



Minnesota Pollution Control Agency

**Air Individual Permit
Permit True Minor for NSR
16300003- 021**

Permittee: Saint Paul Park Refining Co LLC
Facility name: Saint Paul Park Refining Co LLC
301 Saint Paul Park Rd
St. Paul Park, MN 55071
Washington County

Operating permit issuance date: April 10, 2013

Expiration date: April 10, 2018

* All Title I Conditions do not expire

Major Amendment: November 25, 2015

Permit characteristics: Federal; Part 70/ Major for NSR; True Minor for NSR

Each new or revised condition designated "Title I Condition: SIP for [SO₂]" is not effective or enforceable until approved by U.S. Environmental Protection Agency (EPA) as a State Implementation Plan (SIP) revision under Title I of the Clean Air Act.

The emission units, control equipment and emission stacks at the stationary source authorized in this permit amendment are as described in the Permit Applications Table.

This permit amendment supersedes Air Emission Permit No. 16300003-021, and authorizes the Permittee to operate, construct, and modify the stationary source at the address listed above unless otherwise noted in the permit. The Permittee must comply with all the conditions of the permit. Any changes or modifications to the stationary source must be performed in compliance with Minn. R. 7007.1150 to 7007.1500. (Any additions or changes to conditions incorporated into Minnesota's SIP under 40 CFR § 52.1220, designated "Title I: SIP for [SO₂]" must go through the federal SIP approval process before becoming effective.) Terms used in the permit are as defined in the state air pollution control rules unless the term is explicitly defined in the permit.

Unless otherwise indicated, all the Minnesota rules cited as the origin of the permit terms are incorporated into the SIP under 40 CFR § 52.1220 and as such as are enforceable by EPA Administrator or citizens under the Clean Air Act.

Signature: *Jared LaFave*

This document has been electronically signed.

for Don Smith, P.E., Manager
Air Quality Permits Section
Industrial Division

for the Minnesota Pollution Control Agency

Table of Contents

	Page
1. Permit applications table	3
2. Where to send submittals.....	4
3. Facility description	5
4. Summary of subject items	7
5. Limits and other requirements	31
6. Submittal/action requirements	396
8. Appendices.....	407
Appendix A. (Not used in this permit)	
Appendix B. Title I Condition: Stack Parameters Relied Upon in the SIP Modeling to Demonstrate Compliance with the National Ambient Air Quality Standards (NAAQS) for Sulfur Dioxide (SO ₂).....	407
Appendix C. Insignificant Activities and General Applicable Requirements.....	413
Appendix D. Stack Parameters Relied Upon in the Modeling to Demonstrate Compliance with the National Ambient Air Quality Standards (NAAQS) for Particulate Matter less than 10 microns (PM ₁₀)	416
Appendix E. Stack Parameters Relied Upon in Modeling to Demonstrate Compliance with NAAQS and PSD for Nitrogen Oxides (NO _x)	423

Permit issued: November 25, 2015

Permit expires: April 10, 2018

16300003- 021

Page 3 of 423

1. Permit applications table

Subsequent permit applications:

Title description	Application receipt date	Action number
Total Facility Operating Permit – Reissuance (Original)	4/27/2004	16300003-020
Total Facility Operating Permit – Reissuance (Updated)	2/14/2013	16300003-020
Minor Amendments	4/25/2011, 11/13/2012	16300003-020
Major Amendments	6/11/2012, 11/26/2012	16300003-020
Moderate Amendment	10/22/2012	16300003-020
Administrative Amendments	6/30/2008, 6/18/2010, 7/21/2011	16300003-020
Major Amendments	6/3/2015, 7/23/2015	16300003-021
Minor Amendment	7/23/2015	16300003-021

2. Where to send submittals

Send submittals that are required to be submitted to the U.S. EPA regional office to:

Chief Air Enforcement
Air and Radiation Branch
EPA Region V
77 West Jackson Boulevard
Chicago, Illinois 60604

Each submittal must be postmarked or received by the date specified in the applicable Table. Those submittals required by Minn. R. 7007.0100 to 7007.1850 must be certified by a responsible official, defined in Minn. R. 7007.0100, subp. 21. Other submittals shall be certified as appropriate if certification is required by an applicable rule or permit condition.

Send submittals that are required by the Acid Rain Program to:

U.S. Environmental Protection Agency
Clean Air Markets Division
1200 Pennsylvania Avenue NW (6204N)
Washington, D.C. 20460

Send any application for a permit or permit amendment to:

Fiscal Services – 6th Floor
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

Also, where required by an applicable rule or permit condition, send to the Permit Document Coordinator notices of:

- a. Accumulated insignificant activities
- b. Installation of control equipment
- c. Replacement of an emissions unit, and
- d. Changes that contravene a permit term

Unless another person is identified in the applicable Table, send all other submittals to:

AQ Compliance Tracking Coordinator
Industrial Division
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

3. Facility description

St. Paul Park Refining Co. (SPPRC) operates a petroleum refinery located in the cities of St. Paul Park and Newport, Washington County, Minnesota. The refinery processes foreign and domestic crude oil into various products. Principal products produced are propane, gasoline, diesel fuel, distillate oils, kerosene, fuel oils, jet fuel, asphalt, and industrial grade sulfur. Products leave the refinery through tanker trucks, barges, railcars and product pipelines.

This permit action was the reissuance of the Title V operating permit. The changes allowed with this permit reissuance included a major amendment to install and operate fugitive emission components under National Standard of Performance Standards (NSPS), 40 CFR pt. 60, subps. GGGa and QQQ, a moderate permit amendment to address physical changes related to the installation of an emergency diesel engine and associated pump to enhance the deluge system for the HF alkylation unit, a minor amendment to increase the flashpoint of slurry produced by the fluidized catalytic cracking (FCC) regenerator, a major amendment to incorporate the 2001 Consent Decree requirements as amended, a minor amendment for construction of a replacement heater for 8-B-1 heater (EQUI 37), an administrative amendment for a 120 day performance test extension for the light oil rack vapor recovery system (EQUI 28), an administrative amendment to remove Particulate Matter (PM) performance test requirements for the FCC generator and hydrogen sulfide (H₂S) limits and monitoring requirements for the Wastewater Treatment Plant, an administrative amendment for a 120 day performance test extension for 16-B-4 boiler and mandatory reopenings to address new limits based on performance tests for several heaters. Additionally, new regulatory requirements that have been established through promulgation of new and modified regulations have been incorporated as needed. Finally, various existing permit terms have been clarified or corrected in this permit.

AMENDMENT DESCRIPTION PERMIT ACTION 021:

This permit amendment includes one minor amendment and two major amendments. The minor amendment adds new and existing New Source Performance Standards (NSPS) units to the refinery and also incorporates new NSPS requirements for the refinery flare. This minor amendment is rolled into the major amendment to authorize the Permittee to modify the existing NSPS units. When the emissions increases from the three amendments are combined, the increase is less than the New Source Review (NSR) significant emission rate threshold for Prevention of Significant Deterioration (PSD) major sources.

The Permittee will relocate an existing process unit, a Solvent Deasphalting (SDA) Unit, from another refinery. This unit will increase the recovery of gas oil range material from the vacuum tower bottoms rather than that oil being sold in the asphalt product. The deasphalted oil will then be processed downstream at the existing Heavy Distillate Hydrotreater (FUGI 124) and the Fluidized Catalytic Cracker (EQUI 2). The SDA unit will also produce a heavier than asphalt material called pitch that will be sold as an asphalt product.

The SDA unit includes seven new emission sources: A relocated 30 MMBtu/hr hot oil heater (EQUI 323) fired by refinery gas or natural gas, SDA process equipment in VOC service (FUGI 116), SDA process sewer equipment (FUGI 117), two new SDA compressors in VOC service (FUGI 118, FUGI 119), and two new pitch storage tanks (EQUI 55 and EQUI 56). The SDA unit operation will increase process throughput in downstream non-modified

Permit issued: November 25, 2015

16300003- 021

Permit expires: April 10, 2018

Page 6 of 423

units. During unit shutdowns when the SDA unit will be depressurized, exhaust gases will be routed to the existing refinery flare (FUGI 73 and TREA 13).

A second unrelated major amendment to incorporate changed modeling parameters has also been rolled into this permit action. These new modeling parameters were included in an equivalent or better dispersion (EBD) modeling demonstration which was approved by the MPCA on April 27, 2015. Pending the State Implementation Plan (SIP) revision, the changes will remove the capability to combust refinery oil within certain units, revise stack parameters, and decrease certain units' potential to emit (PTE). This project also incorporates more recent Relative Accuracy Test Audit (RATA) methods for the Wastewater Treatment Plant (WWTP) thermal oxidizer's (TREA 5) hydrogen sulfide (H₂S) monitor (EQUI 209).

4. Summary of subject items

SI ID: Description	Relationship Type	Related SI ID: Description
ACTV2: All IAs		
COMG10: Reserved	has members	AISI447
COMG11: Wastewater Treatment Plant System	has members	EQUI142, EQUI143, EQUI153, FUGI78, FUGI84, FUGI85, FUGI86, FUGI87, FUGI88, FUGI130, FUGI131
COMG12: Water Seal Controls to comply with Benzene Waste NESHAP	has members	FUGI85, FUGI114
COMG13: Control Device Required for Benzene Waste NESHAP	has members	EQUI40, FUGI85, FUGI86, FUGI92, FUGI93, FUGI130, STRU20, STRU22, TREA5, TREA9
COMG14: Storage Tanks	has members	EQUI63, EQUI67, EQUI74, EQUI75, EQUI76, EQUI77, EQUI78, EQUI79, EQUI80, EQUI81, EQUI82, EQUI83, EQUI85, EQUI88, EQUI89, EQUI90, EQUI96, EQUI101, EQUI103,

SI ID: Description	Relationship Type	Related SI ID: Description
		EQUI104, EQUI105, EQUI106, EQUI107, EQUI108, EQUI109, EQUI110, EQUI111, EQUI112, EQUI116, EQUI117, EQUI118, EQUI119, EQUI120, EQUI121, EQUI122, EQUI123, EQUI124, EQUI126, EQUI127, EQUI128, EQUI129, EQUI130, EQUI131, EQUI132, EQUI133, EQUI134, EQUI135, EQUI136, EQUI144, EQUI324, EQUI325
COMG15: NESHAP CC w/NSPS subp Kb and QQQ (each) and NESHAP FF	has members	EQUI142, EQUI143, EQUI153
COMG19: Portable Diesel Engines covered include portable diesel-driven pump, compressors, generators, etc.	has members	AISI447
COMG1: w/UU (each tank)	has members	EQUI55, EQUI56, EQUI66, EQUI97,

SI ID: Description	Relationship Type	Related SI ID: Description
		EQUI98, EQUI99, EQUI108, EQUI125
COMG20: Fuel combustion devices using refinery oil	has members	EQUI1, EQUI3, EQUI6, EQUI13, EQUI15
COMG21: Storage Tank Heaters (applies to each)	has members	EQUI297, EQUI298, EQUI299, EQUI300, EQUI301, EQUI302, EQUI303, EQUI304, EQUI305, EQUI306, EQUI307, EQUI308, EQUI309, EQUI310, EQUI311, EQUI312, EQUI313, EQUI314, EQUI315, EQUI316, EQUI317, EQUI318, EQUI319, EQUI320, EQUI321, EQUI322
COMG25: Cooling Towers and associated Heat Exchange Systems	has members	EQUI50, EQUI51, EQUI52, EQUI53, EQUI54
COMG26: Hydrogen Plant Heaters	has members	EQUI23, EQUI24, EQUI162, EQUI296, STRU87, TREA11, TREA16
COMG27: Boilers 7 & 8	has members	EQUI42, EQUI43, EQUI163, EQUI212, EQUI213,

SI ID: Description	Relationship Type	Related SI ID: Description
		EQUI214, EQUI215, EQUI216, EQUI217, STRU44, STRU45
COMG28: Loading Rack Vapor Combustor Unit System	has members	EQUI28, EQUI41, STRU32, TREA18, TREA26
COMG2: NESHAP CC w/NSPS Kb overlap (each)	has members	EQUI60, EQUI92, EQUI102, EQUI115, EQUI137, EQUI138, EQUI142, EQUI143, EQUI145, EQUI152, EQUI153, EQUI155, EQUI156, EQUI158
COMG30: Sources Subject to Benzene Waste NESHAP	has members	FUGI8, FUGI85, FUGI92, FUGI93, FUGI115, FUGI130
COMG31: State LDAR program (applies to each)	has members	FUGI72, FUGI75
COMG32: NESHAP subp CC tanks; No NSPS (each)	has members	EQUI59, EQUI71, EQUI72, EQUI73, EQUI113, EQUI139, EQUI150, EQUI151, EQUI154
COMG33: NESHAP CC w/NSPS K overlap (each)	has members	EQUI68, EQUI69, EQUI70
COMG3: Tanks subject to Benzene Waste NESHAP w/ NSPS Kb overlap (each)	has members	EQUI102, EQUI140, EQUI141, EQUI158

SI ID: Description	Relationship Type	Related SI ID: Description
COMG4: FUGI subject to QQQ (each) - Wastewater NSPS	has members	FUGI92, FUGI93, FUGI94, FUGI95, FUGI96, FUGI97, FUGI101, FUGI102, FUGI103, FUGI104, FUGI105, FUGI106, FUGI107, FUGI108, FUGI109, FUGI110, FUGI117, FUGI130, FUGI134, FUGI135, FUGI136, FUGI137, FUGI138, FUGI139, FUGI142, FUGI143, FUGI144, FUGI145, FUGI146, FUGI147, FUGI148, FUGI149, FUGI150
COMG5: MACT Units	has members	FUGI42, FUGI69, FUGI70, FUGI71, FUGI73, FUGI77, FUGI78, FUGI79, FUGI81, FUGI82, FUGI83, FUGI91, FUGI99, FUGI100, FUGI115, FUGI118, FUGI119,

SI ID: Description	Relationship Type	Related SI ID: Description
		FUGI120, FUGI121, FUGI122, FUGI123, FUGI124, FUGI125, FUGI126, FUGI127, FUGI128, FUGI129, FUGI132, FUGI133, FUGI141, FUGI151, FUGI152, FUGI153, FUGI154, FUGI155, FUGI156, FUGI157, FUGI158, FUGI159, FUGI160, FUGI161, FUGI162, FUGI163, FUGI164, FUGI165, FUGI166, FUGI167, FUGI168, FUGI169, FUGI171, FUGI172, FUGI173, FUGI174
COMG6: FUGI Subject to NSPS GGGa	has members	FUGI42, FUGI116, FUGI118, FUGI119, FUGI120, FUGI121, FUGI122, FUGI123, FUGI124, FUGI125, FUGI126, FUGI127, FUGI128, FUGI129,

SI ID: Description	Relationship Type	Related SI ID: Description	SI ID: Description	Relationship Type	Related SI ID: Description
		FUGI132, FUGI133, FUGI141, FUGI151, FUGI152, FUGI153, FUGI154, FUGI155, FUGI156, FUGI157, FUGI158, FUGI159, FUGI160, FUGI161, FUGI162, FUGI163, FUGI164, FUGI165, FUGI166, FUGI167, FUGI168, FUGI169, FUGI170, FUGI171, FUGI172, FUGI173, FUGI174	COMG8: No. 2 SRU, Hydrogen Plant Heaters and Distillate Desulfurization Heaters	has members	EQUI326 EQUI16, EQUI21, EQUI23, EQUI24, EQUI326
			COMG9: Refinery Heaters 11-14 & 22- 25	has members	EQUI8, EQUI9, EQUI10, EQUI11, EQUI17, EQUI18, EQUI19, EQUI20
			EQUI101: Light Distillate - #2 oil, turbine, kerosene, distillate unifier charge, light cycle oil (APC 121)		
			EQUI102: Slop/Slop oil/API Slop (APC 117)		
			EQUI103: Light Distillate - #2 oil, turbine, kerosene, distillate unifier charge, light cycle oil (APC 107)		
COMG7: H2S CEMS assoc. w/ all process heaters	has members	EQUI1, EQUI3, EQUI4, EQUI5, EQUI6, EQUI7, EQUI8, EQUI9, EQUI10, EQUI11, EQUI12, EQUI13, EQUI14, EQUI15, EQUI17, EQUI18, EQUI19, EQUI20, EQUI21, EQUI23, EQUI24, EQUI33, EQUI37, EQUI42, EQUI43, EQUI44, EQUI323,	EQUI104: Light Distillate - #2 oil, turbine, kerosene, distillate unifier charge, light cycle oil (APC 122)		
			EQUI105: Asphalt, Asphalt Flux, Vacuum Bottoms, No. 6 Fuel Oil and Slurry Oil (APC 75)		
			EQUI106: Asphalt, Asphalt Flux, Vacuum Bottoms, No. 6 Fuel Oil and Slurry Oil (APC 76)		
			EQUI107: Asphalt, Asphalt Flux, Vacuum Bottoms, No. 6 Fuel Oil and Slurry Oil (APC 62)		

SI ID: Description	Relationship Type	Related SI ID: Description
EQUI108: Asphalt, Asphalt Flux, Vacuum Bottoms, No. 6 Fuel Oil and Slurry Oil (APC 132)		
EQUI109: FCC Charge (APC 69)		
EQUI110: Platformer Interheater No. 1 5-3-B-7		
EQUI110: Asphalt, Asphalt Flux, Vacuum Bottoms, No. 6 Fuel Oil and Slurry Oil (APC 133)		
EQUI111: FCC Charge (APC 70)		
EQUI112: Asphalt, Asphalt Flux, Vacuum Bottoms, No. 6 Fuel Oil and Slurry Oil (APC 143)		
EQUI113: Isom Charge, Isomerate, Heavy Naphtha, Reformate (APC 99)		
EQUI114: Isom Charge, Isomerate, Heavy Naphtha, Reformate (APC 141)		
EQUI115: Reformate (APC 162)		
EQUI116: Light Distillate - #2 oil, turbine, kerosene, distillate unifier charge, light cycle oil (APC 105)		
EQUI117: Light Distillate - #2 oil, turbine, kerosene, distillate unifier charge, light cycle oil (APC 111)		
EQUI118: Light Distillate - #2 oil, turbine, kerosene, distillate unifier		

SI ID: Description	Relationship Type	Related SI ID: Description
charge, light cycle oil (APC 106)		
EQUI119: Light Distillate - #2 oil, turbine, kerosene, distillate unifier charge, light cycle oil (APC 112)		
EQUI111: Platformer Interheater No. 2 5-3-B-8		
EQUI120: Light Distillate - #2 oil, turbine, kerosene, distillate unifier charge, light cycle oil (APC 116)		
EQUI121: Light Distillate - #2 oil, turbine, kerosene, distillate unifier charge, light cycle oil (APC 123)		
EQUI122: Light Distillate - #2 oil, turbine, kerosene, distillate unifier charge, light cycle oil (APC 124)		
EQUI123: Asphalt, Asphalt Flux, Vacuum Bottoms, No. 6 Fuel Oil and Slurry Oil (APC 118)		
EQUI124: Asphalt, Asphalt Flux, Vacuum Bottoms, No. 6 Fuel Oil and Slurry Oil (APC 127)		
EQUI125: Asphalt, Asphalt Flux, Vacuum Bottoms, No. 6 Fuel Oil and Slurry Oil (APC 148)		
EQUI126: Asphalt, Asphalt Flux, Vacuum Bottoms, No. 6 Fuel Oil and Slurry Oil (APC 120)		
EQUI127: Asphalt,		

SI ID: Description	Relationship Type	Related SI ID: Description
Asphalt Flux, Vacuum Bottoms, No. 6 Fuel Oil and Slurry Oil (APC 129)		
EQUI128: Asphalt, Asphalt Flux, Vacuum Bottoms, No. 6 Fuel Oil and Slurry Oil (APC 131)		
EQUI129: Propylene (APC 81)		
EQUI112: Isom Desulf Charge Heater 5-34- B-1		
EQUI130: Propylene (APC 138)		
EQUI131: Propylene or Propane (APC 139)		
EQUI132: Propane (APC 72)		
EQUI133: Propane (APC 73)		
EQUI134: Propane (APC 119)		
EQUI135: Isobutane (APC 114)		
EQUI136: Normal Butane (APC 115)		
EQUI137: Ethanol (APC 157)		
EQUI138: Alkylate (APC 161)		
EQUI139: Alkylate (APC 79)		
EQUI113: Hot Oil Heater 5-34-B-2		
EQUI140: Wastewater (APC 158)		
EQUI141: Wastewater (APC 159)		
EQUI142: API Slop Oil (APC 14T-2)		
EQUI143: DGF Slop (APC 14T-9)		
EQUI144: Light Distillate - #2 oil, turbine, kerosene,		

SI ID: Description	Relationship Type	Related SI ID: Description
distillate unifier charge, light cycle oil (APC 140)		
EQUI145: Cat Naphtha/Cat Gasoline (APC 142)		
EQUI146: BioDiesel		
EQUI147: BioDiesel		
EQUI148: BioDiesel		
EQUI149: BioDiesel		
EQUI14: HDH Charge heater 5-32- B-1		
EQUI150: Isomerate (APC 103)		
EQUI151: Gasoline (APC 104)		
EQUI152: Alkylate (APC 155)		
EQUI153: Stormwater (APC 146)		
EQUI154: Gasoline (APC 134)		
EQUI155: Gasoline (APC 145)		
EQUI156: Natural Gasoline (APC 153)		
EQUI157: Light Distillate - #2 oil, turbine, kerosene, distillate unifier charge, light cycle oil (APC 91)		
EQUI158: Slop Oil MPC Tank ID 109		
EQUI15: SGP Dehexanizer Reboiler 5-10-B-1		
EQUI162: H2S Monitor (PSA)		
EQUI163: H2S Monitor	monitors	COMG26: Hydrogen Plant Heaters
EQUI163: H2S Monitor	monitors	EQUI10: Platformer Interheater No. 1 5-3-B-7
EQUI163: H2S Monitor	monitors	EQUI11: Platformer

SI ID: Description	Relationship Type	Related SI ID: Description
		Interheater No. 2 5-3-B-8
EQUI163: H2S Monitor	monitors	EQUI12: Isom Desulf Charge Heater 5-34-B-1
EQUI163: H2S Monitor	monitors	EQUI13: Hot Oil Heater 5-34-B-2
EQUI163: H2S Monitor	monitors	EQUI14: HDH Charge heater 5-32-B-1
EQUI163: H2S Monitor	monitors	EQUI15: SGP Dehexanizer Reboiler 5-10-B-1
EQUI163: H2S Monitor	monitors	EQUI17: Guard Case Reactor Heater 5-36-B-1
EQUI163: H2S Monitor	monitors	EQUI18: Reformer Charge & No. 1 Interheaters 5-36-B-2,3,4
EQUI163: H2S Monitor	monitors	EQUI19: No. 3 Interheater 5-36-B-6E
EQUI163: H2S Monitor	monitors	EQUI1: Alky Iso stripper Htr 5-28-B-1
EQUI163: H2S Monitor	monitors	EQUI20: No. 2 Interheater 5-36-B-6W
EQUI163: H2S Monitor	monitors	EQUI21: DDS Reactor Charge Heater 5-37-B-1
EQUI163: H2S Monitor	monitors	EQUI23: Hydrogen Plant Heaters 5-38-B-1 - Process Heater
EQUI163: H2S Monitor	monitors	EQUI24: Hydrogen Plant Heaters 5-38-B-2 - Process Heater
EQUI163: H2S Monitor	monitors	EQUI326: DDS Product

SI ID: Description	Relationship Type	Related SI ID: Description
		Stripper Reboiler 5-37-B-2
EQUI163: H2S Monitor	monitors	EQUI33: No. 3 Sulfur Recovery Unit
EQUI163: H2S Monitor	monitors	EQUI34: NOx Catalyst Additive Hopper System
EQUI163: H2S Monitor	monitors	EQUI3: No. 2 Crude Vacuum Heater 5-5-B-1
EQUI163: H2S Monitor	monitors	EQUI42: Boiler 7
EQUI163: H2S Monitor	monitors	EQUI43: Boiler 8
EQUI163: H2S Monitor	monitors	EQUI44: FCC Charge Heater (8-B-1)
EQUI163: H2S Monitor	monitors	EQUI4: No. 2 Crude Charge Heater 5-2-B-3
EQUI163: H2S Monitor	monitors	EQUI5: No. 1 Crude Vacuum Tower Heater 5-1-B-5
EQUI163: H2S Monitor	monitors	EQUI6: No. 1 Crude Charge Htr 5-1-B-7
EQUI163: H2S Monitor	monitors	EQUI7: Distillate Unifiner Heater 5-29-B-1&2
EQUI163: H2S Monitor	monitors	EQUI8: Naphtha Unifiner Heater 5-3-B-1,2&3
EQUI163: H2S Monitor	monitors	EQUI9: Platformer Reactor Charge Heater 5-3-B-4
EQUI164: Opacity COMS	monitors	EQUI2: FCC Regenerator 5-8-F-5
EQUI164: Opacity COMS	monitors	STRU7
EQUI166: SO2 CEMS	monitors	EQUI16: Sulfur Recovery Unit (SRU 2)

SI ID: Description	Relationship Type	Related SI ID: Description
EQUI166: SO2 CEMS	monitors	STRU81
EQUI167: Oxygen monitor	monitors	EQUI16: Sulfur Recovery Unit (SRU 2)
EQUI167: Oxygen monitor	monitors	STRU81
EQUI168: TOC Monitor	monitors	EQUI28: Lt Oil Truck Rack - Gasoline
EQUI169: Flare	monitors	FUGI73: 5-14 Flare System - Equipment Leaks
EQUI16: Sulfur Recovery Unit (SRU 2)	is controlled by	TREA12: SCOT Incinerator
EQUI173: Fuel Flow Meter (gas)	monitors	EQUI1: Alky Isostripper Htr 5-28-B-1
EQUI174: Fuel Flow Meter (oil)	monitors	EQUI1: Alky Isostripper Htr 5-28-B-1
EQUI175: Fuel Flow Meter (gas)	monitors	EQUI3: No. 2 Crude Vacuum Heater 5-5-B-1
EQUI176: Fuel Flow Meter (gas)	monitors	EQUI4: No. 2 Crude Charge Heater 5-2-B-3
EQUI178: Fuel Flow Meter (gas)	monitors	EQUI5: No. 1 Crude Vacuum Tower Heater 5-1-B-5
EQUI179: Reserved(no longer use oil)		
EQUI17: Guard Case Reactor Heater 5-36-B-1		
EQUI182: Fuel Flow Meter (gas)	monitors	EQUI6: No. 1 Crude Charge Htr 5-1-B-7
EQUI183: Fuel Flow Meter (oil)	monitors	EQUI6: No. 1 Crude Charge Htr 5-1-B-7
EQUI184: Fuel Flow Meter (gas)	monitors	EQUI7: Distillate Unifiner Heater 5-29-B-1&2
EQUI185: Fuel Flow Meter (gas)	monitors	EQUI8: Naphtha Unifiner Heater

SI ID: Description	Relationship Type	Related SI ID: Description
		5-3-B-1,2&3
EQUI186: Fuel Flow Meter (gas)	monitors	EQUI9: Platformer Reactor Charge Heater 5-3-B-4
EQUI187: Fuel Flow Meter (gas)	monitors	EQUI10: Platformer Interheater No. 1 5-3-B-7
EQUI188: Fuel Flow Meter (gas)	monitors	EQUI11: Platformer Interheater No. 2 5-3-B-8
EQUI189: Fuel Flow Meter (gas)	monitors	EQUI12: Isom Desulf Charge Heater 5-34-B-1
EQUI18: Reformer Charge & No. 1 Interheaters 5-36-B-2,3,4		
EQUI190: Fuel Flow Meter (gas)	monitors	EQUI13: Hot Oil Heater 5-34-B-2
EQUI191: Fuel Flow Meter (oil)	monitors	EQUI13: Hot Oil Heater 5-34-B-2
EQUI192: Fuel Flow Meter (gas)	monitors	EQUI14: HDH Charge heater 5-32-B-1
EQUI193: Fuel Flow Meter (gas)	monitors	EQUI15: SGP Dehexanizer Reboiler 5-10-B-1
EQUI194: Fuel Flow Meter (oil)	monitors	EQUI15: SGP Dehexanizer Reboiler 5-10-B-1
EQUI199: Fuel Flow Meter (gas)	monitors	EQUI17: Guard Case Reactor Heater 5-36-B-1
EQUI19: No. 3 Interheater 5-36-B-6E		
EQUI1: Alky Isostripper Htr 5-28-B-1		
EQUI200: Fuel Flow Meter (gas)	monitors	EQUI18: Reformer

SI ID: Description	Relationship Type	Related SI ID: Description
		Charge & No. 1 Interheaters 5-36-B-2,3,4
EQUI201: Fuel Flow Meter (gas)	monitors	EQUI19: No. 3 Interheater 5-36-B-6E
EQUI202: Fuel Flow Meter (gas)	monitors	EQUI20: No. 2 Interheater 5-36-B-6W
EQUI203: Fuel Flow Meter (gas)	monitors	EQUI21: DDS Reactor Charge Heater 5-37-B-1
EQUI204: Fuel Flow Meter (gas)		
EQUI205: Fuel Flow Meter (gas)	monitors	COMG26: Hydrogen Plant Heaters
EQUI205: Fuel Flow Meter (gas)	monitors	EQUI24: Hydrogen Plant Heaters 5-38-B-2 - Process Heater
EQUI206: Fuel Flow Meter(oil)	monitors	EQUI3: No. 2 Crude Vacuum Heater 5-5-B-1
EQUI208: Fuel Flow Meter (gas)	monitors	COMG26: Hydrogen Plant Heaters
EQUI208: Fuel Flow Meter (gas)	monitors	EQUI23: Hydrogen Plant Heaters 5-38-B-1 - Process Heater
EQUI209: H2S Monitor	monitors	EQUI328: WWTP SBCs
EQUI20: No. 2 Interheater 5-36-B-6W		
EQUI210: SO2 CEMS	monitors	EQUI33: No. 3 Sulfur Recovery Unit
EQUI211: O2 Monitor	monitors	EQUI33: No. 3 Sulfur Recovery Unit
EQUI212: NOx CEMS blr 92	monitors	EQUI42: Boiler 7
EQUI213: CO CEMS blr 92	monitors	EQUI42: Boiler 7
EQUI214: O2	monitors	EQUI42: Boiler

SI ID: Description	Relationship Type	Related SI ID: Description
Monitor blr 92		7
EQUI215: NOx CEMS blr 93	monitors	EQUI43: Boiler 8
EQUI216: CO CEMS blr 93	monitors	EQUI43: Boiler 8
EQUI217: O2 Monitor blr 93	monitors	EQUI43: Boiler 8
EQUI218: NOx CEMS	monitors	EQUI14: HDH Charge heater 5-32-B-1
EQUI219: O2 CEMS	monitors	EQUI14: HDH Charge heater 5-32-B-1
EQUI21: DDS Reactor Charge Heater 5-37-B-1	is controlled in parallel by	TREA20: Flue Gas Recirculation
EQUI21: DDS Reactor Charge Heater 5-37-B-1	is controlled in parallel by	TREA21: Low Nox Burners
EQUI220: SO2 CEMS	monitors	EQUI2: FCC Regenerator 5-8-F-5
EQUI221: O2 Monitor	monitors	EQUI2: FCC Regenerator 5-8-F-5
EQUI222: NOx CEMS	monitors	EQUI2: FCC Regenerator 5-8-F-5
EQUI223: CO CEMS	monitors	EQUI2: FCC Regenerator 5-8-F-5
EQUI224: NOx CEMS	monitors	EQUI4: No. 2 Crude Charge Heater 5-2-B-3
EQUI225: O2 CEMS	monitors	EQUI4: No. 2 Crude Charge Heater 5-2-B-3
EQUI227: FCC Charge & Alky Htrs: 0.9 lbs SO2/mmBtu, EQUI 1, 3-hr ave, fuel flow.	sends to	EQUI163: H2S Monitor
EQUI227: FCC Charge & Alky Htrs: 0.9 lbs SO2/mmBtu, EQUI 1, 3-hr ave, fuel flow.	sends to	EQUI173: Fuel Flow Meter (gas)
EQUI227: FCC Charge & Alky Htrs: 0.9 lbs SO2/mmBtu,	sends to	EQUI174: Fuel Flow Meter (oil)

SI ID: Description	Relationship Type	Related SI ID: Description
EQUI 1, 3-hr ave, fuel flow.		
EQUI23: Hydrogen Plant Heaters 5-38- B-1 - Process Heater	is controlled in parallel by	TREA11: Catalytic Reduction
EQUI23: Hydrogen Plant Heaters 5-38- B-1 - Process Heater	is controlled in parallel by	TREA16: Ammonia Injection
EQUI24: Hydrogen Plant Heaters 5-38- B-2 - Process Heater	is controlled in parallel by	TREA11: Catalytic Reduction
EQUI24: Hydrogen Plant Heaters 5-38- B-2 - Process Heater	is controlled in parallel by	TREA16: Ammonia Injection
EQUI259: FCC Regenerator: 30% Opacity, EQUI 2, 1- hr ave.	sends to	EQUI164: Opacity COMS
EQUI25: Fire Hall Diesel Engine		
EQUI260: No. 2 Crude Htr: 0.9 lbs SO2/mmBtu, EQUI 3, 3-hr ave, fuel flow.	sends to	EQUI163: H2S Monitor
EQUI260: No. 2 Crude Htr: 0.9 lbs SO2/mmBtu, EQUI 3, 3-hr ave, fuel flow.	sends to	EQUI175: Fuel Flow Meter (gas)
EQUI260: No. 2 Crude Htr: 0.9 lbs SO2/mmBtu, EQUI 3, 3-hr ave, fuel flow.	sends to	EQUI206: Fuel Flow Meter(oil)
EQUI261: No. 2 Crude Charge Htr: 0.2834 lbs SO2/mmBtu, EQUI 4, 3-hr ave, fuel flow	sends to	EQUI163: H2S Monitor
EQUI261: No. 2 Crude Charge Htr: 0.2834 lbs SO2/mmBtu, EQUI 4, 3-hr ave, fuel flow	sends to	EQUI176: Fuel Flow Meter (gas)
EQUI262: No. 1 Crude Tower Htr: 0.03 lbs	sends to	EQUI163: H2S Monitor

SI ID: Description	Relationship Type	Related SI ID: Description
SO2/mmBtu, EQUI 5, 3-hr ave, fuel flow.		
EQUI262: No. 1 Crude Tower Htr: 0.03 lbs SO2/mmBtu, EQUI 5, 3-hr ave, fuel flow.	sends to	EQUI178: Fuel Flow Meter (gas)
EQUI262: No. 1 Crude Tower Htr: 0.03 lbs SO2/mmBtu, EQUI 5, 3-hr ave, fuel flow.	sends to	EQUI179: Reserved(no longer use oil)
EQUI263: No. 1 Crude Charge Htr: 0.9 lbs SO2/mmBtu, EQUI 6, 3-hr ave, fuel flow.	sends to	EQUI163: H2S Monitor
EQUI263: No. 1 Crude Charge Htr: 0.9 lbs SO2/mmBtu, EQUI 6, 3-hr ave, fuel flow.	sends to	EQUI182: Fuel Flow Meter (gas)
EQUI263: No. 1 Crude Charge Htr: 0.9 lbs SO2/mmBtu, EQUI 6, 3-hr ave, fuel flow.	sends to	EQUI183: Fuel Flow Meter (oil)
EQUI264: Distillate Unifiner Htr: 0.03 lbs SO2/mmBtu, EQUI 7, 3-hr ave, fuel flow.	sends to	EQUI163: H2S Monitor
EQUI264: Distillate Unifiner Htr: 0.03 lbs SO2/mmBtu, EQUI 7, 3-hr ave, fuel flow.	sends to	EQUI184: Fuel Flow Meter (gas)
EQUI265: Naptha Unifiner Htr.: 0.03 lbs SO2/mmBtu, EQUI 8, 3-hr ave, fuel flow.	sends to	EQUI163: H2S Monitor
EQUI265: Naptha Unifiner Htr.: 0.03 lbs SO2/mmBtu, EQUI 8, 3-hr ave, fuel flow.	sends to	EQUI185: Fuel Flow Meter (gas)

SI ID: Description	Relationship Type	Related SI ID: Description
EQUI266: Platformer Reactor Charge Htr.: 0.03 lbs SO2/mmBtu, EQUI 9, 3-hr ave, fuel flow.	sends to	EQUI163: H2S Monitor
EQUI266: Platformer Reactor Charge Htr.: 0.03 lbs SO2/mmBtu, EQUI 9, 3-hr ave, fuel flow.	sends to	EQUI186: Fuel Flow Meter (gas)
EQUI267: Platformer Interheater No. 1: 0.03 lbs SO2/mmBtu, EQUI 10, 3-hr ave, fuel flow.	sends to	EQUI163: H2S Monitor
EQUI267: Platformer Interheater No. 1: 0.03 lbs SO2/mmBtu, EQUI 10, 3-hr ave, fuel flow.	sends to	EQUI187: Fuel Flow Meter (gas)
EQUI268: Platformer Interheater No. 2: 0.03 lbs SO2/mmBtu, EQUI 11, 3-hr ave, fuel flow.	sends to	EQUI163: H2S Monitor
EQUI268: Platformer Interheater No. 2: 0.03 lbs SO2/mmBtu, EQUI 11, 3-hr ave, fuel flow.	sends to	EQUI188: Fuel Flow Meter (gas)
EQUI269: Isom Desulf Charge Htr.: 0.9 lbs SO2/mmBtu, EQUI 12, 3-hr ave, fuel flow.	sends to	EQUI163: H2S Monitor
EQUI269: Isom Desulf Charge Htr.: 0.9 lbs SO2/mmBtu, EQUI 12, 3-hr ave, fuel flow.	sends to	EQUI189: Fuel Flow Meter (gas)

SI ID: Description	Relationship Type	Related SI ID: Description
EQUI26: Lagoon Diesel Engine		
EQUI270: Hot Oil Heater: 0.9 lbs SO2/mmBtu, EQUI 13, 3-hr ave, fuel flow.	sends to	EQUI163: H2S Monitor
EQUI270: Hot Oil Heater: 0.9 lbs SO2/mmBtu, EQUI 13, 3-hr ave, fuel flow.	sends to	EQUI190: Fuel Flow Meter (gas)
EQUI270: Hot Oil Heater: 0.9 lbs SO2/mmBtu, EQUI 13, 3-hr ave, fuel flow.	sends to	EQUI191: Fuel Flow Meter (oil)
EQUI271: HDH Charge Heater1: 0.9 lbs SO2/mmBtu, EQUI 14, 3-hr ave, fuel flow.	sends to	EQUI163: H2S Monitor
EQUI271: HDH Charge Heater1: 0.9 lbs SO2/mmBtu, EQUI 14, 3-hr ave, fuel flow.	sends to	EQUI192: Fuel Flow Meter (gas)
EQUI272: SGP Dehexanizer Reboiler: 0.9 lbs SO2/mmBtu, EQUI 15, 3-hr ave, fuel flow.	sends to	EQUI163: H2S Monitor
EQUI272: SGP Dehexanizer Reboiler: 0.9 lbs SO2/mmBtu, EQUI 15, 3-hr ave, fuel flow.	sends to	EQUI193: Fuel Flow Meter (gas)
EQUI272: SGP Dehexanizer Reboiler: 0.9 lbs SO2/mmBtu, EQUI 15, 3-hr ave, fuel flow.	sends to	EQUI194: Fuel Flow Meter (oil)
EQUI273: Guard Case Reactor Htr: 0.03 lbs SO2/mmBtu, EQUI 17, 3-hr ave, fuel	sends to	EQUI163: H2S Monitor

