkeeping system if the system identifies each record by each facility.

(3) The owner or operator shall record the information specified in paragraphs (a)(3)(i) through (v) of this section for each monitoring event required by 40 CFR 60.482-2a, 60.482-3a, 60.482-7a, 60.482-8a, 60.482-11a, and 60.483-2a.

(i) Monitoring instrument identification.

L. Process F04 - Process Equipment (Valves, Pumps, Flanges, etc.) Leaks.

1. Pollutant: Volatile Organic Compound (VOC) Emissions

a. Conditions

(ii) Operator identification.
(iii) Equipment identification.
(iv) Date of monitoring.
(v) Instrument reading.

(b) When each leak is detected as specified in 40 CFR 60.482-2a, 60.482-3a, 60.482-7a, 60.482-8a, 60.482-11a, and 60.483-2a, the following requirements apply:

(1) A weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment.

(2) The identification on a valve may be removed after it has been monitored for 2 successive months as specified in 40 CFR 60.482-7a(c) and no leak has been detected during those 2 months.

(3) The identification on a connector may be removed after it has been monitored as specified in 40 CFR 60.482-11a(b)(3)(iv) and no leak has been detected during that monitoring.

(4) The identification on equipment, except on a valve or connector, may be removed after it has been repaired.

(c) When each leak is detected as specified in 40 CFR 60.482-2a, 60.482-3a, 60.482-7a, 60.482-8a, 60.482-11a, and 60.483-2a, the following information shall be recorded in a log and shall be kept for 2 years in a readily accessible location:

(1) The instrument and operator identification numbers and the equipment identification number, except when indications of liquids dripping from a pump are designated as a leak.

(2) The date the leak was detected and the dates of each attempt to repair the leak.

(3) Repair methods applied in each attempt to repair the leak.

(4) Maximum instrument reading measured by Method 21 of appendix A-7 of this part at the time the leak is successfully repaired or determined to be non-repairable, except when a pump is repaired by eliminating indications of liquids dripping.

(5) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

(6) The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a process shutdown.

(7) The expected date of successful repair of the leak if a leak is not repaired within 15 days.

(8) Dates of process unit shutdowns that occur while the equipment is unrepaired.

(9) The date of successful repair of the leak.

(d) The following information pertaining to the design requirements for closed vent systems and control devices described in 40 CFR 60.482-10a shall be recorded and kept in a readily accessible location:

(1) Detailed schematics, design specifications, and piping and instrumentation diagrams.

(2) The dates and descriptions of any changes in the design specifications.

(3) A description of the parameter or parameters monitored, as required in 40 CFR 60.482-10a(e), to ensure that control devices are operated and maintained in conformance with their design and an explanation of why that parameter (or parameters) was selected for the monitoring.

(4) Periods when the closed vent systems and control devices required in 40 CFR 60.482-2a, 60.482-3a, 60.482-4a, and 60.482-5a are not operated as designed, including periods when a flare pilot light does not have a flame.

(5) Dates of startups and shutdowns of the closed vent systems and control devices required in 40 CFR 60.482-2a, 60.482-3a, 60.482-4a, and 60.482-5a.

(e) The following information pertaining to all equipment subject to the requirements in 40 CFR 60.482-1a to 60.482-11a shall be recorded in a log that is kept in a readily accessible location:

(1) A list of identification numbers for equipment subject to the requirements of this subpart.

(2) (i) A list of identification numbers for equipment that are designated for no detectable emissions under the provisions of 40 CFR 60.482-2a(e), 60.482-3a(i), and 60.482-7a(f).

(ii) The designation of equipment as subject to the requirements of 40 CFR 60.482-2a(e), 40 CFR 60.482-3a(i), or 40 CFR 60.482-7a(f) shall be signed by the owner or operator. Alternatively, the owner or operator may establish a mechanism with their permitting authority that satisfies this requirement.

L. Process F04 - Process Equipment (Valves, Pumps, Flanges, etc.) Leaks.

1. Pollutant: Volatile Organic Compound (VOC) Emissions

a. Conditions

(3) A list of equipment identification numbers for pressure relief devices required to comply with 40 CFR 60.482-4a.

(4) (i) The dates of each compliance test as required in 40 CFR 60.482-2a(e), 60.482-3a(i), 60.482-4a, and 60.482-7a(f).

(ii) The background level measured during each compliance test.

(iii) The maximum instrument reading measured at the equipment during each compliance test.

(5) A list of identification numbers for equipment in vacuum service.

(6) A list of identification numbers for equipment that the owner or operator designates as operating in VOC service less than 300 hr/yr in accordance with 40 CFR 60.482-1a(e), a description of the conditions under which the equipment is in VOC service, and rationale supporting the designation that it is in VOC service less than 300 hr/yr.

(7) The date and results of the weekly visual inspection for indications of liquids dripping from pumps in light liquid service.

(8) Records of the information specified in paragraphs (e)(8)(i) through (vi) of this section for monitoring instrument calibrations conducted according to sections 8.1.2 and 10 of Method 21 of appendix A-7 of this part and 40 CFR 60.485a(b).

(i) Date of calibration and initials of operator performing the calibration.

(ii) Calibration gas cylinder identification, certification date, and certified concentration.

(iii) Instrument scale(s) used.

(iv) A description of any corrective action taken if the meter readout could not be adjusted to correspond to the calibration gas value in accordance with section 10.1 of Method 21 of appendix A-7 of this part.

(v) Results of each calibration drift assessment required by 40 CFR 60.485a(b)(2) (i.e., instrument reading for calibration at end of monitoring day and the calculated percent difference from the initial calibration value).

(vi) If an owner or operator makes their own calibration gas, a description of the procedure used.

(9) The connector monitoring schedule for each process unit as specified in 40 CFR 60.482-11a(b)(3)(v).