SI ID: Description	Relationship Type	Related SI ID: Description
flow.		
EQUI273: Guard Case Reactor Htr: 0.03 lbs SO2/mmBtu, EQUI 17, 3-hr ave, fuel flow.	sends to	EQUI199: Fuel Flow Meter (gas)
EQUI274: Guard Case Reactor Htr: 0.03 lbs SO2/mmBtu, EQUI 18, 3-hr ave, fuel flow.	sends to	EQUI163: H2S Monitor
EQUI274: Guard Case Reactor Htr: 0.03 lbs SO2/mmBtu, EQUI 18, 3-hr ave, fuel flow.	sends to	EQUI200: Fuel Flow Meter (gas)
EQUI275: No. 3 Interheater: 0.03 lbs SO2/mmBtu, EQUI 19, 3-hr ave, fuel flow.	sends to	EQUI163: H2S Monitor
EQUI275: No. 3 Interheater: 0.03 lbs SO2/mmBtu, EQUI 19, 3-hr ave, fuel flow.	sends to	EQUI201: Fuel Flow Meter (gas)
EQUI276: No. 2 Interheater: 0.03 lbs SO2/mmBtu, EQUI 20, 3-hr ave, fuel flow.	sends to	EQUI163: H2S Monitor
EQUI276: No. 2 Interheater: 0.03 lbs SO2/mmBtu, EQUI 20, 3-hr ave, fuel flow.	sends to	EQUI202: Fuel Flow Meter (gas)
EQUI277: DDS Reactor Charge Htr: 0.03 lbs SO2/mmBtu, EQUI 21, 3-hr ave, fuel flow.	sends to	EQUI163: H2S Monitor
EQUI277: DDS Reactor Charge Htr: 0.03 lbs SO2/mmBtu, EQUI 21, 3-hr ave, fuel	sends to	EQUI203: Fuel Flow Meter (gas)

SI ID: Description	Relationship Type	Related SI ID: Description
flow.		
EQUI278: DDS Product Stripper Reboiler: 0.03 lbs SO2/mmBtu, EQUI 22, 3-hr ave, fuel flow.	sends to	EQUI163: H2S Monitor
EQUI278: DDS Product Stripper Reboiler: 0.03 lbs SO2/mmBtu, EQUI 22, 3-hr ave, fuel flow.	sends to	EQUI204: Fuel Flow Meter (gas)
EQUI279: Hydrogen Plant Heater: 0.03 lbs SO2/mmBtu, EQUI 23, 3-hr ave, fuel flow.	sends to	EQUI163: H2S Monitor
EQUI279: Hydrogen Plant Heater: 0.03 lbs SO2/mmBtu, EQUI 23, 3-hr ave, fuel flow.	sends to	EQUI208: Fuel Flow Meter (gas)
EQUI280: Hydrogen Plant Heater: 0.03 lbs SO2/mmBtu, EQUI 24, 3-hr ave, fuel flow.	sends to	EQUI163: H2S Monitor
EQUI280: Hydrogen Plant Heater: 0.03 lbs SO2/mmBtu, EQUI 24, 3-hr ave, fuel flow.	sends to	EQUI205: Fuel Flow Meter (gas)
EQUI281: Lt. Oil Truck Rack: 10 milligrams/liter of total organic compounds of gasoline loaded, EQUI 28	sends to	EQUI168: TOC Monitor
EQUI282: Flare System: Flame Present, TREA 13	sends to	EQUI169: Flare
EQUI283: Heaters Loop: 162 ppm H2S, 3-hr average	sends to	EQUI163: H2S Monitor
EQUI284: No. 3 Sulfur Recovery Unit: 15.0 lb/hr SO2(1-hr & 3-hr	sends to	EQUI210: SO2 CEMS

SI ID: Description	Relationship Type	Related SI ID: Description
avg.), EQUI 33		
EQUI285: No. 3 Sulfur Recovery Unit: 250 ppm SO ₂ , 12-hr ave., EQUI 33	sends to	EQUI211: O ₂ Monitor
EQUI286: Sulfur Recovery Unit: 15 lbs SO ₂ /hr(1-hr & 3-hr avg.), EQUI 16	sends to	EQUI166: SO ₂ CEMS
EQUI287: Sulfur Recovery Unit: 250 ppm, EQUI 16, 12-hour ave.	sends to	EQUI167: Oxygen monitor
EQUI289: FCC Regenerator: 793.65 lbs SO ₂ /mmBtu, EQUI 2, 3-hr ave.	sends to	EQUI220: SO ₂ CEMS
EQUI28: Lt Oil Truck Rack - Gasoline	is controlled in parallel by	TREA18: Vapor Recovery System- Condensers, Hoods, & Other Enclosures
EQUI28: Lt Oil Truck Rack - Gasoline	is controlled in parallel by	TREA25: Portable Vapor Burner System
EQUI28: Lt Oil Truck Rack - Gasoline	is controlled in parallel by	TREA26: Permanent Vapor Combustor Un
EQUI290: FCC Regenerator	sends to	EQUI221: O ₂ Monitor
EQUI291: FCC Regenerator	sends to	EQUI222: NO _x CEMS
EQUI292: FCC Regenerator	sends to	EQUI223: CO CEMS
EQUI293:		
EQUI294:		
EQUI296: H ₂ S Monitor (NG)	monitors	COMG26: Hydrogen Plant Heaters
EQUI296: H ₂ S Monitor (NG)	monitors	EQUI33: No. 3 Sulfur Recovery Unit
EQUI297: 5-999-B-62, A, B & C - Process Heater		
EQUI298: Asphalt Storage Tank Heater		

SI ID: Description	Relationship Type	Related SI ID: Description
5-999-B-75, A, B & C - Process Heater		
EQUI299: Asphalt Storage Tank Heater 5-999-B-76, A, B & C - Process Heater		
EQUI29: FCC Catalyst Hoppers (Fresh)		
EQUI2: FCC Regenerator 5-8-F-5	is controlled by	TREA17: Centrifugal Collector - Medium Efficiency
EQUI300: Reduced Crude Storage Tank Heater 5-999-B-82, A, B & C - Process Heater		
EQUI301: Asphalt Storage Tank Heater 5-999-B-83, A, B & C - Process Heater		
EQUI302: Slurry Storage Tank Heater 5-999-B-118, A, B & C - Process Heater		
EQUI303: Asphalt Storage Tank Heater 5-999-B-120, A, B & C - Process Heater		
EQUI304: Asphalt Storage Tank Heater 5-999-B-127, A, B & C - Process Heater		
EQUI305: Asphalt Storage Tank Heater #1 5-999-B-129a, A, B & C - Process Heater		
EQUI306: Asphalt Storage Tank Heater #2 5-999-B-129b, A, B & C - Process Heater		
EQUI307: Fuel Oil Storage Tank Heater 5-999-B-131, A, B & C - Process Heater		
EQUI308: Asphalt		

SI ID: Description	Relationship Type	Related SI ID: Description
Storage Tank Heater 5-999-B-132, A, B & C - Process Heater		
EQUI309: Asphalt Storage Tank Heater 5-999-B-133, A, B & C - Process Heater		
EQUI30: Emergency Backup Diesel Pump		
EQUI310: Asphalt Storage Tank Heater 5-999-B-143, A, B & C - Process Heater		
EQUI311: Asphalt Storage Tank Heater 5-999-B-147, A, B & C - Process Heater		
EQUI312: Asphalt Storage Tank Heater #1 5-999-B-148a, A, B & C - Process Heater		
EQUI313: Asphalt Storage Tank Heater #1 5-999-B-148b, A, B & C - Process Heater		
EQUI314: Asphalt Storage Tank Heater 5-999-B-149, A, B & C - Process Heater		
EQUI315: Asphalt Storage Tank Heater 5-999-B-150, A, B & C - Process Heater		
EQUI316: Asphalt Storage Tank Heater 5-999-B-152, A, B & C - Process Heater		
EQUI317: Asphalt Storage Tank Heater 5-999-B-156, A, B & C - Process Heater		
EQUI318: Hot Oil Tracing "B" 5-999-B- Econotherm - Process Heater		
EQUI319: Hot Oil Tracing "D" 5-999-B- Hyway		

SI ID: Description	Relationship Type	Related SI ID: Description
EQUI320: Hot Oil Tracing "C" 5-999-B- Econotherm		
EQUI321: 5-B-165 Storage Tank Heater		
EQUI322: 5-B-28 Storage Tank Heater		
EQUI323: SDA Hot Oil Heater		
EQUI324: Foul Waterr (APC 80)		
EQUI325: Sulfur (APC 100)		
EQUI326: DDS Product Stripper Reboiler 5-37-B-2	monitors	EQUI204: Fuel Flow Meter (gas)
EQUI326: DDS Product Stripper Reboiler 5-37-B-2	is controlled by	TREA22: Flue Gas Recirculation
EQUI326: DDS Product Stripper Reboiler 5-37-B-2	is controlled by	TREA23: Low Nox Burners
EQUI327: Boiler House Diesel		
EQUI328: WWTP SBCs		
EQUI33: No. 3 Sulfur Recovery Unit	is controlled by	TREA4: SCOT Incinerator
EQUI34: NOx Catalyst Additive Hopper System	is controlled by	TREA1: Fabric Filter - Low Temperature, i.e., T<180 Degrees F
EQUI35: SO2 Catalyst Additive Hopper System	is controlled by	TREA2: Fabric Filter - Low Temperature, i.e., T<180 Degrees F
EQUI36: Temporary Boiler (Natural gas- fired)		
EQUI37: Heater 1-B- 6		
EQUI38: NP VEPR Phase 1	is controlled in parallel by	TREA10: Direct Flame Afterburner w/Heat Exchanger
EQUI38: NP VEPR Phase 1	is controlled in parallel by	TREA7: Catalytic

SI ID: Description	Relationship Type	Related SI ID: Description
		Afterburner w/Heat Exchanger
EQUI39: NP VEPR Phase 2	is controlled in parallel by	TREA6: Direct Flame Afterburner w/Heat Exchanger
EQUI39: NP VEPR Phase 2	is controlled in parallel by	TREA8: Catalytic Afterburner w/Heat Exchanger
EQUI3: No. 2 Crude Vacuum Heater 5-5-B-1		
EQUI40: Rental, Back-up T O Unit	is controlled by	TREA9: Rental, Back-up T O Unit
EQUI41: Loading Rack Vapor Combustion Unit (TREA26)	is controlled by	TREA26: Permanent Vapor Combustor Un
EQUI42: Boiler 7		
EQUI43: Boiler 8		
EQUI44: FCC Charge Heater (8-B-1)		
EQUI45: FCC Catalyst Hopper (Spent)		
EQUI46: Terminal Building Emergency Engine		
EQUI47: #1 Reformer Vent	is controlled by	TREA13: Flaring
EQUI48: #2 Reformer Vent	is controlled by	TREA13: Flaring
EQUI49: New Alky Deluge System Pump Engine		
EQUI4: No. 2 Crude Charge Heater 5-2-B-3		
EQUI50: 15-CT-0001 (FCC)		
EQUI51: 15-CT-0002 (Alky)		
EQUI52: 15-CT-0003 (#1 Reformer)		
EQUI53: 15-CT-0004		

SI ID: Description	Relationship Type	Related SI ID: Description
(Crude)		
EQUI54: 15-CT-0005/6 (#2 Refomer)		
EQUI55: Pitch, Asphalt, Asphalt Flux, Vacuum Bottoms, No. 6 Fuel Oil, Slurry Oil (APC 172)		
EQUI56: Pitch, Asphalt, Asphalt Flux, Vacuum Bottoms, No. 6 Fuel Oil, Slurry Oil (APC 173)		
EQUI59: Heavy Naphtha (APC 71)		
EQUI5: No. 1 Crude Vacuum Tower Heater 5-1-B-5		
EQUI60: Cat Naphtha/Cat Gasoline (APC 151)		
EQUI63: Asphalt, Asphalt Flux, Vacuum Bottoms, No. 6 Fuel Oil and Slurry Oil (APC 28)		
EQUI66: Asphalt, Asphalt Flux, Vacuum Bottoms, No. 6 Fuel Oil and Slurry Oil (APC 150)		
EQUI67: Asphalt, Asphalt Flux, Vacuum Bottoms, No. 6 Fuel Oil and Slurry Oil (APC 83)		
EQUI68: Gasoline (APC 135)		
EQUI69: Gasoline (APC 136)		
EQUI6: No. 1 Crude Charge Htr 5-1-B-7		
EQUI70: Gasoline (APC 137)		
EQUI71: Gasoline (APC 87)		
EQUI72: Gasoline or		

SI ID: Description	Relationship Type	Related SI ID: Description
Natural Gasoline (APC 88)		
EQUI73: Gasoline or Natural Gasoline (APC 89)		
EQUI74: Light Distillate - #2 oil, turbine, kerosene, distillate unifier charge, light cycle oil (APC 95)		
EQUI75: Light Distillate - #2 oil, turbine, kerosene, distillate unifier charge, light cycle oil (APC 96)		
EQUI76: Fire Water (APC 130)		
EQUI77: Water (APC 16-T2)		
EQUI78: Diesel/Fuel Additive (APC 215)		
EQUI79: Diesel/Fuel Additive (APC 216)		
EQUI7: Distillate Unifiner Heater 5-29-B-1&2		
EQUI80: Gasoline/Fuel Additive (APC 217)		
EQUI81: Gasoline/Fuel Additive (APC 218)		
EQUI82: Gasoline/Fuel Additive (APC 219)		
EQUI83: Gasoline/Fuel Additive (APC 223)		
EQUI84: Light Distillate - #2 oil, turbine, kerosene, distillate unifier charge, light cycle oil (APC 154)		
EQUI85: Fuel Additive (APC 7-T230)		
EQUI86: Fuel		

SI ID: Description	Relationship Type	Related SI ID: Description
Additive (APC 7-T206)		
EQUI88: Fuel Additive (APC 144)		
EQUI89: Fuel Additive (APC T-207)		
EQUI8: Naphtha Unifiner Heater 5-3-B-1,2&3		
EQUI90: Foul Water Tank 160		
EQUI92: Light Distillate - #2 oil, turbine, kerosene, distillate unifier charge, light cycle oil (APC 163)		
EQUI93: Fuel Additive		
EQUI94: Fuel Additive		
EQUI95: Vacuum bottoms, asphalt slurry, and light cycle oil (APC 165)		
EQUI96: (APC 82) Asphalt, Asphalt Flux, Vacuum Bottoms, No. 6 Fuel Oil and Slurry Oil		
EQUI97: Asphalt, Asphalt Flux, Vacuum Bottoms, No. 6 Fuel Oil and Slurry Oil (APC 152)		
EQUI98: Asphalt, Asphalt Flux, Vacuum Bottoms, No. 6 Fuel Oil and Slurry Oil (APC 147)		
EQUI99: Asphalt, Asphalt Flux, Vacuum Bottoms, No. 6 Fuel Oil and Slurry Oil (APC 156)		
EQUI9: Platformer Reactor Charge Heater 5-3-B-4		
FUGI100: 5-42 No. 3 SCOT Unit - Other		

SI ID: Description	Relationship Type	Related SI ID: Description
FUGI101: No. 3 SRU/SCOT Unit Sewer System - Other		
FUGI102: Saturate Gas Unit - Other		
FUGI103: #1 Sulfur and Amine Unit - Other		
FUGI104: Trunk Line B - Other		
FUGI105: Trunk Line D - Other		
FUGI106: Trunk Line E - Other		
FUGI107: Trunk Line F - Other		
FUGI108: Trunk Line G - Other		
FUGI109: West Softener Building - Other		
FUGI110: Mixing and Blending Area - Other		
FUGI111: Barge Loading - Equipment Leaks		
FUGI112: Heavy Oil Truck Rack - Equipment Leaks		
FUGI113: Heavy Oil Rail Rack - Equipment Leaks		
FUGI114: Water Seal for T-146 Overflow Line - Other		
FUGI115: Controlled Vacuum Truck Off- loading Station Valves - Equipment Leaks		
FUGI116: SDA Unit Fugitive Components - Equipment Leaks		
FUGI117: SDA Unit Wastewater Fugitive		

SI ID: Description	Relationship Type	Related SI ID: Description
Components - Other		
FUGI118: SDA Unit Compressor No.1 - Equipment Leaks		
FUGI119: SDA Unit Compressor No.2 - Equipment Leaks		
FUGI120: 5-2 No. 2 Crude Unit		
FUGI121: 5-3 Unifiner & No. 1 Reformer		
FUGI122: 5-5 No. 2 Vacuum Unit		
FUGI123: 5-29 Distillate Unifiner Unit		
FUGI124: 5-32 Heavy Distillate Hydrotreater Unit		
FUGI125: 5-34 Isom Desulfurization Unit		
FUGI126: 5-35A Isomerization Unit		
FUGI127: 5-36 Guard Case & No. 2 Reformer		
FUGI128: 5-37 Distillate Desulfurization Unit		
FUGI129: 5-35B Deisobutanizer (DIB) Unit		
FUGI130: API - Oil/Water Separator		
FUGI131: WWTP - Pump Pit		
FUGI132: 5-27 Light Oil Loading Rack		
FUGI133: 5-9A Wet Gas Compressor (GC-9A)		
FUGI134: Tanks T-2 & T-9 Area Sewer System		
FUGI135: Light Oil Loading Rack Sewer System		
FUGI136: Trunk Line C		

SI ID: Description	Relationship Type	Related SI ID: Description
FUGI137: FCC Unit Pump Foundation Drains		
FUGI138: No. 2 Crude Unit		
FUGI139: Tank 151 Containment Area		
FUGI140: East Tank Farm Main Line		
FUGI141: 5-2 No. 2 Crude Unit Tail Gas Compressor (GC-2)		
FUGI142: Boiler Plant Sewers & Catch Basins		
FUGI143: Central Tank Farm		
FUGI144: Crude Unit 1		
FUGI145: Isomerization Dehexanizer (DEHEX) Unit		
FUGI146: No. 1 Reformer (Distillate Unifier/Naphtha Unifier/No. 1 Reformer		
FUGI147: Heavy Distillate Hydrotreater (HDH) Unit		
FUGI148: HF Alkylation Unit		
FUGI149: Isomerization Unit		
FUGI150: No. 2 Reformer		
FUGI151: 5-3 Unifiner & No. 1 Reformer Recycle Gas Compressor GC-1		
FUGI152: 5-29 Distillate Unifiner Unit Compressor GC-1		
FUGI153: 5-32 HDH Unit Compressor GC-8		

SI ID: Description	Relationship Type	Related SI ID: Description
FUGI154: 5-32 HDH Unit Compressor GC-9		
FUGI155: 5-34 Desulfurization Unit Compressor GC-5		
FUGI156: 5-34 Desulfurization Unit Compressor GC-4		
FUGI157: 5-35 Isomerization Unit Compressor GC-1		
FUGI158: 5-35 Isomerization Unit Compressor GC-2		
FUGI159: 5-10 Dehex & Sulfate Gas Plant Unit Compressor GC-1		
FUGI160: 5-10 Dehex & Sulfate Gas Plant Unit Compressor GC-2		
FUGI161: 5-28 Compressor G-901		
FUGI162: 5-28 Compressor G-902		
FUGI163: 5-28 Compressor G-903		
FUGI164: 5-36 No. 2 Reformer Compressor G-11		
FUGI165: 5-36 No. 2 Reformer Compressor G-12		
FUGI166: 5-36 No. 2 Reformer Compressor G-41		
FUGI167: 5-36 No. 2 Reformer Compressor G-42		
FUGI168: 5-37 Distillate Desulfurization Unit Compressor GC-1		
FUGI169: 5-37 Distillate Desulfurization Unit Compressor GC-2		
FUGI170: 5-38		

SI ID: Description	Relationship Type	Related SI ID: Description
Hydrogen Plant Compressor GC-1		
FUGI171: 5-2B New Tail Gas Compressor		
FUGI172: 5-37 Distillate Desulfurization Unit Compressor GC-5		
FUGI173: 5-37 Distillate Desulfurization Unit Compressor GC-6		
FUGI174: 5-2B No. 2 Cruce New Tail Gas Compressor (GC-2B)		
FUGI30: Unpaved Haul Roads - Unpaved Roads		
FUGI42: 5-1 No.1 Crude and Vacuum Unit		
FUGI69: 5-8 FCC Unit - Equipment Leaks		
FUGI70: 5-9 Gas Con Unit - Equipment Leaks		
FUGI71: 5-10 Saturate Gas Plant - Equipment Leaks		
FUGI72: 5-11 Fuel Gas System - Equipment Leaks		
FUGI73: 5-14 Flare System - Equipment Leaks		
FUGI74: 5-15 Cooling Water System - Equipment Leaks		
FUGI75: 5-16 Steam System Boiler House - Equipment Leaks		
FUGI76: 5-28 C3/C4 Splitter Unit - Equipment Leaks		
FUGI77: 5-28 HF Alky Unit - Equipment Leaks		
FUGI78: 5-30 Foul		

SI ID: Description	Relationship Type	Related SI ID: Description
Water System - Equipment Leaks		
FUGI79: 5-31 Amine System - Equipment Leaks		
FUGI80: 5-31 No. 1 SRU - Equipment Leaks		
FUGI81: 5-38 Hydrogen Plant - Equipment Leaks		
FUGI82: 5-39 No. 2 Sulfur Recovery Unit - Equipment Leaks		
FUGI83: 5-40 SCOT Unit - Equipment Leaks		
FUGI84: API - Sludge Holding - Other		
FUGI85: WWTP - Dissolved Air Flotation Units - Other		
FUGI86: WWTP - Submerged Biodisks - Other		
FUGI87: WWTP - Pond #3 - Other		
FUGI88: WWTP - Pond #4 - Other		
FUGI89: Effluent Weir Box - Other		
FUGI8: 5-38 Tank 606 (Lab) - Equipment Leaks		
FUGI90: Cleanup Material Usage - Other		
FUGI91: 5-14B Wastewater Treatment Plant - Equipment Leaks		
FUGI92: Trunk Line A - Other		
FUGI93: API Splitter Box - Other		
FUGI94: Deisobutanizer Unit Sewer System - Other		

SI ID: Description	Relationship Type	Related SI ID: Description
FUGI95: No. 2 SRU/SCOT Unit Sewer System - Other		
FUGI96: Distillate Desulfurization Unit Sewer System - Other		
FUGI97: H2 Plant Sewer System - Other		
FUGI98: Penberthy Valves - Other		
FUGI99: 5-41 No. 3 Sulfur Recovery Unit - Equipment Leaks		
STRU10:	receives from	EQUI5: No. 1 Crude Vacuum Tower Heater 5-1-B-5
STRU11:	receives from	EQUI306: Asphalt Storage Tank Heater #2 5-999-B-129b, A, B & C - Process Heater
STRU12:	receives from	EQUI18: Reformer Charge & No. 1 Interheaters 5-36-B-2,3,4
STRU13: NOx Catalyst Additive Hopper	receives from	EQUI34: NOx Catalyst Additive Hopper System
STRU14: SO2 Catalyst Additive Hopper	receives from	EQUI35: SO2 Catalyst Additive Hopper System
STRU15:		
STRU16: Portable Thermal Oxidizer	receives from	EQUI28: Lt Oil Truck Rack - Gasoline
STRU17:		
STRU18:	receives from	EQUI30: Emergency Backup Diesel Pump
STRU19:	receives from	EQUI8: Naphtha

SI ID: Description	Relationship Type	Related SI ID: Description
		Unifiner Heater 5-3-B-1,2&3
STRU1: SDA Hot Oil Heater	receives from	EQUI323: SDA Hot Oil Heater
STRU20: Rental, Back-up Thermal Oxidizer	receives from	EQUI40: Rental, Back-up T O Unit
STRU21: Temporary Boiler Stack	receives from	EQUI36: Temporary Boiler (Natural gas-fired)
STRU22: WWTP Thermal Oxidizer	receives from	EQUI328: WWTP SBCs
STRU22: WWTP Thermal Oxidizer	receives from	TREA5: Thermal Oxidation
STRU23: SBC 1 Relief Valve	receives from	EQUI328: WWTP SBCs
STRU24: SBC 2 Relief Valve	receives from	EQUI328: WWTP SBCs
STRU25: NP VEPR Phase 1	receives from	EQUI38: NP VEPR Phase 1
STRU26: SBC 3 Relief Valve	receives from	EQUI328: WWTP SBCs
STRU27: SBC 4 Relief Valve	receives from	EQUI328: WWTP SBCs
STRU28: SBC 5 Relief Valve	receives from	EQUI328: WWTP SBCs
STRU29: NP VEPR Phase 2	receives from	EQUI39: NP VEPR Phase 2
STRU2:	receives from	EQUI307: Fuel Oil Storage Tank Heater 5-999-B-131, A, B & C - Process Heater
STRU30: New Alky Deluge System Pump Engine	receives from	EQUI49: New Alky Deluge System Pump Engine
STRU31: Vapor Recover System	receives from	EQUI28: Lt Oil Truck Rack - Gasoline
STRU32: Permanent Load Rack Vapor Combustion Unit	receives from	EQUI28: Lt Oil Truck Rack - Gasoline
STRU32: Permanent Load Rack Vapor Combustion Unit	receives from	EQUI41: Loading Rack Vapor Combustion

SI ID: Description	Relationship Type	Related SI ID: Description
		Unit (TREA26)
STRU33: FCC Catalyst Hopper (fresh)	receives from	EQUI29: FCC Catalyst Hoppers (Fresh)
STRU34: FCC Charge Heater	receives from	EQUI44: FCC Charge Heater (8-B-1)
STRU35: FCC Catalyst Hopper (Spent)	receives from	EQUI45: FCC Catalyst Hopper (Spent)
STRU36: Terminal Building Emergency Engine	receives from	EQUI46: Terminal Building Emergency Engine
STRU37: #2 Reformer Vent	receives from	EQUI48: #2 Reformer Vent
STRU38: #1 Reformer Vent	receives from	EQUI47: #1 Reformer Vent
STRU39: 5-B-165 Storage Tank Heater	receives from	EQUI321: 5-B-165 Storage Tank Heater
STRU3:		
STRU40: 5-B-28 Storage Tank Heater	receives from	EQUI322: 5-B-28 Storage Tank Heater
STRU44: Boiler 7	receives from	EQUI42: Boiler 7
STRU45: Boiler 8	receives from	EQUI43: Boiler 8
STRU47:	receives from	EQUI1: Alky Isostripper Htr 5-28-B-1
STRU48: New Heater 1-B-6	receives from	EQUI37: Heater 1-B-6
STRU4:	receives from	EQUI298: Asphalt Storage Tank Heater 5-999-B-75, A, B & C - Process Heater
STRU51:	receives from	EQUI327: Boiler House Diesel
STRU52:		
STRU53:	receives from	EQUI315: Asphalt Storage Tank Heater 5-999-B-150, A, B

SI ID: Description	Relationship Type	Related SI ID: Description
		& C - Process Heater
STRU54:	receives from	EQUI314: Asphalt Storage Tank Heater 5-999-B-149, A, B & C - Process Heater
STRU55:	receives from	EQUI313: Asphalt Storage Tank Heater #1 5-999-B-148b, A, B & C - Process Heater
STRU56:	receives from	EQUI311: Asphalt Storage Tank Heater 5-999-B-147, A, B & C - Process Heater
STRU57:	receives from	EQUI310: Asphalt Storage Tank Heater 5-999-B-143, A, B & C - Process Heater
STRU58:	receives from	EQUI309: Asphalt Storage Tank Heater 5-999-B-133, A, B & C - Process Heater
STRU59:	receives from	EQUI308: Asphalt Storage Tank Heater 5-999-B-132, A, B & C - Process Heater
STRU5:		
STRU60:	receives from	EQUI320: Hot Oil Tracing "C" 5-999-B-Econotherm
STRU61:	receives from	EQUI319: Hot Oil Tracing "D" 5-999-B-Hyway
STRU62:		
STRU63:	receives from	EQUI14: HDH Charge heater 5-32-B-1

SI ID: Description	Relationship Type	Related SI ID: Description
STRU64:	receives from	EQUI12: Isom Desulf Charge Heater 5-34-B- 1
STRU64:	receives from	EQUI13: Hot Oil Heater 5-34-B- 2
STRU65:	receives from	EQUI11: Platformer Interheater No. 2 5-3-B-8
STRU66:	receives from	EQUI10: Platformer Interheater No. 1 5-3-B-7
STRU67:	receives from	EQUI9: Platformer Reactor Charge Heater 5-3-B-4
STRU68:	receives from	EQUI7: Distillate Unifiner Heater 5-29-B-1&2
STRU69:	receives from	EQUI6: No. 1 Crude Charge Htr 5-1-B-7
STRU6: No. 3 SRU/No. 3 SCOT Tail Gas Unit	receives from	EQUI33: No. 3 Sulfur Recovery Unit
STRU70:	receives from	EQUI3: No. 2 Crude Vacuum Heater 5-5-B-1
STRU71:	receives from	EQUI318: Hot Oil Tracing "B" 5-999-B- Econotherm - Process Heater
STRU72:	receives from	EQUI317: Asphalt Storage Tank Heater 5- 999-B-156, A, B & C - Process Heater
STRU73:	receives from	EQUI316: Asphalt Storage Tank Heater 5- 999-B-152, A, B & C - Process Heater
STRU74:	receives	EQUI305:

SI ID: Description	Relationship Type	Related SI ID: Description
	from	Asphalt Storage Tank Heater #1 5-999-B-129a, A, B & C - Process Heater
STRU75:	receives from	EQUI304: Asphalt Storage Tank Heater 5- 999-B-127, A, B & C - Process Heater
STRU76:	receives from	EQUI303: Asphalt Storage Tank Heater 5- 999-B-120, A, B & C - Process Heater
STRU77:	receives from	EQUI302: Slurry Storage Tank Heater 5-999- B-118, A, B & C - Process Heater
STRU78:	receives from	EQUI301: Asphalt Storage Tank Heater 5- 999-B-83, A, B & C - Process Heater
STRU79:	receives from	EQUI20: No. 2 Interheater 5- 36-B-6W
STRU7:	receives from	EQUI2: FCC Regenerator 5- 8-F-5
STRU80:	receives from	EQUI19: No. 3 Interheater 5- 36-B-6E
STRU81:	receives from	EQUI16: Sulfur Recovery Unit (SRU 2)
STRU82:		
STRU83:		
STRU84:	receives from	EQUI300: Reduced Crude Storage Tank Heater 5-999- B-82, A, B & C - Process Heater
STRU85:	receives	EQUI299:

SI ID: Description	Relationship Type	Related SI ID: Description
	from	Asphalt Storage Tank Heater 5-999-B-76, A, B & C - Process Heater
STRU86:	receives from	EQUI297: 5-999-B-62, A, B & C - Process Heater
STRU87:	receives from	EQUI23: Hydrogen Plant Heaters 5-38-B-1 - Process Heater
STRU87:	receives from	EQUI24: Hydrogen Plant Heaters 5-38-B-2 - Process Heater
STRU88:	receives from	EQUI326: DDS Product Stripper Reboiler 5-37-B-2
STRU89:	receives from	EQUI21: DDS Reactor Charge Heater 5-37-B-1
STRU8:	receives from	EQUI312: Asphalt Storage Tank Heater #1 5-999-B-148a, A, B & C - Process Heater
STRU90:	receives from	EQUI26: Lagoon Diesel Engine
STRU91:	receives from	EQUI25: Fire Hall Diesel Engine
STRU9:	receives from	EQUI15: SGP Dehexanizer Reboiler 5-10-B-1
TFAC1: Saint Paul Park Refining Co LLC		
TREA10: Direct Flame Afterburner w/Heat Exchanger		
TREA11: Catalytic		

SI ID: Description	Relationship Type	Related SI ID: Description
Reduction		
TREA12: SCOT Incinerator		
TREA13: Flaring		
TREA14: Fixed Cover	controls	FUGI131: WWTP - Pump Pit
TREA15: Floating Covers		
TREA16: Ammonia Injection		
TREA17: Centrifugal Collector - Medium Efficiency		
TREA18: Vapor Recovery System- Condensers, Hoods, & Other Enclosures	controls	FUGI132: 5-27 Light Oil Loading Rack
TREA19: Weather Cover		
TREA1: Fabric Filter - Low Temperature, i.e., T<180 Degrees F		
TREA20: Flue Gas Recirculation		
TREA21: Low Nox Burners		
TREA22: Flue Gas Recirculation		
TREA23: Low Nox Burners		
TREA25: Portable Vapor Burner System		
TREA26: Permanent Vapor Combustor Un		
TREA2: Fabric Filter - Low Temperature, i.e., T<180 Degrees F		
TREA3: Weather Cover		
TREA4: SCOT Incinerator		
TREA5: Thermal Oxidation	is monitored by	EQUI209: H2S Monitor
TREA5: Thermal Oxidation	controls	EQUI328: WWTP SBCs

Permit issued: November 25, 2015

Permit expires: April 10, 2018

16300003- 021

Page 30 of 423

SI ID: Description	Relationship Type	Related SI ID: Description
TREA6: Direct Flame Afterburner w/Heat Exchanger		
TREA7: Catalytic Afterburner w/Heat Exchanger		
TREA8: Catalytic		

SI ID: Description	Relationship Type	Related SI ID: Description
Afterburner w/Heat Exchanger		
TREA9: Rental, Back-up T O Unit		

5. Limits and other requirements

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
TFAC 1	16300003	Saint Paul Park Refining Co LLC	
	5.1.1		<p>MODELING: Any increase in SO2 emissions beyond modeled conditions associated with the emission units in the SIP shall be modeled at the new predicted SO2 emission rates to determine the impact on the National Ambient Air Quality Standards (NAAQS). [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]</p>
	5.1.2		<p>CHANGES NOT REQUIRING A MODIFICATION FOR THE SIP: The Permittee may make changes to the facility without obtaining a modification as long as the change does not do or result in any of the following:</p> <ul style="list-style-type: none"> a. an exceedance of the limitations associated with the emission units in the SIP; or b. a physical change of the equipment that affects the stack parameters described in Appendix B, unless the physical change is being made to an emission unit allowed to burn refinery fuel oil before the physical change, and the emission unit will not burn any type of fuel oil after the physical change (the fuel oil supply line shall be disconnected immediately); or c. an increase of a maximum potential sulfur dioxide emission rate of 2.28 pounds per hour at any new emission unit. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.1.3		<p>CHANGES REQUIRING A MODIFICATION FOR THE SIP:</p> <ul style="list-style-type: none"> a. any modification to the design of the equipment that decreases the stack gas volumetric flow rate below that contained in Appendix B, unless the modification is being made to an emission unit allowed to burn refinery fuel oil before the modification, and the unit shall not burn any type of fuel oil after the physical change (the fuel oil supply line shall be disconnected immediately); b. any modification to the design of the equipment that decreases the stack gas exit temperature below that contained in Appendix B, unless the modification is being made to an emission unit allowed to burn refinery fuel oil before the modification, and the unit shall not burn any type of fuel oil after the physical change (the fuel oil supply line shall be disconnected immediately); c. any modification to the design of the equipment that reduces the stack height below that contained in Appendix B, unless the modification is being made to an emission unit allowed to burn refinery fuel oil before the modification, and the unit shall not burn any type of fuel oil after the physical

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>change (the fuel oil supply line shall be disconnected immediately);</p> <p>d. any modification to the design of the equipment that increases the stack exit diameter above that contained in Appendix B, unless the modification is being made to an emission unit allowed to burn refinery fuel before the modification, and the unit shall not burn any type of fuel oil after the physical change (the fuel oil supply line shall be disconnected immediately);</p> <p>e. any construction or modification of structures that increase the effective structural dimensions as they are used in the building wake effects algorithm in the ISC Air Dispersion Model, or its successor. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]</p>
	5.1.4		<p>GENERAL OPERATING AND MAINTENANCE REQUIREMENTS FOR THE SIP: The Permittee shall operate and maintain the process equipment described in Appendix B according to the parameters set forth in Appendix B. The parameters were used in the computer modeling performed to demonstrate that the SO₂ maintenance area will attain compliance with the SO₂ NAAQS. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]</p>
	5.1.5		<p>Steam-Air Decoking Restrictions: The Permittee shall not steam-air decoke more than one of the emission units listed at any one time; EQUI 1, EQUI 3, EQUI 4, EQUI 5, EQUI 6, EQUI 7, EQUI 8, EQUI 9, EQUI 10, EQUI 11, EQUI 12, EQUI 13, EQUI 14, EQUI 15, EQUI 17, EQUI 18, EQUI 19, EQUI 20, EQUI 21, EQUI 326, EQUI 23, and EQUI 24 at the same time. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]</p>
	5.1.6		<p>Recordkeeping for Steam-Air Decoking Operations: Record the dates and time periods of each steam-air decoke event for each Emission Unit decoked. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]</p>
	5.1.7		<p>Retain all records at the stationary source for a period of five (5) years from the date of the required monitoring, sample, measurement, or report that corresponds with a State Implementation Plan Title I Condition. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]</p>
	5.1.8		<p>Continuous Fence Around the Boundaries of the Main Refinery Complex Property: The Permittee shall have enclosed the boundaries of the main refinery complex property with a continuous fence, excluding access points, and shall have installed gates at each access point. The Permittee shall thereafter keep the gates closed unless access is being controlled or authorized persons are entering or leaving the property through an access point. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
	5.1.9		Inspection, Maintenance, and Repair of the Fencing: The Permittee shall inspect the fencing and gates once each quarter and identify any necessary maintenance. If the Permittee determines the need for repair or maintenance of the fencing and gates, then all repairs and maintenance shall be completed as soon as reasonably possible, but no later than 30 days after the date of discovery. If the MPCA notifies the Permittee of the need for repair or maintenance, then the Permittee shall complete such repair or maintenance as soon as reasonably possible, but no later than 30 days after the Permittee receives such notification. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.1.10		Record of Inspection and Maintenance of the Fencing and the Gates: The Permittee shall retain records of each inspection and of each maintenance and repair to the fencing and the gates. [Title I Condition: 40 CFR pt. 50, 4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.1.11		Netting Prohibition Requirement: The Permittee is prohibited from using the following: 1. 108 tons of PM, 135 tons of PM10 and 109 tons of PM2.5 for emission reductions that resulted from the installation and operation of the Fluidized Catalytic Cracking Unit (FCCU) 3rd Stage Separator; 2. 655 tons of SOx emission reductions that resulted from FCCU SOx additives; 3. 189 tons of NOx emissions reductions that resulted from FCCU NOx additives; and 4. 54 tons of NOx emissions reductions that resulted from the installation and operation of the Hydrotreater Distillate Heater (HDH) Charge Heater Ultra-Low burners required by the 2001 Consent Decree, as amended for the purpose of netting reductions or emission offsets. No other restrictions on otherwise available netting credits exist as a result of the above-referenced decree. [CAAA of 1990, Minn. R. 7007.0100, subps. 7(A) & 7(B), Minn. R. 7007.0800, subps. 1-2, Minn. Stat. 116.07, subd. 4a, Minn. Stat. 116.07, subd. 9, Title I Condition: 40 CFR pt. 52]
	5.1.12		Sulfur Shedding Plan: The Permittee shall maintain a summary of a plan, implemented for maintenance and operation of its Sulfur Recovery Plant, the Tail Gas Units (TGU)s, any supplemental control devices, and the appropriate Upstream Process Units ("PMO Plan"). The PMO Plan shall be a compilation of the Permittee's approaches for exercising good air pollution control practices for minimizing SO ₂ emissions. The PMO Plan shall provide for continuous operation of the Sulfur Recovery Plant between scheduled maintenance turnarounds with minimization of emissions from each Sulfur Recovery Plant. The PMO Plan shall include, but not be limited to, sulfur

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>shedding procedures, startup and shutdown procedures, emergency procedures and schedules to coordinate maintenance turnarounds of its Sulfur Recovery Plant Claus trains, TGU, and any supplemental control device to coincide with scheduled turnarounds of major Upstream Process Units. The PMO Plan shall have as a goal the elimination of Acid Gas Flaring. The Permittee shall comply with the PMO Plan at all times, including periods of startup, shutdown, and malfunction of the Sulfur Recovery Plant. [40 CFR Section 60.11d]</p> <p>"Upstream Process Units" shall mean all amine contactors, amine scrubbers, and sour water strippers, as well as all process units that produce gaseous or aqueous waste streams that are processed at amine contactors, amine scrubbers, or sour water strippers. "Acid Gas (AG)" shall mean any gas that contains hydrogen sulfide and is generated at a refinery by the regeneration of an amine solution.</p> <p>"AG Flaring Incident" shall mean the continuous or intermittent combustion of Acid Gas and/or Sour Water Stripper Gas that results in the emission of sulfur dioxide equal to, or in excess of, five-hundred (500) pounds in any twenty-four (24) hour period; provided, however, that if five-hundred (500) pounds or more of sulfur dioxide have been emitted in a twenty-four (24) hour period and Flaring continues into subsequent, contiguous, non-overlapping twenty-four (24) hour period(s), each period of which results in emissions equal to, or in excess of five hundred (500) pounds of sulfur dioxide, then only one AG Flaring Incident shall have occurred. Subsequent, contiguous, non-overlapping periods are measured from the initial commencement of Flaring within the AG Flaring Incident. An AG Flaring Incident may entail the sulfur dioxide emissions from multiple sources provided that the flaring is associated with one common event.</p> <p>"Hydrocarbon Flaring" shall mean, for purposes of this First Revised Consent Decree, the combustion of refinery-generated gases, except for Acid Gas and/or Sour Water Stripper Gas and/or Tail Gas, in a Hydrocarbon Flaring Device.</p> <p>"Hydrocarbon Flaring Incident" (or "HC Flaring Incident") shall mean the continuous or intermittent flaring of refinery process gases, except for Acid Gas or Sour Water Stripper Gas or Tail Gas, at a Hydrocarbon Flaring Device that results in the emissions of sulfur dioxide equal to, or greater than five hundred (500) pounds in a 24-hour period; provided, however, an incident which extends for more than a 24-hr period will constitute one (1) Hydrocarbon Flaring Incident. The duration of a Hydrocarbon Flaring Incident shall be determined from the initial commencement until the time of its final</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>termination. (continued below). [CAAA of 1990, Minn. R. 7007.0100, subps. 7(A) & 7(B), Minn. R. 7007.0800, subps. 1-2, Minn. Stat. 116.subd. 4a, Minn. Stat. 116.subd. 9, Title I Condition: 40 CFR pt. 52]</p>
	5.1.13		<p>(continued from above) A Hydrocarbon Flaring Incident may entail the SO2 emissions from multiple sources within a 24-hour period provided that the flaring is associated with one common event.</p> <p>"Tail Gas Incident" shall mean, for the purpose of this First Revised Consent Decree, combustion of Tail Gas that either is: i. Combusted in a flare and results in 500 pounds of SO2 emissions in any 24 hour period; or ii. Combusted in a thermal incinerator and results in 500 pounds of SO2 emissions in any 24-hour period.</p> <p>Only those time periods which are in excess of SO2 concentration of 250 ppm (rolling twelve-hour average) shall be used to determine the amount of excess SO2 emissions from the incinerator. The Permittee shall use engineering judgment and/or other monitoring data during periods in which the SO2 continuous emission analyzer has exceeded the range of the instrument or is out of service.</p> <p>"Tail Gas Unit" ("TGU") shall mean a control system utilizing a technology for reducing emissions of sulfur compounds from a Sulfur Recovery Plant. "Sour Water Stripper Gas" or "SWS Gas" shall mean the gas produced by the process of stripping refinery sour water. [CAAA of 1990, Minn. R. 7007.0100, subps. 7(A) & 7(B), Minn. R. 7007.0800, subps. 1-2, Minn. Stat. 116.subd. 4a, Minn. Stat. 116.subd. 9, Title I Condition: 40 CFR pt. 52]</p>
	5.1.14		<p>Permit Appendices: This permit contains appendices as listed in the permit Table of Contents. The Permittee shall comply with all requirements contained in the appendices.</p> <p>Notwithstanding the previous paragraph, modeling parameters in Appendix B are included in the appendices for reference only and compliance with these parameters is achieved through meeting the above SIP requirements that reference Appendix B. These requirements are titled "MODELING", "CHANGES NOT REQUIRING A MODIFICATION FOR THE SIP", "CHANGES REQUIRING A MODIFICATION FOR THE SIP", and "GENERAL OPERATING AND MAINTENANCE REQUIREMENTS FOR THE SIP".</p> <p>Notwithstanding the first paragraph of this requirement, modeling parameters in Appendix E are included in the</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>appendices for reference only and compliance with these parameters is achieved through meeting the requirements in COMG 19 in this permit. [Minn. R. 7007.0800, subp. 2]</p>
	5.1.15		<p>The parameters used in PM10 modeling for permit no. 16300003-021 are listed in Appendix D of this permit. The parameters describe the operation of the facility at maximum permitted capacity. The purpose of listing the parameters in the Appendix D is to provide a benchmark for future changes. [Minn. R. 7007.0100, subp. 7(A), Minn. R. 7007.0100, subp. 7(L), Minn. R. 7007.0100, subp. 7(M), Minn. R. 7007.0800, subp. 1, Minn. R. 7007.0800, subp. 2, Minn. R. 7007.0800, subp. 4, Minn. R. 7009.0010-0080, Minn. Stat. 116.07, subd. 4a, Minn. Stat. 116.07, subd. 9]</p>
	5.1.16		<p>Modeling Triggers: For changes that do not require a permit amendment and affect any modeled parameter or emission rate documented in Appendix D, or are an addition to the information documented in Appendix D, a Remodeling Submittal requirement is not triggered at the time of the change. The Permittee shall keep updated records on site of all parameters and emission rates. The Permittee shall submit any changes to parameters and emission rates with the next required Remodeling Submittal.</p> <p>For changes that require a minor, moderate, or major permit amendment and affect any modeled parameter or emission rate documented in Appendix D, or are an addition to the information documented in Appendix D, a Remodeling Submittal requirement is triggered. The Permittee shall include previously made changes to parameters and emission rates that did not trigger a Remodeling Submittal.</p> <p>The plume dispersion characteristics due to the revisions of the information must be equivalent to or better than the dispersion characteristics modeled reference date of previous modeling submittal. The Permittee shall demonstrate this equivalency in the proposal. If the information does not demonstrate equivalent or better dispersion characteristics, or if a conclusion cannot readily be made about the dispersion, the Permittee shall submit full remodeling. [Minn. R. 7007.0100, subp. 7(A), Minn. R. 7007.0100, subp. 7(L), Minn. R. 7007.0100, subp. 7(M), Minn. R. 7007.0800, subp. 1, Minn. R. 7007.0800, subp. 2, Minn. R. 7007.0800, subp. 4, Minn. R. 7009.0010-0080, Minn. Stat. 116.07, subd. 4a, Minn. Stat. 116.07, subd. 9]</p>
	5.1.17		<p>Modeling at Reissuance: The Permittee shall submit an assessment with the reissuance application (due as stated elsewhere in this permit) that addresses any changes made during the permit term that did not require a permit amendment but that affected any modeled parameter or</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>emission rate (including adding sources beyond those documented in Appendix D) and were not assessed in a later modeling submittal. The information in this submittal shall be the same as listed in the requirement entitled "Remodeling Submittal". [Minn. Stat. 116.07, subd. 4a, Minn. R. 7007.0800, subp. 2, Minn. R. 7009.0010-0080, Minn. R. 7007.0100, subp. 7(A), Minn. R. 7007.0800, subp. 4, Minn. R. 7007.0800, subp. 1, Minn. R. 7007.0100, subp. 7(M), Minn. Stat. 116.07, subd. 9, Minn. R. 7007.0100, subp. 7(L)]</p>
	5.1.18		<p>List of Insignificant Activities Required to be Listed. Appendix C includes activities and sources at the facility that have been determined to be insignificant activities under Minn. R. 7007.1300. This list is subject to change. [Minn. R. 7007.1300, Minn. R. 7007.0800, subp. 2]</p>
	5.1.19		<p>Risk Assessment: The Permittee shall follow US EPA's risk assessment approach to model and evaluate risks associated with the refinery. The MPCA will evaluate the US EPA's published results and determine if these results will satisfy the Air Emissions Risk Analysis (AERA) guidance. If the EPA Risk Assessment requires supplementation from tools within the MPCA AERA process, the Permittee shall submit the additional AERA information 90 days after MPCA written notification; unless otherwise agreed by the Permittee and the MPCA.</p> <p>This is state only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act. [Minn. R. 7007.0800, subp. 2]</p>
	5.1.20		<p>The Permittee shall comply with National Primary and Secondary Ambient Air Quality Standards, 40 CFR pt. 50, and the Minnesota Ambient Air Quality Standards, Minn. R. 7009.0010 to 7009.0080. Compliance shall be demonstrated upon written request by the MPCA. [Minn. R. 7007.0100, subp. 7(A), 7(L), & 7(M), Minn. R. 7007.0800, subp. 4, Minn. R. 7007.0800, subps. 1-2, Minn. Stat. 116.07, subd. 4a, Minn. Stat. 116.07, subd. 9]</p>
	5.1.21		<p>Circumvention: Do not install or use a device or means that conceals or dilutes emissions, which would otherwise violate a federal or state air pollution control rule, without reducing the total amount of pollutant emitted. [Minn. R. 7011.0020]</p>
	5.1.22		<p>PERMIT SHIELD: Subject to the limitations in Minn. R. 7007.1800, compliance with the conditions of this permit shall be deemed compliance with the specific provision of the applicable requirement identified in the permit as the basis of each condition. Subject to the limitations of Minn. R. 7007.1800 and 7017.0100, subp. 2, notwithstanding the conditions of this permit specifying compliance practices for applicable requirements, any person (including the Permittee) may also use other credible evidence to establish compliance or noncompliance with applicable requirements.</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			This permit shall not alter or affect the liability of the Permittee for any violation of applicable requirements prior to or at the time of permit issuance. [Minn. R. 7007.1800, (A)(2)]
	5.1.23		Air Pollution Control Equipment: Operate all pollution control equipment whenever the corresponding process equipment and emission units are operated. [Minn. R. 7007.0800, subp. 16(J), Minn. R. 7007.0800, subp. 2]
	5.1.24		<p>Operation and Maintenance Plan: Retain at the stationary source an operation and maintenance plan for all air pollution control equipment. At a minimum, the O & M plan shall identify all air pollution control equipment and control practices and shall include a preventative maintenance program for the equipment and practices, a description of (the minimum but not necessarily the only) corrective actions to be taken to restore the equipment and practices to proper operation to meet applicable permit conditions, a description of the employee training program for proper operation and maintenance of the control equipment and practices, and the records kept to demonstrate plan implementation.</p> <p>The O & M plan may be maintained electronically as part of a task and procedures management system. O & M plans developed pursuant to MACT requirements satisfy this requirement for those units. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 16(J)]</p>
	5.1.25		Operation Changes: In any shutdown, breakdown, or deviation the Permittee shall immediately take all practical steps to modify operations to reduce the emission of any regulated air pollutant. The Commissioner may require feasible and practical modifications in the operation to reduce emissions of air pollutants. No emissions units that have an unreasonable shutdown or breakdown frequency of process or control equipment shall be permitted to operate. [Minn. R. 7019.1000, subp. 4]
	5.1.26		Fugitive Emissions: Do not cause or permit the handling, use, transporting, or storage of any material in a manner which may allow avoidable amounts of particulate matter to become airborne. Comply with all other requirements listed in Minn. R. 7011.0150. [Minn. R. 7011.0150]
	5.1.27		Noise: The Permittee shall comply with the noise standards set forth in Minn. R. 7030.0010 to 7030.0080 at all times during the operation of any emission units. This is a state only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act. [Minn. R. 7030.0010-7030.0080]
	5.1.28		Inspections: The Permittee shall comply with the inspection procedures and requirements as found in Minn. R. 7007.0800, subp. 9(A). [Minn. R. 7007.0800, subp. 9(A)]

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
	5.1.29		The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16. [Minn. R. 7007.0800, subp. 16]
	5.1.30		Malfunction: Any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused in part by poor maintenance or careless operation are not malfunctions. [40 CFR 60.2]
	5.1.31		Operation requirement for NSPS Sources: At all times, including periods of startup, shutdown, and malfunction, owners shall maintain and operate any affected facility in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. [40 CFR 60.11(d)]
	5.1.32		The Permittee shall comply with the requirements of National Emission Standards for Hazardous Air Pollutants for Industrial Commercial, and Institutional Boilers and Process Heaters, 40 CFR pt. 63, subp. DDDDD, by the compliance date 1/31/2016 for existing sources. [40 CFR pt. 63, subp. DDDDD]
	5.1.33		Performance Testing: Conduct all performance tests in accordance with Minn. R. ch. 7017 unless otherwise noted in in this permit. [Minn. R. ch. 7017]
	5.1.34		<p>Performance Test Notifications and Submittals: Performance Tests are due as outlined in this permit. Performance Test Notification (written): due 30 days before each Performance Test Performance Test Plan: due 30 days before each Performance Test Performance Test Pre-test Meeting: due 7 days before each Performance Test Performance Test Report: due 45 days after each Performance Test Performance Test Report - Microfiche Copy: due 105 days after each Performance Test</p> <p>The Notification, Test Plan, and Test Report may be submitted in an alternative format as allowed by Minn. R. 7017.2018. [Minn. R. 7017.2018, Minn. R. 7017.2030, subps. 1-4, Minn. R. 7017.2035, subps. 1-2]</p>
	5.1.35		Limits set as a result of a performance test (conducted before or after permit issuance) apply until superseded as stated in the MPCA's Notice of Compliance letter granting preliminary approval. Preliminary approval is based on formal review of a subsequent performance test on the same unit as specified by Minn. R. 7017.2025, subp. 3. The limit is final upon issuance of

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			a permit amendment incorporating the change. [Minn. R. 7017.2025, subp. 3]
	5.1.36		Opacity Performance Testing: As provided in Minn. R. 7017.2020, subp. 2, the Permittee may conduct performance testing required by this permit as included in an approved performance test plan. The Permittee shall be certified in Method 9. The number of tests to be determined by the Permittee and MPCA. [Minn. R. ch. 7017]
	5.1.37		Visible Emission Monitoring: The owner or operator shall not submit to the MPCA a 30-day notification if the owner or operator has to perform a Method 9 test based on periodic visible emission monitoring. The Method 9 test shall be conducted a minimum of 1-hour. [Minn. R. 7007.0800, subp. 6]
	5.1.38		<p>Monitoring Equipment Calibration - The Permittee shall either:</p> <ol style="list-style-type: none"> 1. Calibrate or replace required monitoring equipment every 12 months; or 2. Calibrate at the frequency stated in the manufacturer's specifications. <p>For each monitor, the Permittee shall maintain a record of all calibrations, including the date conducted, and any corrective action that resulted. The Permittee shall include the calibration frequencies, procedures, and manufacturer's specifications (if applicable) in the Operations and Maintenance Plan. Any requirements applying to continuous emission monitors are listed separately in this permit. [Minn. R. 7007.0800, subp. 4(D)]</p>
	5.1.39		Operation of Monitoring Equipment: Unless noted elsewhere in this permit, monitoring a process or control equipment connected to that process is not necessary during periods when the process is shutdown, or during checks of the monitoring systems, such as calibration checks and zero and span adjustments. If monitoring records are required, they should reflect any such periods of process shutdown or checks of the monitoring system. [Minn. R. 7007.0800, subp. 4(D)]
	5.1.40		Recordkeeping: Retain all records at the stationary source, unless otherwise specified within this permit, for a period of five (5) years from the date of monitoring, sample, measurement, or report. Records which must be retained at this location include all calibration and maintenance records, all original recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Records must conform to the requirements listed in Minn. R. 7007.0800, subp. 5(A). [Minn. R. 7007.0800, subp. 5(C)]
	5.1.41		Recordkeeping: Maintain records describing any insignificant modifications (as required by Minn. R. 7007.1250, subp. 3) or changes contravening permit terms (as required by Minn. R.

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			7007.1350, subp. 2), including records of the emissions resulting from those changes. [Minn. R. 7007.0800, subp. 5(B)]
	5.1.42		If the Permittee determines that no permit amendment or notification is required prior to making a change, the Permittee must retain records of all calculations required under Minn. R. 7007.1200. For expiring permits, these records shall be kept for a period of five years from the date the change was made or until permit reissuance, whichever is longer. The records shall be kept at the stationary source for the current calendar year of operation and may be kept at the stationary source or office of the stationary source for all other years. The records may be maintained in either electronic or paper format. [Minn. R. 7007.1200, subp. 4]
	5.1.43		Comply with recordkeeping requirements of 40 CFR Section 61.356 and reporting requirements of 40 CFR Section 61.357. Perform determination of total annual benzene quantity from facility waste at least once per year and whenever there is a process change that could cause benzene quantity from facility waste to increase to 10 megagrams per year (11 ton/yr) or more. [40 CFR 61.335(a)(4), 40 CFR pt. 61, subp. FF]
	5.1.44		Excess Emissions/Downtime Reports (EERs): due 30 days after end of each calendar quarter following Initial Startup of the Monitor. Submit Deviations Reporting Form DRF-1 as amended. The EER shall indicate all periods of monitor bypass and all periods of exceedances of a limit including exceedances allowed by an applicable standard, i.e. during start-up, shutdown, and malfunctions. The EER must be submitted even if there were no excess emissions, downtime or bypasses during the quarter (where applicable). [40 CFR 60.7(c), Minn. R. 7017.1110, subps. 1-2]
	5.1.45		<p>Shutdown Notifications: Notify the Commissioner at least 24 hours in advance of a planned shutdown of any control equipment or process equipment if the shutdown would cause any increase in the emissions of any regulated air pollutant. If the Permittee does not have advance knowledge of the shutdown, notification shall be made to the Commissioner as soon as possible after the shutdown. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 3.</p> <p>At the time of notification, the Permittee shall inform the Commissioner of the cause of the shutdown and the estimated duration. The Permittee shall notify the Commissioner when the shutdown is over. [Minn. R. 7019.1000, subp. 3]</p>
	5.1.46		Breakdown Notifications: Notify the Commissioner within 24 hours of a breakdown of more than one hour duration of any control equipment or process equipment if the breakdown causes any increase in the emissions of any regulated air pollutant. The 24-hour time period starts when the breakdown

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>was discovered or reasonably should have been discovered by the Permittee. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 2.</p> <p>At the time of notification or as soon as possible thereafter, the Permittee shall inform the Commissioner of the cause of the breakdown and the estimated duration. The Permittee shall notify the Commissioner when the breakdown is over. [Minn. R. 7019.1000, subp. 2]</p>
	5.1.47		<p>Notification of Deviations Endangering Human Health or the Environment: As soon as possible after discovery, notify the Commissioner or the state duty officer, either orally or by facsimile, of any deviation from permit conditions which could endanger human health or the environment. [Minn. R. 7019.1000, subp. 1]</p>
	5.1.48		<p>Notification of Deviations Endangering Human Health or the Environment Report: Within 2 working days of discovery, notify the Commissioner in writing of any deviation from permit conditions which could endanger human health or the environment. Include the following information in this written description:</p> <ol style="list-style-type: none"> 1. the cause of the deviation; 2. the exact dates of the period of the deviation, if the deviation has been corrected; 3. whether or not the deviation has been corrected; 4. the anticipated time by which the deviation is expected to be corrected, if not yet corrected; and 5. steps taken or planned to reduce, eliminate, and prevent reoccurrence of the deviation. <p>[Minn. R. 7019.1000, subp. 1]</p>
	5.1.49		<p>Application for Permit Amendment: If a permit amendment is needed, submit an application in accordance with the requirements of Minn. R. 7007.1150 through Minn. R. 7007.1500. Submittal dates vary, depending on the type of amendment needed. [Minn. R. 7007.1150-7007.1500]</p>
	5.1.50		<p>Extension Requests: The Permittee may apply for an Administrative Amendment to extend a deadline in a permit by no more than 120 days, provided the proposed deadline extension meets the requirements of Minn. R. 7007.1400, subp. 1(H). Performance testing deadlines from the General Provisions of 40 CFR pt. 60 and pt. 63 are examples of deadlines for which the MPCA does not have authority to grant extensions and therefore do not meet the requirements of Minn. R. 7007.1400, subp. 1(H). [Minn. R. 7007.1400, subp. 1(H)]</p>
	5.1.51		<p>Emission Inventory Report: due on or before April 1 of each calendar year following permit issuance. Submit the report on a form approved by the Commissioner. [Minn. R. 7019.3000-</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			3100]
	5.1.52		Permits: All prior Air Quality Emission Permits are rescinded and replaced by the Title V permit upon issuance. [Minn. R. 7007.1800(A)(1) & (A)(2)]
	5.1.53		Emission Fees: due 30 days after receipt of an MPCA bill. [Minn. R. 7002.0005-7002.0095]
	5.1.54		Risk Management Plan: The Permittee shall submit a Risk Management Plan (RMP) under 40 CFR pt. 68. The Permittee of a stationary source, at which a regulated substance is present above a threshold quantity in a process, shall design and implement an accidental release prevention program. An initial RMP must be submitted no later than the latest of the following dates: 1) June 21, 1999; 2) Three years after the date on which a regulated substance is first listed under 40 CFR Section 68.130; or 3) The date on which a regulated substance is first present above a threshold quantity in a process. A full update and resubmission of the RMP is required at least once every five years. The five-year anniversary date is reset whenever your facility fully updates and resubmits their RMP. Submit RMPs to the Risk Management Plan Reporting Center, P.O. Box 1515, Lanham-Seabrook, Maryland 20703-1515. RMP information may be obtained at http://www.epa.gov/swercepp or by calling 1-800-424-9346. [40 CFR pt. 68]
	5.1.55		<p>DETERMINING IF A PROJECT/MODIFICATION IS SUBJECT TO NEW SOURCE REVIEW These requirements apply if a reasonable possibility (RP) as defined in 40 CFR Section 52.21(r)(6)(vi) exists that a proposed project, analyzed using the actual-to-projected-actual (ATPA) test (either by itself or as part of the hybrid test at 40 CFR Section 52.21(a)(2)(iv)(f)) and found to not be part of a major modification, may result in a significant emissions increase (SEI). If the ATPA test is not used for the project, or if there is no RP that the proposed project could result in a SEI, these requirements do not apply to that project. The Permittee is only subject to the Preconstruction Documentation requirement for a project where a RP occurs only within the meaning of 40 CFR Section 52.21(r)(6)(vi)(b).</p> <p>Even though a particular modification is not subject to New Source Review (NSR), or where there is no RP that a proposed project could result in a SEI, a permit amendment, recordkeeping, or notification may still be required by Minn. R. 7007.1150 - 7007.1500. [Minn. R. 7007.0800, subp. 2, Title I Condition: 40 CFR 52.21(r)(6) & Minn. R. 7007.3000]</p>
	5.1.56		<p>Preconstruction Documentation -- Before beginning actual construction on a project, the Permittee shall document the following:</p> <ol style="list-style-type: none"> 1. Project description 2. Identification of any subject item (SI) whose emissions of

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>an NSR pollutant could be affected</p> <p>3. Pre-change potential emissions of any affected existing SI, and the projected post-change potential emissions of any affected existing or new SI.</p> <p>4. A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including the baseline actual emissions, the projected actual emissions, the amount of emissions excluded due to increases not associated with the modification and that the SI could have accommodated during the baseline period, an explanation of why the amounts were excluded, and any creditable contemporaneous increases and decreases that were considered in the determination.</p> <p>The Permittee shall maintain records of this documentation. [Minn. R. 7007.0800, subps. 4&5, Minn. R. 7007.1200, subp. 4, Title I Condition: 40 CFR 52.21(r)(6) & Minn. R. 7007.3000]</p>
	5.1.57		<p>The Permittee shall monitor the actual emissions of any regulated NSR pollutant that could increase as a result of the project and that were analyzed using the ATPA test, and the potential emissions of any regulated NSR pollutant that could increase as a result of the project and that were analyzed using potential emissions in the hybrid test. The Permittee shall calculate and maintain a record of the sum of the actual and potential (if the hybrid test was used in the analysis) emissions of the regulated pollutant, in tons per year on a calendar year basis, for a period of 5 years following resumption of regular operations after the change, or for a period of 10 years following resumption of regular operations after the change if the project increases the design capacity of or potential to emit of any unit associated with the project. [Title I Condition: 40 CFR 52.21(r)(6) & Minn. R. 7007.3000, Minn. R. 7007.0800, subps. 4&5]</p>
	5.1.58		<p>The Permittee must submit a report to the Agency if the annual summed (actual, plus potential if used in hybrid test) emissions differ from the preconstruction projection and exceed the baseline actual emissions by a significant amount as listed at 40 CFR Section 52.21(b)(23). Such report shall be submitted to the Agency within 60 days after the end of the year in which the exceedances occur. The report shall contain:</p> <ul style="list-style-type: none"> a. The name and ID number of the facility, and the name and telephone number of the facility contact person b. The annual emissions (actual, plus potential if any part of the project was analyzed using the hybrid test) for each pollutant for which the preconstruction projection and significant emissions increase are exceeded. c. Any other information, such as an explanation as to why the summed emissions differ from the preconstruction projection. <p>[Minn. R. 7007.0800, subps. 4&5, Title I Condition: 40 CFR</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			52.21(r)(6) & Minn. R. 7007.3000]
	5.1.59		<p>REQUIREMENTS PER FIRST REVISED CONSENT DECREE TO COMPLY WITH BENZENE WASTE NESHAP</p> <p>By no later than 90 days after the installation of controls necessary to comply with the 6BQ Compliance Option, the facility shall comply with the provisions of Paragraph 18.I.ii of the First Revised Consent Decree. [CAAA of 1990, Minn. R. 7007.0100, subps. 7(A) & 7(B), Minn. R. 7007.0800, subp. 2, Minn. R. 7011.9930(E), Minn. Stat. 116.subd. 4a, Minn. Stat. 116.subd. 9, Title I Condition: 40 CFR pt. 52]</p>
	5.1.60		<p>The Permittee may add Benzene Waste NESHAP controls to tanks as needed on a temporary/permanent basis to control benzene emissions. Each of the requirements listed in 40 CFR Section 61.343 shall apply to each tank that is controlled. The Permittee must keep a record at the facility of when such controls are added. [CAAA of 1990, Minn. R. 7007.0100, subps. 7(A) & 7(B), Minn. R. 7007.0800, subps. 1-2, Minn. R. 7011.9930(E), Minn. Stat. 116.subd. 4a, Minn. Stat. 116.subd. 9, Title I Condition: 40 CFR pt. 52]</p>
	5.1.61		<p>The Permittee may add Benzene Waste NESHAP controls to containers as needed on a temporary/permanent basis to control benzene emissions. Each of the requirements listed in 40 CFR Section 61.345 shall apply to each tank that is controlled. The Permittee must keep a record at the facility of when such controls are added. [CAAA of 1990, Minn. R. 7007.0100, subps. 7(A) & 7(B), Minn. R. 7007.0800, subps. 1-2, Minn. R. 7011.9930(E), Minn. Stat. 116.07, subd. 4a, Minn. Stat. 116.07, subd. 9, Title I Condition: 40 CFR pt. 52]</p>
COMG 1	GP008	w/UU (each tank)	
	5.2.1		<p>Code of Federal Regulations 40 CFR pt. 60, subp. Kb, as amended, entitled "Standards of Performance for Volatile Organic Liquid Storage Vessels (including petroleum liquid storage vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984," except that decisions made by the Administrator under Code of Federal Regulations 40 CFR Sections 60.111b(f)(4), 60.114b, 60.116b(e)(3)(iii), 60.116b(e)(3)(iv), and 60.116b(f)(2)(iii), are not delegated to the Commissioner and must be made by the Administrator. [Minn. R. 7011.1520(C)]</p>
	5.2.2		<p>Opacity <= 0 percent opacity from tank vent except for one consecutive 15 minute period in any 24 hour period when transfer lines are being cleared. [40 CFR 60.472(c), 40 CFR pt. 60, subp. UU, Minn. R. 7011.0950]</p>
	5.2.3		<p>After the compliance dates specified in paragraph (h) of this section (8/18/98), a Group 1 or Group 2 storage vessel that is part of an existing source and is also subject to the provisions</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			of 40 CFR pt. 60, subp. Kb is required to comply only with the requirements of 40 CFR pt. 60, subp. Kb. [40 CFR 63.640(n)(1), 40 CFR pt. 63, subp. CC, Minn. R. 7011.7280(A)]
	5.2.4		Except as specified in 40 CFR Section 60.116b(a) & (b), the vessels are exempt from the General Provisions 40 CFR pt. 60, subp. A and from the provisions of 40 CFR pt. 60, subp. Kb. [40 CFR 60.110b(c), 40 CFR pt. 60, subp. Kb, Minn. R. 7011.1520(C)]
	5.2.5		Standards for these tanks only apply while they are storing asphalt. [40 CFR 60.11(d), 40 CFR 60.470(a), Minn. R. 7011.0950]
	5.2.6		Test requirement: In conducting performance tests required in 40 CFR Section 60.8, the Permittee shall use as reference methods and procedures the test methods in Appendix A of this part or other methods and procedures so specified in the section, except as provided in 40 CFR Section 60.8. [40 CFR 60.474(b), Minn. R. 7011.0950]
	5.2.7		Test requirement: Method 9 and the procedures in 40 CFR Section 60.11 shall be used to determine opacity. [40 CFR 60.474(c)(5), Minn. R. 7011.0950]
COMG 2	GP011	NESHAP CC w/NSPS Kb overlap (each)	
	5.3.1		<p>(a) Except as provided in paragraphs (b), (c), and (d) of this section, the affected facility to which this subpart applies is each storage vessel with a capacity greater than or equal to 40 cubic meters (m³) that is used to store volatile organic liquids (VOL's) for which construction, reconstruction, or modification is commenced after July 23, 1984.</p> <p>(b) Except as specified in paragraphs (a) and (b) of 40 CFR Section 60.116b, storage vessels with design capacity less than 75 m³ are exempt from the General Provisions (pt. 60, subp. A) and from the provisions of this subpart. [40 CFR 60.110b(a)&(b), 40 CFR pt. 60, subp. Kb, Minn. R. 7011.1520(C)]</p>
	5.3.2		<p>(a) The Permittee of each storage vessel either with a design capacity greater than or equal to 151 m³ containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 5.2 kPa but less than 76.6 kPa or with a design capacity greater than or equal to 75 m³ but less than 151 m³ containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 27.6 kPa but less than 76.6 kPa, shall equip each storage vessel with one of the following:</p> <p>(1) A fixed roof in combination with an internal floating roof meeting the following specifications:</p> <p>(i) The internal floating roof shall rest or float on the liquid surface (but not necessarily in complete contact with it) inside</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>a storage vessel that has a fixed roof. The internal floating roof shall be floating on the liquid surface at all times, except during initial fill and during those intervals 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.</p> <p>(ii) Each internal floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof:</p> <p>(A) A foam or liquid filled seal mounted in contact with the liquid (liquid mounted seal). A liquid mounted seal means a foam or liquid filled seal mounted in contact with the liquid between the wall of the storage vessel and the floating roof continuously around the circumference of the tank.</p> <p>(B) 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 internal floating roof. The lower seal may be vapor mounted, but both must be continuous.</p> <p>(C) A mechanical shoe seal. A mechanical shoe seal is a metal sheet held vertically against the wall of the storage vessel by springs or weighted levers and is connected by braces to the floating roof. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.</p> <p>(iii) Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface.</p> <p>(iv) 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.</p> <p>(v) Automatic bleeder 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.</p> <p>(vi) 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 recommended setting.</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>(vii) 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 percent of the opening.</p> <p>(viii) 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.</p> <p>(ix) Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover. [40 CFR 60.112b(a)(1)(i-ix), Minn. R. 7011.1520(C)]</p>
	5.3.3		<p>(2) An external floating roof. An external floating roof means a pontoon type or double deck type cover that rests on the liquid surface in a vessel with no fixed roof. Each external floating roof must meet the following specifications:</p> <p>(i) Each external floating roof shall be equipped with a closure device between the wall of the storage vessel & the roof edge. The closure device is to consist of two seals, one above the other. The lower seal is referred to as the primary seal, & the upper seal is referred to as the secondary seal.</p> <p>(A) The primary seal shall be either a mechanical shoe seal or a liquid mounted seal. Except as provided in 40 CFR Section 60.113b(b)(4), the seal shall completely cover the annular space between the edge of the floating roof & tank wall.</p> <p>(B) The secondary seal shall completely cover the annular space between the external floating roof and the wall of the storage vessel in a continuous fashion except as allowed in 40 CFR Section 60.113(b)(4).</p> <p>(ii) Except for automatic bleeder vents and rim space vents, each opening in a noncontact external floating roof shall provide a projection below the liquid surface. Except for automatic bleeder vents, rim space vents, roof drains, and leg sleeves, each opening in the roof is to be equipped with a gasket cover, seal, or lid that is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. Automatic bleeder vents 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. Rim vents are to be set to open when the roof is being floated off the roof legs supports or at the manufacturer's recommended setting. Automatic bleeder vents and rim space vents are to be gasketed. Each emergency roof drain is to be provided with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening.</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>(iii) The roof shall be floating on the liquid at all times (i.e., off the roof leg supports) except during initial fill until the roof is lifted off leg supports and when the tank is completely emptied and subsequently refilled. The process of filling, emptying, or refilling when the roof is resting on the leg supports shall be continuous and shall be accomplished as rapidly as possible. [40 CFR 60.112b(a)(2)(i-iii), Minn. R. 7011.1520(C)]</p>
	5.3.4		<p>(3) A closed vent system and control device meeting the following specifications:</p> <p>(i) The closed vent system shall be designed to collect all VOC vapors and gases discharged from the storage vessel and operated with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background and visual inspections, as determined in 40 CFR pt. 60, subp. VV, 40 CFR Section 60.485(b).</p> <p>(ii) The control device shall be designed and operated to reduce inlet VOC emissions by 95 percent or greater. If a flare is used as the control device, it shall meet the specifications described in the general control device requirements (40 CFR Section 60.18) of the General Provisions. [40 CFR 60.112b(a)(3), Minn. R. 7011.1520(C)]</p>
	5.3.5		<p>The Permittee of each storage vessel as specified in 40 CFR Section 60.112b(a) shall meet the requirements of paragraph (a), (b), or (c) of this section. The applicable paragraph for a particular storage vessel depends on the control equipment installed to meet the requirements of 40 CFR Section 60.112b.</p> <p>(a) After installing the control equipment required to meet 40 CFR Section 60.112b(a)(1) (permanently affixed roof and internal floating roof), each owner or operator shall:</p> <p>(1) Visually inspect the internal floating roof, the primary seal, and the secondary seal (if one is in service), prior to filling the storage vessel with VOL. If there are holes, tears, or other openings in the primary seal, the secondary seal, or the seal fabric or defects in the internal floating roof, or both, the Permittee shall repair the items before filling the storage vessel.</p> <p>(2) For Vessels equipped with a liquid mounted or mechanical shoe primary seal, visually inspect the internal floating roof and the primary seal or the secondary seal (if one is in service) through manholes and roof hatches on the fixed roof at least once every 12 months after initial fill. If the internal floating roof is not resting on the surface of the VOL inside the storage vessel, or there is liquid accumulated on the roof, or the seal is detached, or there are holes or tears in the seal fabric, the</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>Permittee 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 in 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 Administrator in the inspection report required in 40 CFR Section 60.115(b)(3). Such a request for an extension must document that alternate storage capacity is unavailable and specify a schedule of actions the company will take that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible. [40 CFR 60.113b(a)(1-2), Minn. R. 7011.1520(C)]</p>
	5.3.6		<p>(3) For vessels equipped with a double seal system as specified in 40 CFR Section 60.112b(a)(1)(ii)(B): (i) Visually inspect the vessel as specified in paragraph (a)(4) of this section at least every 5 years; or (ii) Visually inspect the vessel as specified in paragraph (a)(2) of this section.</p> <p>(4) Visually inspect the internal floating roof, the primary seal, the secondary seal (if one is in service), gaskets, slotted membranes 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, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, or the gaskets no longer close off the liquid surfaces from the atmosphere, or the slotted membrane has more than 10 percent open area, the Permittee 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 shall inspections conducted in accordance with this provision occur at intervals greater than 10 years in the case of vessels conducting the annual visual inspection as specified in paragraphs (a)(2) and (a)(3)(ii) of this section and at intervals no greater than 5 years in the case of vessels specified in paragraph (a)(3)(i) of this section.</p> <p>(5) Notify the Administrator in writing at least 30 days prior to the filling or refilling of each storage vessel for which an inspection is required by paragraphs (a)(1) and (a)(4) of this section to afford the Administrator the opportunity to have an observer present. If the inspection required by paragraph (a)(4) of this section is not planned and the Permittee could not have known about the inspection 30 days in advance or refilling the tank, the Permittee shall notify the Administrator 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</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so that it is received by the Administrator at least 7 days prior to the refilling. [40 CFR 60.113b(a)(3-5), Minn. R. 7011.1520(C)]
	5.3.7		<p>(b) After installing the control equipment required to meet 40 CFR Section 60.112b(a)(2) (external floating roof), the Permittee shall:</p> <p>(1) Determine the gap areas and maximum gap widths, between the primary seal and the wall of the storage vessel and between the secondary seal and the wall of the storage vessel according to the following frequency.</p> <p>(i) Measurements of gaps between the tank wall and the primary seal (seal gaps) shall be performed during the hydrostatic testing of the vessel or within 60 days of the initial fill with VOL and at least once every 5 years thereafter.</p> <p>(ii) Measurements of gaps between the tank wall and the secondary seal shall be performed within 60 days of the initial fill with VOL and at least once per year thereafter.</p> <p>(iii) If any source ceases to store VOL for a period of 1 year or more, subsequent introduction of VOL into the vessel shall be considered an initial fill for the purposes of paragraphs (b)(1)(i) and (b)(1)(ii) of this section. [40 CFR 60.113b(b)(1), Minn. R. 7011.1520(C)]</p>
	5.3.8		<p>(2) Determine gap widths and areas in the primary and secondary seals individually by the following procedures:</p> <p>(i) Measure seal gaps, if any, at one or more floating roof levels when the roof is floating off the roof leg supports.</p> <p>(ii) Measure seal gaps around the entire circumference of the tank in each place where a 0.32 cm diameter uniform probe passes freely (without forcing or binding against the seal) between the seal and the wall of storage vessel and measure the circumferential distance of each such location.</p> <p>(iii) The total surface area of each gap described in paragraph (b)(2)(ii) of this section shall be determined by using probes of various widths to measure accurately the actual distance from the tank wall to the seal and multiplying each such width by its respective circumferential distance. [40 CFR 60.113b(b)(2), Minn. R. 7011.1520(C)]</p>
	5.3.9		<p>(3) Add the gap surface area of each gap location for the primary seal and the secondary seal individually and divide the sum for each seal by the nominal diameter of the tank and compare each ratio to the respective standards in paragraphs (b)(4) of this section. [40 CFR 60.113b(b)(3), Minn. R. 7011.1520(C)]</p>
	5.3.10		<p>(4) Make necessary repairs or empty the storage vessel within 45 days of identification in any inspection for seals not meeting the requirements listed in (b)(4)(i) and (ii) of this</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>section:</p> <p>(i) The accumulated area of gaps between the tank wall and the mechanical shoe or liquid mounted primary seal shall not exceed 212 cm² per meter of tank diameter, and the width of any portion of any gap shall not exceed 3.81 cm.</p> <p>(A) One end of the mechanical shoe is to extend into the stored liquid, and the other end is to extend a minimum vertical distance of 61 cm above the stored liquid surface.</p> <p>(B) There are to be no holes, tears, or other openings in the shoe, seal fabric, or seal envelope.</p> <p>(ii) The secondary seal is to meet the following requirements:</p> <p>(A) The secondary seal is to be installed above the primary seal so that it completely covers the space between the roof edge and the tank wall except as provided in paragraph (b)(2)(iii) of this section.</p> <p>(B) The accumulated area of gaps between the tank wall and the secondary seal shall not exceed 21.2 cm² per meter of tank diameter, and the width of any portion of any gap shall not exceed 1.27 cm.</p> <p>(C) There are to be no holes, tears, or other openings in the seal or seal fabric.</p> <p>(iii) If a failure that is detected during inspections required in paragraph (b)(1) of 40 CFR Section 60.113b(b) 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 Administrator in the inspection report required in 40 CFR Section 60.115(b)(4). Such extension request must include a demonstration of unavailability of alternate storage capacity and a specification of a schedule that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible. [40 CFR 60.113b(b)(4), Minn. R. 7011.1520(C)]</p>
	5.3.11		<p>(5) Notify the Administrator 30 days in advance of any gap measurements required by paragraph (b)(1) of this section to afford the Administrator the opportunity to have an observer present. [40 CFR 60.113b(b)(5), Minn. R. 7011.1520(C)]</p>
	5.3.12		<p>(6) Visually inspect the external floating roof, the primary seal, secondary seal, and fittings each time the vessel is emptied and degassed.</p> <p>(i) If the external floating roof has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, the owner or operator shall repair the items as necessary so that none of the conditions specified in this paragraph exist before filling or refilling the storage vessel with</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>VOL.</p> <p>(ii) For all the inspections required by paragraph (b)(6) of this section, the Permittee shall notify the Administrator in writing at least 30 days prior to the filling or refilling of each storage vessel to afford the Administrator the opportunity to inspect the storage vessel prior to refilling. If the inspection required by paragraph (b)(6) of this section is not planned and the Permittee could not have known about the inspection 30 days in advance of refilling the tank, the Permittee shall notify the Administrator 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 that it is received by the Administrator at least 7 days prior to the refilling. [40 CFR 60.113b(b)(6), Minn. R. 7011.1520(C)]</p>
	5.3.13		<p>(c) The Permittee of each source that is equipped with a closed vent system and control device as required in 40 CFR Section 60.112b(a)(3) or (b)(2) (other than a flare) is exempt from 40 CFR Section 60.8 of the General Provisions and shall meet the following requirements.</p> <p>(1) Submit for approval by the Administrator as an attachment to the notification required by 40 CFR Section 60.7(a)(1) or, if the facility is exempt from 40 CFR Section 60.7(a)(1), as an attachment to the notification required by 40 CFR Section 60.7(a)(2), an operating plan containing the information listed below.</p> <p>(i) Documentation demonstrating that the control device will achieve the required control efficiency during maximum loading conditions. This documentation is to include a description of the gas stream which enters the control device, including flow and VOC content under varying liquid level conditions (dynamic and static) and manufacturer's design specifications for the control device. If the control device or the closed vent capture system receives vapors, gases, or liquids other than fuels from sources that are not designated sources under this subpart, the efficiency demonstration is to include consideration of all vapors, gases, and liquids received by the closed vent capture system and control device. If an enclosed combustion device with a minimum residence time of 0.75 seconds and a minimum temperature of 816 degrees Celsius is used to meet the 95 percent requirement, documentation that those conditions will exist is sufficient to meet the requirements of this paragraph.</p> <p>(ii) A description of the parameter or parameters to be</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			monitored to ensure that the control device will be operated in conformance with its design and an explanation of the criteria used for selection of that parameter (or parameters). [40 CFR 60.113b(c)(1), Minn. R. 7011.1520(C)]
	5.3.14		(2) Operate the closed vent system and control device and monitor the parameters of the closed vent system and control device in accordance with the operating plan submitted to the Administrator in accordance with paragraph (c)(1) of this section, unless the plan was modified by the Administrator during the review process. In this case, the modified plan applies. [40 CFR 60.113b(c)(2), Minn. R. 7011.1520(C)]
	5.3.15		(d) The Permittee of each source that is equipped with a closed vent system and a flare to meet the requirements in 40 CFR Section 60.112b(a)(3) or (b)(2) shall meet the requirements as specified in the general control device requirements, 40 CFR Section 60.18(e) and (f). [40 CFR 60.113b(d), Minn. R. 7011.1520(C)]
	5.3.16		The owner or operator of each storage vessel as specified in 40 CFR Section 60.112b(a) shall keep records and furnish reports as required by paragraphs (a), (b), or (c) of this section depending upon the control equipment installed to meet the requirements of 40 CFR Section 60.112b. The owner or operator shall keep copies of all reports and records required by this section, except for the record required by (c)(1), for at least 2 years. The record required by (c)(1) will be kept for the life of the control equipment. [40 CFR 60.115b, Minn. R. 7011.7280(C), Minn. R. 7011.1520(C)]
	5.3.17		(a) After installing control equipment in accordance with 40 CFR Section 60.112b(a)(1) (fixed roof and internal floating roof), the owner or operator shall meet the following requirements. (1) Furnish the Administrator with a report that describes the control equipment and certifies that the control equipment meets the specifications of 40 CFR Section 60.112b(a)(1) and 40 CFR Section 60.113b(a)(1). This report shall be an attachment to the notification required by 40 CFR Section 60.7(a)(3). [40 CFR 60.115b(a)(1), Minn. R. 7011.1520(C), Minn. R. 7011.7280(C)]
	5.3.18		(2) Keep a record of each inspection performed as required by 40 CFR Section 60.113b(a)(1), (a)(2), (a)(3), and (a)(4). 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 component of the control equipment (seals, internal floating roof, and fittings). [40 CFR 60.115b(a)(2), Minn. R. 7011.1520(C), Minn. R. 7011.7280(C)]
	5.3.19		(3) If any of the conditions described in 40 CFR Section 60.113b(a)(2) are detected during the annual visual inspection required by 40 CFR Section 60.113b(a)(2), a report shall be furnished to the Administrator within 30 days of the