(10) Records of each release from a pressure relief device subject to 40 CFR 60.482-4a.

(f) The following information pertaining to all valves subject to the requirements of 40 CFR 60.482-7a(g) and (h), all pumps subject to the requirements of 40 CFR 60.482-2a(g), and all connectors subject to the requirements of 40 CFR 60.482-11a(e) shall be recorded in a log that is kept in a readily accessible location:

(1) A list of identification numbers for valves, pumps, and connectors that are designated as unsafe-to-monitor, an explanation for each valve, pump, or connector stating why the valve, pump, or connector is unsafe-to-monitor, and the plan for monitoring each valve, pump, or connector.

(2) A list of identification numbers for valves that are designated as difficult-to-monitor, an explanation for each valve stating why the valve is difficult-to-monitor, and the schedule for monitoring each valve.

(g) The following information shall be recorded for valves complying with 40 CFR 60.483-2a:

(1) A schedule of monitoring.

(2) The percent of valves found leaking during each monitoring period.

(h) The following information shall be recorded in a log that is kept in a readily accessible location:

(1) Design criterion required in 40 CFR 60.482-2a(d)(5) and 60.482-3a(e)(2) and explanation of the design criterion; and

(2) Any changes to this criterion and the reasons for the changes.

(i) The following information shall be recorded in a log that is kept in a readily accessible location for use in determining exemptions as provided in 40 CFR 60.480a(d):

(1) An analysis demonstrating the design capacity of the affected facility,

(2) A statement listing the feed or raw materials and products from the affected facilities and an analysis demonstrating whether these chemicals are heavy liquids or beverage alcohol, and

(3) An analysis demonstrating that equipment is not in VOC service.

(j) Information and data used to demonstrate that a piece of equipment is not in VOC service shall be recorded in a log that is kept in a readily accessible location.

(k) The provisions of 40 CFR 60.7(b) and (d) do not apply to affected facilities subject to this subpart

[s. 285.65(13), Wis. Stats., 40 CFR 60.486a; 17-JJW-059]

L. Process F04 - Process Equipment (Valves, Pumps, Flanges, etc.) Leaks.

1. Pollutant: Volatile Organic Compound (VOC) Emissions

a. Conditions

40 CFR 60.487a Reporting requirements.

(a) Each owner or operator subject to the provisions of this subpart shall submit semiannual reports to the Administrator beginning 6 months after the initial startup date.

(b) The initial semiannual report to the Administrator shall include the following information:

(1) Process unit identification.

(2) Number of valves subject to the requirements of 40 CFR 60.482-7a, excluding those valves designated for no detectable emissions under the provisions of 40 CFR 60.482-7a(f).

(3) Number of pumps subject to the requirements of 40 CFR 60.482-2a, excluding those pumps designated for no detectable emissions under the provisions of 40 CFR 60.482-2a(e) and those pumps complying with 40 CFR 60.482-2a(f).

(4) Number of compressors subject to the requirements of 40 CFR 60.482-3a, excluding those compressors designated for no detectable emissions under the provisions of 40 CFR 60.482-3a(i) and those compressors complying with 40 CFR 60.482-3a(h).

(5) Number of connectors subject to the requirements of 40 CFR 60.482-11a.

(c) All semiannual reports to the Administrator shall include the following information, summarized from the information in 40 CFR 60.486a:

(1) Process unit identification.

(2) For each month during the semiannual reporting period,

(i) Number of valves for which leaks were detected as described in 40 CFR 60.482-7a(b) or 40 CFR 60.483-2a,

(ii) Number of valves for which leaks were not repaired as required in 40 CFR 60.482-7a(d)(1),

(iii) Number of pumps for which leaks were detected as described in 40 CFR 60.482-2a(b), (d)(4)(ii)(A) or (B), or (d)(5)(iii),

(iv) Number of pumps for which leaks were not repaired as required in 40 CFR 60.482-2a(c)(1) and (d)(6),

(v) Number of compressors for which leaks were detected as described in 40 CFR 60.482-3a(f),

(vi) Number of compressors for which leaks were not repaired as required in 40 CFR 60.482-3a(g)(1),

(vii) Number of connectors for which leaks were detected as described in 40 CFR 60.482-11a(b)

(viii) Number of connectors for which leaks were not repaired as required in 40 CFR 60.482-11a(d), and

(ix)-(x) [Reserved]

(xi) The facts that explain each delay of repair and, where appropriate, why a process unit shutdown was technically infeasible.

(3) Dates of process unit shutdowns which occurred within the semiannual reporting period.

(4) Revisions to items reported according to paragraph (b) of this section if changes have occurred since the initial report or subsequent revisions to the initial report.

(d) An owner or operator electing to comply with the provisions of 40 CFR 60.483-1a or 60.483-2a shall notify the Administrator of the alternative standard selected 90 days before implementing either of the provisions.

(e) An owner or operator shall report the results of all performance tests in accordance with 40 CFR 60.8 of the General Provisions. The provisions of 40 CFR 60.8(d) do not apply to affected facilities subject to the provisions of this subpart except that an owner or operator must notify the Administrator of the schedule for the initial performance tests at least 30 days before the initial performance tests.

(f) The requirements of paragraphs (a) through (c) of this section remain in force until and unless EPA, in delegating enforcement authority to a state under section 111(c) of the CAA, approves reporting requirements or an alternative means of compliance surveillance adopted by such state. In that event, affected sources within the state will be relieved of the obligation to comply with the requirements of paragraphs (a) through (c) of this section, provided that they comply with the requirements established by the state.

[s. 285.65(13), Wis. Stats., 40 CFR 60.487a; 17-JJW-059]

40 CFR 60.488a Reconstruction.

For the purposes of this subpart:

(a) The cost of the following frequently replaced components of the facility shall not be considered in calculating either the "fixed capital cost of the new components" or the

L. Process F04 - Process Equipment (Valves, Pumps, Flanges, etc.) Leaks.
1. Pollutant: Volatile Organic Compound (VOC) Emissions
a. Conditions
"fixed capital costs that would be required to construct a comparable new facility" under 40 CFR 60.15: Pump seals, nuts and bolts, rupture disks, and packings. (b) Under 40 CFR 60.15, the "fixed capital cost of new components" includes the fixed capital cost of all depreciable components (except components specified in 40 CFR 60.488a(a)) which are or will be replaced pursuant to all continuous programs of component replacement which are commenced within any 2-year period following the applicability date for the appropriate subpart. (See the "Applicability and designation of affected facility" section of the appropriate subpart.) For purposes of this paragraph, "commenced" means that an owner or operator has undertaken a continuous program of component replacement or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of component replacement. [s. 285.65(13), Wis. Stats., 40 CFR 60.488a; 17-JJW-059] *40 CFR 60.489a List of chemicals produced by affected facilities.* Process units that produce, as intermediates or final products, chemicals listed in 40 CFR 60.489 are covered under 40 CFR 60, subpart VVa. The applicability date for process units producing one or more of these chemicals is November 8, 2006. [s. 285.65(13), Wis. Stats., 40 CFR 60.489a; 17-JJW-059]

N. Tank T05 - 12,800 gallon Storage Tank for Gasoline Denaturant.		
1. Pollutant: Volatile Organic Compound (VOC) Emissions		
a. Limitations	**b.** Compliance Demonstration	**c.** Reference Test Methods, Recordkeeping and Monitoring Requirements
(1) The storage tank shall be equipped with a fixed roof and a pressure / vacuum conservation vent. [ss. NR 406.10 and NR 419.05(2), Wis. Adm. Code; 17-JJW-059] (2) The storage tank shall be equipped with a submerged fill pipe. [s. NR 419.06(2), Wis. Adm. Code; 17-JJW-059] (3) The permittee shall only store natural gasoline (as defined by ASTM D8011-17 or equivalent method) or blends consisting of 90% natural gasoline in this tank. [s. 285.65(7), Wis. Stats.; 17-JJW-059]	(2) The recordkeeping in I.N.c.(3) shall be considered the compliance demonstration for the limitations in I.N.1.a. [s. 285.65(3), Wis. Stats. and s. NR 407.09(4)(a)3.b., Wis. Adm. Code; 17-JJW-059]	(1) Reference Test Method for Volatile Organic Compounds (VOC) Emissions: Whenever VOC compliance testing is required, USEPA Method 18 or 25A shall be used. When approved in writing an equivalent test method may be substituted for the required test method. [s. NR 439.06(8), Wis. Adm. Code; 17-JJW-059] (2) The permittee of each storage vessel shall keep readily accessible records showing the dimensions of the storage vessel and an analysis showing the capacity of the storage vessel. The permittee shall also keep and maintain on site current "as built" technical drawings, blueprints or equivalent records of the storage tanks. These records shall be kept for the life of the vessel. [s. NR 440.285(7)(a) and (b), Wis. Adm. Code, 40 CFR s. 60.116b(b); 17-JJW-059] (3) The permittee shall keep and maintain the following records: (a) Technical drawings, blueprints or equivalent records that document compliance with the requirements of I.N.1.a.(1)&(2); and (b) A record of each material stored in the storage tank. [s. NR 439.04(1)(d); 17-JJW-059]