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			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 date the repair was made. [40 CFR 60.115b(a)(3), Minn. R. 7011.1520(C), Minn. R. 7011.7280(C)]
	5.3.20		(4) After each inspection required by 40 CFR Section 60.113b(a)(3) that finds holes or tears in the seal or seal fabric, or defects in the internal floating roof, or other control equipment defects listed in 40 CFR Section 60.113b(a)(3)(ii), a report shall be furnished to the Administrator within 30 days of the inspection. The report shall identify the storage vessel and the reason it did not meet the specifications of 40 CFR Section 60.112b(a)(1) or 40 CFR Section 60.113b(a)(3) and list each repair made. [40 CFR 60.115b(a)(4), Minn. R. 7011.1520(C), Minn. R. 7011.7280(C)]
	5.3.21		(b) After installing control equipment in accordance with 40 CFR Section 60.112b(a)(2) (external floating roof), the Permittee shall meet the following requirements. (1) Furnish the Administrator with a report that describes the control equipment and certifies that the control equipment meets the specifications of 40 CFR Section 60.112b(a)(2) and 40 CFR Section 60.113b(b)(2), (b)(3), and (b)(4). This report shall be an attachment to the notification required by 40 CFR Section 60.7(a)(3). [40 CFR 60.115b(b)(1), Minn. R. 7011.1520(C)]
	5.3.22		(2) Within 60 days of performing the seal gap measurements required by 40 CFR Section 60.113b(b)(1), furnish the Administrator with a report that contains: (i) The date of measurement. (ii) The raw data obtained in the measurement. (iii) The calculations described in 40 CFR Section 60.113b(b)(2) and (b)(3). [40 CFR 60.115b(b)(2), Minn. R. 7011.1520(C)]
	5.3.23		(3) Keep a record of each gap measurement performed as required by 40 CFR Section 60.113b(b). Each record shall identify the storage vessel in which the measurement was performed and shall contain: (i) The date of measurement. (ii) The raw data obtained in the measurement. (iii) The calculations described in 40 CFR Section 60.113b(b)(2) and (b)(3). [40 CFR 60.115b(b)(3), Minn. R. 7011.1520(C)]
	5.3.24		(4) After each seal gap measurement that detects gaps exceeding the limitations specified by 40 CFR Section 60.113b(b)(4), submit a report to the Administrator within 30 days of the inspection. The report will identify the vessel and contain the information specified in paragraph (b)(2) of this section and the date the vessel was emptied or the repairs made and date of repair. [40 CFR 60.115b(b)(4), Minn. R.

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			7011.1520(C)]
	5.3.25		<p>(c) After installing control equipment in accordance with 40 CFR Section 60.112b (a)(3) or (b)(1) (closed vent system and control device other than a flare), the owner or operator shall keep the following records.</p> <p>(1) A copy of the operating plan.</p> <p>(2) A record of the measured values of the parameters monitored in accordance with 40 CFR Section 60.113b(c)(2). [40 CFR 60.115b(c), Minn. R. 7011.1520(C)]</p>
	5.3.26		<p>(d) After installing a closed vent system and flare to comply with 40 CFR Section 60.112b, the owner or operator shall meet the following requirements.</p> <p>(1) A report containing the measurements required by 40 CFR Section 60.18(f)(1), (2), (3), (4), (5), and (6) shall be furnished to the Administrator as required by 40 CFR Section 60.8 of the General Provisions. This report shall be submitted within 6 months of the initial start up date.</p> <p>(2) Records shall be kept of all periods of operation during which the flare pilot flame is absent.</p> <p>(3) Semiannual reports of all periods recorded under 40 CFR Section 60.115b(d)(2) in which the pilot flame was absent shall be furnished to the Administrator. [40 CFR 60.115b(d), Minn. R. 7011.1520(C)]</p>
	5.3.27		<p>(a) The Permittee shall keep copies of all records required by this section, except for the record required by paragraph (b) of this section, for at least 2 years. The record required by paragraph (b) of this section will be kept for the life of the source. [40 CFR 60.116b(a), Minn. R. 7011.1520(C)]</p>
	5.3.28		<p>(b) The Permittee of each storage vessel as specified in 40 CFR Section 60.110b(a) shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. Each storage vessel with a design capacity less than 75 m³ is subject to no provision of this subpart other than those required by this paragraph. [40 CFR 60.116b(b), Minn. R. 7011.1520(C)]</p>
	5.3.29		<p>(c) Except as provided in paragraphs (f) and (g) of this section, the owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m³ storing a liquid with a maximum true vapor pressure greater than or equal to 3.5 kPa or with a design capacity greater than or equal to 75 m³ but less than 151 m³ storing a liquid with a maximum true vapor pressure greater than or equal to 15.0 kPa shall maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period. [40 CFR 60.116b(c), Minn. R. 7011.7280(C), Minn. R. 7011.1520(C)]</p>
	5.3.30		<p>(g) The owner or operator of each vessel equipped with a closed vent system and control device meeting the specifications of 40 CFR Section 60.112b is exempt from the</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			requirements of paragraphs (c) and (d) of this section. [40 CFR 60.116b(g), Minn. R. 7011.1520(C)]
	5.3.31		(a) The Permittee shall furnish the Administrator written notification as follows: (4) A notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies, unless that change is specifically exempted under an applicable subpart or in 40 CFR Section 60.14(e). This notice shall be postmarked 60 days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change. The Administrator may request additional relevant information subsequent to this notice. [40 CFR 60.7(a)(4), Minn. R. 7019.0100]
	5.3.32		(b) The Permittee subject to the provisions of this part shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative. [40 CFR 60.7(b), Minn. R. 7019.0100]
	5.3.33		(b) Performance tests shall be conducted and data reduced in accordance with the test methods and procedures contained in each applicable subpart unless the Administrator (1) specifies or approves, in specific cases, the use of a reference method with minor changes in methodology, (2) approves the use of an equivalent method, (3) approves the use of an alternative method the results of which he has determined to be adequate for indicating whether a specific source is in compliance, (4) waives the requirement for performance tests because the Permittee of a source has demonstrated by other means to the Administrator's satisfaction that the affected facility is in compliance with the standard, or (5) approves shorter sampling times and smaller sample volumes when necessitated by process variables or other factors. Nothing in this paragraph shall be construed to abrogate the Administrator's authority to require testing under section 114 of the Act. [40 CFR 60.8(b), Minn. R. 7017.2015]
	5.3.34		(c) Performance tests shall be conducted under such conditions as the Administrator shall specify to the plant operator based on representative performance of the affected facility. The Permittee shall make available to the Administrator such records as may be necessary to determine the conditions of the performance tests. Operations during periods of startup, shutdown, and malfunction shall not

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			constitute representative conditions for the purpose of a performance test nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard. [40 CFR 60.8(c), Minn. R. 7017.2015]
	5.3.35		(d) The Permittee of an affected facility shall provide the Administrator at least 30 days prior notice of any performance test, except as specified under other subparts, to afford the Administrator the opportunity to have an observer present. [40 CFR 60.8(d), Minn. R. 7017.2015]
	5.3.36		(d) At all times, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. [40 CFR 60.11(d), Minn. R. 7017.2015]
	5.3.37		(a) Except as provided under paragraphs and (f) of this section, any physical or operational change to an existing facility which results in an increase in the emission rate to the atmosphere of any pollutant to which a standard applies shall be considered a modification within the meaning of section 111 of the Act. Upon modification, an existing facility shall become an affected facility for each pollutant to which a standard applies and for which there is an increase in the emission rate to the atmosphere. [40 CFR 60.14(a), Minn. R. 7011.0050]
	5.3.38		Except as provided in paragraph 40 CFR Section 63.640(h)(4), existing sources shall be in compliance no later than August 18, 1998, except as provided in 40 CFR Section 63.6(c) or unless an extension has been granted by the Administrator as provided in 40 CFR Section 63.6(i). [40 CFR 63.640(h)(2), 40 CFR pt. 63, subp. CC, Minn. R. 7011.7280(A)]
	5.3.39		Existing Group 1 floating roof storage vessels shall be in compliance with 40 CFR Section 63.646 at the next degassing and cleaning activity or within 10 years after [August 18, 1995], whichever is first. [40 CFR 63.640(h)(4), Minn. R. 7011.7280(A)]
	5.3.40		After the compliance dates specified in paragraph (h) of this section, a Group 1 or Group 2 storage vessel that is part of an existing source and is also subject to the provisions of 40 CFR pt. 60, subp. Kb is required to comply only with the requirements of 40 CFR pt. 60, subp. Kb. [40 CFR 63.640(n)(1), Minn. R. 7011.7280(A)]

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
	5.3.41		<p>A. There are no standards of performance promulgated in this part for storage vessels with a storage capacity of 2,000 gallons (7,571 liters) or less for which construction was commenced on or after June 11, 1973.</p> <p>B. The owner or operator of any storage vessel with a storage capacity of greater than 2,000 gallons (7,571 liters) but less than or equal to 40,000 gallons (151,412 liters) for which construction was commenced on or after June 11, 1973, shall equip the storage vessel with a permanent submerged fill pipe or comply with the requirements of item C.</p> <p>C. The Permittee of any storage vessel with a storage capacity of greater than 40,000 gallons (151,412 liters) for which construction was commenced on or after June 11, 1973, shall comply with the following requirements: (1) If the true vapor pressure of the petroleum liquid, as stored, is equal to or greater than 78 mm Hg (1.5 psia) but not greater than 570 mm Hg (11.1 psia), the storage vessel shall be equipped with a floating roof, a vapor recovery system, or their equivalents.(2) If the true vapor pressure of the petroleum liquid as stored is greater than 570 mm Hg (11.1 psia), the storage vessel shall be equipped with a vapor recovery system or its equivalent. [Minn. R. 7011.1505, subp. 3]</p>
	5.3.42		<p>Subpart 1. Records. The Permittee of any storage vessel, the construction or modification of which commenced on or after June 11, 1973, which has a storage capacity of greater than 40,000 gallons (151,412 liters) shall for each storage vessel: A. maintain a file of each type of petroleum liquid stored, of the typical Reid vapor pressure of each type of petroleum liquid stored, of the dates of storage and withdrawals, and of the date on which the storage vessel is empty; B. determine and record the average monthly storage temperature and true vapor pressure of the petroleum liquid stored at such temperature if:</p> <p>(1) the petroleum liquid has a true vapor pressure, as stored, greater than 26 mm Hg (0.5 psia) but less than 78 mm Hg (1.5 psia) and is stored in a storage vessel other than one equipped with a floating roof, a vapor recovery system or their equivalents; or (2) the petroleum liquid has a true vapor pressure, as stored, greater than 470 mm Hg(9.1 psia) and is stored in a storage vessel other than one equipped with a vapor recovery system or its equivalent. [Minn. R. 7011.1510, subp. 1]</p>
	5.3.43		<p>Subp. 2. Calculation. The average monthly storage temperature is an arithmetic average calculated for each calendar month, or portion thereof if storage is for less than a</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			month, from bulk liquid storage temperatures determined at least once every seven days. [Minn. R. 7011.1510, subp. 2]
	5.3.44		Subp. 3. Vapor Pressure Determination. The true vapor pressure shall be determined by the procedure in American Petroleum Institute Bulletin 2517. This procedure is dependent upon determination of the storage temperature and the Reid vapor pressure, which requires sampling of the petroleum liquids in the storage vessels. Unless the agency or the Commissioner requires in specific cases that the stored petroleum liquid be sampled, the true vapor pressure may be determined by using the average monthly storage temperature and the typical Reid vapor pressure. For those liquids for which certified specifications limiting the Reid vapor pressure exist, that Reid vapor pressure may be used. For other liquids, supporting analytical data must be made available on request of the agency or the commissioner when typical Reid vapor pressure is used. [Minn. R. 7011.1510, subp. 3]
	5.3.45		Code of Federal Regulations, title 40, pt. 60, subp. Kb, as amended, entitled "Standards of Performance for Volatile Organic Liquid Storage Vessels (including petroleum liquid storage vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984," except that decisions made by the administrator under Code of Federal Regulations, title 40, pt. 60.111b(f)(4), 60.114b, 60.116b(e)(3)(iii), 60.116b(e)(3)(iv), and 60.116b(f)(2)(iii), are not delegated to the Commissioner and must be made by the Administrator. [Minn. R. 7011.1520(C)]
COMG 3	GP027	Tanks subject to Benzene Waste NESHAP w/ NSPS Kb overlap (each)	
	5.4.1		As an alternative to the standards for tanks specified in 40 CFR Section 61.343 of National Emission Standards for Benzene Waste Operations, the Permittee may elect to comply with the following: (1) A fixed roof and internal floating roof meeting the requirements in 40 CFR 60.112b(a)(1) [40 CFR 61.351, Minn. R. 7011.9930(E)]
	5.4.2		(a) The Permittee of each storage vessel either with a design capacity greater than or equal to 151 m ³ containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 5.2 kPa but less than 76.6 kPa or with a design capacity greater than or equal to 75 m ³ but less than 151 m ³ containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 27.6 kPa but less than 76.6 kPa, shall equip each storage vessel with one of the

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>following:</p> <p>(1) A fixed roof in combination with an internal floating roof meeting the following specifications:</p> <p>(i) The internal floating roof shall rest or float on the liquid surface (but not necessarily in complete contact with it) inside a storage vessel that has a fixed roof. The internal floating roof shall be floating on the liquid surface at all times, except during initial fill and during those intervals 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.</p> <p>(ii) Each internal floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof:</p> <p>(A) A foam or liquid filled seal mounted in contact with the liquid (liquid mounted seal). A liquid mounted seal means a foam or liquid filled seal mounted in contact with the liquid between the wall of the storage vessel and the floating roof continuously around the circumference of the tank.</p> <p>(B) 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 internal floating roof. The lower seal may be vapor mounted, but both must be continuous.</p> <p>(C) A mechanical shoe seal. A mechanical shoe seal is a metal sheet held vertically against the wall of the storage vessel by springs or weighted levers and is connected by braces to the floating roof. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.</p> <p>(iii) Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface.</p> <p>(iv) 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.</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>(v) Automatic bleeder 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.</p> <p>(vi) 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 recommended setting.</p> <p>(vii) 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 percent of the opening.</p> <p>(viii) 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.</p> <p>(ix) Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover. [40 CFR 60.112b(a)(1), Minn. R. 7011.1520(C)]</p>
	5.4.3		<p>The owner or operator of each storage vessel as specified in 40 CFR Section 60.112b(a) shall meet the requirements of paragraph (a), (b), or (c) of this section. The applicable paragraph for a particular storage vessel depends on the control equipment installed to meet the requirements of 40 CFR Section 60.112b.</p> <p>(a) After installing the control equipment required to meet 40 CFR Section 60.112b(a)(1) (permanently affixed roof and internal floating roof), each owner or operator shall:</p> <p>(1) Visually inspect the internal floating roof, the primary seal, and the secondary seal (if one is in service), prior to filling the storage vessel with VOL. If there are holes, tears, or other openings in the primary seal, the secondary seal, or the seal fabric or defects in the internal floating roof, or both, the owner or operator shall repair the items before filling the storage vessel. [40 CFR 60.113b(a)(1), Minn. R. 7011.1520(C)]</p>
	5.4.4		<p>(2) For Vessels equipped with a liquid mounted or mechanical shoe primary seal, visually inspect the internal floating roof and the primary seal or the secondary seal (if one is in service) through manholes and roof hatches on the fixed roof at least once every 12 months after initial fill. If the internal floating roof is not resting on the surface of the VOL inside the storage vessel, or there is liquid accumulated on the roof, or the seal is detached, or there are holes or tears in the seal fabric, the Permittee 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 in this paragraph cannot</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30 day extension may be requested from the Administrator in the inspection report required in 40 CFR Section 60.115(b)(3).</p> <p>Such a request for an extension must document that alternate storage capacity is unavailable and specify a schedule of actions the company will take that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible. [40 CFR 60.113b(a)(2), Minn. R. 7011.1520(C)]</p>
	5.4.5		<p>(3) For vessels equipped with a double seal system as specified in 40 CFR Section 60.112b(a)(1)(ii)(B):</p> <ul style="list-style-type: none"> (i) Visually inspect the vessel as specified in paragraph (a)(4) of this section at least every 5 years; or (ii) Visually inspect the vessel as specified in paragraph (a)(2) of this section. [40 CFR 60.113b(a)(4), Minn. R. 7011.1520(C)]
	5.4.6		<p>(4) Visually inspect the internal floating roof, the primary seal, the secondary seal (if one is in service), gaskets, slotted membranes 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, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, or the gaskets no longer close off the liquid surfaces from the atmosphere, or the slotted membrane has more than 10 percent 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.</p> <p>In no event shall inspections conducted in accordance with this provision occur at intervals greater than 10 years in the case of vessels conducting the annual visual inspection as specified in paragraphs (a)(2) and (a)(3)(ii) of this section and at intervals no greater than 5 years in the case of vessels specified in paragraph (a)(3)(i) of this section. [40 CFR 60.113b(a), Minn. R. 7011.1520(C)]</p>
	5.4.7		<p>(5) Notify the Administrator in writing at least 30 days prior to the filling or refilling of each storage vessel for which an inspection is required by paragraphs (a)(1) and (a)(4) of this section to afford the Administrator the opportunity to have an observer present. If the inspection required by paragraph (a)(4) of this section is not planned and the owner or operator could not have known about the inspection 30 days in advance or refilling the tank, the owner or operator shall notify the Administrator at least 7 days prior to the refilling of the storage vessel. Notification shall be made by telephone immediately followed by written documentation</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so that it is received by the Administrator at least 7 days prior to the refilling. [40 CFR 60.113b(a)(5), Minn. R. 7011.1520(C)]
	5.4.8		The owner or operator of each storage vessel as specified in 40 CFR Section 60.112b(a) shall keep records and furnish reports as required by paragraphs (a), (b), or (c) of this section depending upon the control equipment installed to meet the requirements of 40 CFR Section 60.112b. The owner or operator shall keep copies of all reports and records required by this section, except for the record required by (c)(1), for at least 2 years. The record required by (c)(1) will be kept for the life of the control equipment. [40 CFR 60.115b, Minn. R. 7011.7280(C), Minn. R. 7011.1520(C)]
	5.4.9		(a) After installing control equipment in accordance with 40 CFR Section 60.112b(a)(1) (fixed roof and internal floating roof), the owner or operator shall meet the following requirements. (1) Furnish the Administrator with a report that describes the control equipment and certifies that the control equipment meets the specifications of 40 CFR Section 60.112b(a)(1) and 40 CFR Section 60.113b(a)(1). This report shall be an attachment to the notification required by 40 CFR Section 60.7(a)(3). [40 CFR 60.115b(a)(1), Minn. R. 7011.1520(C), Minn. R. 7011.7280(C)]
	5.4.10		(2) Keep a record of each inspection performed as required by 40 CFR Section 60.113b(a)(1), (a)(2), (a)(3), and (a)(4). 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 component of the control equipment (seals, internal floating roof, and fittings). [40 CFR 60.115b(a)(2), Minn. R. 7011.1520(C), Minn. R. 7011.7280(C)]
	5.4.11		(3) If any of the conditions described in 40 CFR Section 60.113b(a)(2) are detected during the annual visual inspection required by 40 CFR Section 60.113b(a)(2), a report shall be furnished to the Administrator 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 date the repair was made. [40 CFR 60.115b(a)(3), Minn. R. 7011.1520(C), Minn. R. 7011.7280(C)]
	5.4.12		(4) After each inspection required by 40 CFR Section 60.113b(a)(3) that finds holes or tears in the seal or seal fabric, or defects in the internal floating roof, or other control equipment defects listed in 40 CFR Section 60.113b(a)(3)(ii), a report shall be furnished to the Administrator within 30 days of the inspection. The report shall identify the storage vessel

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			and the reason it did not meet the specifications of 40 CFR Section 60.112b(a)(1) or 40 CFR Section 60.113b(a)(3) and list each repair made. [40 CFR 60.115b(a)(4), Minn. R. 7011.1520(C), Minn. R. 7011.7280(C)]
	5.4.13		(a) The owner or operator shall keep copies of all records required by this section, except for the record required by paragraph (b) of this section, for at least 2 years. The record required by paragraph (b) of this section will be kept for the life of the source. [40 CFR 60.116b(a), Minn. R. 7011.1520(C)]
	5.4.14		(b) The owner or operator of each storage vessel as specified in 40 CFR Section 60.110b(a) shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. Each storage vessel with a design capacity less than 75 m ³ is subject to no provision of this subpart other than those required by this paragraph. [40 CFR 60.116b(b), Minn. R. 7011.7280(C)]
	5.4.15		(c) Except as provided in paragraphs (f) and (g) of this section, the owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m ³ storing a liquid with a maximum true vapor pressure greater than or equal to 3.5 kPa or with a design capacity greater than or equal to 75 m ³ but less than 151 m ³ storing a liquid with a maximum true vapor pressure greater than or equal to 15.0 kPa shall maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period. [40 CFR 60.116b(c), Minn. R. 7011.7280(C), Minn. R. 7011.1520(C)]
	5.4.16		(a) Any owner or operator subject to the provisions of this part shall furnish the Administrator written notification as follows: (4) A notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies, unless that change is specifically exempted under an applicable subpart or in 40 CFR Section 60.14(e). This notice shall be postmarked 60 days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change. The Administrator may request additional relevant information subsequent to this notice. [40 CFR 60.7(a)(4), Minn. R. 7019.0100]
	5.4.17		(b) Any owner or operator subject to the provisions of this part shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			monitoring system or monitoring device is inoperative. [40 CFR 60.7(b), Minn. R. 7019.0100]
	5.4.18		(b) Performance tests shall be conducted and data reduced in accordance with the test methods and procedures contained in each applicable subpart unless the Administrator (1) specifies or approves, in specific cases, the use of a reference method with minor changes in methodology, (2) approves the use of an equivalent method, (3) approves the use of an alternative method the results of which he has determined to be adequate for indicating whether a specific source is in compliance, (4) waives the requirement for performance tests because the owner or operator of a source has demonstrated by other means to the Administrator's satisfaction that the affected facility is in compliance with the standard, or (5) approves shorter sampling times and smaller sample volumes when necessitated by process variables or other factors. Nothing in this paragraph shall be construed to abrogate the Administrator's authority to require testing under section 114 of the Act. [40 CFR 60.8(b), Minn. R. 7017.2015]
	5.4.19		(c) Performance tests shall be conducted under such conditions as the Administrator shall specify to the plant operator based on representative performance of the affected facility. The owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of the performance tests. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard. [40 CFR 60.8(c), Minn. R. 7017.2015]
	5.4.20		(d) The owner or operator of an affected facility shall provide the Administrator at least 30 days prior notice of any performance test, except as specified under other subparts, to afford the Administrator the opportunity to have an observer present. [40 CFR 60.8(d), Minn. R. 7017.2015]
	5.4.21		(d) At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. [40 CFR 60.11(d),

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
	5.4.22		Minn. R. 7017.2015] (a) Except as provided under paragraphs and (f) of this section, any physical or operational change to an existing facility which results in an increase in the emission rate to the atmosphere of any pollutant to which a standard applies shall be considered a modification within the meaning of section 111 of the Act. Upon modification, an existing facility shall become an affected facility for each pollutant to which a standard applies and for which there is an increase in the emission rate to the atmosphere. [40 CFR 60.14(a), Minn. R. 7011.0050]
	5.4.23		A. There are no standards of performance promulgated in this part for storage vessels with a storage capacity of 2,000 gallons (7,571 liters) or less for which construction was commenced on or after June 11, 1973. B. The Permittee of any storage vessel with a storage capacity of greater than 2,000 gallons (7,571 liters) but less than or equal to 40,000 gallons (151,412 liters) for which construction was commenced on or after June 11, 1973, shall equip the storage vessel with a permanent submerged fill pipe or comply with the requirements of item C. C. The Permittee of any storage vessel with a storage capacity of greater than 40,000 gallons (151,412 liters) for which construction was commenced on or after June 11, 1973, shall comply with the following requirements: (1) If the true vapor pressure of the petroleum liquid, as stored, is equal to or greater than 78 mm Hg (1.5 psia) but not greater than 570 mm Hg (11.1 psia), the storage vessel shall be equipped with a floating roof, a vapor recovery system, or their equivalents. (2) If the true vapor pressure of the petroleum liquid as stored is greater than 570 mm Hg (11.1 psia), the storage vessel shall be equipped with a vapor recovery system or its equivalent. [Minn. R. 7011.1505, subp. 3]
	5.4.24		Subpart 1. Records. The Permittee of any storage vessel, the construction or modification of which commenced on or after June 11, 1973, which has a storage capacity of greater than 40,000 gallons (151,412 liters) shall for each storage vessel: A. maintain a file of each type of petroleum liquid stored, of the typical Reid vapor pressure of each type of petroleum liquid stored, of the dates of storage and withdrawals, and of the date on which the storage vessel is empty; B. determine and record the average monthly storage temperature and true vapor pressure of the petroleum liquid stored at such temperature if: (1) the petroleum liquid has a true vapor pressure, as stored, greater than 26 mm Hg (0.5 psia) but less than 78 mm Hg (1.5 psia) and is stored in a storage vessel other than one equipped

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			with a floating roof, a vapor recovery system or their equivalents; or (2) the petroleum liquid has a true vapor pressure, as stored, greater than 470 mm Hg(9.1 psia) and is stored in a storage vessel other than one equipped with a vapor recovery system or its equivalent. [Minn. R. 7011.1510, subp. 1]
	5.4.25		Subp. 2. Calculation. The average monthly storage temperature is an arithmetic average calculated for each calendar month, or portion thereof if storage is for less than a month, from bulk liquid storage temperatures determined at least once every seven days. [Minn. R. 7011.1510, subp. 2]
	5.4.26		Subp. 3. Vapor Pressure Determination. The true vapor pressure shall be determined by the procedure in American Petroleum Institute Bulletin 2517. This procedure is dependent upon determination of the storage temperature and the Reid vapor pressure, which requires sampling of the petroleum liquids in the storage vessels. Unless the agency or the commissioner requires in specific cases that the stored petroleum liquid be sampled, the true vapor pressure may be determined by using the average monthly storage temperature and the typical Reid vapor pressure. For those liquids for which certified specifications limiting the Reid vapor pressure exist, that Reid vapor pressure may be used. For other liquids, supporting analytical data must be made available on request of the Agency or the Commissioner when typical Reid vapor pressure is used. [Minn. R. 7011.1510, subp. 3]
	5.4.27		Code of Federal Regulations, 40 CFR pt. 60, subp. Kb, as amended, entitled "Standards of Performance for Volatile Organic Liquid Storage Vessels (including petroleum liquid storage vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984," except that decisions made by the administrator under Code of Federal Regulations, 40 Sections 60.111b(f)(4), 60.114b, 60.116b(e)(3)(iii), 60.116b(e)(3)(iv), and 60.116b(f)(2)(iii), are not delegated to the Commissioner and must be made by the Administrator. [Minn. R. 7011.1520(C)]
COMG 4	GP015	FUGI subject to QQQ (each) - Wastewater NSPS	
	5.5.1		(a) The Permittee shall comply with the requirements of 40 CFR Sections 60.692-1 to 60.692-5 and with 40 CFR Section 60.693-1 and 40 CFR Section 60.693-2, except during periods of startup, shutdown, or malfunction. [40 CFR 60.692-1(a), Minn. R. 7011.1435, subp. C]
	5.5.2		(b) Compliance with 40 CFR Section 60.692-1 to 60.692-5 and with 40 CFR Section 60.693-1 and 40 CFR Section 60.693-2 will

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			be determined by review of records and reports, review of performance test results, and inspection using the methods and procedures specified in 40 CFR Section 60.696. [40 CFR 60.692-1(b), Minn. R. 7011.1435, subp. C]
	5.5.3		(c) Permission to use alternative means of emission limitation to meet the requirements of 40 CFR Section 60.692-2 through 60.692-4 may be granted as provided in 40 CFR Section 60.694. [40 CFR 60.692-1(b), Minn. R. 7011.1435(C)]
	5.5.4		<p>(d)(1) Stormwater sewer systems are not subject to the requirements of this subpart.</p> <p>(2) Ancillary equipment, which is physically separate from the wastewater system and does not come in contact with or store oily wastewater, is not subject to the requirements of this subpart.</p> <p>(3) Non contact cooling water systems are not subject to the requirements of this subpart.</p> <p>(4) The Permittee shall demonstrate compliance with the exclusions in paragraphs (d)(1), (d)(2), and (d)(3) of this section as provided in 40 CFR Sections 60.697(h), (i), and (j). [40 CFR 60.692-1(d), Minn. R. 7011.1435, subp. C]</p>
	5.5.5		(a)(1) Each drain shall be equipped with water seal controls. [40 CFR 60.692-1(a)(1), Minn. R. 7011.1435, subp. C]
	5.5.6		(2) Each drain in active service shall be checked by visual or physical inspection initially and monthly thereafter for indications of low water levels or other conditions that would reduce the effectiveness of the water seal controls. [40 CFR 60.692-1(a)(2), Minn. R. 7011.1435, subp. C]
	5.5.7		(3) Except as provided in paragraph (a)(4) of this section, each drain out of active service shall be checked by visual or physical inspection initially and weekly thereafter for indications of low water levels or other problems that could result in VOC emissions. [40 CFR 60.692-1(a)(2), Minn. R. 7011.1435, subp. C]
	5.5.8		(4) As an alternative to the requirements in paragraph (a)(3) of this section, if the Permittee elects to install a tightly sealed cap or plug over a drain that is out of service, inspections shall be conducted initially and semiannually to ensure caps or plugs are in place and properly installed. [40 CFR 60.692-2(a)(4), Minn. R. 7011.1435, subp. C]
	5.5.9		(5) Whenever low water levels or missing or improperly installed caps or plugs are identified, water shall be added or first efforts at repair shall be made as soon as practicable, but not later than 24 hours after detection, except as provided in 40 CFR Section 60.692-6. [40 CFR 60.692-2(a)(5), Minn. R. 7011.1435, subp. C]
	5.5.10		(b)(1) Junction boxes shall be equipped with a cover and may

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			have an open vent pipe. The vent pipe shall be at least 90 cm (3 ft) in length and shall not exceed 10.2 cm (4 in) in diameter. [40 CFR 60.692-2(2)(1), Minn. R. 7011.1435, subp. C]
	5.5.11		(2) Junction box covers shall have a tight seal around the edge and shall be kept in place at all times, except during inspection and maintenance. [40 CFR 60.692-2(b)(2), Minn. R. 7011.1435, subp. C]
	5.5.12		(3) Junction boxes shall be visually inspected initially and semiannually thereafter to ensure that the cover is in place and to ensure that the cover has a tight seal around the edge. [40 CFR 60.692-2(b)(3), Minn. R. 7011.1435, subp. C]
	5.5.13		(4) If a broken seal or gap is identified, first effort at repair shall be made as soon as practicable, but not later than 15 calendar days after the broken seal or gap is identified, except as provided in 40 CFR Section 60.692-6. [40 CFR 60.692-2(b)(4), Minn. R. 7011.1435, subp. C]
	5.5.14		(c)(1) Sewer lines shall not be open to the atmosphere and shall be covered or enclosed in a manner so as to have no visual gaps or cracks in joints, seals, or other emission interfaces. [40 CFR 60.692-2(c)(1), Minn. R. 7011.1435, subp. C]
	5.5.15		(2) The portion of each unburied sewer line shall be visually inspected initially and semiannually thereafter for indication of cracks, gaps, or other problems that could result in VOC emissions. [40 CFR 60.692-2(c)(2), Minn. R. 7011.1435, subp. C]
	5.5.16		(3) Whenever cracks, gaps, or other problems are detected, repairs shall be made as soon as practicable, but not later than 15 calendar days after identification, except as provided in 40 CFR Section 60.692-6. [40 CFR pt. 60, 692-2(c)(3), Minn. R. 7011.1435, subp. C]
	5.5.17		(d) Except as provided in paragraph (e) of this section, each modified or reconstructed individual drain system that has a catch basin in the existing configuration prior to May 4, 1987 shall be exempt from the provisions of this section. [40 CFR 60.692-2(d), Minn. R. 7011.1435, subp. C]
	5.5.18		(e) Refinery wastewater routed through new process drains and a new first common downstream junction box, either as part of a new individual drain system or an existing individual drain system, shall not be routed through a downstream catch basin. [40 CFR 60.692-2(e), Minn. R. 7011.1435, subp. C]
	5.5.19		(a) Each oil water separator tank, slop oil tank, storage vessel, or other auxiliary equipment subject to the requirements of this subpart shall be equipped and operated with a fixed roof, which meet the following specifications, except as provided in paragraph (d) of this section or in 40 CFR Section 60.693-2. (1) The fixed roof shall be installed to completely cover the separator tank, slop oil tank, storage vessel, or other auxiliary

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>equipment with no separation between the roof and the wall.</p> <p>(2) The vapor space under a fixed roof shall not be purged unless the vapor is directed to a control device.</p> <p>(3) If the roof has access doors or openings, such doors or openings shall be gasketed, latched, and kept closed at all times during operation of the separator system, except during inspection and maintenance.</p> <p>(4) Roof seals, access doors, and other openings shall be checked by visual inspection initially and semiannually thereafter to ensure that no cracks or gaps occur between the roof and wall and that access doors and other openings are closed and gasketed properly.</p> <p>(5) When a broken seal or gasket or other problem is identified, first efforts at repair shall be made as soon as practicable, but not later than 15 calendar days after it is identified, except as provided in 40 CFR Section 60.692-6. [40 CFR 60.692-3(a), Minn. R. 7011.1435, subp. C]</p>
	5.5.20		<p>(b) Each oil water separator tank or auxiliary equipment with a design capacity to treat more than 16 liters per second (250 gpm) of refinery wastewater shall, in addition to the requirements in paragraph (a) of this section, be equipped and operated with a closed vent system and control device, which meet the requirements of 40 CFR Section 60.692-5, except as provided in paragraph (c) of this section or in 40 CFR Section 60.693-2. [40 CFR 60.692-3(b), Minn. R. 7011.1435, subp. C]</p>
	5.5.21		<p>(e) Slop oil from an oil water separator tank and oily wastewater from slop oil handling equipment shall be collected, stored, transported, recycled, reused, or disposed of in an enclosed system. Once slop oil is returned to the process unit or is disposed of, it is no longer within the scope of this subpart. Equipment used in handling slop oil shall be equipped with a fixed roof meeting the requirements of paragraph (a) of this section. [40 CFR pt. 60, 692-3(e), Minn. R. 7011.1435, subp. C]</p>
	5.5.22		<p>(f) Each oil water separator tank, slop oil tank, storage vessel, or other auxiliary equipment that is required to comply with paragraph (a) of this section, and not paragraph (b) of this section, may be equipped with a pressure control valve as necessary for proper system operation. The pressure control valve shall be set at the maximum pressure necessary for proper system operation, but such that the value will not vent continuously. [40 CFR 60.692-3(f), Minn. R. 7011.1435, subp. C]</p>
	5.5.23		<p>(a) Delay of repair of facilities that are subject to the provisions of this subpart will be allowed if the repair is technically</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			impossible without a complete or partial refinery or process unit shutdown. [40 CFR 60.692-6(a), Minn. R. 7011.1435, subp. C]
	5.5.24		(b) Repair of such equipment shall occur before the end of the next refinery or process unit shutdown. [40 CFR 60.692(b), Minn. R. 7011.1435, subp. C]
	5.5.25		(a) Delay of compliance of modified individual drain systems with ancillary downstream treatment components will be allowed if compliance with the provisions of this subpart cannot be achieved without a refinery or process unit shutdown. [40 CFR 60.692-7(a), Minn. R. 7011.1435, subp. C]
	5.5.26		(b) Installation of equipment necessary to comply with the provisions of this subpart shall occur no later than the next scheduled refinery or process unit shutdown. [40 CFR 60.692-7(a), Minn. R. 7011.1435, subp. C]
	5.5.27		(a) The Permittee may elect to construct and operate a completely closed drain system. [40 CFR 60.693-1(a), Minn. R. 7011.1435, subp. C]
	5.5.28		(b) Each completely closed drain system shall be equipped and operated with a closed vent system and control device complying with the requirements of 40 CFR Section 60.692-5. [40 CFR 60.693-1(b), Minn. R. 7011.1435, subp. C]
	5.5.29		(c) The Permittee must notify the Administrator in the report required in 40 CFR Section 60.7 that the Permittee has elected to construct and operate a completely closed drain system. [40 CFR 60.693-1(c), Minn. R. 7011.1435, subp. C]
	5.5.30		(d) If the Permittee elects to comply with the provisions of this section, then the Permittee does not need to comply with the provisions of 40 CFR Section 60.692-2 or 40 CFR Section 60.694. [40 CFR 60.693-1(d), Minn. R. 7011.1435, subp. C]
	5.5.31		(e)(1) Sewer lines shall not be open to the atmosphere and shall be covered or enclosed in a manner so as to have no visual gaps or cracks in joints, seals, or other emission interfaces. [40 CFR 60.693-1(e)(1), Minn. R. 7011.1435, subp. C]
	5.5.32		(e)(2) The portion of each unburied sewer line shall be visually inspected initially and semiannually thereafter for indication of cracks, gaps, or other problems that could result in VOC emissions. [40 CFR 60.693-1(e)(2), Minn. R. 7011.1435, subp. C]
	5.5.33		(e)(3) Whenever cracks, gaps, or other problems are detected, repairs shall be made as soon as practicable, but not later than 15 calendar days after identification, except as provided in 40 CFR Section 60.692-6. [40 CFR 60.693-1(e)(3), Minn. R. 7011.1435, subp. C]
	5.5.34		(a) The Permittee may elect to construct and operate a floating roof on an oil water separator tank, slop oil tank, storage vessel, or other auxiliary equipment subject to the requirements of this subpart which meets the following

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			specifications. [40 CFR 60.693-2(a), Minn. R. 7011.1435, subp. C]
	5.5.35		(1) Each floating roof shall be equipped with a closure device between the wall of the separator and the roof edge. The closure device is to consist of a primary seal and a secondary seal. [40 CFR 60.693-2(a)(1), Minn. R. 7011.1435, subp. C]
	5.5.36		(i) The primary seal shall be a liquid mounted seal or a mechanical shoe seal. [40 CFR 60.693-2(a)(1), Minn. R. 7011.1435, subp. C]
	5.5.37		(A) A liquid mounted seal means a foam or liquid filled seal mounted in contact with the liquid between the wall of the separator and the floating roof. A mechanical shoe seal means a metal sheet held vertically against the wall of the separator by springs or weighted levers and is connected by braces to the floating roof. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof. [40 CFR 60.693-2(a)(1)(i)(A), Minn. R. 7011.1435, subp. C]
	5.5.38		(B) The gap width between the primary seal and the separator wall shall not exceed 3.8 cm (1.5 in.) at any point. [40 CFR 60.693-2(a)(1)(i)(B), Minn. R. 7011.1435, subp. C]
	5.5.39		(C) The total gap area between the primary seal and the separator wall shall not exceed 67 cm ² /m (3.2 in ² /ft) of separator wall perimeter. [40 CFR 60.693-2(a)(1)(i)(C), Minn. R. 7011.1435, subp. C]
	5.5.40		(ii) The secondary seal shall be above the primary seal and cover the annular space between the floating roof and the wall of the separator. [40 CFR 60.693-2(a)(1)ii, Minn. R. 7011.1435, subp. C]
	5.5.41		(A) The gap width between the secondary seal and the separator wall shall not exceed 1.3 cm (0.5 in.) at any point. [40 CFR 60.693-2(a)(1)(ii)(A), Minn. R. 7011.1435, subp. C]
	5.5.42		(B) The total gap area between the secondary seal and the separator wall shall not exceed 6.7 cm ² /m (0.32 in ²) of separator wall perimeter. [40 CFR pt. 60, 693-2(a)(1)(i)(C), Minn. R. 7011.1435(C)]
	5.5.43		(iii) The maximum gap width and total gap area shall be determined by the methods and procedures specified in 40 CFR Section 60.696(d). (A) Measurement of primary seal gaps shall be performed within 60 calendar days after initial installation of the floating roof and introduction of refinery wastewater and once every 5 years thereafter. [40 CFR 60.693-2(a)(1)(iii)(A), Minn. R. 7011.1435, subp. C]
	5.5.44		(B) Measurement of secondary seal gaps shall be performed within 60 calendar days of initial introduction of refinery wastewater and once every year thereafter. [40 CFR pt. 60, 693-2(a)(1)(iii)(B), Minn. R. 7011.1435, subp. C]
	5.5.45		(iv) The Permittee shall make necessary repairs within 30

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			calendar days of identification of seals not meeting the requirements listed in paragraphs (a)(1)(i) and (ii) of this section. [40 CFR 60.693-2(a)(1)iv, Minn. R. 7011.1435, subp. C]
	5.5.46		(2) Except as provided in paragraph (a)(4) of this section, each opening in the roof shall be equipped with a gasketed cover, seal, or lid, which shall be maintained in a closed position at all times, except during inspection and maintenance. [40 CFR 60.693-2(a)(2), Minn. R. 7011.1435, subp. C]
	5.5.47		(3) The roof shall be floating on the liquid (i.e., off the roof supports) at all times except during abnormal conditions (i.e., low flow rate). [40 CFR pt. 60, 693-2(a)(3), Minn. R. 7011.1435, subp. C]
	5.5.48		(4) The floating roof may be equipped with one or more emergency roof drains for removal of stormwater. Each emergency roof drain shall be fitted with a slotted membrane fabric cover that covers at least 90 percent of the drain opening area or a flexible fabric sleeve seal. [40 CFR 60.693-2(a)(4), Minn. R. 7011.1435, subp. C]
	5.5.49		(5)(i) Access doors and other openings shall be visually inspected initially and semiannually thereafter to ensure that there is a tight fit around the edges and to identify other problems that could result in VOC emissions. [40 CFR 60.693-2(a)(5)(i), Minn. R. 7011.1435, subp. C]
	5.5.50		(ii) When a broken seal or gasket on an access door or other opening is identified, it shall be repaired as soon as practicable, but not later than 30 calendar days after it is identified, except as provided in 40 CFR Section 60.692-6. [40 CFR 60.693-2(c), Minn. R. 7011.1435, subp. C]
	5.5.51		(c) For portions of the oil water separator tank where it is infeasible to construct and operate a floating roof, such as the skimmer mechanism and weirs, a fixed roof meeting the requirements of 40 CFR Section 60.692-3(a) shall be installed. [40 CFR pt. 60, 693-2(c), Minn. R. 7011.1435, subp. C]
	5.5.52		(d) Except as provided in paragraph (c) of this section, if the Permittee elects to comply with the provisions of this section, then the Permittee does not need to comply with the provisions of 40 CFR Section 60.692-3 or 40 CFR Section 60.694 applicable to the same facilities. [40 CFR 60.693-2(d), Minn. R. 7011.1435, subp. C]
	5.5.53		(a) Before using any equipment installed in compliance with the requirements of 40 CFR Sections 60.692-2, 60.692-3, 60.692-4, 60.692-5, or 60.693, the Permittee shall inspect such equipment for indications of potential emissions, defects, or other problems that may cause the requirements of this subpart not to be met. Points of inspection shall include, but are not limited to, seals, flanges, joints, gaskets, hatches, caps, and plugs. [40 CFR 60.696(a), Minn. R. 7011.1435, subp. C]
	5.5.54		(d) After installing the control equipment required to meet 40 CFR Section 60.693-2(a) or whenever sources that have ceased

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>to treat refinery wastewater for a period of 1 year or more are placed back into service, the Permittee shall determine compliance with the standards in 40 CFR Section 60.693-2(a) as follows:</p> <p>(1) The maximum gap widths and maximum gap areas between the primary seal and the separator wall and between the secondary seal and the separator wall shall be determined individually within 60 calendar days of the initial installation of the floating roof and introduction of refinery wastewater or 60 calendar days after the equipment is placed back into service using the following procedure when the separator is filled to the design operating level and when the roof is floating off the roof supports.</p> <p>(i) Measures seal gaps around the entire perimeter of the separator in each place where a 0.32 cm (0.125 in.) diameter uniform probe passes freely (without forcing or binding against seal) between the seal and the wall of the separator and measure the gap width and perimetrical distance of each such location.</p> <p>(ii) The total surface area of each gap described in (d)(1)(i) of this section shall be determined by using probes of various widths to measure accurately the actual distance from the wall to the seal and multiplying each such width by its respective perimetrical distance.</p> <p>(iii) Add the gap surface area of each gap location for the primary seal and the secondary seal individually, divide the sum for each seal by the nominal perimeter of the separator basin and compare each to the maximum gap area as specified in 40 CFR Section 60.693-2. [40 CFR 60.696(d)(2)(i), Minn. R. 7011.1435, subp. C]</p>
	5.5.55		<p>(2) The gap widths and total gap area shall be determined using the procedure in paragraph (d)(1) of this section according to the following frequency:</p> <p>(i) For primary seals, once every 5 years.</p> <p>(ii) For secondary seals, once every year. [40 CFR 60.696(d)(2), Minn. R. 7011.1435, subp. C]</p>
	5.5.56		<p>(a) The Permittee shall comply with the recordkeeping requirements of this section. All records shall be retained for a period of 2 years after being recorded unless otherwise noted. [40 CFR 60.697(a), Minn. R. 7011.1435, subp. C]</p>
	5.5.57		<p>(b)(1) For individual drain systems subject to 40 CFR Section 60.692-2, the location, date, and corrective action shall be recorded for each drain when the water seal is dry or otherwise breached, when a drain cap or plug is missing or improperly installed, or other problem is identified that could</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			result in VOC emissions, as determined during the initial and periodic visual or physical inspection. [40 CFR 60.697(b)(1), Minn. R. 7011.1435, subp. C]
	5.5.58		(2) For junction boxes subject to 40 CFR Section 60.692-2, the location, date, and corrective action shall be recorded for inspections required by 40 CFR Section 60.692-2(b) when a broken seal, gap, or other problem is identified that could result in VOC emissions. [40 CFR 60.697(b)(2), Minn. R. 7011.1435, subp. C]
	5.5.59		(3) For sewer lines subject to 40 CFR Section 60.692-2, the location, date, and corrective action shall be recorded for inspections required by 40 CFR Section 60.692-2(c) when a problem is identified that could result in VOC emissions. [40 CFR 60.697(b)(3), Minn. R. 7011.1435, subp. C]
	5.5.60		(c) For oil water separators subject to 40 CFR Section 60.692-3, the location, date, and corrective action shall be recorded for inspections required by 40 CFR Section 60.692-3(a) when a problem is identified that could result in VOC emissions. [40 CFR 60.697(c), Minn. R. 7011.1435, subp. C]
	5.5.61		(e)(1) If an emission point cannot be repaired or corrected without a process unit shutdown, the expected date of a successful repair shall be recorded. [40 CFR 60.697(e)(1), Minn. R. 7011.1435, subp. C]
	5.5.62		(2) The reason for the delay as specified in 40 CFR Section 60.692-6 shall be recorded if an emission point or equipment problem is not repaired or corrected in the specified amount of time. [40 CFR 60.697(e)(2), Minn. R. 7011.1435, subp. C]
	5.5.63		(3) The signature of the Permittee (or designee) whose decision it was that repair could not be affected without refinery or process shutdown shall be recorded. [40 CFR 60.697(e)(3), Minn. R. 7011.1435, subp. C]
	5.5.64		(4) The date of successful repair or corrective action shall be recorded. [40 CFR 60.697(e)(4), Minn. R. 7011.1435, subp. C]
	5.5.65		(f)(1) A copy of the design specifications for all equipment used to comply with the provisions of this subpart shall be kept for the life of the source in a readily accessible location. [40 CFR 60.697(f)(1), Minn. R. 7011.1435, subp. C]
	5.5.66		(2) The following information pertaining to the design specifications shall be kept. (i) Detailed schematics, and piping and instrumentation diagrams. [40 CFR 60.697(f)(2)(i), Minn. R. 7011.1435, subp. C]
	5.5.67		(ii) The dates and descriptions of any changes in the design specifications. [40 CFR 60.697(f)(2)(ii), Minn. R. 7011.1435, subp. C]
	5.5.68		(g) If the Permittee elects to install a tightly sealed cap or plug over a drain that is out of active service, the Permittee shall keep for the life of a facility in a readily accessible location, plans or specifications which indicate the location of such drains. [40 CFR 60.697(g), Minn. R. 7011.1435, subp. C]

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
	5.5.69		(h) For stormwater sewer systems subject to the exclusion in 40 CFR Section 60.692-1(d)(1), the Permittee shall keep for the life of the facility in a readily accessible location, plans or specifications which demonstrate that no wastewater from any process units or equipment is directly discharged to the stormwater sewer system. [40 CFR 60.697(h), Minn. R. 7011.1435, subp. C]
	5.5.70		(i) For ancillary equipment subject to the exclusion in 40 CFR Section 60.692-1(d)(2), the Permittee shall keep for the life of a facility in a readily accessible location, plans or specifications which demonstrate that the ancillary equipment does not come in contact with or store oily wastewater. [40 CFR 60.697(i), Minn. R. 7011.1435, subp. C]
	5.5.71		(b)(1) The Permittee shall submit to the Administrator within 60 days after initial startup a certification that the equipment necessary to comply with these standards has been installed and that the required initial inspections or tests of process drains, sewer lines, junction boxes, oil-water separators, and closed vent systems and control devices have been carried out in accordance with these standards. Thereafter, the Permittee shall submit to the Administrator semiannually a certification that all of the required inspections have been carried out in accordance with 40 CFR Section 60.698(b)(1) standards. [40 CFR 60.698(b)(1), Minn. R. 7011.1435, subp. C]
	5.5.72		(c) A report that summarizes all inspections when a water seal was dry or otherwise breached, when a drain cap or plug was missing or improperly installed, or when cracks, gaps, or other problems were identified that could result in VOC emissions, including information about the repairs or corrective action taken, shall be submitted initially and semiannually thereafter to the Administrator. [40 CFR 60.698(c), Minn. R. 7011.1435, subp. C]
	5.5.73		(e) If compliance with the provisions of this subpart is delayed pursuant to 40 CFR Section 60.692-7, the notification required under 40 CFR Section 60.7(a)(4) shall include the estimated date of the next scheduled refinery or process unit shutdown after the date of notification and the reason why compliance with the standards is technically impossible without a refinery or process until shutdown. [40 CFR 60.698(e), Minn. R. 7011.1435, subp. C]
	5.5.74		(a) The Permittee shall furnish the Administrator written notification as follows: (1) A notification of the date construction (or reconstruction as defined under 40 CFR Section 60.15) of an affected facility is commenced postmarked no later than 30 days after such date. This requirement shall not apply in the case of mass produced facilities which are purchased in completed form. [40 CFR 60.7(a)(1), Minn. R. 7019.0100]

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
	5.5.75		(4) A notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies, unless that change is specifically exempted under an applicable subpart or in 40 CFR Section 60.14(e). This notice shall be postmarked 60 days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change. The Administrator may request additional relevant information subsequent to this notice. [40 CFR 60.7(a)(4), Minn. R. 7019.0100]
	5.5.76		(b) The Permittee shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative. [40 CFR 60.7(b), Minn. R. 7019.0100]
	5.5.77		(f) The Permittee shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by this part recorded in a permanent form suitable for inspection. The file shall be retained for at least two years following the date of such measurements, maintenance, reports, and records. [40 CFR 60.7(f), Minn. R. 7019.0100]
	5.5.78		(d) At all times, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. [40 CFR 60.11(d), Minn. R. 7017.2015]
	5.5.79		(g) For the purpose of submitting compliance certifications or establishing whether or not a person has violated or is in violation of any standard in this part, nothing in this part shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			been performed. [40 CFR 60.11(g), Minn. R. 7017.2015]
	5.5.80		40 CFR pt. 60, subp. QQQ, as amended, entitled "Standards of Performance for VOC Emissions from Petroleum Refinery Wastewater Systems," except that decisions made by the administrator under Code of Federal Regulations, 40 CFR Section 60.694, are not delegated to the Commissioner and must be made by the Administrator. [Minn. R. 7011.1435(C)]
COMG 5	GP022	MACT Units	
	5.6.1		Equipment leaks that are also subject to the provisions of 40 CFR pt. 60, subp. GGGa, are required to comply only with the provisions specified in 40 CFR pt. 60, subp. GGGa. [40 CFR 60.590(a), 40 CFR 63.640(p)(2), Minn. R. 7011.7280(A)]
COMG 6	GP033	FUGI Subject to NSPS GGGa	
	5.7.1		<p>(a)(1) The provisions of this subpart apply to affected facilities in petroleum refineries.</p> <p>(2) A compressor is an affected facility.</p> <p>(3) The group of all the equipment (defined in 40 CFR Section 60.591a) within a process unit is an affected facility.</p> <p>(b) Any affected facility under paragraph (a) of this section that commences construction, reconstruction, or modification after November 7, 2006, is subject to the requirements of this subpart.</p> <p>(c) Addition or replacement of equipment (defined in 40 CFR Section 60.591a) for the purpose of process improvement which is accomplished without a capital expenditure shall not by itself be considered a modification under this subpart.</p> <p>(e) Stay of standards. The Permittee is not required to comply with the definition of "process unit" in 40 CFR Section 60.590 of this subpart until the EPA takes final action to require compliance and publishes a document in the Federal Register. While the definition of "process unit" is stayed, the Permittee should use the following definition: Process unit means components assembled to produce intermediate or final products from petroleum, unfinished petroleum derivatives, or other intermediates; a process unit can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for the product. [40 CFR 60.590a]</p>
	5.7.2		The Permittee shall comply with the requirements of 40 CFR Sections 60.482-1a to 60.482-10a as soon as practicable, but no later than 180 days after initial startup. [40 CFR 60.592a]
	5.7.3		Standards: General

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>(a) The Permittee shall demonstrate compliance with the requirements of 40 CFR Sections 60.482-1a through 60.482-10a or 40 CFR Section 60.480a(e) for all equipment within 180 days of initial startup.</p> <p>(e) Equipment that the Permittee designates as being in VOC service less than 300 hr/yr is excluded from the requirements of 40 CFR Sections 60.482-2a through 60.482-11a if it is identified as required in 40 CFR Section 60.486a(e)(6) and it meets any of the conditions specified in paragraphs (e)(1) through (3) of 40 CFR Section 60.482-1a.</p> <p>(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.</p> <p>(2) The equipment is in VOC service only during process malfunctions or other emergencies.</p> <p>(3) The equipment is backup equipment that is in VOC service only when the primary equipment is out of service.</p> <p>(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 40 CFR pt. 60, subp. VV. If the predominant use of the storage vessel varies from year to year, then the Permittee must estimate the predominant use initially and reassess every 3 years. The Permittee 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. [40 CFR 60.482-1a]</p>
	5.7.4		<p>Standards: Pumps in light liquid service</p> <p>(a)(1) Each pump in light liquid service shall be monitored monthly to detect leaks by the methods specified in 40 CFR Section 60.485a(b), except as provided in 40 CFR Section 60.482-1a(c), (f) and paragraphs (d), (e), and (f) of 40 CFR Section 60.482-2a. 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 Section 60.482-1a(c)</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>and paragraphs (d), (e), and (f) of 40 CFR Section 60.482-2a.</p> <p>(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 Section 60.482-1a(f).</p> <p>(b)(1) The instrument reading that defines a leak is specified in paragraphs (b)(1)(i) and (ii) of 40 CFR Section 60.482-2a. (i) 5,000 parts per million (ppm) or greater for pumps handling polymerizing monomers; (ii) 2,000 ppm or greater for all other pumps.</p> <p>(2) If there are indications of liquids dripping from the pump seal, the Permittee shall follow the procedure specified in either paragraph (b)(2)(i) or (ii) of 40 CFR Section 60.482-2a. 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 40 CFR Section 60.482-2a, whichever is applicable. (i) Monitor the pump within 5 days as specified in 40 CFR Section 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 40 CFR Section 60.482-2a, whichever is applicable. The leak shall be repaired using the procedures in paragraph (c) of 40 CFR Section 60.482-2a. (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.</p> <p>(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 Section 60.482-9a.</p> <p>(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 40 CFR Section 60.482-2a, where practicable. [40 CFR 60.482-2a]</p>
	5.7.5		<p>Standards: Compressors</p> <p>(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 Section 60.482-1a(c) and paragraphs (h), (i), and (j) of 40 CFR Section 60.482-3a.</p> <p>(b) Each compressor seal system as required in paragraph (a)</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>of 40 CFR Section 60.482-3a shall be:</p> <p>(1) Operated with the barrier fluid at a pressure that is greater than the compressor stuffing box pressure; or</p> <p>(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 Section 60.482-10a; or</p> <p>(3) Equipped with a system that purges the barrier fluid into a process stream with zero VOC emissions to the atmosphere.</p> <p>(c) The barrier fluid system shall be in heavy liquid service or shall not be in VOC service.</p> <p>(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.</p> <p>(e)(1) Each sensor as required in paragraph (d) of 40 CFR Section 60.482-3a shall be checked daily or shall be equipped with an audible alarm.</p> <p>(2) The Permittee shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.</p> <p>(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 40 CFR Section 60.482-3a, a leak is detected.</p> <p>(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 Section 60.482-9a.</p> <p>(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.</p> <p>(h) A compressor is exempt from the requirements of paragraphs (a) and (b) of 40 CFR Section 60.482-3a, 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 Section 60.482-10a, except as provided in paragraph (i) of 40 CFR Section 60.482-3a.</p> <p>(i) Any compressor that is designated, as described in 40 CFR Section 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 40 CFR Section 60.482-3a if the compressor:</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>(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 Section 60.485a(c); and</p> <p>(2) Is tested for compliance with paragraph (i)(1) of 40 CFR Section 60.482-3a initially upon designation, annually, and at other times requested by the Administrator.</p> <p>(j) Any existing reciprocating compressor in a process unit which becomes an affected facility under provisions of 40 CFR Section 60.14 or 60.15 is exempt from paragraphs (a) through (e) and (h) of 40 CFR Section 60.482-3a, provided the Permittee 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 40 CFR Section 60.482-3a. [40 CFR 60.284-3a]</p>
	5.7.6		<p>Standards: Pressure relief devices in gas/vapor service</p> <p>(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 Section 60.485a(c).</p> <p>(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 Section 60.482-9a.</p> <p>(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 Section 60.485a(c).</p> <p>(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 Section 60.482-10a is exempted from the requirements of paragraphs (a) and (b) of 40 CFR Section 60.482-4a.</p> <p>(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 40 CFR Section 60.482-4a, provided the Permittee complies with the requirements in paragraph (d)(2) of 40 CFR Section 60.482-4a.</p> <p>(2) After each pressure release, a new rupture disk shall be</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			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 Section 60.482-9a. [40 CFR 60.482a]
	5.7.7		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 Section 60.482-1a(c) and paragraph (c) of 40 CFR Section 60.482-5a. (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 40 CFR Section 60.482-5a. (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 40 CFR Section 60.482-5a. (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 Section 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 Section 63.111, if the waste management unit is subject to and operated in compliance with the provisions of 40 CFR pt. 63, subp. G, applicable to Group 1 wastewater streams; (B) A treatment, storage, or disposal facility subject to regulation under 40 CFR pts. 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 pt. 261; (D) A waste management unit subject to and operated in compliance with the treatment requirements of 40 CFR Section 61.348(a), provided all waste management units that collect, store, or transport the purged process fluid to the

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>treatment unit are subject to and operated in compliance with the management requirements of 40 CFR Sections 61.343 through 61.347; or</p> <p>(E) A device used to burn off-specification used oil for energy recovery in accordance with 40 CFR pt. 279, subp. G, provided the purged process fluid is not hazardous waste as defined in 40 CFR pt. 261.</p> <p>(c) In-situ sampling systems and sampling systems without purges are exempt from the requirements of paragraphs (a) and (b) of 40 CFR Section 60.482-5a. [40 CFR 60.482-5a]</p>
	5.7.8		<p>Standards: Open-ended valves or lines</p> <p>(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 Section 60.482-1a(c) and paragraphs (d) and (e) of 40 CFR Section 60.482-6a.</p> <p>(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.</p> <p>(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.</p> <p>(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 40 CFR Section 60.482-6a at all other times.</p> <p>(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 40 CFR Section 60.482-6a.</p> <p>(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 40 CFR Section 60.482-6a are exempt from the requirements of paragraphs (a) through (c) of 40 CFR Section 60.482-6a. [40 CFR 60.482-6a]</p>
	5.7.9		<p>Standards: Valves in gas/vapor service and in light liquid service</p> <p>(a)(1) Each valve shall be monitored monthly to detect leaks by the methods specified in 40 CFR Section 60.485a(b) and shall comply with paragraphs (b) through (e) of this section, except as provided in paragraphs (f), (g), and (h) of 40 CFR</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>Section 60.482-7a, 40 CFR Section 60.482-1a(c) and (f), and 40 CFR Sections 60.483-1a and 60.483-2a.</p> <p>(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 40 CFR Section 60.482-7a, 40 CFR Section 60.482-1a(c), and 40 CFR Sections 60.483-1a and 60.483-2a.</p> <p>(i) Monitor the valve as in paragraph (a)(1) of 40 CFR Section 60.482-7a. The valve must be monitored for the first time within 30 days after the end of its startup period to ensure proper installation.</p> <p>(b) If an instrument reading of 500 ppm or greater is measured, a leak is detected.</p> <p>(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.</p> <p>(2) If a leak is detected, the valve shall be monitored monthly until a leak is not detected for 2 successive months.</p> <p>(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 Section 60.482-9a.</p> <p>(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.</p> <p>(e) First attempts at repair include, but are not limited to, the following best practices where practicable:</p> <ol style="list-style-type: none"> (1) Tightening of bonnet bolts; (2) Replacement of bonnet bolts; (3) Tightening of packing gland nuts; (4) Injection of lubricant into lubricated packing. <p>(f) Any valve that is designated, as described in 40 CFR Section 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 40 CFR Section 60.482-7a if the valve:</p> <ol style="list-style-type: none"> (1) Has no external actuating mechanism in contact with the process fluid, (2) Is operated with emissions less than 500 ppm above background as determined by the method specified in 40 CFR Section 60.485a(c), and (3) Is tested for compliance with paragraph (f)(2) of 40 CFR

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>Section 60.482-7a initially upon designation, annually, and at other times requested by the Administrator.</p> <p>(g) Any valve that is designated, as described in 40 CFR Section 60.486a(f)(1), as an unsafe-to-monitor valve is exempt from the requirements of paragraph (a) of 40 CFR Section 60.482-7a if:</p> <p>(1) The Permittee 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 40 CFR Section 60.482-7a, and</p> <p>(2) The Permittee of the valve adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times.</p> <p>(continued below). [40 CFR 60.482-7a]</p>
	5.7.10		<p>(continued from above)</p> <p>(h) Any valve that is designated, as described in 40 CFR Section 60.486a(f)(2), as a difficult-to-monitor valve is exempt from the requirements of paragraph (a) of 40 CFR Section 60.482-7a if:</p> <p>(1) The Permittee of the valve demonstrates that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface.</p> <p>(2) The process unit within which the valve is located either:</p> <p>(i) Becomes an affected facility through 40 CFR Section 60.14 or 60.15 and was constructed on or before January 5, 1981; or</p> <p>(ii) Has less than 3.0 percent of its total number of valves designated as difficult-to-monitor by the Permittee.</p> <p>(3) The Permittee of the valve follows a written plan that requires monitoring of the valve at least once per calendar year. [40 CFR 60.482-7a]</p>
	5.7.11		<p>Standards: Pumps, valves, and connectors in heavy liquid service and pressure relief devices in light liquid or heavy liquid service</p> <p>(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 Permittee shall follow either one of the following procedures:</p> <p>(1) The Permittee shall monitor the equipment within 5 days by the method specified in 40 CFR Section 60.485a(b) and shall comply with the requirements of paragraphs (b) through (d) of 40 CFR Section 60.482-8a.</p> <p>(2) The Permittee shall eliminate the visual, audible, olfactory, or other indication of a potential leak within 5 calendar days of detection.</p> <p>(b) If an instrument reading of 10,000 ppm or greater is</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>measured, a leak is detected.</p> <p>(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 Section 60.482-9a. (2) The first attempt at repair shall be made no later than 5 calendar days after each leak is detected.</p> <p>(d) First attempts at repair include, but are not limited to, the best practices described under 40 CFR Sections 60.482-2a(c)(2) and 60.482-7a(e). [40 CFR 60.482-8a]</p>
	5.7.12		<p>Standards: Delay of repair</p> <p>(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.</p> <p>(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.</p> <p>(c) Delay of repair for valves and connectors will be allowed if: (1) The Permittee 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 Section 60.482-10a.</p> <p>(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.</p> <p>(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 will not be allowed unless the next process unit shutdown occurs sooner than 6 months after the first process unit shutdown.</p> <p>(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</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			subject to delay of repair requirements if two consecutive monthly monitoring instrument readings are below the leak definition. [40 CFR 60.482-9a]
	5.7.13		<p>Standards: Closed vent systems and control devices</p> <p>(a) Permittees of closed vent systems and control devices used to comply with provisions of this subpart shall comply with the provisions of 40 CFR Section 60.482-9a.</p> <p>(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% or greater, or to an exit concentration of 20 parts per million by volume (ppmv), whichever is less stringent.</p> <p>(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 &deg; C.</p> <p>(d) Flares used to comply with this subpart shall comply with the requirements of 40 CFR Section 60.18.</p> <p>(e) Permittees 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.</p> <p>(f) Except as provided in paragraphs (i) through (k) of 40 CFR Section 60.482-10a, each closed vent system shall be inspected according to the procedures and schedule specified in paragraphs (f)(1) and (2) of 40 CFR Section 60.482-10a.</p> <p>(1) If the vapor collection system or closed vent system is constructed of hard-piping, the Permittee shall comply with the requirements specified in paragraphs (f)(1)(i) and (ii) of 40 CFR Section 60.482-10a:</p> <p>(i) Conduct an initial inspection according to the procedures in 40 CFR Section 60.485a(b); and</p> <p>(ii) Conduct annual visual inspections for visible, audible, or olfactory indications of leaks.</p> <p>(2) If the vapor collection system or closed vent system is constructed of ductwork, the Permittee shall:</p> <p>(i) Conduct an initial inspection according to the procedures in 40 CFR Section 60.485a(b); and</p> <p>(ii) Conduct annual inspections according to the procedures in 40 CFR Section 60.485a(b).</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>(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.</p> <p>(1) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.</p> <p>(2) Repair shall be completed no later than 15 calendar days after the leak is detected.</p> <p>(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 Permittee 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.</p> <p>(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 40 CFR Section 60.482-10a.</p> <p>(j) Any parts of the closed vent system that are designated, as described in paragraph (l)(1) of 40 CFR Section 60.482-10a, as unsafe to inspect are exempt from the inspection requirements of paragraphs (f)(1)(i) and (f)(2) of 40 CFR Section 60.482-10a if they comply with the requirements specified in paragraphs (j)(1) and (2) of 40 CFR Section 60.482-10a:</p> <p>(1) The Permittee 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 40 CFR Section 60.482-10a; and</p> <p>(2) The Permittee has a written plan that requires inspection of the equipment as frequently as practicable during safe-to-inspect times.</p> <p>(continued below). [40 CFR 60.482-10a]</p>
	5.7.14		<p>(continued from above)</p> <p>(k) Any parts of the closed vent system that are designated, as described in paragraph (l)(2) of 40 CFR Section 60.482-10a, as difficult to inspect are exempt from the inspection requirements of paragraphs (f)(1)(i) and (f)(2) of 40 CFR Section 60.482-10a if they comply with the requirements specified in paragraphs (k)(1) through (3) of 40 CFR Section 60.482-10a:</p> <p>(1) The Permittee determines that the equipment cannot be inspected without elevating the inspecting personnel more</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>than 2 meters above a support surface; and</p> <p>(2) The process unit within which the closed vent system is located becomes an affected facility through 40 CFR Sections 60.14 or 60.15, or the Permittee designates less than 3.0 percent of the total number of closed vent system equipment as difficult to inspect; and</p> <p>(3) The Permittee 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.</p> <p>(l) The Permittee shall record the information specified in paragraphs (l)(1) through (5) of 40 CFR Section 60.482-10a.</p> <p>(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.</p> <p>(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.</p> <p>(3) For each inspection during which a leak is detected, a record of the information specified in 40 CFR Section 60.486a(c).</p> <p>(4) For each inspection conducted in accordance with 40 CFR Section 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.</p> <p>(5) For each visual inspection conducted in accordance with paragraph (f)(1)(ii) of 40 CFR Section 60.482-10a 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.</p> <p>(m) Closed vent systems and control devices used to comply with provisions of 40 CFR pt. 60, subp. VVa shall be operated at all times when emissions may be vented to them. [40 CFR 60.482-10a]</p>
	5.7.15		<p>Test Methods and Procedures</p> <p>(a) In conducting the performance tests required in 40 CFR Section 60.8, the Permittee shall use as reference methods and procedures the test methods in Appendix A of this part or other methods and procedures as specified in 40 CFR Section 60.482-11a, except as provided in 40 CFR Section 60.8(b).</p> <p>(b) The Permittee shall determine compliance with the standards in 40 CFR Sections 60.482-1a through 60.482-11a, 60.483a, and 60.484a as follows:</p> <p>(1) Method 21 shall be used to determine the presence of</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>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 40 CFR pt. 60. The following calibration gases shall be used:</p> <p>(i) Zero air (less than 10 ppm of hydrocarbon in air); and</p> <p>(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 an instrument will be used during monitoring, the Permittee need not calibrate the scales that will not be used during that day's monitoring.</p> <p>(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 40 CFR pt. 60, 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 Section 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 positive drift of more than 10 percent from the initial calibration value, then, at the Permittee'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.</p> <p>(c) The Permittee shall determine compliance with the no-detectable-emission standards in 40 CFR Sections 60.482-2a(e), 60.482-3a(i), 60.482-4a, 60.482-7a(f), and 60.482-10a(e) as follows:</p> <p>(1) The requirements of paragraph (b) shall apply.</p> <p>(2) Method 21 of Appendix A-7 of 40 CFR pt. 60 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.</p> <p>(continued below). [40 CFR 60.485a]</p>
	5.7.16		(continued from above)

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>(d) The Permittee shall test each piece of equipment unless they demonstrate 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:</p> <p>(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 Section 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.</p> <p>(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.</p> <p>(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 40 CFR Section 60.485a shall be used to resolve the disagreement.</p> <p>(e) The Permittee shall demonstrate that a piece of equipment is in light liquid service by showing that all the following conditions apply:</p> <p>(1) The vapor pressure of one or more of the organic components is greater than 0.3 kPa at 20 degrees C (1.2 in. H2O at 68 degrees F). Standard reference texts or ASTM D2879-83, 96, or 97 (incorporated by reference--see 40 CFR Section 60.17) shall be used to determine the vapor pressures.</p> <p>(2) The total concentration of the pure organic components having a vapor pressure greater than 0.3 kPa at 20 degrees C (1.2 in. H2O at 68 degrees F) is equal to or greater than 20 percent by weight.</p> <p>(3) The fluid is a liquid at operating conditions. [40 CFR 60.485a]</p>
	5.7.17		<p>Exceptions</p> <p>(a) The Permittee may comply with the following exceptions to the provisions of 40 CFR pt. 60, subp. VVa.</p> <p>(b)(1) Compressors in hydrogen service are exempt from the requirements of 40 CFR Section 60.592a if the Permittee demonstrates that a compressor is in hydrogen service.</p> <p>(2) Each compressor is presumed not to be in hydrogen service unless a Permittee demonstrates that the piece of equipment is in hydrogen service. For a piece of equipment to be considered in hydrogen service, it must be determined that the percent hydrogen content can be reasonably expected always to exceed 50 percent by volume. For purposes of determining the percent hydrogen content in the process fluid</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>that is contained in or contacts a compressor, procedures that conform to the general method described in ASTM E260-73, 91, or 96, E168-67, 77, or 92, or E169-63, 77, or 93 (incorporated by reference as specified in 40 CFR Section 60.17) shall be used.</p> <p>(3)(i) The Permittee may use engineering judgment rather than procedures in paragraph (b)(2) of 40 CFR Section 60.593a to demonstrate that the percent content exceeds 50 percent by volume, provided the engineering judgment demonstrates that the content clearly exceeds 50 percent by volume. When a Permittee and the Administrator do not agree on whether a piece of equipment is in hydrogen service, however, the procedures in paragraph (b)(2) of 40 CFR Section 60.593a shall be used to resolve the disagreement.</p> <p>(ii) If the Permittee determines that a piece of equipment is in hydrogen service, the determination can be revised only after following the procedures in paragraph (b)(2) of 40 CFR Section 60.593a.</p> <p>(c) Any existing reciprocating compressor that becomes an affected facility under provisions of 40 CFR Section 60.14 or 60.15 is exempt from 40 CFR Section 60.482-3a(a), (b), (c), (d), (e), and (h) provided the Permittee 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 40 CFR Section 60.482-3a(a), (b), (c), (d), (e), and (h).</p> <p>(f) Open-ended valves or lines containing asphalt as defined in 40 CFR Section 60.591a are exempt from the requirements of 40 CFR Section 60.482-6a(a) through (c). [40 CFR 60.593a]</p>
	5.7.18		<p>Recordkeeping requirements</p> <p>(a)(1) The Permittee shall comply with the recordkeeping requirements of 40 CFR Section 60.486a</p> <p>(2) The Permittee may comply with the recordkeeping requirements for these facilities in one recordkeeping system if the system identifies each record by each facility.</p> <p>(3) The Permittee shall record the information specified in paragraphs (a)(3)(i) through (v) of 40 CFR Section 60.486a for each monitoring event required by 40 CFR Sections 60.482-2a, 60.482-3a, 60.482-7a, 60.482-8a, 60.482-11a, and 60.483-2a.</p> <p>(i) Monitoring instrument identification.</p> <p>(ii) Operator identification.</p> <p>(iii) Equipment identification</p> <p>(iv) Date of monitoring.</p> <p>(v) Instrument reading.</p> <p>(b) When each leak is detected as specified in 40 CFR Sections 60.482-2a, 60.482-3a, 60.482-7a, 60.482-8a, 60.482-11a, and</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>60.483-2a, the following requirements apply:</p> <p>(1) A weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment.</p> <p>(2) The identification on a valve may be removed after it has been monitored for 2 successive months as specified in 40 CFR Section 60.482-7a(c) and no leak has been detected during those 2 months.</p> <p>(3) The identification on a connector may be removed after it has been monitored as specified in 40 CFR Section 60.482-11a(b)(3)(iv) and no leak has been detected during that monitoring.</p> <p>(4) The identification on equipment, except on a valve or connector, may be removed after it has been repaired.</p> <p>(c) When each leak is detected as specified in 40 CFR Sections 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:</p> <p>(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.</p> <p>(2) The date the leak was detected and the dates of each attempt to repair the leak.</p> <p>(3) Repair methods applied in each attempt to repair the leak.</p> <p>(4) Maximum instrument reading measured by Method 21 of Appendix A-7 of 40 CFR pt. 60 at the time the leak is successfully repaired or determined to be nonreparable, except when a pump is repaired by eliminating indications of liquids dripping.</p> <p>(5) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.</p> <p>(6) The signature of the Permittee (or designate) whose decision it was that repair could not be effected without a process shutdown.</p> <p>(7) The expected date of successful repair of the leak if a leak is not repaired within 15 days.</p> <p>(8) Dates of process unit shutdowns that occur while the equipment is unrepaired.</p> <p>(9) The date of successful repair of the leak. (continued below). [40 CFR 60.486a]</p>
	5.7.19		<p>(continued from above)</p> <p>(d) The following information pertaining to the design requirements for closed vent systems and control devices described in 40 CFR Section 60.482-10a shall be recorded and kept in a readily accessible location:</p> <p>(1) Detailed schematics, design specifications, and piping and instrumentation diagrams.</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>(2) The dates and descriptions of any changes in the design specifications.</p> <p>(3) A description of the parameter or parameters monitored, as required in 40 CFR Section 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.</p> <p>(4) Periods when the closed vent systems and control devices required in 40 CFR Sections 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.</p> <p>(5) Dates of startups and shutdowns of the closed vent systems and control devices required in 40 CFR Sections 60.482-2a, 60.482-3a, 60.482-4a, and 60.482- 5a.</p> <p>(e) The following information pertaining to all equipment subject to the requirements in 40 CFR Sections 60.482-1a to 60.482-11a shall be recorded in a log that is kept in a readily accessible location:</p> <p>(1) A list of identification numbers for equipment subject to the requirements of 40 CFR pt. 60, subp. VVa.</p> <p>(2)(i) A list of identification numbers for equipment that are designated for no detectable emissions under the provisions of 40 CFR Sections 60.482-2a(e), 60.482- 3a(i), and 60.482-7a(f).</p> <p>(ii) The designation of equipment as subject to the requirements of 40 CFR Sections 60.482-2a(e), 60.482-3a(i), or 60.482-7a(f) shall be signed by the Permittee. Alternatively, the Permittee may establish a mechanism with their permitting authority that satisfies this requirement.</p> <p>(3) A list of equipment identification numbers for pressure relief devices required to comply with Section 60.482-4a.</p> <p>(4)(i) The dates of each compliance test as required in 40 CFR Sections 60.482-2a(e), 60.482-3a(i), 60.482-4a, and 60.482-7a(f).</p> <p>(ii) The background level measured during each compliance test.</p> <p>(iii) The maximum instrument reading measured at the equipment during each compliance test.</p> <p>(5) A list of identification numbers for equipment in vacuum service.</p> <p>(6) A list of identification numbers for equipment that the Permittee designates as operating in VOC service less than 300 hr/yr in accordance with 40 CFR Section 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.</p> <p>(7) The date and results of the weekly visual inspection for indications of liquids dripping from pumps in light liquid service.</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>(8) Records of the information specified in paragraphs (e)(8)(i) through (vi) of 40 CFR Section 60.486a for monitoring instrument calibrations conducted according to 40 CFR Sections 8.1.2 and 10 of Method 21 of Appendix A-7 of 40 CFR pt. 60 and 40 CFR Section 60.485a(b).</p> <p>(i) Date of calibration and initials of operator performing the calibration.</p> <p>(ii) Calibration gas cylinder identification, certification date, and certified concentration.</p> <p>(iii) Instrument scale(s) used.</p> <p>(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 40 CFR pt. 60.</p> <p>(continued below). [40 CFR 60.486a]</p>
	5.7.20		<p>(continued from above)</p> <p>(e)(8)(v) Results of each calibration drift assessment required by 40 CFR Section 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).</p> <p>(vi) If the Permittee makes their own calibration gas, a description of the procedure used.</p> <p>(9) The connector monitoring schedule for each process unit as specified in 40 CFR Section 60.482-11a(b)(3)(v).</p> <p>(10) Records of each release from a pressure relief device subject to 40 CFR Section 60.482-4a.</p> <p>(f) The following information pertaining to all valves subject to the requirements of 40 CFR Sections 60.482-7a(g) and (h), all pumps subject to the requirements of 40 CFR Section 60.482-2a(g), and all connectors subject to the requirements of 40 CFR Section 60.482-11a(e) shall be recorded in a log that is kept in a readily accessible location:</p> <p>(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.</p> <p>(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.</p> <p>(g) The following information shall be recorded for valves complying with 40 CFR Section 60.483-2a:</p> <p>(1) A schedule of monitoring.</p> <p>(2) The percent of valves found leaking during each monitoring period.</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>(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 Sections 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.</p> <p>(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 Section 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.</p> <p>(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.</p> <p>(k) The provisions of 40 CFR Section 60.7(b) and (d) do not apply to affected facilities subject to 40 CFR pt. 60, subp. VVa. [40 CFR 60.486a]</p>
	5.7.21		<p>Reporting requirements: (a) The Permittee shall submit semiannual reports to the Administrator beginning 6 months after the initial startup date.</p> <p>(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 Section 60.482-7a, excluding those valves designated for no detectable emissions under the provisions of 40 CFR Section 60.482-7a(f). (3) Number of pumps subject to the requirements of 40 CFR Section 60.482-2a, excluding those pumps designated for no detectable emissions under the provisions of 40 CFR Section 60.482-2a(e) and those pumps complying with 40 CFR Section 60.482-2a(f). (4) Number of compressors subject to the requirements of 40 CFR Section 60.482-3a, excluding those compressors designated for no detectable emissions under the provisions of 40 CFR Section 60.482-3a(i) and those compressors complying with 40 CFR Section 60.482-3a(h). (5) Number of connectors subject to the requirements of</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>Section 60.482-11a.</p> <p>(c) All semiannual reports to the Administrator shall include the following information, summarized from the information in 40 CFR Section 60.486a:</p> <ul style="list-style-type: none"> (1) Process unit identification. (2) For each month during the semiannual reporting period, <ul style="list-style-type: none"> (i) Number of valves for which leaks were detected as described in 40 CFR Sections 60.482- 7a(b) or 60.483-2a, (ii) Number of valves for which leaks were not repaired as required in 40 CFR Section 60.482-7a(d)(1), (iii) Number of pumps for which leaks were detected as described in 40 CFR Sections 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 Sections 60.482-2a(c)(1) and (d)(6), (v) Number of compressors for which leaks were detected as described in 40 CFR Section 60.482-3a(f), (vi) Number of compressors for which leaks were not repaired as required in 40 CFR Section 60.482-3a(g)(1), (vii) Number of connectors for which leaks were detected as described in 40 CFR Section 60.482-11a(b) (viii) Number of connectors for which leaks were not repaired as required in 40 CFR Section 60.482-11a(d), and (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 40 CFR Section 60.487a if changes have occurred since the initial report or subsequent revisions to the initial report. <p>(d) The Permittee electing to comply with the provisions of 40 CFR Sections 60.483-1a or 60.483-2a shall notify the Administrator of the alternative standard selected 90 days before implementing either of the provisions.</p> <p>(e) The requirements of paragraphs (a) through (c) of Section 40 CFR 60.487a 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 40 CFR Section 60.487a, provided that they comply with the requirements established by the state. [40 CFR 60.487a]</p>
	5.7.22		The Permittee shall submit a notification of any physical or