O. Tanks T02, T04 - 150,000 gallon each - Volatile Organic Liquid Storage Tanks (modified 2005) **Tank T11** - 489,000 gallon Volatile Organic Liquid Storage Tank (2012) **Tanks T01 and T03** - 80,000 gallon each - Volatile Organic Liquid Storage Tanks (modified 2005) **Tanks T10** - 30,000 gallon gasoline denaturant Volatile Organic Liquid Storage Tank (2004) **Tank T12** - 489,000 gallon Volatile Organic Liquid Storage Tank (2017)		
1. Pollutant: Volatile Organic Compound (VOC) Emissions		
a. Limitations	**b.** Compliance Demonstration	**c.** Reference Test Methods, Recordkeeping and Monitoring Requirements
(1) Each storage tank shall be a fixed roof tank equipped with an internal floating roof. [ss. NR 406.10, NR 419.05(2), and NR 440.285(3)(a), Wis. Adm. Code, 40 CFR s. 60.112b(a)(1); 17-JJW-059] (2) The internal floating roof shall rest or float on the liquid surface (but not necessarily in complete contact with it). The internal floating roof shall be floating on the liquid surface at all times except during initial fill and those times when the storage vessel is completely emptied or subsequently emptied and refilled. When the roof is resting on the leg supports, the process of filling, emptying or refilling shall be continuous and shall be accomplished as rapidly as possible. [ss. NR 406.10 and NR 440.285(3)(a)1.a., Wis. Adm. Code, 40 CFR s. 60.112b(1)(i); 17-JJW-059] (3) Only ethanol or ethanol based (90% or more ethanol) mixtures may be stored in the tanks T01, T02, T03, T04, T11 and T12. [s. 285.65(7), Wis. Stats. and s. NR 406.10, Wis. Adm. Code; 17-JJW-059] (4) Each storage tank shall be equipped with a fill pipe or line which feeds material into the tank below the floating roof. [s. 285.65(3), Wis. Stats. and s. NR 406.10, Wis. Adm. Code; 17-JJW-059] (5) The internal floating roof shall be equipped with two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the floating roof. The lower seal may be	(1) The permittee shall visually inspect the storage vessel with the seal in place before the initial fill of the volatile organic liquid. If there are any openings in the seals or other defects in the internal floating roof, the owner or operator shall repair these before filling the vessel. [s. NR 440.285(4)(a)1., Wis. Adm. Code, 40 CFR s. 60.113b(a)(1); 17-JJW-059] (2) The permittee shall visually inspect the storage vessel internal floating roof and the primary seal through manholes and roof hatches on the fixed roof once every 12 months after the initial fill of the volatile organic liquid. If the internal floating roof is not resting on the surface of the Volatile Organic Liquid (VOL) inside the storage vessel, or there is liquid accumulated on the floating roof, or if the seal is detached or if there are holes or tears in the seal fabric, the owner or operator shall repair the items or empty and remove the storage vessel from service within 45 days. If a failure that is detected during inspections required under this paragraph cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the Department in the inspection report required in s. NR 440.285(6)(a)3., Wis. Adm. Code. A request for an extension shall document that alternate storage capacity is unavailable and specify a schedule of actions the company owner or operator shall take to assure that the control equipment is repaired or the vessel will be emptied as soon as possible. [s. NR 440.285(4)(a)2., Wis. Adm. Code, 40 CFR s. 60.113b(a)(2); 17-JJW-059] (3) Visually inspect the internal floating roof, the	(1) <u>Reference Test Method for Volatile Organic Compound (VOC) Emissions:</u> Whenever VOC compliance testing is required, USEPA Method 18 or 25A shall be used. When approved in writing an equivalent test method may be substituted for the required test method. [s. NR 439.06(8), Wis. Adm. Code; 17-JJW-059] (2) The permittee shall maintain a record of the volatile organic liquid stored, the period of storage, and the maximum true vapor pressure of that liquid during the respective storage period. The maximum true vapor pressure is the equilibrium partial pressure exerted by the VOL based upon the maximum local monthly average ambient temperature. [s. NR 440.285(7)(c), Wis. Adm. Code, 40 CFR s. 60.116b(c); 17-JJW-059] (3) The permittee of each storage vessel shall keep readily accessible records showing the dimensions of the storage vessel and an analysis showing the capacity of the storage vessel. The permittee shall also keep and maintain on site current "as built" technical drawings, blueprints or equivalent records of the storage tanks. These records shall be kept for the life of the vessel. [ss. NR 439.04, 440.285(7)(a) and (b), Wis. Adm. Code, 40 CFR s. 60.112b(b); 17-JJW-059] (4) After installing the fixed roof, internal floating roof tank, the owner or operator shall meet the following requirements: (a) Furnish the Department with a report that describes the control equipment and certifies that the control equipment meets the specifications of s. NR 440.285(3)(a)1. and (4)(a)1., Wis. Adm. Code. This report shall be an attachment of the notification required by s. NR 440.07(1)(c), Wis. Adm. Code. (b) Keep a record of each inspection performed as required by I.O.1.b.(1)-(6). Each record shall identify the storage vessel on which the inspection was performed and shall contain the date the vessel was inspected and the observed condition of each

O. Tanks T02, T04 - 150,000 gallon each - Volatile Organic Liquid Storage Tanks (modified 2005) **Tank T11** - 489,000 gallon Volatile Organic Liquid Storage Tank (2012) **Tanks T01 and T03** - 80,000 gallon each - Volatile Organic Liquid Storage Tanks (modified 2005) **Tanks T10** - 30,000 gallon gasoline denaturant Volatile Organic Liquid Storage Tank (2004) **Tank T12** - 489,000 gallon Volatile Organic Liquid Storage Tank (2017)		
1. Pollutant: Volatile Organic Compound (VOC) Emissions		
a. Limitations	**b.** Compliance Demonstration	**c.** Reference Test Methods, Recordkeeping and Monitoring Requirements
vapor mounted, but both must be continuous. [ss. NR 406.10, 440.285(3)(a)1.b.2), Wis. Adm. Code, 40 CFR s. 60.112b(1)(ii)(B); 17-JJW-059] (6) Each opening in a non-contact internal floating roof except for automatic bleeder vents (vacuum break vents) and the rim space vents is to provide a projection below the liquid surface. [s. NR 440.285(3)(a)1.c., Wis. Adm. Code, 40 CFR s. 60.112b(1)(iii); 17-JJW-059] (7) Each opening in the internal floating roof, except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells and stub drains, is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use. [s. NR 440.285(3)(a)1.d., Wis. Adm. Code, 40 CFR s. 60.112b(1)(iv); 17-JJW-059] (8) Automatic bleeder vents (vacuum break vents) shall be equipped with a gasket and are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports. [s. NR 440.285(3)(a)1.e., Wis. Adm. Code, 40 CFR s. 60.112b(1)(v); 17-JJW-059] (9) Rim space vents shall be equipped with a gasket and are to be set to open only when the internal floating roof is not floating or at the manufacturer's	primary seal, or the secondary seal (if one is in service), gaskets, slotted membranes (if any), and sleeve seals (if any) each time the storage vessel is emptied and degassed. If the internal floating roof has defects, the primary seal has holes, tears or other openings in the seal or the seal fabric, the secondary seal has holes, tears or other openings in the seal or the seal fabric, the gaskets no longer close off the liquid surfaces from the atmosphere, or the slotted membrane has more than 10% open area, the owner or operator shall repair the items as necessary so that none of the conditions specified in this paragraph exist before refilling the storage vessel with VOL. In no event may inspections conducted in accordance with this provision occur at intervals greater than 10 years in the case of vessels undergoing annual visual inspections. [s. NR 440.285(4)(a)4., Wis. Adm. Code, 40 CFR s. 60.113b(4); 17-JJW-059] (4) Notify the Department in writing at least 30 days prior to the filling or refilling of each storage vessel for which an inspection is required by b.(1) and (3) to afford the Department the opportunity to have an observer present. If the inspection required by (3) is not planned and the owner or operator could not have known about the inspection 30 days in advance of refilling the storage vessel, the owner or operator shall notify the Department at least 7 days prior to the refilling of the storage vessel. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so	component of the control equipment (seals, internal floating roof and fittings). (c) If any of the conditions described in I.O.1.b.(2) are detected during the annual inspection, a report shall be furnished to the Department within 30 days of the inspection. Each report shall identify the storage vessel, the nature of the defects and the date the storage vessel was emptied or the nature of and the date the repair was made. [s. NR 440.285(6)(a), Wis. Adm. Code, 40 CFR s. 60.115b(a); 17-JJW-059] (5) The permittee shall keep and maintain all notifications to the Department regarding filling or refilling of each storage vessel. [s. NR 439.04(1)(d), Wis. Adm. Code; 17-JJW-059]