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			operational change which increases emission rate: due 60 days (or as soon as practical) before the change is commenced. The Permittee shall submit the notification both to the Commissioner and to the US EPA regional office in Chicago. [40 CFR 60.7(a)(4), Minn. R. 7019.0100, subp. 1]
	5.7.23		Recordkeeping: Maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the facility including; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative. [40 CFR 60.7(b), Minn. R. 7019.0100, subp. 1]
	5.7.24		Recordkeeping: Maintain a file of all measurements, maintenance, reports and records for at least five years. [40 CFR 60.7(f), Minn. R. 7007.0800, subp. 5(C), Minn. R. 7019.0100, subp. 1]
	5.7.25		The Permittee shall report the results of all performance tests in accordance with 40 CFR Section 60.8 of the General Provisions. The provisions of 40 CFR Section 60.8(d) do not apply to affected facilities subject to the provisions of 40 CFR pt. 60, subp. VVa except that the Permittee must notify the Administrator of the schedule for the initial performance tests at least 30 days before the initial performance tests. [40 CFR 60.487(a), 40 CFR 60.8]
	5.7.26		At all times, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. [40 CFR 60.11(d)]
	5.7.27		Do not build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. [40 CFR 60.12, Minn. R. 7011.0050]
COMG 7	GP004	H2S CEMS assoc. w/ all process heaters	
	5.8.1		CEMS Emissions Monitoring: The Permittee shall monitor SO2 emissions using a H2S CEMS in conjunction with fuel flow monitors. [40 CFR pt. 60, subp. Ja, Minn. R. 7017.1006, Title I Condition: 40 CFR 51.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.8.2		Hydrogen Sulfide Content in the Refinery Gas: calibrate, operate and maintain a CEMS to determine the hydrogen

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			sulfide content of the refinery gas to the emission units. The CEMS shall provide a continuous record of hydrogen sulfide content in ppm. [Minn. R. 7017.1006, Title I Condition: 40 CFR 51.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.8.3		CEMS Cylinder Gas Audit (CGA): Due before the end of each three of four calendar quarters following Permit Issuance but no more than three quarters in succession. A CGA is not required during any calendar quarter in which a RATA was performed. [40 CFR pt. 60, Appendix F, Minn. R. 7017.1170, subp. 4]
	5.8.4		CEMS Daily Calibration Drift (CD) Test: The CD shall be quantified and recorded at zero (low-level) and upscale (high-level) gas concentrations at least once daily. The CEMS shall be adjusted whenever the CD exceeds twice the specification of 40 CFR pt. 60, Appendix B. 40 CFR pt. 60, Appendix F shall be used to determine out-of-control periods for CEMS. [40 CFR 60.13(d)(1), 40 CFR pt. 60, Appendix F, Minn. R. 7017.1170, subp. 3]
	5.8.5		CEMS Recordkeeping: The owner or operator must retain records of all CEMS monitoring data and supporting information for a period of five (5) years from the date of the monitoring sample, measurement or report. Records shall be kept at the source. [40 CFR 60.7(f), Minn. R. 7017.1130]
	5.8.6		<p>CEMS Continuous Operation: CEMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A CEMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment.</p> <p>Acceptable monitor downtime includes reasonable periods due to the following causes:</p> <ul style="list-style-type: none"> A. damage to the monitoring system due to a Force Majeure such as lightning strikes, tornadoes, or floods which render the monitor inoperative; B. sudden and not reasonably preventable breakdowns; C. scheduled monitor maintenance based upon equipment manufacturer's recommended maintenance schedule which cannot reasonably be conducted when the emission unit is not operating; or D. unavoidable monitor downtime in order to conduct daily drift checks, calibration error audits, relative accuracy test audits, linearity checks, and cylinder gas audits required by a compliance document, applicable requirement, or by request of the Commissioner.. [40 CFR 60.13(e), Minn. R. 7007.0800, subp. 2, Minn. R. 7017.0200, Minn. R. 7017.1090, subp. 1, Title

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			I Condition: 40 CFR 51.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.8.7		Quality Assurance Plan: The owner or operator shall develop and implement a written quality assurance plan for each CEMS. The plan shall be on-site and available for inspection within 30 days after the CEMS certification date. The plan shall contain all of the information required by 40 CFR pt. 60, Appendix F, Section 3. The CEMS manufacturers recommended spare parts shall be kept on-site unless the Commissioner approves exclusions. [Minn. R. 7017.1170, subp. 2]
	5.8.8		Records of Startup, Shutdown, or Malfunction: Any owner or operator subject to the provisions of this part shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative. [40 CFR 60.7(b)]
COMG 8	GP026	No. 2 SRU, Hydrogen Plant Heaters and Distillate Desulfurization Heaters	
	5.9.1		Nitrogen Oxides <= 39.8 tons per year 12-month rolling sum. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]
	5.9.2		<p>Recordkeeping: By the 20th day of each month, calculate and record monthly NOx emissions from EQUI 21 (EU 026), EQUI 326 (EU 027), EQUI 23 (EU 028), and EQUI 24 (EU 029) using the following equation:</p> $E = (EF_{21,controlled} \times HI_{021,controlled}) + (EF_{021,uncontrolled} \times HI_{021,uncontrolled}) + (EF_{022,controlled} \times HI_{022,controlled}) + (EF_{326,uncontrolled} \times HI_{323,uncontrolled}) + (EF_{023,controlled} \times HI_{023,controlled}) + (EF_{023,uncontrolled} \times HI_{023,uncontrolled}) + (EF_{024,controlled} \times HI_{024,controlled}) + (EF_{024,uncontrolled} \times HI_{024,uncontrolled}) / 2000$ <p>Where: E = Monthly NOx emissions from EQUI 21, EQUI 326, EQUI 23, and EQUI 24 in tons/month</p> <p>EF_{021,controlled} = Emission factor (lb/million Btu) for NOx obtained from the most recent stack test for EQUI 021 when the NOx control equipment is in operation</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>HI021,controlled = Total monthly heat input for EQUI 021 when the NOx control equipment is in operation EQUI 21,uncontrolled = Emission factor (lb/million Btu) for NOx from EQUI 021 when NOx emission controls on EQUI 021 are not operating. This emission factor shall be the most recent AP-42 emission factor for uncontrolled combustion of natural gas unless another emission factor is developed based upon the results of an MPCA approved performance test. HI021,uncontrolled = Total monthly heat input for EQUI 021 when the NOx control equipment is not in operation</p> <p>EF326,controlled = Emission factor (lb/million Btu) for NOx obtained from the most recent stack test for EQUI 326 when the NOx control equipment is in operation HI326,controlled = Total monthly heat input for EQUI 326 when the NOx control equipment is in operation EF326,uncontrolled = Emission factor (lb/million Btu) for NOx from EQUI 326 when NOx emission controls on EQUI 326 are not operating. This emission factor shall be the most recent AP-42 emission factor for uncontrolled combustion of natural gas unless another emission factor is developed based upon the results of an MPCA approved performance test. HI326,uncontrolled = Total monthly heat input for EQUI 326 when the NOx control equipment is not in operation</p> <p>EF023,controlled = Emission factor (lb/million Btu) for NOx obtained from the recent stack test for EQUI 023 when the NOx control equipment is in operation HI023,controlled = Total monthly heat input for EQUI 023 when the NOx control equipment is in operation (Consent Decree, as amended)</p> <p>EF024,controlled = Emission factor (lb/million Btu) for NOx obtained from the most recent stack test for EQUI 024 when the NOx control equipment is in operation HI024,controlled = Total monthly heat input for EQUI 024 when the NOx control equipment is in operation</p> <p>EF023,uncontrolled = Emission factor (lb/million Btu) for NOx from EQUI 023 when NOx emission controls on EQUI 023 are not operating. This emission factor shall be the most recent AP-42 emission factor for uncontrolled combustion of natural gas unless another emission factor is developed based upon the results of an MPCA approved performance test (Consent Decree, as amended) HI023,uncontrolled = Total monthly heat input for EQUI 023 when the NOx control equipment is not in operation (Consent Decree, as amended)</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>EF024,uncontrolled = Emission factor (lb/million Btu) for NOx from EQUI 024 when NOx emission controls on EQUI 024 are not operating. This emission factor shall be the most recent AP-42 emission factor for uncontrolled combustion of natural gas unless another emission factor is developed based upon the results of an MPCA approved performance test.</p> <p>HI024,uncontrolled = Total monthly heat input for EQUI 024 when the NOx control equipment is not in operation. [Minn. R. 7007.0800, subp. 5, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000]</p>
	5.9.3		<p>By the 20th day of each month, calculate and record the 12-month rolling sum of NOx emissions using the following equation:</p> $E (12\text{-month}) = 11.9 + \text{SUM}$ <p>Where: E (12-month) = 12-month rolling sum of NOx emissions from EQUI 16, EQUI 21, EQUI 323, EQUI 23, and EQUI 24 in tons/year 11.9 = Potential NOx emissions (tons/year) for EQUI 16 SUM = 12-month rolling sum of NOx emissions (in tons/year) from EQUI 21, EQUI 22, EQUI 23, and EQUI 24 for the previous 12-month period</p> <p>All heat input and emission factors shall be in terms of lower heating value (LHV). Use of emission factors from stack testing shall begin for the month in which the test report is submitted to the MPCA. [Minn. R. 7007.0800, subp. 5, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000]</p>
COMG 9	GP002	Refinery Heaters 11-14 & 22-25	
	5.10.1		<p>Nitrogen Oxides <= 150.4 tons per year 12-month rolling sum. [Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>
	5.10.2		<p>Recordkeeping: By the 20th day of each month, calculate and record the monthly sum of NOx emissions using the following equation:</p> $E = [(EF8 \times HI8) + (EF9 \times HI9) + (EF10 \times HI10) + (EF11 \times HI11) + (EF17 \times HI17) + (EF18 \times HI18) + (EF19 \times HI19) + (EF20 \times HI20)] / 2000$ <p>Where: E = NOx emissions from EQUI 8 - 11 and EQUI 17 - 20 in tons/year EF8 = emission factor (lb/million Btu) obtained from most</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>recent stack test for EQUI 8 HI8 = Total monthly heat input to EQUI 8 (million Btu) EF9 = Emission factor (lb/million Btu) obtained from most recent stack test for EQUI 9 HI9 = Total monthly heat input to EQUI 9 (million Btu) EF10 = Emission factor (lb/million Btu) obtained from most recent stack test for EQUI 10 HI10 = Total monthly heat input to EQUI 10 (million Btu) EF11 = Emission factor (lb/million Btu) obtained from most recent stack test for EQUI 11 HI11 = Total monthly heat input to EQUI 11 (million Btu) EF17 = Emission factor (lb/million Btu) obtained from most recent stack test for EQUI 17 HI17 = Total monthly heat input to EQUI 17 (million Btu) EF18 = Emission factor (lb/million Btu) obtained from most recent stack test for EQUI 18 HI18 = Total monthly heat input to EQUI 18 (million Btu) EF19 = Emission factor (lb/million Btu) obtained from most recent stack test for EQUI 19 HI19 = Total monthly heat input to EQUI 19 (million Btu) EF20 = Emission factor (lb/million Btu) obtained from most recent stack test for EQUI 20 HI20 = Total monthly heat input to EQUI 20 (million Btu)</p> <p>By the 20th day of each month, calculate and record the 12-month rolling sum of NOx emissions by summing the monthly NOx emissions for the previous 12-month period.</p> <p>All heat input and emission factors shall be based on lower heating value (LHV) or higher heating value (HHV), as applicable.</p> <p>Use of emission factors from stack testing shall be approved by the MPCA. [Minn. R. 7007.0800, subp. 5, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>
COMG 12	GP028	Water Seal Controls to comply with Benzene Waste NESHAP	
	5.11.1		Each sewer line shall not be open to the atmosphere and shall be covered or enclosed in a manner so as to have no visual gaps or cracks in joints, seals, or other emission interfaces. [40 CFR 61.346(b)(3), Minn. R. 7011.9930(E)]
	5.11.2		Each drain using water seal controls shall be visually inspected initially and thereafter quarterly for indications of low water levels or other conditions that would reduce the effectiveness

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			of water seal controls. [40 CFR 61.346(b)(4)(i), Minn. R. 7011.9930, subp. E]
	5.11.3		Each drain using a tightly sealed cap or plug shall be visually inspected initially and thereafter quarterly to ensure caps or plugs are in place and properly installed. [40 CFR 61.346(b)(4)(ii), Minn. R. 7011.9930, subp. E]
	5.11.4		The unburied portion of each sewer line shall be visually inspected initially and thereafter quarterly for indication of cracks, gaps, or other problems that could result in benzene emissions. [40 CFR 61.346(b)(4)(iv), Minn. R. 7011.9930, subp. E]
	5.11.5		Except as provided in 40 CFR Section 61.350 of this subpart, when a broken seal, gap, crack or other problem is identified, first efforts at repair shall be made as soon as practicable, but not later than 15 days after identification. [40 CFR 61.346(b)(5), Minn. R. 7011.9930, subp. E]
COMG 13	GP030	Control Device Required for Benzene Waste NESHAP	
	5.12.1		<p>TREA 5 (EU 081/CE 016) is the Primary Control Equipment and TREA 9 (EU 090/CE 025) is the Back-up Unit. Either TREA 5 or TREA 9 may be operated at a given time.</p> <p>For FUGI 130 (FS 031) API - Oil Water Separator (excluding TREA 15)</p> <p>For FUGI 92 (FS 048) the only applicable part is the Junction Box 14B-JB-3. [Minn. R. 7007.0800, subp. 14]</p>
	5.12.2		Each closed-vent system and control device used to comply with this subpart shall be operated at all times when waste is placed in the waste management until vented to the control device except when maintenance or repair of the waste management unit cannot be completed without a shutdown of the device. [40 CFR 61.349(b), Minn. R. 7011.9930(E)]
	5.12.3		The control device shall be designed and operated in accordance with the following conditions: (i) An enclosed combustion device (e.g., a vapor incinerator) shall meet one of the following conditions: (A) Reduce the organic emissions vented to it by 95 weight percent or greater; (B) Achieve a total organic compound concentration of 20 ppmv (as the sum of the concentrations for individual compounds using Method 18) on a dry basis corrected to 3 percent oxygen; or (C) Provide a minimum residence time of 0.5 seconds at a minimum temperature of 760 degrees C (1,400 degrees F). [40 CFR 61.349(a)(2), Minn. R. 7011.9930(E)]
	5.12.4		Recordkeeping: The Permittee shall maintain continuous records of the temperature of the gas stream in the combustion zone of the incinerator and records of all 3-hour

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			periods of operation during which the average temperature of the gas stream in the combustion zone is more than 28 degrees Celsius (50 degrees Fahrenheit) below the design combustion zone temperature. [40 CFR 61.356(j)(4), Minn. R. 7011.9930(E)]
	5.12.5		Maintain compliance with design, equipment, work practice, operational standards. [40 CFR 61.12(b), Minn. R. 7011.9900]
	5.12.6		Conduct performance test if requested by Administrator per section 114 of the Clean Air Act, as amended. [40 CFR 61.13, Minn. R. 7011.9900]
	5.12.7		<p>The Permittee shall test equipment for compliance with no detectable emissions as required in accordance with the following requirements:</p> <p>(1) Monitoring shall comply with Method 21 from appendix A of 40 CFR pt. 60;</p> <p>(2) The detection instrument shall meet the performance criteria of Method 21.</p> <p>(3) The instrument shall be calibrated before use on each day of its use by the procedures specified in Method 21.</p> <p>4) Calibration gases shall be:</p> <p>(i) Zero air (less than 10 ppm of hydrocarbon in air); and</p> <p>(ii) A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppm methane or n-hexane.</p> <p>(5) The background level shall be determined as set forth in Method 21.</p> <p>(6) The instrument probe shall be traversed around all potential leak interfaces as close as possible to the interface as described in Method 21.</p> <p>(7) The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared to 500 ppm for determining compliance. [40 CFR 61.355(h), 40 CFR 61.356(h), Minn. R. 7011.9930(E)]</p>
	5.12.8		Each closed-vent system and control device shall be visually inspected quarterly. The visual inspection shall include inspection of ductwork and piping and connections to covers and control devices for evidence of visible defects such as holes in ductwork or piping and loose connections. [40 CFR 61.349(f), 40 CFR 61.356(g), 40 CFR 61.357(d)(8), Minn. R. 7011.9930(E)]
	5.12.9		For each control device, maintain documentation that includes the following information regarding the control device operation: (1) Dates of startup and shutdown of the closed-vent system and control device; (2) A description of the operating parameter (or parameters) to be monitored to ensure that the control device will be operated in conformance with these standards and the control device's design specifications and an explanation of the criteria used for selection of that parameter (or parameters). This

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			documentation shall be kept for the life of the control device; and (3) Periods when the closed-vent system and control device are not operated as designed including all periods and the duration when: Any valve car-seal or closure mechanism is broken or the by-pass line valve position has changed and the flow monitoring devices indicate that vapors are not routed to the control device as required. [40 CFR 61.356(j), Minn. R. 7011.9930(E)]
	5.12.10		a) Delay of repair of facilities or units will be allowed if the repair is technically impossible without a complete or partial facility or unit shutdown. (b) Repair of such equipment shall occur before the end of the next facility or unit shutdown. [40 CFR 61.350(a), 40 CFR 61.350(b), Minn. R. 7011.9930(E)]
	5.12.11		If visible defects are observed during an inspection, or if other problems are identified, or if detectable emissions are measured, a first effort to repair the closed-vent system and control device shall be made as soon as practicable but no later than 5 calendar days after detection. Repair shall be completed no later than 15 calendar days after the emissions are detected or the visible defect is observed. [40 CFR 61.349(g), 40 CFR 61.357(d)(8), Minn. R. 7011.9930(E)]
	5.12.12		Retain at the source and make available, upon request, for inspection by the Administrator, for a minimum of 2 years, records of emission test results and other data needed to determine emissions. [40 CFR 61.13(g), 40 CFR 61.356, Minn. R. 7011.9930, subp. E]
	5.12.13		The Permittee of a control device that is used to comply with the provisions of this section shall monitor the control device in accordance with 40 CFR Section 61.354(c). [40 CFR 61.349(h), 40 CFR 61.354(c), Minn. R. 7011.9930(E)]
	5.12.14		Submit Quarterly Air Quality and Excess Emissions Report. Cover letter, certification, and summary of exceedances shall be submitted in hardcopy format; all other information may be submitted electronically. [40 CFR 60.18(c)(1) & (2), Minn. R. 7007.0500, subp. 3, Minn. R. 7011.0050, Minn. R. 7011.9900]
	5.12.15		The Permittee shall notify the Administrator and the MPCA of intent to conduct a required performance test at least 30 days before the performance test is scheduled. [40 CFR 61.13(c), Minn. R. 7011.9900, Minn. R. 7017.2030, subps. 1-4]
	5.12.16		Submit a report quarterly to the Administrator that includes: (i) If a treatment process or wastewater treatment system unit is monitored; then each period of operation during which the concentration of benzene in the monitored waste stream exiting the unit is equal to or greater than 10 ppmw. (ii) If a treatment process or wastewater treatment system unit is monitored, then each 3-hour period of operation during which the average value of the monitored parameter is outside the range of acceptable values or during which the unit is not operating as designed.

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			(iii) If a treatment process or wastewater treatment system unit is monitored, then each period of operation during which the flow-weighted annual average concentration of benzene in the monitored waste stream entering the unit is equal to or greater than 10 ppmw and/or and/or the total annual benzene quantity is equal to or greater than 1.0 mg/yr. (iv) For a control device monitored in accordance with 40 CFR Section 61.354(c), each period of operation monitored during which any of the following condition: Each period in which the pilot flame of a flare is absent. [40 CFR 61.357(d)(7), Minn. R. 7011.9930(E), Minn. R. 7017.1010, subp. 3]
	5.12.17		The Permittee shall submit annually to the Administrator a report that summarizes all inspections required during which detectable emissions are measured or a problem (such as a broken seal, gap or other problem) that could result in benzene emissions is identified, including information about the repairs or corrective action taken. [40 CFR 61.357(d)(8), Minn. R. 7011.9930(E), Minn. R. 7017.1010, subp. 3]
	5.12.18		Unless otherwise specified in an applicable subpart, samples shall be analyzed and emissions determined within 30 days after each emission test has been completed. The Permittee shall report the determinations of the emission test to the Administrator by a registered letter sent before the close of business on the 31st day following the completion of the emission test. [40 CFR 61.13(f), Minn. R. 7011.9900, Minn. R. 7017.2015]
COMG 15	GP013	NESHAP CC w/NSPS subp Kb and QQQ (each) and NESHAP FF	
	5.13.1		(d) Storage vessels, including slop oil tanks and other auxiliary tanks that are subject to the requirements of 40 CFR pt. 60, subp. K, Ka, or Kb are not subject to the requirements of this section. [40 CFR 60.692-3(d), Minn. R. 7011.1435, subp. C]
	5.13.2		(a) Except as provided in paragraphs (b), (c), and (d) of this section, the affected facility to which this subp. applies is each storage vessel with a capacity greater than or equal to 40 cubic meters (m ³) that is used to store volatile organic liquids (VOL's) for which construction, reconstruction, or modification is commenced after July 23, 1984. (b) Except as specified in paragraphs (a) and (b) of 40 CFR Section 60.116b, storage vessels with design capacity less than 75 m ³ are exempt from the General Provisions 40 CFR pt. subp. A and from the provisions of this subp. [40 CFR 60.110b(a)&(b), 40 CFR pt. 60, subp. Kb, Minn. R. 7011.1520(C)]
	5.13.3		(a) The Permittee of each storage vessel either with a design capacity greater than or equal to 151 m ³ containing a VOL that,

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>as stored, has a maximum true vapor pressure equal to or greater than 5.2 kPa but less than 76.6 kPa or with a design capacity greater than or equal to 75 m³ but less than 151 m³ containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 27.6 kPa but less than 76.6 kPa, shall equip each storage vessel with one of the following:</p> <p>(1) A fixed roof in combination with an internal floating roof meeting the following specifications:</p> <p>(i) The internal floating roof shall rest or float on the liquid surface (but not necessarily in complete contact with it) inside a storage vessel that has a fixed roof. The internal floating roof shall be floating on the liquid surface at all times, except during initial fill and during those intervals 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.</p> <p>(ii) Each internal floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof:</p> <p>(A) A foam or liquid filled seal mounted in contact with the liquid (liquid mounted seal). A liquid mounted seal means a foam or liquid filled seal mounted in contact with the liquid between the wall of the storage vessel and the floating roof continuously around the circumference of the tank.</p> <p>(B) 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 internal floating roof. The lower seal may be vapor mounted, but both must be continuous.</p> <p>(C) A mechanical shoe seal. A mechanical shoe seal is a metal sheet held vertically against the wall of the storage vessel by springs or weighted levers and is connected by braces to the floating roof. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.</p> <p>(iii) Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface.</p> <p>(iv) 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</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use.</p> <p>(v) Automatic bleeder 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.</p> <p>(vi) 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 recommended setting.</p> <p>(vii) 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 percent of the opening.</p> <p>(viii) 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.</p> <p>(ix) Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover. [40 CFR 60.112b(a)(1), Minn. R. 7011.1520(C)]</p>
	5.13.4		<p>(2) An external floating roof. An external floating roof means a pontoon type or double deck type cover that rests on the liquid surface in a vessel with no fixed roof. Each external floating roof must meet the following specifications:</p> <p>(i) Each external floating roof shall be equipped with a closure device between the wall of the storage vessel and the roof edge. The closure device is to consist of two seals, one above the other. The lower seal is referred to as the primary seal, and the upper seal is referred to as the secondary seal.</p> <p>(A) The primary seal shall be either a mechanical shoe seal or a liquid mounted seal. Except as provided in 40 CFR Section 60.113b(b)(4), the seal shall completely cover the annular space between the edge of the floating roof and tank wall.</p> <p>(B) The secondary seal shall completely cover the annular space between the external floating roof and the wall of the storage vessel in a continuous fashion except as allowed in 40 CFR Section 60.113(b)(4).</p> <p>(ii) Except for automatic bleeder vents and rim space vents, each opening in a noncontact external floating roof shall provide a projection below the liquid surface. Except for automatic bleeder vents, rim space vents, roof drains, and leg sleeves, each opening in the roof is to be equipped with a gasket cover, seal, or lid that is to be maintained in a closed</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>position at all times (i.e., no visible gap) except when the device is in actual use. Automatic bleeder vents 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. Rim vents are to be set to open when the roof is being floated off the roof legs supports or at the manufacturer's recommended setting. Automatic bleeder vents and rim space vents are to be gasketed. Each emergency roof drain is to be provided with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening.</p> <p>(iii) The roof shall be floating on the liquid at all times (i.e., off the roof leg supports) except during initial fill until the roof is lifted off leg supports and when the tank is completely emptied and subsequently refilled. The process of filling, emptying, or refilling when the roof is resting on the leg supports shall be continuous and shall be accomplished as rapidly as possible. [40 CFR 60.112b(a)(2), Minn. R. 7011.1520(C)]</p>
	5.13.5		<p>(3) A closed vent system and control device meeting the following specifications: (i) The closed vent system shall be designed to collect all VOC vapors and gases discharged from the storage vessel and operated with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background and visual inspections, as determined in pt. 60, subp. VV, 40 CFR Section 60.485(b).</p> <p>(ii) The control device shall be designed and operated to reduce inlet VOC emissions by 95 percent or greater. If a flare is used as the control device, it shall meet the specifications described in the general control device requirements (40 CFR Section 60.18) of the General Provisions. [40 CFR 60.112b(a)(3), Minn. R. 7011.1520(C)]</p>
	5.13.6		<p>The Permittee of each storage vessel as specified in 40 CFR Section 60.112b(a) shall meet the requirements of paragraph (a), (b), or (c) of this section. The applicable paragraph for a particular storage vessel depends on the control equipment installed to meet the requirements of 40 CFR Section 60.112b.</p> <p>(a) After installing the control equipment required to meet 40 CFR Section 60.112b(a)(1) (permanently affixed roof and internal floating roof), each owner or operator shall:</p> <p>(1) Visually inspect the internal floating roof, the primary seal, and the secondary seal (if one is in service), prior to filling the storage vessel with VOL. If there are holes, tears, or other openings in the primary seal, the secondary seal, or the seal fabric or defects in the internal floating roof, or both, the Permittee shall repair the items before filling the storage vessel. [40 CFR 60.113b(a)(1), Minn. R. 7011.1520(C)]</p>
	5.13.7		<p>(2) For Vessels equipped with a liquid mounted or mechanical</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>shoe primary seal, visually inspect the internal floating roof and the primary seal or the secondary seal (if one is in service) through manholes and roof hatches on the fixed roof at least once every 12 months after initial fill. If the internal floating roof is not resting on the surface of the VOL inside the storage vessel, or there is liquid accumulated on the roof, or the seal is detached, or there are holes or tears in the seal fabric, the Permittee 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 in 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 Administrator in the inspection report required in 40 CFR Section 60.115(b)(3). Such a request for an extension must document that alternate storage capacity is unavailable and specify a schedule of actions the company will take that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible. [40 CFR 60.113b(a)(2), Minn. R. 7011.1520(C)]</p>
	5.13.8		<p>(3) For vessels equipped with a double seal system as specified in 40 CFR Section 60.112b(a)(1)(ii)(B):</p> <ul style="list-style-type: none"> (i) Visually inspect the vessel as specified in paragraph (a)(4) of this section at least every 5 years; or (ii) Visually inspect the vessel as specified in paragraph (a)(2) of this section. [40 CFR 60.113b(a)(4), Minn. R. 7011.1520(C)]
	5.13.9		<p>(4) Visually inspect the internal floating roof, the primary seal, the secondary seal (if one is in service), gaskets, slotted membranes 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, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, or the gaskets no longer close off the liquid surfaces from the atmosphere, or the slotted membrane has more than 10 percent open area, the Permittee shall repair the items as necessary so that none of the conditions specified in this paragraph exist before refilling the storage vessel with VOL.</p> <p>In no event shall inspections conducted in accordance with this provision occur at intervals greater than 10 years in the case of vessels conducting the annual visual inspection as specified in paragraphs (a)(2) and (a)(3)(ii) of this section and at intervals no greater than 5 years in the case of vessels specified in paragraph (a)(3)(i) of this section. [40 CFR 60.113b(a), Minn. R. 7011.1520(C)]</p>
	5.13.10		<p>(5) Notify the Administrator in writing at least 30 days prior to the filling or refilling of each storage vessel for which an inspection is required by paragraphs (a)(1) and (a)(4) of this section to afford the Administrator the opportunity to have an</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>observer present. If the inspection required by paragraph (a)(4) of this section is not planned and the Permittee could not have known about the inspection 30 days in advance or refilling the tank, the Permittee shall notify the Administrator 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 that it is received by the Administrator at least 7 days prior to the refilling. [40 CFR 60.113b(a)(5), Minn. R. 7011.1520(C)]</p>
	5.13.11		<p>(b) After installing the control equipment required to meet 40 CFR Section 60.112b(a)(2) (external floating roof), the owner or operator shall:</p> <p>(1) Determine the gap areas and maximum gap widths, between the primary seal and the wall of the storage vessel and between the secondary seal and the wall of the storage vessel according to the following frequency.</p> <p>(i) Measurements of gaps between the tank wall and the primary seal (seal gaps) shall be performed during the hydrostatic testing of the vessel or within 60 days of the initial fill with VOL and at least once every 5 years thereafter.</p> <p>(ii) Measurements of gaps between the tank wall and the secondary seal shall be performed within 60 days of the initial fill with VOL and at least once per year thereafter.</p> <p>(iii) If any source ceases to store VOL for a period of 1 year or more, subsequent introduction of VOL into the vessel shall be considered an initial fill for the purposes of paragraphs (b)(1)(i) and (b)(1)(ii) of this section. [40 CFR 60.113b(b)(1), Minn. R. 7011.1520(C)]</p>
	5.13.12		<p>(2) Determine gap widths and areas in the primary and secondary seals individually by the following procedures:</p> <p>(i) Measure seal gaps, if any, at one or more floating roof levels when the roof is floating off the roof leg supports.</p> <p>(ii) Measure seal gaps around the entire circumference of the tank in each place where a 0.32 cm diameter uniform probe passes freely (without forcing or binding against the seal) between the seal and the wall of storage vessel and measure the circumferential distance of each such location.</p> <p>(iii) The total surface area of each gap described in paragraph (b)(2)(ii) of this section shall be determined by using probes of various widths to measure accurately the actual distance from the tank wall to the seal and multiplying each such width by its respective circumferential distance. [40 CFR 60.113b(b)(2), Minn. R. 7011.1520(C)]</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
	5.13.13		(3) Add the gap surface area of each gap location for the primary seal and the secondary seal individually and divide the sum for each seal by the nominal diameter of the tank and compare each ratio to the respective standards in paragraphs (b)(4) of this section. [40 CFR 60.113b(b)(3), Minn. R. 7011.1520(C)]
	5.13.14		<p>(4) Make necessary repairs or empty the storage vessel within 45 days of identification in any inspection for seals not meeting the requirements listed in (b)(4)(i) and (ii) of this section:</p> <p>(i) The accumulated area of gaps between the tank wall and the mechanical shoe or liquid mounted primary seal shall not exceed 212 cm[2] per meter of tank diameter, and the width of any portion of any gap shall not exceed 3.81 cm.</p> <p>(A) One end of the mechanical shoe is to extend into the stored liquid, and the other end is to extend a minimum vertical distance of 61 cm above the stored liquid surface.</p> <p>(B) There are to be no holes, tears, or other openings in the shoe, seal fabric, or seal envelope.</p> <p>(ii) The secondary seal is to meet the following requirements:</p> <p>(A) The secondary seal is to be installed above the primary seal so that it completely covers the space between the roof edge and the tank wall except as provided in paragraph (b)(2)(iii) of this section.</p> <p>(B) The accumulated area of gaps between the tank wall and the secondary seal shall not exceed 21.2 cm² per meter of tank diameter, and the width of any portion of any gap shall not exceed 1.27 cm.</p> <p>(C) There are to be no holes, tears, or other openings in the seal or seal fabric.</p> <p>(iii) If a failure that is detected during inspections required in paragraph (b)(1) of 40 CFR Section 60.113b(b) 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 Administrator in the inspection report required in 40 CFR Section 60.115(b)(4). Such extension request must include a demonstration of unavailability of alternate storage capacity and a specification of a schedule that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible. [40 CFR 60.113b(b)(4), Minn. R. 7011.1520(C)]</p>
	5.13.15		(5) Notify the Administrator 30 days in advance of any gap measurements required by paragraph (b)(1) of this section to afford the Administrator the opportunity to have an observer present. [Minn. R. 7011.1520(C),]
	5.13.16		(6) Visually inspect the external floating roof, the primary seal,

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>secondary seal, and fittings each time the vessel is emptied and degassed.</p> <p>(i) If the external floating roof has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, the Permittee shall repair the items as necessary so that none of the conditions specified in this paragraph exist before filling or refilling the storage vessel with VOL.</p> <p>(ii) For all the inspections required by paragraph (b)(6) of this section, the Permittee shall notify the Administrator in writing at least 30 days prior to the filling or refilling of each storage vessel to afford the Administrator the opportunity to inspect the storage vessel prior to refilling. If the inspection required by paragraph (b)(6) of this section is not planned and the owner or operator could not have known about the inspection 30 days in advance of refilling the tank, the Permittee shall notify the Administrator 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 that it is received by the Administrator at least 7 days prior to the refilling. [40 CFR 60.113b(b)(6), Minn. R. 7011.1520(C)]</p>
	5.13.17		<p>(c) The Permittee of each source that is equipped with a closed vent system and control device as required in 40 CFR Section 60.112b(a)(3) or (b)(2) (other than a flare) is exempt from 40 CFR Section 60.8 of the General Provisions and shall meet the following requirements.</p> <p>(1) Submit for approval by the Administrator as an attachment to the notification required by 40 CFR Section 60.7(a)(1) or, if the facility is exempt from 40 CFR Section 60.7(a)(1), as an attachment to the notification required by 40 CFR Section 60.7(a)(2), an operating plan containing the information listed below.</p> <p>(i) Documentation demonstrating that the control device will achieve the required control efficiency during maximum loading conditions. This documentation is to include a description of the gas stream which enters the control device, including flow and VOC content under varying liquid level conditions (dynamic and static) and manufacturer's design specifications for the control device. If the control device or the closed vent capture system receives vapors, gases, or liquids other than fuels from sources that are not designated</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>sources under this subp., the efficiency demonstration is to include consideration of all vapors, gases, and liquids received by the closed vent capture system and control device. If an enclosed combustion device with a minimum residence time of 0.75 seconds and a minimum temperature of 816 degrees Celsius is used to meet the 95 percent requirement, documentation that those conditions will exist is sufficient to meet the requirements of this paragraph.</p> <p>(ii) A description of the parameter or parameters to be monitored to ensure that the control device will be operated in conformance with its design and an explanation of the criteria used for selection of that parameter (or parameters). [40 CFR 60.113b(c)(1), Minn. R. 7011.1520(C)]</p>
	5.13.18		<p>(2) Operate the closed vent system and control device and monitor the parameters of the closed vent system and control device in accordance with the operating plan submitted to the Administrator in accordance with paragraph (c)(1) of this section, unless the plan was modified by the Administrator during the review process. In this case, the modified plan applies. [40 CFR 60.113b(c)(2), Minn. R. 7011.1520(C)]</p>
	5.13.19		<p>(d) The Permittee of each source that is equipped with a closed vent system and a flare to meet the requirements in 40 CFR Section 60.112b(a)(3) or (b)(2) shall meet the requirements as specified in the general control device requirements, 40 CFR Section 60.18(e) and (f). [40 CFR 60.113b(d), Minn. R. 7011.1520(C)]</p>
	5.13.20		<p>The Permittee of each storage vessel as specified in 40 CFR Section 60.112b(a) shall keep records and furnish reports as required by paragraphs (a), (b), or (c) of this section depending upon the control equipment installed to meet the requirements of 40 CFR Section 60.112b. The Permittee shall keep copies of all reports and records required by this section, except for the record required by (c)(1), for at least 2 years. The record required by (c)(1) will be kept for the life of the control equipment. [40 CFR 60.115b, Minn. R. 7011.1520(C)]</p>
	5.13.21		<p>(a) After installing control equipment in accordance with 40 CFR Section 60.112b(a)(1) (fixed roof and internal floating roof), the Permittee shall meet the following requirements.</p> <p>(1) Furnish the Administrator with a report that describes the control equipment and certifies that the control equipment meets the specifications of 40 CFR Section 60.112b(a)(1) and 40 CFR Section 60.113b(a)(1). This report shall be an attachment to the notification required by 40 CFR Section 60.7(a)(3). [40 CFR 60.115b(a)(1), Minn. R. 7011.1520(C)]</p>
	5.13.22		<p>(2) Keep a record of each inspection performed as required by 40 CFR Section 60.113b(a)(1), (a)(2), (a)(3), and (a)(4). Each record shall identify the storage vessel on which the inspection was performed and shall contain the date the vessel was</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			inspected and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings). [40 CFR 60.115b(a)(2), Minn. R. 7011.1520(C)]
	5.13.23		(3) If any of the conditions described in 40 CFR Section 60.113b(a)(2) are detected during the annual visual inspection required by 40 CFR Section 60.113b(a)(2), a report shall be furnished to the Administrator 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 date the repair was made. [40 CFR 60.115b(a)(3), Minn. R. 7011.1520(C)]
	5.13.24		(4) After each inspection required by 40 CFR Section 60.113b(a)(3) that finds holes or tears in the seal or seal fabric, or defects in the internal floating roof, or other control equipment defects listed in 40 CFR Section 60.113b(a)(3)(ii), a report shall be furnished to the Administrator within 30 days of the inspection. The report shall identify the storage vessel and the reason it did not meet the specifications of 40 CFR Section 60.112b(a)(1) or 40 CFR Section 60.113b(a)(3) and list each repair made. [40 CFR 60.115b(a)(4), Minn. R. 7011.1520(C)]
	5.13.25		(b) After installing control equipment in accordance with 40 CFR Section 60.112b(a)(2) (external floating roof), the owner or operator shall meet the following requirements. (1) Furnish the Administrator with a report that describes the control equipment and certifies that the control equipment meets the specifications of 40 CFR Section 60.112b(a)(2) and 40 CFR Section 60.113b(b)(2), (b)(3), and (b)(4). This report shall be attachment to the notification required by 40 CFR Section 60.7(a)(3). [40 CFR 60.115b(b)(1), Minn. R. 7011.1520(C)]
	5.13.26		(2) Within 60 days of performing the seal gap measurements required by 40 CFR Section 60.113b(b)(1), furnish the Administrator with a report that contains: (i) The date of measurement. (ii) The raw data obtained in the measurement. (iii) The calculations described in 40 CFR Section 60.113b(b)(2) and (b)(3). [40 CFR 60.115b(b)(2), Minn. R. 7011.1520(C)]
	5.13.27		(3) Keep a record of each gap measurement performed as required by 40 CFR Section 60.113b(b). Each record shall identify the storage vessel in which the measurement was performed and shall contain: (i) The date of measurement. (ii) The raw data obtained in the measurement. (iii) The calculations described in 40 CFR Section 60.113b(b)(2) and (b)(3). [40 CFR 60.115b(b)(3), Minn. R. 7011.1520(C)]
	5.13.28		(4) After each seal gap measurement that detects gaps

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>exceeding the limitations specified by 40 CFR Section 60.113b(b)(4), submit a report to the Administrator within 30 days of the inspection. The report will identify the vessel and contain the information specified in paragraph (b)(2) of this section and the date the vessel was emptied or the repairs made and date of repair. [40 CFR 60.115b(b)(4), Minn. R. 7011.1520(C)]</p>
	5.13.29		<p>(c) After installing control equipment in accordance with 40 CFR Section 60.112b (a)(3) or (b)(1) (closed vent system and control device other than a flare), the Permittee shall keep the following records.</p> <ul style="list-style-type: none"> (1) A copy of the operating plan. (2) A record of the measured values of the parameters monitored in accordance with 40 CFR Section 60.113b(c)(2). <p>[40 CFR 60.115b(c), Minn. R. 7011.1520(C)]</p>
	5.13.30		<p>(d) After installing a closed vent system and flare to comply with 40 CFR Section 60.112b, the Permittee shall meet the following requirements.</p> <ul style="list-style-type: none"> (1) A report containing the measurements required by 40 CFR Section 60.18(f)(1), (2), (3), (4), (5), and (6) shall be furnished to the Administrator as required by 40 CFR Section 60.8 of the General Provisions. This report shall be submitted within 6 months of the initial start up date. (2) Records shall be kept of all periods of operation during which the flare pilot flame is absent. (3) Semiannual reports of all periods recorded under 40 CFR Section 60.115b(d)(2) in which the pilot flame was absent shall be furnished to the Administrator. [40 CFR 60.115b(d), Minn. R. 7011.1520(C)]
	5.13.31		<p>(a) The Permittee shall keep copies of all records required by this section, except for the record required by paragraph (b) of this section, for at least 2 years. The record required by paragraph (b) of this section will be kept for the life of the source. [40 CFR 60.116b(a), Minn. R. 7011.1520(C)]</p>
	5.13.32		<p>(b) The Permittee of each storage vessel as specified in 40 CFR Section 60.110b(a) shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. Each storage vessel with a design capacity less than 75 m³ is subject to no provision of this subp. other than those required by this paragraph. [40 CFR 60.116b(b), Minn. R. 7011.1520(C)]</p>
	5.13.33		<p>(c) Except as provided in paragraphs (f) and (g) of this section, the Permittee of each storage vessel either with a design capacity greater than or equal to 151 m³ storing a liquid with a maximum true vapor pressure greater than or equal to 3.5 kPa or with a design capacity greater than or equal to 75 m³ but less than 151 m³ storing a liquid with a maximum true vapor pressure greater than or equal to 15.0 kPa shall maintain a record of the VOL stored, the period of storage, and the</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			maximum true vapor pressure of that VOL during the respective storage period. [40 CFR 60.116b(c), Minn. R. 7011.1520(C)]
	5.13.34		(g) The Permittee of each vessel equipped with a closed vent system and control device meeting the specifications of 40 CFR Section 60.112b is exempt from the requirements of paragraphs (c) and (d) of this section. [40 CFR 60.116b(g), Minn. R. 7011.1520(C)]
	5.13.35		(a) Any Permittee subject to the provisions of this part shall furnish the Administrator written notification as follows: (4) A notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies, unless that change is specifically exempted under an applicable subp. or in 40 CFR Section 60.14(e). This notice shall be postmarked 60 days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change. The Administrator may request additional relevant information subsequent to this notice. [40 CFR 60.7(a)(4), Minn. R. 7019.0100]
	5.13.36		(b) Any Permittee subject to the provisions of this part shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative. [40 CFR 60.7(b), Minn. R. 7019.0100]
	5.13.37		(b) Performance tests shall be conducted and data reduced in accordance with the test methods and procedures contained in each applicable subp. unless the Administrator: (1) specifies or approves, in specific cases, the use of a reference method with minor changes in methodology, (2) approves the use of an equivalent method, (3) approves the use of an alternative method the results of which he has determined to be adequate for indicating whether a specific source is in compliance, (4) waives the requirement for performance tests because the Permittee of a source has demonstrated by other means to the Administrator's satisfaction that the affected facility is in compliance with the standard, or (5) approves shorter sampling times and smaller sample volumes when necessitated by process variables or other factors. Nothing in this paragraph shall be construed to abrogate the Administrator's authority to require testing under section 114 of the Act. [40 CFR 60.8(b), Minn. R. 7017.2015]
	5.13.38		(c) Performance tests shall be conducted under such

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>conditions as the Administrator shall specify to the plant operator based on representative performance of the affected facility. The Permittee shall make available to the Administrator such records as may be necessary to determine the conditions of the performance tests. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard. [40 CFR 60.8(c), Minn. R. 7017.2015]</p>
	5.13.39		<p>(d) The Permittee of an affected facility shall provide the Administrator at least 30 days prior notice of any performance test, except as specified under other subps., to afford the Administrator the opportunity to have an observer present. [40 CFR 60.8(d), Minn. R. 7017.2015]</p>
	5.13.40		<p>(d) At all times, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. [40 CFR 60.11(d), Minn. R. 7017.2015]</p>
	5.13.41		<p>(a) Except as provided under paragraphs and (f) of this section, any physical or operational change to an existing facility which results in an increase in the emission rate to the atmosphere of any pollutant to which a standard applies shall be considered a modification within the meaning of section 111 of the Act. Upon modification, an existing facility shall become an affected facility for each pollutant to which a standard applies and for which there is an increase in the emission rate to the atmosphere. [40 CFR 60.14(a), Minn. R. 7011.0050]</p>
	5.13.42		<p>Except as provided in paragraph 40 CFR Section 63.640(h)(4), existing sources shall be in compliance no later than August 18, 1998, except as provided in 40 CFR Section 63.6(c) or unless an extension has been granted by the Administrator as provided in 40 CFR Section 63.6(i). [40 CFR 63.640(h)(2), 40 CFR pt. 63, subp. CC, Minn. R. 7011.7280(A)]</p>
	5.13.43		<p>Existing Group 1 floating roof storage vessels shall be in compliance with 40 CFR Section 63.646 at the next degassing and cleaning activity or within 10 years after [August 18, 1995], whichever is first. [40 CFR 63.640(h)(4), Minn. R. 7011.7280(A)]</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
	5.13.44		After the compliance dates specified in paragraph (h) of this section a Group 1 or Group 2 storage vessel that is part of an existing source and is also subject to the provisions of 40 CFR pt. 60 subp. Kb is required to comply only with the requirements of 40 CFR pt. 60 subp. Kb. [40 CFR 63.640(n)(1), Minn. R. 7011.7280(A)]
	5.13.45		Code of Federal Regulations, title 40, pt. 60, subp. QQQ, as amended, entitled "Standards of Performance for VOC Emissions from Petroleum Refinery Wastewater Systems," except that decisions made by the Administrator under Code of Federal Regulations, title 40, pt. 60.694, are not delegated to the Commissioner and must be made by the Administrator. [Minn. R. 7011.1435(C)]
	5.13.46		<p>Subp. 3. Post June 11, 1973 Storage Vessels.</p> <p>A. There are no standards of performance promulgated in this part for storage vessels with a storage capacity of 2,000 gallons (7,571 liters) or less for which construction was commenced on or after June 11, 1973.</p> <p>B. The Permittee of any storage vessel with a storage capacity of greater than 2,000 gallons (7,571 liters but less than or equal to 40,000 gallons (151,412 liters) for which construction was commenced on or after June 11, 1973, shall equip the storage vessel with a permanent submerged fill pipe or comply with the requirements of item C.</p> <p>C. The Permittee of any storage vessel with a storage capacity of greater than 40,000 gallons (151,412 liters) for which construction was commenced on or after June 11, 1973, shall comply with the following requirements:</p> <p>(1) If the true vapor pressure of the petroleum liquid, as stored, is equal to or greater than 78 mm Hg (1.5 psia) but not greater than 570 mm Hg (11.1 psia), the storage vessel shall be equipped with a floating roof, a vapor recovery system, or their equivalents.</p> <p>(2) If the true vapor pressure of the petroleum liquid as stored is greater than 570 mm Hg (11.1 psia), the storage vessel shall be equipped with a vapor recovery system or its equivalent.</p> <p>[Minn. R. 7011.1505, subp. 3, Minn. R. 7011.1520(A)]</p>
	5.13.47		<p>Subp. 1. Records. The Permittee of any storage vessel, the construction or modification of which commenced on or after June 11, 1973, which has a storage capacity of greater than 40,000 gallons (151,412 liters) shall for each storage vessel:</p> <p>A. maintain a file of each type of petroleum liquid stored, of the typical Reid vapor pressure of each type of petroleum liquid stored, of the dates of storage and withdrawals, and of the date on which the storage vessel is empty;</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			B. determine and record the average monthly storage temperature and true vapor pressure of the petroleum liquid stored at such temperature if: (1) the petroleum liquid has a true vapor pressure, as stored, greater than 26 mm Hg (0.5 psia) but less than 78 mm Hg (1.5 psia) and is stored in a storage vessel other than one equipped with a floating roof, a vapor recovery system or their equivalents; or (2) the petroleum liquid has a true vapor pressure, as stored, greater than 470 mm Hg(9.1 psia) and is stored in a storage vessel other than one equipped with a vapor recovery system or its equivalent. [Minn. R. 7011.1510, subp. 1, Minn. R. 7011.1520(A)]
	5.13.48		Subp. 2. Calculation. The average monthly storage temperature is an arithmetic average calculated for each calendar month, or portion thereof if storage is for less than a month, from bulk liquid storage temperatures determined at least once every seven days. [Minn. R. 7011.1510, subp. 2, Minn. R. 7011.1520(A)]
	5.13.49		Subp. 3. Vapor Pressure Determination. The true vapor pressure shall be determined by the procedure in American Petroleum Institute Bulletin 2517. This procedure is dependent upon determination of the storage temperature and the Reid vapor pressure, which requires sampling of the petroleum liquids in the storage vessels. Unless the agency or the commissioner requires in specific cases that the stored petroleum liquid be sampled, the true vapor pressure may be determined by using the average monthly storage temperature and the typical Reid vapor pressure. For those liquids for which certified specifications limiting the Reid vapor pressure exist, that Reid vapor pressure may be used. For other liquids, supporting analytical data must be made available on request of the Agency or the Commissioner when typical Reid vapor pressure is used. [Minn. R. 7011.1520(A), Minn. R. 7011.1510, subp. 3]
	5.13.50		Code of Federal Regulations, title 40, pt. 60, subp. Kb, as amended, entitled "Standards of Performance for Volatile Organic Liquid Storage Vessels (including petroleum liquid storage vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984," except that decisions made by the administrator under Code of Federal Regulations, title 40, pt. 60.111b(f)(4), 60.114b, 60.116b(e)(3)(iii), 60.116b(e)(3)(iv), and 60.116b(f)(2)(iii), are not delegated to the Commissioner and must be made by the Administrator. [Minn. R. 7011.1520(C)]
COMG 19	GP023	Portable Diesel Engines covered include portable diesel-driven	

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
		pump, compressors, generators, etc.	
	5.14.1		PM < 10 micron <= 14.5 tons per year 12-month rolling sum. [Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]
	5.14.2		Total Particulate Matter <= 14.5 tons per year 12-month rolling sum. [Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]
	5.14.3		Sulfur Dioxide <= 0.50 pounds per million Btu heat input 3-hour rolling average. [Minn. R. 7011.2300, subp. 2]
	5.14.4		Opacity <= 20 percent opacity once operating temperatures have been obtained. (Visible air contaminants). [Minn. R. 7011.2300, subp. 1]
	5.14.5		Nitrogen Oxides <= 4.66 tons per year 12-month rolling sum for the Instrument Air Diesel Engines. [Title I Condition: 40 CFR 52.21(k)(modeling) & Minn. R. 7007.3000, Title I Condition: 40 CFR pt. 50]
	5.14.6		Nitrogen Oxides <= 148.8 tons per year 12-month rolling sum for the FCC Unit Blower Engines. [Title I Condition: 40 CFR 52.21(k)(modeling) & Minn. R. 7007.3000, Title I Condition: 40 CFR pt. 50]
	5.14.7		Nitrogen Oxides <= 20.02 tons per year 12-month rolling sum for No. 1 and No. 2 SRU Blower Diesel Engines. [Title I Condition: 40 CFR 52.21(k)(modeling) & Minn. R. 7007.3000, Title I Condition: 40 CFR pt. 50]
	5.14.8		Nitrogen Oxides <= 4.66 tons per year 12-month rolling sum for Reformer Regenerator No. 1 Diesel Engines. [Title I Condition: 40 CFR 52.21(k)(modeling) & Minn. R. 7007.3000, Title I Condition: 40 CFR pt. 50]
	5.14.9		Nitrogen Oxides <= 4.66 tons per year 12-month rolling sum for Reformer Regenerator No. 2 Diesel Engines. [Title I Condition: 40 CFR 52.21(k)(modeling) & Minn. R. 7007.3000, Title I Condition: 40 CFR pt. 50]
	5.14.10		Nitrogen Oxides <= 16.27 tons per year 12-month rolling sum for Outlying Area Diesel Engines. [Title I Condition: 40 CFR 52.21(k)(modeling) & Minn. R. 7007.3000, Title I Condition: 40 CFR pt. 50]
	5.14.11		Nitrogen Oxides <= 13.39 tons per year 12-month rolling sum for Main Refinery Area Diesel Engines. [Title I Condition: 40 CFR 52.21(k)(modeling) & Minn. R. 7007.3000, Title I Condition: 40 CFR pt. 50]
	5.14.12		Nitrogen Oxides <= 5.91 tons per year 12-month rolling sum for Y2K Diesel Engines operated at OPC 6 (designated G14WOE). [Title I Condition: 40 CFR 52.21(k)(modeling) & Minn. R. 7007.3000, Title I Condition: 40 CFR pt. 50]
	5.14.13		Nitrogen Oxides <= 1.77 tons per year 12-month rolling sum for Y2K Diesel Engines operated at OPC 10 (designated G25). [Title I Condition: 40 CFR 52.21(k)(modeling) & Minn. R.

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			7007.3000, Title I Condition: 40 CFR pt. 50]
	5.14.14		Nitrogen Oxides <= 13.81 tons per year 12-month rolling sum for Roaming Unit. [Title I Condition: 40 CFR 52.21(k)(modeling) & Minn. R. 7007.3000, Title I Condition: 40 CFR pt. 50]
	5.14.15		Diesel Engines Allowed: The portable diesel engines shall be brought on site on a temporary basis and shall be used for power failure, flooding, equipment breakdown, startup, or shutdown, emergency response and operation purposes only. [Minn. R. 7007.0800, subp. 2]
	5.14.16		Portable Engines: The owner or operator shall operate the engines such that the engines meet EPA's definition of "nonroad engine" as defined under 40 CFR Section 89.2 and Title II of the Clean Air Act. [40 CFR 89.2]
	5.14.17		<p>Definition of a Nonroad Engine: Nonroad engine means: Except for the exception listed in the permit, a nonroad engine is any internal combustion engine listed as the following:</p> <ul style="list-style-type: none"> (i) In or on a piece of equipment that is self-propelled or serves a dual purpose by both propelling itself and performing another function (such as garden tractors, off-highway mobile cranes and bulldozers); or (ii) In or on a piece of equipment that is intended to be propelled while performing its function (such as lawnmowers and string trimmers); or (iii) That, by itself or in or on a piece of equipment, is portable or transportable, meaning designed to be and capable of being carried or moved from one location to another. Indicia of transportability include, but are not limited to, wheels, skids, carrying handles, dolly, trailer, or platform. [40 CFR 89.2]
	5.14.18		<p>These exceptions include the following: (2) An internal combustion engine is not a nonroad engine if:</p> <ul style="list-style-type: none"> (i) the engine is used to propel a motor vehicle or a vehicle used solely for competition, or is subject to standards promulgated under section 202 of the Act; or (ii) the engine is regulated by a federal New Source Performance Standard promulgated under section 111 of the Act; or (iii) the engine otherwise included in paragraph (1)(iii) of this definition remains or will remain at a location for more than 12 consecutive months or a shorter period of time for an engine located at a seasonal source. <p>A location is any single site at a building, structure, facility, or installation. Any engine (or engines) that replaces an engine at a location and that is intended to perform the same or similar function as the engine replaced will be included in calculating the consecutive time period. An engine located at a seasonal source is an engine that remains at a seasonal source during the full annual operating period of the seasonal source. A seasonal source is a stationary</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			source that remains in a single location on a permanent basis (i.e., at least two years) and that operates at that single location approximately three months (or more) each year. This paragraph does not apply to an engine after the engine is removed from the location. [40 CFR 89.2, Minn. R. 7007.0800, subp. 2]
	5.14.19		Power output from large portable diesel engines: less than or equal to 20,000,000 hp-hr per year using a 12-month rolling sum calculated on a monthly basis. [40 CFR 52.21(k), Minn. R. 7007.3000, Title I Condition: 40 CFR pt. 50]
	5.14.20		Recordkeeping: Calculate and record the 12-month rolling sum of the total power output from the COMG 19 large engines (HP-hr) by the 20th day of each month for the previous month. [40 CFR 52.21(k), Minn. R. 7007.3000, Title I Condition: 40 CFR 50]
	5.14.21		Recordkeeping: The Permittee shall maintain a log to track the following: (1) each engine's serial number or other identification; (2) the purpose for using each portable diesel engine; (3) the size of the engine; (4) the hours of operation of each engine; and (5) the rental company that supplied the engine. [Minn. R. 7007.0800, subps. 4-5]
	5.14.22		Power output of the engines: less than or equal to 5600 hp for any single engine's power rated capacity. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.14.23		Modeling: Any increase in NOx emissions beyond modeled conditions associated with the diesel engines shall be modeled at the new predicted NOx emission rates to determine the impact on the NAAQS and PSD increments. [Minn. R. 7007.3000, Title I Condition: 40 CFR 52.21(k)]
	5.14.24		CHANGES NOT REQUIRING A MODIFICATION: The Permittee shall make changes without obtaining a modification as long as the change does not do or result in the following: an exceedance of the limitation associated with the grouped emission units. [Minn. R. 7007.3000, Title I Condition: 40 CFR 52.21(k)]
	5.14.25		CHANGES REQUIRING A MODIFICATION: A. any modification to the design of the equipment that decreases the grouped stack gas volumetric flow rate below that contained in Appendix E; B. any modification to the design of the equipment that decreases the grouped stack gas exit temperature below that contained in Appendix E; C. any modification to the design of the equipment and decreases the grouped stack height below that contained in Appendix E; and D. any modification of structures that increase the effective

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			structural dimensions as they are used in the building wake effects algorithm in the ISC Dispersion Model, or its successor as indicated in Appendix E. [Minn. R. 7007.3000, Title I Condition: 40 CFR 52.21]
	5.14.26		Recordkeeping of the power output of the engines: The Permittee shall maintain records of the power output of each engine brought on site on a monthly basis. [Minn. R. 7007.0800, subps. 4-5]
	5.14.27		Recordkeeping: The Permittee shall maintain and record the total hours of operation for each portable diesel engine in COMG 19 on a monthly basis. [Minn. R. 7007.0800, subps. 4-5]
	5.14.28		<p>Recordkeeping for PM/PM10 emissions: The Permittee shall maintain records and calculate the PM/PM10 emissions from the applicable units. The emissions shall be calculated using the following equation:</p> $(HP\text{-}hr\text{ small} \times EF_{\text{small}} + HP\text{-}hr\text{ large} \times EF_{\text{large}}) / 2000$ <p>less than or equal to 14.5 tons where: HP-hr means "HP" is the horsepower of the engine and "hr" is the total operating hours of the engine therefore, HP-hr is HP times hr. HP-hr small = Small engines (less than or equal to 600 HP) HP-hr large = Large engines (greater than 600 HP) EF = Emission factors: The Permittee shall use the EPA's AP-42 emission factors, state certification processes, or voluntary industry testing standards when approved by the MPCA or EPA Tiered Emission Standards. [Minn. R. 7007.3000, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)]</p>
	5.14.29		Sulfur Content of Fuel \leq 0.050 percent by weight of diesel fuel. [Title I Condition: 40 CFR 50.4(SO ₂ SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.14.30		<p>Diesel Fuel Certification: The Permittee shall retain written documentation of each shipment of diesel fuel oil received for the diesel engines. The written documentation shall include the following: The date the shipment was received, the sulfur content of the diesel fuel and the method used to determine the sulfur content.</p> <p>The following are defined as a group: Group 1 - Instrument Air Diesel Engines; Group 2 - FCC Unit Blower Diesel Engines; Group 3 - No. 1 and No. 2 SRU Blower Diesel Engines; Group 4 - Reformer Regenerator No. 1 Backup Air Diesel Engines; Group 5 - Reformer Regenerator No. 2 Backup Air Diesel Engines; Group 6 - Outlying Area Diesel Engines; Group 7 - Main Refinery Area Diesel Engines;</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>Group 8 - Y2K Diesel Engines; and Group 9 - Roaming Units.</p> <p>The definition of engine's size: Small engine - less than or equal to 600 HP Large engine - greater than 600 HP HP-hr means "HP" is the horsepower of the engine and "hr" is the total operating hours of the engine, therefore HP-hr means the total HP times hr. [Minn. R. 7007.3000, Title I Condition: 40 CFR 51.4(SO2 SIP), Title I Condition: 40 CFR 52.21(k), Title I Condition: 40 CFR pt. 52, subp. Y]</p>
	5.14.31		<p>Recordkeeping for NOx emissions for Instrument Air Diesel Engines: The Permittee shall maintain records and calculate the NOx emissions from the applicable units. The emissions shall be calculated using the following equation:</p> <p>$(\text{HP-hr small} \times \text{EFsmall} + \text{HP-hr large} \times \text{EF large}) / 2000$ less than or equal to 4.66 tons per year based on 12-month rolling sum where: HP-hr small = Small engines HP-hr large = Large engines EF = Emission factors (in pounds per HP-hr): The Permittee shall use the most recent EPA's AP-42 emission factors, state certification processes, or voluntary industry testing standards when approved by the MPCA or EPA Tiered Emission Standards. [Minn. R. 7007.3000, Title I Condition: 40 CFR 52.21(k), Title I Condition: 40 CFR pt. 50]</p>
	5.14.32		<p>Recordkeeping for NOx emissions for FCC Unit Blower Engines: The Permittee shall maintain records and calculate the NOx emissions from the applicable units. The emissions shall be calculated using the following equation:</p> <p>$(\text{HP-hr small} \times \text{EFsmall} + \text{HP-hr large} \times \text{EF large}) / 2000$ less than or equal to 148.8 tons per year based on 12-month rolling sum where: HP-hr small = Small engines HP-hr large = Large engines EF = Emission factors (in pounds per HP-hr): The owner or operator shall use the most recent EPA's AP-42 emission factors, state certification processes, or voluntary industry testing standards when approved by the MPCA or EPA Tiered Emission Standards. [Minn. R. 7007.3000, Title I Condition: 40 CFR 52.21(k)]</p>
	5.14.33		<p>Recordkeeping for NOx emissions for No. 1 and No. 2 SRU Blower Diesel Engines: The Permittee shall maintain records and calculate the NOx emissions from the applicable units. The emissions shall be calculated using the following equation:</p> <p>$(\text{HP-hr small} \times \text{EFsmall} + \text{HP-hr large} \times \text{EF large}) / 2000$ less than</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>or equal to 10.01 tons per year based on 12-month rolling sum If after reaching the above limit, the Permittee shall increase the stack height and emission limit as stated below in Appendix E.</p> <p>$(\text{HP-hr small} \times \text{EF}_{\text{small}} + \text{HP-hr large} \times \text{EF}_{\text{large}}) / 2000$ less than or equal to 10.01 tons per year based on 12-month rolling sum where: HP-hr small = Small engines HP-hr large = Large engines EF = Emission factors (in pounds per HP-hr): The owner or operator shall use the most recent EPA's AP-42 emission factors, state certification processes, or voluntary industry testing standards when approved by the MPCA or EPA Tiered Emission Standards. [Minn. R. 7007.3000, Title I Condition: 40 CFR 52.21(k)]</p>
	5.14.34		<p>Recordkeeping for NOx emissions for Reformer Regenerator No. 1 Diesel Engines: The Permittee shall maintain records and calculate the NOx emissions from the applicable units. The emissions shall be calculated using the following equation:</p> <p>$(\text{HP-hr small} \times \text{EF}_{\text{small}} + \text{HP-hr large} \times \text{EF}_{\text{large}}) / 2000$ less than or equal to 4.66 tons per year based on 12-month rolling sum where: HP-hr small = Small engines HP-hr large = Large engines EF = Emission factors (in pounds per HP-hr): The Permittee shall use the most recent EPA's AP-42 emission factors, state certification processes, or voluntary industry testing standards when approved by the MPCA or EPA Tiered Emission Standards. [Minn. R. 7007.3000, Title I Condition: 40 CFR 52.21(k)]</p>
	5.14.35		<p>Recordkeeping for NOx emissions for Reformer Regenerator No. 2 Diesel Engines: The Permittee shall maintain records and calculate the NOx emissions from the applicable units. The emissions shall be calculated using the following equation:</p> <p>$(\text{HP-hr small} \times \text{EF}_{\text{small}} + \text{HP-hr large} \times \text{EF}_{\text{large}}) / 2000$ less than or equal to 4.66 tons per year based on 12-month rolling sum where: HP-hr small = Small engines HP-hr large = Large engines EF = Emission factors (in pounds per HP-hr): The Permittee shall use the most recent EPA's AP-42 emission factors, state certification processes, or voluntary industry testing standards when approved by the MPCA or EPA Tiered Emission Standards. [40 CFR 52.21(k), Minn. R. 7007.3000, Title I Condition: 40 CFR 50]</p>
	5.14.36		Recordkeeping for NOx emissions for Outlying Area Diesel

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>Engines: The Permittee shall maintain records and calculate the NOx emissions from the applicable units. The emissions shall be calculated using the following equation:</p> <p>Total (HP-hr small x EFsmall + HP-hr large x EF large)/2000 less than or equal to 16.27 tons per year based on 12-month rolling sum, and</p> <p>In aggregate, units designated G1, G2, G3, G5, and G11 (HP-hr small x EFsmall + HP-hr large x EF large)/2000 less than or equal to 15.01 tons per year based on 12-month rolling sum, and</p> <p>Unit designated G4 (HP-hr small x EFsmall + HP-hr large x EF large)/2000 less than or equal to 1.25 tons per year based on 12-month rolling sum</p> <p>HP-hr small = Small engines HP-hr large = Large engines</p> <p>EF = Emission factors (in pounds per HP-hr): The owner or operator shall use the most recent EPA's AP-42 emission factors, state certification processes, or voluntary industry testing standards when approved by the MPCA or EPA Tiered Emission Standards.</p> <p>G1 - Waste Water Treatment Facility - Fire Pump House G2 - Waste Water Treatment Facility - Tertiary Lagoon G3 - South Tank Farm G4 - Marketing Annex G5 - East Tank Farm G11 - Waste Water Treatment Facility Primary Lagoon G10 - Outdoor Power Center (OPC) 3 G12 - OPC 16. [Minn. R. 7007.3000, Title I Condition: 40 CFR 52.21(k), Title I Condition: 40 CFR pt. 50]</p>
	5.14.37		<p>Recordkeeping for NOx emissions for Main Refinery Area Diesel Engines: The Permittee shall maintain records and calculate the NOx emissions from the applicable units. The emissions shall be calculated using the following equation:</p> <p>(HP-hr small x EFsmall + HP-hr large x EF large)/2000 less than or equal to 13.39 tons per year based on 12-month rolling sum where:</p> <p>HP-hr small = Small engines HP-hr large = Large engines</p> <p>EF = Emission factors (in pounds per HP-hr): The Permittee shall use the most recent EPA's AP-42 emission factors, state certification processes, or voluntary industry testing standards when approved by the MPCA or EPA Tiered Emission Standards.</p> <p>Main Refinery Area Diesel Engines are G6, G7, G8, G13, G14WSE, G15-G24, G27, G28, G29, G31-G34, including G14WOE, G25. [Minn. R. 7007.3000, Title I Condition: 40 CFR 52.21(k), Title I Condition: 40 CFR pt. 50]</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
	5.14.38		<p>Recordkeeping for NOx emissions for Y2K Diesel Engines operated at OPC 6 (designated G14W0E): The Permittee shall maintain records and calculate the NOx emissions from the applicable units. The emissions shall be calculated using the following equation:</p> $\frac{(\text{HP-hr small} \times \text{EFsmall} + \text{HP-hr large} \times \text{EF large})}{2000}$ less than or equal to 5.91 tons per year based on 12-month rolling sum where: HP-hr small = Small engines HP-hr large = Large engines EF = Emission factors (in pounds per HP-hr): The Permittee shall use the most recent EPA's AP-42 emission factors, state certification processes, or voluntary industry testing standards when approved by the MPCA or EPA Tiered Emission Standards. [40 CFR 52.21(k), Minn. R. 7007.3000, Title I Condition: 40 CFR pt. 50]
	5.14.39		<p>Recordkeeping for NOx emissions for Y2K Diesel Engines operated at OPC 10 (designated G25): The Permittee shall maintain records and calculate the NOx emissions from the applicable units. The emissions shall be calculated using the following equation:</p> $\frac{(\text{HP-hr small} \times \text{EFsmall} + \text{HP-hr large} \times \text{EF large})}{2000}$ less than or equal to 1.77 tons per year based on 12-month rolling sum where: HP-hr small = Small engines HP-hr large = Large engines EF = Emission factors (in pounds per HP-hr): The Permittee shall use the most recent EPA's AP-42 emission factors, state certification processes, or voluntary industry testing standards when approved by the MPCA or EPA Tiered Emission Standards. [40 CFR 52.21(k), Minn. R. 7007.3000, Title I Condition: 40 CFR pt. 50]
	5.14.40		<p>Recordkeeping for Roaming Unit for a "single location": The Permittee shall maintain records and calculate the NOx emissions from the applicable units. The emissions shall be calculated using the following equation:</p> $\frac{\text{Total}(\text{HP-hr small} \times \text{EFsmall} + \text{HP-hr large} \times \text{EF large})}{2000}$ less than or equal to 13.81 tons per year based on 12-month rolling sum At any "single location" $\frac{(\text{HP-hr small} \times \text{EFsmall} + \text{HP-hr large} \times \text{EF large})}{2000}$ less than or equal to 0.767 tons per year based on 12-month rolling sum Roaming units shall be operated only inside facility fenceline.