O. Tanks T02, T04 - 150,000 gallon each - Volatile Organic Liquid Storage Tanks (modified 2005) **Tank T11** - 489,000 gallon Volatile Organic Liquid Storage Tank (2012) **Tanks T01 and T03** - 80,000 gallon each - Volatile Organic Liquid Storage Tanks (modified 2005) **Tanks T10** - 30,000 gallon gasoline denaturant Volatile Organic Liquid Storage Tank (2004) **Tank T12** - 489,000 gallon Volatile Organic Liquid Storage Tank (2017)		
1. Pollutant: Volatile Organic Compound (VOC) Emissions		
a. Limitations	**b.** Compliance Demonstration	**c.** Reference Test Methods, Recordkeeping and Monitoring Requirements
recommended setting. [s. NR 440.285(3)(a)1.f., Wis. Adm. Code, 40 CFR s. 60.112b(1)(vi); 17-JJW-059] (10) Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The sample well shall have a slit fabric cover that covers at least 90% of the opening. [s. NR 440.285(3)(a)1.g., Wis. Adm. Code, 40 CFR s. 60.112b(1)(vii); 17-JJW-059] (11) Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover. [s. NR 440.285(3)(a)1.h., Wis. Adm. Code, 40 CFR s. 60.112b(1)(viii); 17-JJW-059]	that it is received by the Department at least 7 days prior to the refilling. [s. NR 440.285(4)(a)5., Wis. Adm. Code, 40 CFR s. 60.113b(5); 17-JJW-059]	

Q. Process F03, Stack S80, Control C80 - Truck Loading Rack 1 Process F06, Stack S80, Control C80 - Truck Loading Rack 2		
1. Pollutant: Volatile Organic Compound (VOC) Emissions		
a. Limitations	**b.** Compliance Demonstration	**c.** Reference Test Methods, Recordkeeping and Monitoring Requirements
(1) No person may cause, allow or permit emissions of volatile organic compounds to the ambient air which substantially contribute to the exceeding of an air standard or cause pollution. [s. NR 419.03(1), Wis. Adm. Code; 17-JJW-059] (2) No transfer of products from this facility may be made to a tanker truck unless any gasoline or other organic vapors carried by the tanker are collected, processed and disposed of through a vapor collection, processing and disposal system (flare). [ss. NR 406.10, 419.03(2), 419.06(3), and 445.04(3), Wis. Adm. Code; 17-JJW-059] (3)Toxics Lowest Achievable Emission Rate (TLAER). TLAER is determined to be the use of collection / capture of organic vapors displaced by the tanker truck loading operations and use of a flare to destroy at least 95% of these collected organic compounds. [ss. NR 445.07(1)(c), NR 440.18, Wis. Adm. Code; 17-JJW-059] (4) The control device shall be designed and operated to reduce the inlet VOC emissions by 95% or greater. If an open flare is used as the control device it shall meet the specifications described in the general control device requirements under s. NR 440.18, Wis. Adm. Code. [s. 285.65(3), Wis. Stats. and s. NR 406.10, Wis. Adm. Code; 17-JJW-059]	(1) To demonstrate compliance with volatile organic compound emission limitations, the permittee shall conduct compliance emission testing whenever requested by the Department. [s. NR 439.06(3), Wis. Adm. Code; 17-JJW-059] (2) To demonstrate compliance with gasoline/organic vapor collection system limitation, the permittee shall provide vapor collection/processing/disposal equipment at loading bays for all products distributed at this facility to ensure that any gasoline vapors are processed and disposed of through a vapor processing and disposal system. A vapor collection/control system shall be used at all times. [s. 285.65(3), Wis. Stats. and ss. NR 445.04(3), 407.09(4)(a)(3)(b), Wis. Adm. Code; 17-JJW-059] (3) The facility shall install and maintain a transfer interlock system which allows for the transfer of materials to tanker trucks only when using a gasoline vapor collection/disposal system. Correct operation of the transfer interlock system shall be verified at least once each calendar month. [s. 285.65(3), Wis. Stats. and ss. NR 445.04(3), NR 407.09(4)(a)(3)(b), Wis. Adm. Code; 17-JJW-059] (4) The owner or operator shall act to assure that loadings of gasoline tank trucks at the facility are made only into tanks equipped with vapor collection equipment that is compatible with the facility's vapor collection system. [ss. NR 407.09(1)(a) and NR 439.055(5), Wis. Adm. Code; 17-JJW-059] (5) The flare shall be operated at all times when emissions may be vented to the flare. Flares shall be operated with a flame (pilot) present at all times. [ss. NR 440.18(3)(b)&(5), and NR 406.10, Wis. Adm. Code; 17-JJW-059] (6) The flare shall be an air-assisted flare: This shall be	(1) <u>Reference Test Method for Volatile Organic Compound (VOC) Emissions:</u> Whenever compliance emission testing is required, the appropriate U.S. EPA Method; 18 or 25A shall be used to demonstrate compliance. When approved in writing an equivalent test method may be substituted for the required test method. [s. NR 439.06(3)(a), Wis. Adm. Code; 17-JJW-059] (2) The permittee shall keep and maintain the following daily records: (a) A name or unique identifier for each specific material being transferred (loaded and unloaded) at the facility; and (b) The quantity of each material transferred, in gallons. [s. NR 419.06, Wis. Adm. Code; 17-JJW-059] (3) The permittee shall keep and maintain the following records: (a) Technical information regarding how the transfer interlock system operates; (b) Verification logs regarding the correct operation of the transfer interlock system for each calendar month. [s. NR 439.04(1)(d), Wis. Adm. Code; 17-JJW-059] (4) The permittee shall keep and maintain on site "as built" technical drawings, blueprints or equivalent records of the piping for the loading bay, the vapor processing equipment and a log of the tankers authorized to load ethanol at the facility. [s. 285.65(3), Wis. Stats., s. NR 439.04(1)(d), Wis. Adm. Code; 17-JJW-059]

Q. Process F03, Stack S80, Control C80 - Truck Loading Rack 1 Process F06, Stack S80, Control C80 - Truck Loading Rack 2		
1. Pollutant: Volatile Organic Compound (VOC) Emissions		
a. Limitations	**b.** Compliance Demonstration	**c.** Reference Test Methods, Recordkeeping and Monitoring Requirements
	designed and operated with an exit velocity less than the specified V_{max} as determined by the method specified under b.(8). [ss. NR 440.18(3), 406.10, Wis. Adm. Code; 17-JJW-059] (7) The flare shall be used with a net heating value of the gas being combusted (H_T) of 300 BTU/scf (for an air assisted flare). The net heating value of the gas being combusted in a flare shall be calculated using the following equation: $$H_T = K \cdot \sum_{i=1}^{n} C_i H_i$$ where: H_T is the net heating value of the sample, MJ/scm; where the net enthalpy per mole of offgas is based on combustion at 25°C and 700 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20°C; K is the conversion constant, 1.740 x 10^{-7} $$\left[\frac{1}{ppm}\right] \cdot \left[\frac{g-mole}{scm}\right] \cdot \left[\frac{MJ}{kcal}\right]$$ where the standard temperature for (g-mole)/scm is 20°C; C_i is the concentration of sample component i in ppm on a wet basis, as measured for organics by Reference Method 18 in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 440.17, and measured for hydrogen and carbon monoxide by ASTM D1946-77, incorporated by reference in s. NR 440.17; and H_i is the net heat of combustion of sample component i, kcal/(g-mole) at 25°C and 760 mm Hg. The heats of combustion may be determined using ASTM D2382-76, incorporated by reference in s. NR 440.17, if published values are not available or cannot be calculated. [ss. NR 440.18(6)(c) and NR 406.10, Wis. Adm. Code; 17-JJW-059] (8) The actual exit velocity of a flare shall be determined by dividing the volumetric flowrate (in units of standard	

Q. Process F03, Stack S80, Control C80 - Truck Loading Rack 1 Process F06, Stack S80, Control C80 - Truck Loading Rack 2		
1. Pollutant: Volatile Organic Compound (VOC) Emissions		
a. Limitations	**b.** Compliance Demonstration	**c.** Reference Test Methods, Recordkeeping and Monitoring Requirements
	temperature and pressure), as determined as appropriate by Reference Method 2, 2A, 2C, or 2D of Appendix A, 40 CFR Part 60, incorporated by reference in s. NR 440.17, by the unobstructed (free) cross sectional area of the flare tip. [ss. NR 440.18(6)(d) and NR 406.10, Wis. Adm. Code; 17-JJW-059] (9) The maximum permitted velocity, V_{max}, for air-assisted flares shall be determined by the following equation: $V_{max} = 8.706 + 0.7084(H_T)$ where: V_{max} is the maximum permitted velocity, m/sec; *8.706* is a constant; *0.7084* is a constant; and H_T is the net heating value as determined in (5). [ss. NR 440.18(6)(f) and NR 406.10, Wis. Adm. Code; 17-JJW-059]	

Q. Process F03, Stack S80, Control C80 - Truck Loading Rack 1 Process F06, Stack S80, Control C80 - Truck Loading Rack 2		
2. Pollutant: Visible Emissions		
a. Limitations	**b.** Compliance Demonstration	**c.** Reference Test Methods, Recordkeeping and Monitoring Requirements
(1) No visible opacity from flares except for periods not to exceed 5 minutes during any 2 consecutive hours. [ss. NR 431.05(1), 440.18(3)(a), Wis. Adm. Code; 17-JJW-059]	(1) Flares shall be designed for and operated with no visible emissions, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours. [ss. NR 431.05(1), 440.18(3)(a), Wis. Adm. Code; 17-JJW-059] (2) The requirements in I.Q.1.b. shall be used to show compliance with the visible emissions limitation. [s. 285.65(3), Wis. Stats.; 17-JJW-059]	(1) <u>Reference Test Method for Visible Emissions:</u> Whenever visible emissions compliance testing is required, USEPA Method 9 in 40 CFR Part 60, Appendix A, incorporated by reference in s. NR 484.04, Wis. Adm. Code shall be used. [s. NR 439.06(9)(a)1., Wis. Adm. Code; 17-JJW-059] (2) Whenever visible emissions compliance testing for the flare is required, USEPA Method 22 in 40 CFR Part 60, Appendix A, incorporated by reference in s. NR 484.04, Wis. Adm. Code shall be used. The observation period is 2 hours and shall be used in accordance with Method 22. [s. NR 440.18(6), Wis. Adm. Code; 17-JJW-059] (3) See I.Q.1.c. [s. NR 439.04(1)(d), Wis. Adm. Code]

Z. General Conditions Applicable to the Construction Permit.	
1. Construction Permit Transitional Language	
a. Limitations/Condition	**b.** Compliance Demonstration
(1) Modified Emission Unit(s). The conditions related to the modification of existing emission units or existing facility requirements shall take effect upon issuance of the construction permit. [s. 285.65(1) Wis. Stats. (Permit 17-JJW-059)] (2) New Emission Unit(s). Once constructed and initially operating, new emission units shall operate under the applicable conditions of the construction permit 17-JJW-059. [s. 285.65(1) Wis. Stats. (Permit 17-JJW-059)]	(1) Compliance Reports/Records. The permittee shall submit periodic monitoring reports and certification of compliance as required by I.ZZZ.3.a.(1) and (2) for any modified and new emission unit for the period when that unit becomes operational. Note that compliance monitoring and reporting requirements and limitations of any unmodified units remain in effect. [s. NR 407.05(9), Wis. Adm. Code (Permit 17-JJW-059)] (2) Completion of Operation Permit Application. The permittee shall update the permit application if any changes occur which are not specified or described in the plans and specifications approved under construction permit 17-JJW-059. [s. NR 407.05(9), Wis. Adm. Code (Permit 17-JJW-059)] (3) Submittal of Compliance Testing Information and Other Updates. The permittee shall submit to the department any updates of the permit application. Updates are required if any changes that occur which are not specified or described in the plans and specifications dated March 30, 2017. The updates shall be made within 60 days of the date of the change. Other information to be submitted shall include the notification requirements and stack tests results and the update of the facility's Malfunction prevention and Abatement Plan. The continued operation of the modified and new emission units addressed in this construction permit are prohibited once the authorization to construct expires per I.Z.4.a.(2), unless any required updates have been submitted and the permittee has satisfied the notification requirements of I.Z.4.b.(1)[4]. [s. NR 439.04(1)(d), Wis. Adm. Code (Permit 17-JJW-059)] (4) All submittals described in this permit shall be made in writing and include the name of the facility, the facility's address, the construction permit number and a description of the affected emission unit(s). [s. NR 439.04(1)(d), Wis. Adm. Code (Permit 17-JJW-059)]

[4] To maintain the operation permit shield.

Z. General Conditions Applicable to the Construction Permit.	
2. Updated Malfunction Prevention and Abatement Plan	
a. Limitations	**b.** Compliance Demonstration
(1) Malfunction Prevention and Abatement Plan. The permittee shall update the Malfunction Prevention and Abatement Plan to prevent, detect and correct malfunctions or equipment failures which may cause any applicable emission limitation to be violated or which may cause air pollution with the modified emission unit(s). [s. NR 439.11, Wis. Adm. Code (Permit 17-JJW-059)]	(1) Malfunction Prevention and Abatement Plan. A Malfunction, Prevention, and Abatement Plan shall be developed in accordance with condition II.F. [s. NR 439.11(1), Wis. Adm. Code (Permit 17-JJW-059)]

Z. General Conditions Applicable to the Construction Permit.	
3. Initial Stack Testing Requirements	
a. Limitations	**b.** Compliance Demonstration
(1) Emission Stack Testing. The permittee shall conduct a compliance emission stack test of the following emission units within 90 days of the start of operation of fermenters Process P44J and P44K: • Stack S40 – Compliance with the VOC emission limit and the 85% control requirement. • Stack S50 – Compliance with the VOC emission limit and the 85% control requirement. (a) If compliance emission test(s) cannot be conducted within the time frames specified, the permit holder may request and the Department may approve, in writing, an extension of time to conduct the test(s). (b) All testing shall be performed with the emissions unit operating at capacity or as close to capacity as practicable and in accordance with approved procedures. If operation at capacity is not feasible, the source shall operate at a capacity level which is approved by the Department in writing. (c) The Department shall be notified at least 20 business days in advance of a compliance emission test, to provide the Department an opportunity to have a representative present to witness the testing procedures. The notification shall include submission of a test plan. Any alternative test methods require prior approval in writing. The notification and test plan shall be submitted to the Department of Natural Resources Northeast Region Air Program, Oshkosh Service Center, 625 E. County Road Y, Suite 700, Oshkosh, WI 54901-9731 or an alternative address provided by the Department. Alternatively, the Department accepts and encourages electronic submittals of test plans, uploaded through the permittee's Web Access Management System (WAMS) ID. For more details refer to the "Stack Testing Electronic Submittal Guidebook" on the DNR website. [s. NR 439.07, Wis. Adm. Code (Permit 17-JJW-059)]	(1) Emission Stack Testing. Upon completion of any required compliance emission tests of the modified emission units and the new emission units, the permittee shall submit two copies of the report on the tests for evaluation within 60 days of the date the tests were completed. The emission test report shall be submitted to the Department of Natural Resources Northeast Region Air Program, Oshkosh Service Center, 625 E. County Road Y, Suite 700, Oshkosh, WI 54901-9731 or an alternative address provided by the Department. Alternatively, the Department accepts and encourages electronic submittals of test reports, uploaded through the permittee's Web Access Management System (WAMS) ID. For more details refer to the "Stack Testing Electronic Submittal Guidebook" on the DNR website. [s. NR 439.04(1)(d), Wis. Adm. Code (Permit 17-JJW-059)]

Z. General Conditions Applicable to the Construction Permit.	
4. Construction Permit Notification and Authorization	
a. Limitations	**b.** Compliance Demonstration
(1) Notifications. The permittee shall inform the Department of the following dates: (a) The date construction commences on any new or modified emission unit(s) addressed in Permit 17-JJW-059. (b) The date the modified emission unit(s) becomes operational. (c) The date new emission unit(s) becomes operational. For purposes of this permit, "operational" shall be defined as the first time of any process related air contaminant is emitted into the ambient air. [s. NR 439.03(1), Wis. Adm. Code (Permit 17-JJW-059)] (2) Construction Authorization Expiration. The Authorization to Construct, under Construction Permit 17-JJW-059 expires 18 months after the date of issuance. Construction or modification and an initial operation period for equipment shakedown, testing and Department evaluation of operation to assure conformity with the permit conditions is authorized for each emissions unit covered in this permit. Please note that the sources covered by this permit are required to meet all emission limits and conditions contained in the permit at all times, including during the initial operation period. If 18 months is an insufficient time period for construction or modification, equipment shakedown, testing and Department evaluation of operation, the permit holder may request and the Department may approve in writing an extension of this permit. The conditions of the construction permit are permanent, unless revised, superseded or revoked. [ss. 285.60(1)(a)2. and 285.66(1), Wis. Stats.; s. NR 406.12, Wis. Adm. Code (Permit 17-JJW-059)] (3) Operation Permit Authorization. The emission units authorized in 17-JJW-059 may only operate under the operation permit if both of the following are met: (a) The emission units are constructed in accordance with the application as approved by the department, and (b) The construction and/or modification of the emission units is completed prior to expiration of the authority provided by the construction permit 17-JJW-059 to construct, modify, replace and/or reconstruct these emission units. [ss. NR 406.10, and 406.12, Wis. Adm. Code, and s. 285.65, Wis. Stats., Permit 17-JJW-059]	(1) Notifications. The permittee shall submit to the Department of Natural Resources Northeast Region Air Program, Oshkosh Service Center, 625 E. County Road Y, Suite 700, Oshkosh, WI 54901-9731 or an alternative address provided by the Department, in writing, within 15 days of the date the event, the following: (a) The date construction commences on the new or modified emission unit(s) addressed in Permit 17-JJW-059. (b) The date the modified emission unit(s) becomes operational. (c) The date new emission unit(s) becomes operational. [s. NR 439.04(1)(d), Wis. Adm. Code (Permit 17-JJW-059)]

ZZZ. Conditions Applicable to the Entire Facility		
1. Pollutant: Malodorous Emissions		
a. Limitations	**b.** Compliance Demonstration	**c.** Reference Test Methods, Recordkeeping and Monitoring Requirements
(1) General Limitations. No person may allow or permit emissions into the ambient air any substance or combination of substances in such quantities that an objectionable odor is determined to result unless preventative measures satisfactory to the Department are taken to abate or control such emission. [s. NR 429.03(1), Wis. Adm. Code; 17-JJW-059]*	(1) The permittee shall prepare and implement an Odor Prevention and Abatement Plan. [s. NR 429.03, Wis. Adm. Code; 17-JJW-059]* (2) The Odor Prevention and Abatement Plan shall include a process to document and investigate complaints related to malodorous emissions. The permittee shall investigate each complaint related to malodorous emissions as expeditiously as practicable. [s. NR 429.03, Wis. Adm. Code; 17-JJW-059]* (3) If malodorous emissions are determined to exist or persist as a result of process operations, the facility shall propose additional means of odor control by amending the Odor Prevention and Abatement Plan and proposing the actions or controls needed to minimize the odors. The facility shall implement the additional measures to reduce odors as expeditiously as practicable. [s. NR 429.03, Wis. Adm. Code; 17-JJW-059]*	(1) The facility shall keep and maintain the following records: (a) A record of all complaints related to malodorous emissions. The record shall include the date, time, and name of the complainant. (b) A record of the results of each investigation related to a malodorous emissions complaint. (c) The most recent version of the Odor Prevention and Abatement Plan. [s. NR 439.04(1)(d), Wis. Adm. Code; 17-JJW-059]*

ZZZ. Conditions Applicable to the Entire Facility		
7. Pollutant: Stack Parameters		
a. Limitations	**b.** Compliance Demonstration	**c.** Reference Test Methods, Recordkeeping and Monitoring Requirements
(1) The stacks listed in I.ZZZ.7.a.(2) may not be equipped with a device which impedes the upward flow of the exhaust gases. [s. 285.65(3), Wis. Stats., ss. NR 406.10, NR 404.04(8), and NR 404.05(3), Wis. Adm. Code; 16-JJW-075] (2) Stack heights for each individual stack must be at least the following heights above ground level set forth in the table below. Any changes or differences from the parameters noted which result in higher ambient impacts, may not result in a violation of an ambient standard, increment or an acceptable air concentration value and shall be documented in a submittal to the Department (if a discrepancy is observed). The Department may approve the changes or deny them if the changes may result in a violation of a standard, increment or acceptable air concentration. [s. 285.65(3), Wis. Stats. and s. NR 406.10, Wis. Adm.	(1) Whenever requested in writing by the Department, the permittee shall provide current physical stack parameters. [s. NR 407.09(4)(a), Wis. Adm. Code; 16-JJW-075]	(1) The permittee shall keep and maintain on site technical drawings, blueprints or equivalent records of the physical stack parameters. [ss. NR 439.04(1)(d), and 407.09(1)(c)2., Wis. Adm. Code; 16-JJW-075]

ZZZ. Conditions Applicable to the Entire Facility		
7. Pollutant: Stack Parameters		
a. Limitations	**b.** Compliance Demonstration	**c.** Reference Test Methods, Recordkeeping and Monitoring Requirements
Code; 06-JJW-281, 04-DCF-295; 16-JJW-075; 17-JJW-059]		

Source	Height (ft)
S20	26.5
S21	16.5
S31A, S33A	26.5
S35A, S36A	32.33
S95	18.65
S62, S63	90.5
S64	10
S90, S91	13.5
S70, S71	65.0