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>Calculation of this limit for a "single location" shall include all roaming units that have been operated within 200 meters of the location under consideration.</p> <p>Roaming units operated outside of the 200 meter radius would accumulate to their own roaming unit limit.</p> <p>where:</p> <p>HP-hr small = Small engines HP-hr large = Large engines EF = Emission factors (in pounds per HP-hr): The Permittee shall use the most recent EPA's AP-42 emission factors, state certification processes, or voluntary industry testing standards when approved by the MPCA or EPA Tiered Emission Standards. [40 CFR 52.21(k), Minn. R. 7007.3000, Title I Condition: 40 CFR pt. 50]</p>
	5.14.41		<p>Recordkeeping: Calculate and record the 12-month rolling sum of NOx emissions for Group 1 - Group 9 by the 20th day of each month. [40 CFR pt. 52, 21(k), Minn. R. 7007.3000, Title I Condition: 40 CFR pt. 50]</p>
	5.14.42		<p>Diesel engines used to power a mobile source; or used for construction or maintenance or repair activities are exempt from the requirements of this permit and air permitting amendments.</p> <p>DEFINITION OF MOBILE SOURCE, CONSTRUCTION AND MAINTENANCE ACTIVITIES.</p> <p>Mobile Source - includes cranes, fork trucks, man lifts, trucks, back hoes, and front end loaders. A diesel located on a mobile source for which the primary activity of the engine is to power equipment other than the mobile source is not covered by this exemption.</p> <p>Maintenance or Repair Activity - includes welders, light plant sandblasters, waterblasters (used to clean heat exchanger bundles), and generators/compressors that are used to operate tools to perform maintenance or repairs.</p> <p>Construction Activity - diesel driven unit used temporarily to construct or modify refinery equipment and structures. Diesel driven units that are hooked up to the refinery equipment in order to aid or direct the refinery process, even if it is a temporary action due to equipment malfunction, are not covered by this exemption. [Minn. R. 7007.1150(B)]</p>
COMG 20	GP006	Fuel combustion devices using refinery oil	
	5.15.1		<p>EACH OF THE FOLLOWING COMG 20 (GP 006) CONDITIONS AND LIMITS WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. [Minn. R. 7007.0800, subp. 2]</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
	5.15.2		<p>Sulfur Dioxide <= 281 tons per year 365-day rolling sum from all combined fuel oil combusted with the associated items of COMG 20 (GP 006). Fuel oil shall be combusted only between October 1st and March 31st. (Consent Decree, as amended)</p> <p>THE ABILITY TO USE REFINERY FUEL OIL WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. [CAAA of 1990, Minn. R. 7007.0100, subps. 7(A) & 7(B), Minn. R. 7007.0800, subps. 1-2, Minn. Stat. 116.07, subd. 4a, Minn. Stat. 116.07, subd. 9]</p>
	5.15.3		<p>Monitoring and Recordkeeping for SO₂: The Permittee shall calculate and record the tons of SO₂ from fuel oil combusted per day upon the effective date of the SO₂ limit as established in the First Amendment to NSR Consent Decree.</p> <p>SO₂ emissions shall be determined using the following calculation: SO₂ tons/day = (barrels of fuel oil burned/day)*(42 gallons/barrel)*(measured density of the fuel oil, lb/gal)*(1 ton/2000 lb)*(measured weight percent sulfur)*(1/100)*(2 MW (SO₂)/MW(S))</p> <p>The Permittee shall calculate and record tons of SO₂ emissions based on barrels of fuel oil used for combustion at the facility on a daily basis. Calculation of 365-day rolling sum of SO₂ tons per year using daily records. [CAAA of 1990, Minn. R. 7007.0100, subps. 7(A) & 7(B), Minn. R. 7007.0800, subps. 1-2, Minn. Stat. 116..07, subd. 4a & 9, Title I Condition: 40 CFR pt. 52]</p>
	5.15.4		<p>Fuel Sulfur Content and Heating Value: The Company shall demonstrate compliance with the SO₂ emission limitations for the fuel burning units by obtaining the sulfur content and heating value of the refinery oil used in the emission units at the facility by sampling and analyzing the fuel. [Title I Condition: 40 CFR pt. 50, Title I Condition: 40 CFR pt. 52, Y]</p>
	5.15.5		<p>Fuel Oil Sampling and Analysis: The Company shall collect one sample of fuel at tank side tank within 24 hours after receiving a transfer of fuel into the fuel supply tank. The sampling method shall be in accordance with a method approved by ASTM. [Title I Condition: 40 CFR 50, Title I Condition: 40 CFR pt. 52, Y]</p>
	5.15.6		<p>Fuel Oil Sampling and Analysis: The Company shall analyze the fuel oil sample to determine the sulfur content of the fuel oil. The analysis shall conform to the most current version of a method approved by ASTM. [Title I Condition: 40 CFR pt. 50, Title I Condition: 40 CFR pt. 52, Y]</p>
	5.15.7		<p>Fuel Oil Sampling and Analysis: The Company shall analyze quarterly the fuel oil sample to determine the heating value of the fuel oil. The analysis shall conform to a method approved</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			by ASTM. [Title I Condition: 40 CFR 50, Title I Condition: 40 CFR pt. 52, Y]
COMG 21	GP017	Storage Tank Heaters (applies to each)	
	5.16.1		Total Particulate Matter <= 0.40 pounds per million Btu heat input 3-hour rolling average. Compliance with the fuel restriction requirement constitutes compliance with this limit. [Minn. R. 7011.1405, subp. 3(A)]
	5.16.2		Sulfur Dioxide < 1.75 pounds per million Btu heat input 3-hour rolling average for all heaters. No more than 3.0 lbs/million BTU heat input for any one heater. Compliance with the fuel restriction requirement constitutes compliance with this limit. [Minn. R. 7011.1405, subp. 2]
	5.16.3		Opacity <= 20 percent opacity; except for one six-minute period per hour of not more than 60 percent opacity. [Minn. R. 7011.1405, subp. 3(B)]
	5.16.4		Fuel Restriction: Burn propane and or/ natural gas only in the unit. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.16.5		Recordkeeping: The Permittee shall record and maintain records of each fuel combusted on a monthly basis. [Minn. R. 7007.0800, subp. 2]
COMG 25	GP034	Cooling Towers and associated Heat Exchange Systems	
	5.17.1		The Permittee shall analyze cooling tower water for chromium if requested by the Administrator or the MPCA. [40 CFR 63.404, Minn. R. 7011.7160]
	5.17.2		The Permittee shall retain copy of Initial Notification and Notification of Compliance status on-site for a minimum of 5 years. [40 CFR 63.10, 40 CFR 63.405, 40 CFR 63.406, 40 CFR 63.9, Minn. R. 7011.7160, Minn. R. 7011.7280]
	5.17.3		Perform monthly monitoring to identify leaks of total strippable volatile organic compound (VOC) from each heat exchange system subject to the requirements of 40 CFR Section 63.654 according to the procedures in 63.654 (c)(1) and (2). [40 CFR 63.654(c), Minn. R. 7011.7280]
	5.17.4		If a leak is detected, the Permittee must repair the leak to reduce the measured concentration to below the applicable action level as soon as practicable, but no later than 45 days after identifying the leak, except as specified in 40 CFR Section 63.645 (e) and (f). Alternatively the leaking exchanger may be isolated, bypassed, or otherwise removed from service until it

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			is otherwise repaired. [40 CFR 63.654(d)(1)-(5), Minn. R. 7011.7280]
	5.17.5		<p>If a leak is detected when monitoring a cooling tower return line, additional monitoring may be conducted to identify leaks of total strippable VOC emissions using Modified El Paso Method from each heat exchanger or group of heat exchangers in organic HAP service associated with the heat exchange system for which the leak was detected. If the additional monitoring shows that the total strippable VOC concentration in the stripped air at the heat exchanger exit line for each heat exchanger in organic HAP service is less than 6.2 ppmv for existing sources or less than 3.1 ppmv for new sources, the heat exchange system is excluded from repair requirements.</p> <p>[40 CFR 63.654(e), Minn. R. 7011.7280]</p>
	5.17.6		<p>Delay of Repair: a leaking heat exchanger may be placed on delay of repair within 45 days of leak identification if the repair is technically infeasible without a shutdown and the total strippable VOC concentration (as methane) is initially and remains less than 62 ppmv for all monthly monitoring periods during the delay of repair. Repair must be conducted during the next scheduled shutdown of the heat exchange system and within 30 days of the monitoring event in which the leak was 62 ppmv or greater total strippable VOC (as methane).</p> <p>[40 CFR 63.654(f)(1), Minn. R. 7011.7280]</p>
	5.17.7		<p>Delay of Repair: a leaking heat exchanger may be placed on delay of repair within 45 days of leak identification if the necessary equipment, parts, or personnel are not available and the total strippable VOC concentration (as methane) is initially and remains less than 62 ppmv for all monthly monitoring periods during the delay of repair. Repair must occur within 120 calendar days of being placed on Delay of Repair and within 30 days of a monitoring event in which the leak was 62 ppmv or greater total strippable VOC (as methane).</p> <p>[40 CFR 63.654(f)(1), Minn. R. 7011.7280]</p>
	5.17.8		<p>For heat exchange systems placed on Delay of Repair: Record: the reasons for delaying repair, a schedule for completing the repair as soon as practical, the date and concentration of the leak as first identified and the results of all subsequent monthly monitoring events during the delay of repair and an estimate of the potential emissions from the leaking heat exchange system or heat exchanger per 40 CFR Section 63.654(g)(4)(i) and (g)(4)(ii).</p> <p>[40 CFR 63.654(f)(2), Minn. R. 7011.7280]</p>
	5.17.9		<p>Submit a Notification of Compliance Status report per the requirements specified in 40 CFR Section 63.655(f). [40 CFR</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			63.655(f)(1)&(g)(9), Minn. R. 7011.7280]
	5.17.10		For heat exchange systems submit Periodic Reports that include the information found in 40 CFR Section 63.655(g)(9)(i) -vi). [40 CFR 63.655(g)(9), Minn. R. 7011.7280, Minn. R. 7011.7280(A)]
	5.17.11		The Permittee of a heat exchange system shall comply with recordkeeping requirements of paragraphs (i)(4)(i) through (vi) of 40 CFR Section 63.655. [40 CFR 63.655, Minn. R. 7011.7280, Minn. R. 7011.7280(A)]
COMG 26	GP005	Hydrogen Plant Heaters	
	5.18.1		Sulfur Dioxide <= 3.48 pounds per hour 3-hour rolling average (most stringent, meets the limit set by Minn. R. 7011.1410, subp. 3(A)). [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.18.2		Sulfur Dioxide <= 0.030 pounds per million Btu heat input 3-hour rolling average (most stringent, meets the limit set by Minn. R. 7011.1410, subp. 3(A)). [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.18.3		Hydrogen Sulfide (H2S) <= 162 parts per million 3-hour average Fuel Restriction. The company shall not burn refinery gas with a hydrogen sulfide content in excess of 162 ppm as an average for any consecutive 3-hour period. [40 CFR pt. 60, subp. Ja, Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.18.4		Hydrogen Sulfide (H2S) <= 230 milligrams per dscm 3-hour rolling average (H2S limit) for fuel gas combusted in a device subject to this subpart (0.10 gr/dscf); flare emergency reliefs are exempt. [40 CFR 60.104(a)(1), Minn. R. 7011.1435(A)]
	5.18.5		Total Particulate Matter <= 0.40 pounds per million Btu heat input 3-hour rolling average. Compliance with fuel restriction requirement constitutes compliance with this limit. [Minn. R. 7011.1410, subp. 3(B)]
	5.18.6		Sulfur Dioxide <= 1.75 pounds per million Btu heat input 3-hour rolling average. Compliance with fuel restriction requirement constitutes compliance with this limit. [Minn. R. 7011.1410, subp. 3(A)]
	5.18.7		Opacity <= 20 percent opacity 6-minute average; except for one six-minute period per hour of not more than 60 percent opacity. [Minn. R. 7011.1410, subp. 3(B)]
	5.18.8		Fuel Restriction: Burn PSA gas, refinery gas and/or natural gas in the unit only. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.18.9		Recordkeeping: The Permittee shall record and maintain records of each fuel combusted in each heater on a monthly basis. [Minn. R. 7007.0800, subp. 2]
	5.18.10		Fuel Usage <= 116.0 million Btu per hour 8-hour block average based on the lower heating value of fuel burned.

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>The unit may not be operated at a higher heat input unless a performance test is conducted at a higher rate and MPCA staff determine compliance at that rate for the emission unit. [Minn. R. 7017.2025]</p>
	5.18.11		<p>Recordkeeping of Heat Input: Once each 8-hour operating period, record the amount of fuel combusted in the units. Once each operating day, calculate the average heat input for each 8-hour block by dividing the total heat input by the total operating time in each 8-hour block. Downtime of 15 or more minutes is not to be included as operating time. [Minn. R. 7007.0800, subp. 5]</p>
	5.18.12		<p>Fuel Flowrate: calibrate, operate and maintain CMS that record the fuel flow rate at each fuel combustion device. [Title I Condition: 40 CFR 51.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]</p>
	5.18.13		<p>Sulfur Dioxide Emissions: The Permittee shall use the combination of the fuel flowrate and the H₂S CEMS to measure SO₂ emissions from STRU 87 (SV 023). [Title I Condition: 40 CFR 51.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]</p>
	5.18.14		<p>SO₂ Emissions Recordkeeping: The Permittee shall maintain records of the calculated SO₂ emissions in pounds per hour (lb/hr). [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]</p>
	5.18.15		<p>CEMS Continuous Operation: CEMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A CEMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment.</p> <p>Acceptable monitor downtime includes reasonable periods due to the following causes:</p> <ul style="list-style-type: none"> A. damage to the monitoring system due to a Force Majeure such as lightning strikes, tornadoes, or floods which render the monitor inoperative; B. sudden and not reasonably preventable breakdowns; C. scheduled monitor maintenance based upon equipment manufacturer's recommended maintenance schedule which cannot reasonably be conducted when the emission unit is not operating; or D. unavoidable monitor downtime in order to conduct daily drift checks, calibration error audits, relative accuracy test audits, linearity checks, and cylinder gas audits required by a compliance document, applicable requirement, or by request of the Commissioner. [Minn. R. 7017.1090, subp. 1, Title I

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.18.16		CMS Quality Assurance/Quality Control (QA/QC): The Permittee shall develop and follow a written QA/QC plan which cover the CMS. The plan shall be on-site, available for inspection within 30 days after permit issuance and updated as necessary. At a minimum the CMS shall be calibrated annually. [Minn. R. 7007.0800, subp. 2, Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
COMG 27	GP032	Boilers 7 & 8	
	5.19.1		Sulfur Dioxide <= 0.025 pounds per million Btu heat input 3-hour rolling average. Compliance with the fuel restriction constitutes compliance with this limit. [Title I Condition: 40 CFR 51.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.19.2		Hydrogen Sulfide (H2S) <= 162 parts per million by volume (dry basis, corrected to 0 percent excess air) on an hourly-determined 3-hour rolling average basis. This H2S limit applies to the fuel gas combusted in COMG 27 (GP 032) boilers. [Title I Condition: 40 CFR 51.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.19.3		Fuel Flowrate: calibrate, operate and maintain Continuous Monitoring Systems (CMS)s that records the fuel flow rate at each fuel combustion device (EQUI 42 and EQUI 43). [Title I Condition: 40 CFR 51.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.19.4		Sulfur Dioxide Emissions: The Permittee shall use the combination of the fuel flowrate CMS and the H2S CEMS to individually measure sulfur dioxide emissions from STRU 44 (SV 081) and STRU 45 (SV 082). [Title I Condition: 40 CFR 51.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.19.5		Sulfur Dioxide Emissions Recordkeeping: The Permittee shall maintain records of the calculated SO2 emissions in pounds per hour (lb/hr) for STRU 44 (SV 081) and STRU 45 (SV 082). [Title I Condition: 40 CFR 51.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.19.6		<p>CEMS Continuous Operation: CEMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A CEMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment. Acceptable monitor downtime includes reasonable periods due to the following causes:</p> <p>A. damage to the monitoring system due to a Force Majeure such as lightning strikes, tornadoes, or floods which render the</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>monitor inoperative; B. sudden and not reasonably preventable breakdowns; C. scheduled monitor maintenance based upon equipment manufacturer's recommended maintenance schedule which cannot reasonably be conducted when the emission unit is not operating; or D. unavoidable monitor downtime in order to conduct daily drift checks, calibration error audits, relative accuracy test audits, linearity checks, and cylinder gas audits required by a compliance document, applicable requirement, or by request of the Commissioner. [Title I Condition: 40 CFR 51.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]</p>
	5.19.7		<p>The Permittee shall monitor fuel gas H2S content with a CMS. [Minn. R. 7011.1420, subp. 2(B), Title I Condition: 40 CFR 51.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]</p>
	5.19.8		<p>Permitted Fuels: Limited to refinery fuel gas (also referred to as 'fuel gas') and pipeline natural gas only. [Title I Condition: 40 CFR 51.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000]</p>
	5.19.9		<p>Recordkeeping: Record and maintain records of each fuel combusted in the boilers on a monthly basis. [Minn. R. 7007.0800, subp. 2]</p>
	5.19.10		<p>Nitrogen Oxides <= 38.0 tons per year 12-month rolling sum for total COMG 27 NOx. This limit applies during all operating periods including startup, shutdown, and malfunction. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000]</p>
	5.19.11		<p>Carbon Monoxide <= 95.0 tons per year 12-month rolling sum for total COMG 27 CO. This limit applies during all operating periods including startup, shutdown, and malfunction. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000]</p>
	5.19.12		<p>Emissions Monitoring: The Permittee shall install, operate, certify, and maintain CEMS to measure NOx and CO emissions from each COMG 27 boiler. The NOx CEMS required by pt. 60 subp. Db may be used to meet this requirement for installation of a NOx CEMS. The data acquisition system for each CEMS shall record data in lb/hr, in addition to the emission measurement requirements of subp. Db.</p> <p>Refer to Subject Items EQUI 212, EQUI 213, EQUI 214, EQUI 215, EQUI 216, and EQUI 217 for requirements applicable to these monitors. [Minn. R. 7017.1006, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000]</p>
	5.19.13		<p>NOx and CO Emissions Monitoring: The Permittee shall use the NOx and CO CEMS to determine lb/hr emissions of each pollutant for all COMG 27 boiler operations including startup,</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>shutdown, and malfunction. The CEMS shall be maintained according to the requirements of part 60 Appendix B performance specification 2 for NOx, performance specification 4 or 4a as appropriate for CO, and Appendix F for both NOx and CO CEMS.</p> <p>Once each day the Permittee shall calculate and record the total pounds of NOx and the total pounds of CO emitted during the previous day by the COMG 27 boilers.</p> <p>NOx and CO Emissions Monitoring: By the 15th day of each month, the Permittee shall calculate and record the following:</p> <ol style="list-style-type: none"> 1. total COMG 27 NOx emissions for the previous month (tons per month) based on the daily NOx emissions data; 2. total COMG 27 NOx emissions for the previous 12-month period by summing the monthly NOx emissions data for the previous 12 months; 3. total COMG 27 CO emissions for the previous month (tons per month) based on the daily CO emissions data; 4. total COMG 27 CO emissions for the previous 12-month period by summing the monthly CO emissions data for the previous 12 months. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000]
	5.19.14		Hydrogen Sulfide (H2S) <= 0.10 grains per dry standard cubic foot (230 mg/dscm) of fuel gas. [Minn. R. 7011.1410, subp. 2]
	5.19.15		Sulfur Dioxide <= 1.75 pounds per million Btu heat input 3-hour rolling average. [Minn. R. 7011.1410, subp. 3(A)]
	5.19.16		Total Particulate Matter <= 0.40 pounds per million Btu heat input 3-hour rolling average. [Minn. R. 7011.1410, subp. 3(B)]
	5.19.17		Opacity <= 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity. [Minn. R. 7011.1410, subp. 3(B)]
	5.19.18		Nitrogen Oxides <= 0.20 pounds per million Btu heat input 30-day rolling average when combusting natural gas or a mixture of natural gas and refinery fuel gas. This limit applies at all times including startup, shutdown, and malfunction. [40 CFR 60.44b(h) and (i), 40 CFR 60.44b(l)(1), 40 CFR 60.46b(a), Minn. R. 7011.0565]
	5.19.19		NOx Compliance Determination: The Permittee shall use the NOx CEMS required under 40 CFR Section 60.48b to conduct the performance test required by 40 CFR Section 60.8. For the initial compliance test, NOx is monitored for 30 successive steam generating unit operating days (as defined at 40 CFR Section 60.41b) and the 30-day average emission rate is used to determine compliance with the NOx limit under 40 CFR Section 60.44b. The 30 day average emission rate is calculated as the average of all hourly emissions data recorded by the

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			CEMS during the 30-day test period. [40 CFR 60.46b(c) and (e), Minn. R. 7011.0565]
	5.19.20		<p>After the date on which the initial performance test is completed or required to be completed under 40 CFR Section 60.8, whichever date comes first, the Permittee shall upon request determine compliance with the NOx limit under 40 CFR Section 60.44b through the use of a 30-day performance test.</p> <p>During periods when performance tests are not requested, NOx emissions data collected pursuant to 40 CFR Section 60.48b(g)(1) are used to calculate a 30-day rolling average emission rate on a daily basis and used to prepare excess emission reports, but will not be used to determine compliance with the NOx emission standard at 40 CFR Section 60.44b(l)(1). A new 30-day rolling average emission rate is calculated each steam generating unit operating day as the average of all of the hourly NOx emission data for the preceding 30 steam generating unit operating days. [40 CFR 60.46b(e)(4), Minn. R. 7011.0565]</p>
	5.19.21		The Permittee shall install, calibrate, maintain, and operate a continuous emissions monitoring system (CEMS), and record the output of the system, for measuring NOx emissions and O2 discharged to the atmosphere. [40 CFR 60.48b(b)(1), Minn. R. 7011.0565]
	5.19.22		The CEMS required under 40 CFR Section 60.48b(b) shall be operated and data recorded during all periods of operation of the COMG 27 emission unit except for CEMS breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments. [40 CFR 60.48b(c), Minn. R. 7011.0565]
	5.19.23		The 1-hour average NOx emission rates measured by the CEMS and required under 40 CFR Section 60.13(h) shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the average emission rates under 40 CFR Section 60.44b. The 1-hour averages shall be calculated using the data points required under 40 CFR Section 60.13(h)(2). [40 CFR 60.48b(d), Minn. R. 7011.0565]
	5.19.24		The procedures under 40 CFR Section 60.13 shall be followed for installation, evaluation, and operation of the continuous monitoring systems. Determine the NOx CEMS span value according to 40 CFR Sections 60.48b(e)(2) and (e)(3). [40 CFR 60.48b(e), Minn. R. 7011.0565]
	5.19.25		When NOx emission data are not obtained because of CEMS breakdowns, repairs, calibration checks and zero and span adjustments, emission data will be obtained by using standby monitoring systems, Method 7, Method 7A, or other approved reference methods to provide emission data for a minimum of 75 percent of the operating hours in each steam generating unit operating day, in at least 22 out of 30 successive steam

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			generating unit operating days. [40 CFR 60.48b(f), Minn. R. 7011.0565]
	5.19.26		The Permittee shall comply with the provisions of paragraphs (b), (c), (d), (e)(2), (e)(3), and (f) of Section 60.48b. [40 CFR 60.48b(g)(1), Minn. R. 7011.0565]
	5.19.27		<p>The Permittee shall submit notification of the date of initial startup, as provided by 40 CFR Section 60.7 for each COMG 27 boiler. This notification shall include:</p> <p>(1) The design heat input capacity of each COMG 27 boiler and identification of the fuels to be combusted in each COMG 27 boiler,</p> <p>(3) The annual capacity factor at which the Permittee anticipates operating each COMG 27 boiler based on all fuels fired and based on each individual fuel fired. [40 CFR 60.49b(a)(1) and (3), Minn. R. 7011.0565]</p>
	5.19.28		The Permittee shall submit to the Administrator the NOx performance test data from the initial performance test and the performance evaluation of the CEMS using the applicable performance specifications in 40 CFR pt. 60, Appendix B. [40 CFR 60.49b(b), Minn. R. 7011.0565]
	5.19.29		For each COMG 27 boiler, the Permittee shall record and maintain records of the amounts of each fuel combusted during each day and calculate the annual capacity factor individually for natural gas for the reporting period. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of each calendar month. [40 CFR 60.49b(d), Minn. R. 7011.0565]
	5.19.30		<p>The Permittee shall maintain records of the following information for each steam generating unit operating day for each COMG 27 boiler:</p> <p>(1) Calendar date.</p> <p>(2) The average hourly nitrogen oxides emission rates (expressed as NO₂) (ng/J or lb/million Btu heat input) measured or predicted.</p> <p>(3) The 30-day average NO_x emission rates (ng/J or lb/million Btu heat input) calculated at the end of each steam generating unit operating day from the measured or predicted hourly NO_x emission rates for the preceding 30 steam generating unit operating days.</p> <p>(4) Identification of the steam generating unit operating days when the calculated 30-day average NO_x emission rates are in excess of the NO_x emissions standards under Section 60.44b, with the reasons for such excess emissions as well as a</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>description of corrective actions taken.</p> <p>5) Identification of the steam generating unit operating days for which pollutant data have not been obtained, including reasons for not obtaining sufficient data and a description of corrective actions taken.</p> <p>(6) Identification of the times when emission data have been excluded from the calculation of average emission rates and the reasons for excluding data.</p> <p>(7) Identification of F factor used for calculations, method of determination, and type of fuel combusted.</p> <p>(8) Identification of the times when the pollutant concentration exceeded full span of the continuous monitoring system.</p> <p>(9) Description of any modifications to the continuous monitoring system that could affect the ability of the continuous monitoring system to comply with Performance Specification 2 or 3.</p> <p>(10) Results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1. [40 CFR 60.49b(g), Minn. R. 7011.0565]</p>
	5.19.31		<p>The Permittee is required to submit excess emission reports for any excess NOx emissions which occurred during the reporting period.</p> <p>For purposes of 40 CFR Section 60.48b(g)(1), excess emissions are defined as any calculated 30-day rolling average NOx emission rate, as determined under 40 CFR Section 60.46b(e), which exceeds the applicable emission limit in 40 CFR Section 60.44b. [40 CFR 60.49b(h)(2) and (4), Minn. R. 7011.0565]</p>
	5.19.32		<p>The Permittee shall submit reports containing the information recorded under 40 CFR Section 60.49b(g). [40 CFR 60.49b(i), Minn. R. 7011.0565]</p>
	5.19.33		<p>Recordkeeping: Retain all records required under 40 CFR pt. 60, subp. Db and subp. Ja at the stationary source for a period of five (5) years from the date of monitoring sample, measurement, or report. Records which must be retained at this location include all calibration and maintenance records, all original recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Records must conform to the requirements listed in Minn. R. 7007.0800, subp. 5(A). [40 CFR 60.49b(o), Minn. R. 7007.0800, subp. 5, Minn. R. 7011.0565]</p>
	5.19.34		<p>Hydrogen Sulfide (H2S) <= 162 parts per million by volume (dry basis, corrected to 0 percent excess air) on an hourly-</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>determined 3-hour rolling average basis, and 60 parts per million by volume (dry basis, corrected to 0 percent excess air), on a daily-determined 365-calendar day rolling average basis.</p> <p>These limits apply to fuel gas H2S content. [40 CFR 60.102a(g)(1)(ii)]</p>
	5.19.35		<p>The combustion in a portable generator of fuel gas released as a result of tank degassing and/or cleaning is exempt from the emissions limits in 40 CFR Section 60.102a (g)(1)(i) and (ii). [40 CFR 60.102a(g)(1)(iii)]</p>
	5.19.36		<p>Work Practice or Operational Standards: Each owner or operator that operates a fuel gas combustion device subject to this subpart shall conduct a root cause analysis and a corrective action analysis for each of the conditions specified in paragraphs (c)(1) through (3) of this section. For a fuel gas combustion device, each exceedance of an applicable short-term emission limits in 40 CFR Section 60.101a(g)(1) that causes a discharge to the atmosphere in excess of 227 kilograms per day (kg/day) (500 lb per day (lb/day)) of SO₂ that would have been emitted if the emission limits had been met during one or more consecutive periods of excess emissions or any 24-hour period, whichever is shorter.</p> <p>[40 CFR 60.103a(c)]</p>
	5.19.37		<p>(d) Except as provided in 40 CFR Section 60.103a(f) and (g), a root cause analysis and corrective action analysis must be completed as soon as possible, but no later than 45 days after a discharge meeting one of the conditions specified in 40 CFR Section 60.103a(c)(1) through (3). Special circumstances affecting the number of root cause analyses and/or corrective action analyses are provided in 40 CFR Section 103a(d)(1) through (5) of this section.</p> <p>(1) If a single continuous discharge meets any of the conditions specified in paragraphs (c)(1) through (3) of this section for 2 or more consecutive 24-hour periods, a single root cause analysis and corrective action analysis may be conducted.</p> <p>(5) Except as provided in 40 CFR Section 60.103a(d)(4), if discharges occur that meet any of the conditions specified in 40 CFR Section 60.103a(c)(1) through (3) for more than one affected facility in the same 24-hour period, initial root cause analyses shall be conducted for each affected facility. If the initial root cause analyses indicate that the discharges have the same root cause(s), the initial root cause analyses can be recorded as a single root cause analysis and a single corrective action analysis may be conducted. [40 CFR 60.103a(d)]</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
	5.19.38		<p>(e) Except as provided 40 CFR Section 60.103a(f) and (g) of this section, each Permittee of a fuel gas combustion device, flare subject to this subpart shall implement the corrective action(s) identified in the corrective action analysis conducted pursuant to paragraph (d) of this section in accordance with the applicable requirements in 40 CFR Section 60.103a(e)(1) through (3).</p> <p>(1) All corrective action(s) must be implemented within 45 days of the discharge for which the root cause and corrective action analyses were required or as soon thereafter as practicable. If an owner or operator concludes that corrective action should not be conducted, the owner or operator shall record and explain the basis for that conclusion no later than 45 days following the discharge as specified in 40 CFR Section 60.108a(c)(6)(ix).</p> <p>(2) For corrective actions that cannot be fully implemented within 45 days following the discharge for which the root cause and corrective action analyses were required, the Permittee shall develop an implementation schedule to complete the corrective action(s) as soon as practicable.</p> <p>(3) No later than 45 days following the discharge for which a root cause and corrective action analyses were required, the Permittee shall record the corrective action(s) completed to date, and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates as specified in 40 CFR Section 60.108a(c)(6)(x). [40 CFR 60.103a(e)]</p>
	5.19.39		<p>The Permittee of a fuel gas combustion device that is subject to 40 CFR Section 60.102a(g)(1) and elects to comply with the H2S concentration limits in 40 CFR Section 60.102a(g)(1)(ii) shall comply with 40 CFR Section 60.107a(a)(2). [40 CFR 60.107a(a)]</p>
	5.19.40		<p>The Permittee of a fuel gas combustion device that elects to comply with the H2S concentration limits in 40 CFR Section 60.102a(g)(1)(ii) that is subject to the H2S concentration requirement in 40 CFR Section 60.103a(h) shall install, operate, calibrate and maintain an instrument for continuously monitoring and recording the concentration by volume (dry basis) of H2S in the fuel gases before being burned in any fuel gas combustion device.</p> <p>The Permittee shall monitor fuel gas H2S content with the existing H2S CEMS EQUI 163 (MR 001) as described in 40 CFR Section 60.107(a)(2). Therefore, H2S performance tests are not required for EQUI 42 (EU 092) and EQUI 43 (EU 093).</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>EQUI 163 is the common source fuel gas H2S monitor described in 40 CFR Section 60.107a(a)(2)(iv) and meets the requirements of 40 CFR Section 60.107a(a)(2). [40 CFR 60.107a(a)(2)]</p>
	5.19.41		<p>(3) The Permittee of a fuel gas combustion device is not required to comply with 40 CFR Section 60.107a(a)(1) or (2) for fuel gas streams that are exempt under 40 CFR Section 60.102a(g)(1)(iii) or 60.103a(h) or, for fuel gas streams combusted in a process heater, other fuel gas combustion device or flare that are inherently low in sulfur content. Fuel gas streams meeting one of the requirements in 40 CFR Section 60.017a(a)(3)(i) through (iv) of this section will be considered inherently low in sulfur content.</p> <p>(i) Pilot gas for heaters.</p> <p>(ii) Fuel gas streams that meet a commercial-grade product specification for sulfur content of 30 ppmv or less. In the case of a liquefied petroleum gas (LPG) product specification in the pressurized liquid state, the gas phase sulfur content should be evaluated assuming complete vaporization of the LPG and sulfur containing-compounds at the product specification concentration.</p> <p>(iii) Fuel gas streams produced in process units that are intolerant to sulfur contamination, such as fuel gas streams produced in the hydrogen plant, catalytic reforming unit, isomerization unit, and HF alkylation process units.</p> <p>(iv) Other fuel gas streams that an owner or operator demonstrates are low-sulfur according to the procedures in 40 CFR Section 60.107a(b).</p> <p>(4) If the composition of an exempt fuel gas stream changes, the Permittee must follow the procedures in 40 CFR Section 60.107a(b)(3) of this section. [40 CFR 60.107a(a)(3 & 4)]</p>
	5.19.42		<p>(b) Exemption from H2S monitoring requirements for low-sulfur fuel gas streams. The Permittee of a fuel gas combustion device may apply for an exemption from the H2S monitoring requirements in 40 CFR Section 60.107a(a)(2) for a fuel gas stream that is inherently low in sulfur content. A fuel gas stream that is demonstrated to be low-sulfur is exempt from the monitoring requirements of 40 CFR Section 60.107a(a)(1) and (2) until there are changes in operating conditions or stream composition.</p> <p>1) The Permittee shall submit to the Administrator a written application for an exemption from monitoring. The application must contain the following information:</p> <p>(i) A description of the fuel gas stream/system to be considered, including submission of a portion of the appropriate piping diagrams indicating the boundaries of the fuel gas stream/system and the affected fuel gas combustion</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>device(s) or flare(s) to be considered;</p> <p>(ii) A statement that there are no crossover or entry points for sour gas (high H2S content) to be introduced into the fuel gas stream/system (this should be shown in the piping diagrams);</p> <p>(iii) An explanation of the conditions that ensure low amounts of sulfur in the fuel gas stream (i.e., control equipment or product specifications) at all times;</p> <p>(iv) The supporting test results from sampling the requested fuel gas stream/system demonstrating that the sulfur content is less than 5 ppm H2S. Sampling data must include, at minimum, 2 weeks of daily monitoring (14 grab samples) for frequently operated fuel gas streams/systems; for infrequently operated fuel gas streams/systems, seven grab samples must be collected unless other additional information would support reduced sampling. The Permittee shall use detector tubes (length-of-stain tube type measurement) following the Gas Processors Association Standard 2377-86, Test for Hydrogen Sulfide and Carbon Dioxide in Natural Gas Using Length of Stain Tubes, 1986 Revision (incorporated by reference, see 40 CFR Section 60.17), with ranges 0-10/0-100 ppm (N = 10/1) to test the applicant fuel gas stream for H2S; and</p> <p>(v) A description of how the 2 weeks (or seven samples for infrequently operated fuel gas streams/systems) of monitoring results compares to the typical range of H2S concentration (fuel quality) expected for the fuel gas stream/system going to the affected fuel gas combustion device or flare (e.g., the 2 weeks of daily detector tube results for a frequently operated loading rack included the entire range of products loaded out and, therefore, should be representative of typical operating conditions affecting H2S content in the fuel gas stream going to the loading rack flare).</p> <p>(2) The effective date of the exemption is the date of submission of the information required in 40 CFR Section 60.107a(b)(1) of this section. [40 CFR 60.107a(b)]</p>
	5.19.43		<p>(3) No further action is required unless refinery operating conditions change in such a way that affects the exempt fuel gas stream/system (e.g., the stream composition changes). If such a change occurs, the owner or operator shall follow the procedures in 40 CFR Section 60.107a(b)(3)(i), (b)(3)(ii), or (b)(3)(iii).</p> <p>(i) If the operation change results in a sulfur content that is still within the range of concentrations included in the original application, the Permittee shall conduct an H2S test on a grab sample and record the results as proof that the concentration is still within the range.</p> <p>(ii) If the operation change results in a sulfur content that is outside the range of concentrations included in the original</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>application, the Permittee may submit new information following the procedures of 40 CFR Section 60.107a(b)(1) within 60 days (or within 30 days after the seventh grab sample is tested for infrequently operated process units).</p> <p>(iii) If the operation change results in a sulfur content that is outside the range of concentrations included in the original application and the Permittee chooses not to submit new information to support an exemption, the Permittee must begin H2S monitoring using daily stain sampling to demonstrate compliance. The Permittee must begin monitoring according to the requirements in 40 CFR Section 60.107a(a)(1) or (a)(2) as soon as practicable, but in no case later than 180 days after the operation change. During daily stain tube sampling, a daily sample exceeding 162 ppmv is an exceedance of the 3-hour H2S concentration limit. The owner or operator of a fuel gas combustion device must also determine a rolling 365-day average using the stain sampling results; an average H2S concentration of 5 ppmv must be used for days within the rolling 365-day period prior to the operation change. [40 CFR 60.107a(b)]</p>
	5.19.44		<p>(i) Excess emissions. For the purpose of reports required by 40 CFR Section 60.7(c), periods of excess emissions for fuel gas combustion devices subject to the emissions limitations in 40 CFR Section 60.102a(g) are defined as specified in 40 CFR Section 60.107a(i)(1) through (5). Determine a rolling 3-hour or a rolling daily average as the arithmetic average of the applicable 1-hour averages (e.g., a rolling 3-hour average is the arithmetic average of three contiguous 1-hour averages). Determine a rolling 30-day or a rolling 365-day average as the arithmetic average of the applicable daily averages (e.g., a rolling 30-day average is the arithmetic average of 30 contiguous daily averages).</p> <p>ii) If the Permittee of a fuel gas combustion device elects to comply with the H2S concentration limits in 40 CFR Section 60.102a(g)(1)(ii), each rolling 3-hour period during which the average concentration of H2S as measured by the H2S continuous monitoring system required under 40 CFR Section 60.107a(a)(2) exceeds 162 ppmv and each rolling 365-day period during which the average concentration as measured by the H2S continuous monitoring system under 40 CFR Section 60.107a(a)(2) exceeds 60 ppmv.</p> <p>(iii) If the Permittee of a fuel gas combustion device becomes subject to the requirements of daily stain tube sampling in 40 CFR Section 60.107a(b)(3)(iii) each day during which the daily concentration of H2S exceeds 162 ppmv and each rolling 365-day period during which the average concentration of H2S exceeds 60 ppmv. [40 CFR 60.107a(i)]</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
	5.19.45		(a) Each Permittee subject to the emissions limitations in 40 CFR Section 60.102a shall comply with the notification, recordkeeping, and reporting requirements in 40 CFR Section 60.7 and other requirements as specified in this section. [40 CFR 60.108a(a)]
	5.19.46		<p>(c) The Permittee shall maintain the following records:</p> <p>(5) For each fuel gas stream to which one of the exemptions listed in 40 CFR Section 60.107a(a)(3) applies, records of the specific exemption determined to apply for each fuel stream. If the Permittee applies for the exemption described in 40 CFR Section 60.107a(a)(3)(iv), the Permittee must keep a copy of the application as well as the letter from the Administrator granting approval of the application.</p> <p>(6) Records of discharges greater than 500 lb SO₂ in excess of the allowable limits from a fuel gas combustion device in any 24-hour period as required by 40 CFR Section 60.103a(c). The following information shall be recorded no later than 45 days following the end of a discharge exceeding the thresholds:</p> <p>(i) A description of the discharge.</p> <p>(ii) The date and time the discharge was first identified and the duration of the discharge.</p> <p>(iii) The measured or calculated cumulative quantity of gas discharged over the discharge duration. If the discharge duration exceeds 24 hours, record the discharge quantity for each 24-hour period. Engineering calculations are allowed for fuel gas combustion devices, but are not allowed for flares, except for those complying with the alternative monitoring requirements in 40 CFR Section 60.107a(g).</p> <p>(v) For each discharge greater than 500 lb SO₂ in excess of the applicable short-term emissions limit in 40 CFR Section 60.102a(g)(1) from a fuel gas combustion device, either the measured concentration of H₂S in the fuel gas or the measured concentration of SO₂ in the stream discharged to the atmosphere. Process knowledge can be used to make these estimates for fuel gas combustion devices, but cannot be used to make these estimates for flares, except as provided in 40 CFR Section 60.107a(e)(4).</p> <p>vii) For each discharge greater than 500 lb SO₂ in excess of the allowable limits from a fuel gas combustion device the cumulative quantity of H₂S and SO₂ released into the atmosphere. For fuel gas combustion devices, assume 99-percent conversion of H₂S to SO₂.</p> <p>(viii) The steps that the Permittee took to limit the emissions during the discharge.</p> <p>(ix) The root cause analysis and corrective action analysis conducted as required in 40 CFR Section 60.103a(d), including an identification of the affected facility, the date and duration of the discharge, a statement noting whether the discharge</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			resulted from the same root cause(s) identified in a previous analysis and either a description of the recommended corrective action(s) or an explanation of why corrective action is not necessary under 40 CFR Section 60.103a(e). (x) For any corrective action analysis for which corrective actions are required in 40 CFR Section 60.103a(e), a description of the corrective action(s) completed within the first 45 days following the discharge and, for action(s) not ready completed, a schedule for implementation, including proposed commencement and completion dates. [40 CFR 60.108a(c)]
	5.19.47		(d) Each Permittee subject to this subpart shall submit an excess emissions report for all periods of excess emissions according to the requirements of 40 CFR Section 60.7(c) except that the report shall contain the information specified in 40 CFR Section 60.108a(d)(1) through (7). (1) The date that the exceedance occurred; (2) An explanation of the exceedance; (3) Whether the exceedance was concurrent with a startup, shutdown, or malfunction of an affected facility or control system; and (4) A description of the action taken, if any. (5) The information described in 40 CFR Section 60.108a(c)(6) for all discharges listed in 40 CFR Section 60.108a(c)(6). (6) For any periods for which monitoring data are not available, any changes made in operation of the emission control system during the period of data unavailability which could affect the ability of the system to meet the applicable emission limit. Operations of the control system and affected facility during periods of data unavailability are to be compared with operation of the control system and affected facility before and following the period of data unavailability. (7) A written statement, signed by a responsible official, certifying the accuracy and completeness of the information contained in the report. [40 CFR 60.108a(d)]
COMG 28	GP031	Loading Rack Vapor Combustor Unit System	
	5.20.1		Volatile Organic Compounds <= 35 milligrams per liter of total organic compounds of gasoline loaded. [40 CFR 60.502(b), Minn. R. 7011.1550]
	5.20.2		Volatile Organic Compounds <= 10 milligrams per liter of total organic compounds of gasoline loaded. Also meets the emission limit required under the NSPS, 40 CFR pt. 60, subp. XX. [40 CFR 63.422(b), Minn. R. 7011.7280, A]
	5.20.3		Hydrogen Sulfide (H2S) <= 0.10 grains per dry standard cubic foot 3-hour rolling average (230 mg/dscm [162 ppm]). This

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			limit applies to the hydrogen sulfide content of fuel gases burned in the Loading Rack Vapor Combustor System. [40 CFR 60.104(a)(1), 40 CFR pt. 60, subp. J, Minn. R. 7011.1410, subp. 2, Minn. R. 7011.1435(A)]
	5.20.4		<p>CAM REQUIREMENTS FOR TREA 26 (CE 026)</p> <p>The permanent vapor combustor (TREA 26) is permitted for operation either at the same time as the existing vapor recovery unit (TREA 18) or at times when the vapor recovery unit (TREA 18) is inoperable or only partially operable to control emissions from the light oil truck rack (EQUI 28).</p> <p>The Permittee shall record all times during which the Vapor Combustor Unit is operated. These records shall be retained for a period of 5 years. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2]</p>
	5.20.5		<p>When operating the Vapor Combustor Unit to control emissions from the loading rack, the Permittee shall follow the alternative monitoring plan submitted to US EPA Region 5 on dated May 29, 2008 to demonstrate compliance with the hydrogen sulfide emission limit established in 40 CFR Section 60.104(a)(1) and Minn. R. 7011.1490, subp. 2. Under the alternative monitoring plan, no further analysis of the hydrogen sulfide content of the loading rack off gas is required. Approval of the alternative monitoring plan is contingent upon only gasoline, diesel, fuel oil, ethanol and kerosene being loaded at the loading rack.</p> <p>If a waiver from the applicable testing and monitoring requirements is not received prior to initial startup of the portable thermal oxidizer (TREA 026), the Permittee must comply with all applicable testing and monitoring requirements of the above subparts. [40 CFR 60.7(h)(2), 40 CFR 60.8(b)(4), Minn. R. 7011.0050, Minn. R. 7017.2015, Minn. R. 7019.0100]</p>
	5.20.6		<p>Temperature \geq 215 degrees Fahrenheit 3-hour rolling average at the combustion chamber (firebox). Temperature monitoring requirements are applicable when the control equipment is combusting vapors from gasoline loading operations.</p> <p>The Permittee shall maintain a continuous hard copy readout or computer disk file, or electronic files for recordkeeping of the temperature readings and calculated three hour rolling average temperatures for the combustion chamber. The temperature indicator may not operate at a lower temperature as listed, unless a performance test is conducted at a different temperature and the MPCA staff determines compliance at that new temperature. [Minn. R. 7007.0800, subp. 2]</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
	5.20.7		Monitoring Equipment: The Permittee shall maintain and operate a thermocouple monitoring device that continuously indicates and records the combustion chamber temperature of the Vapor Combustor Unit. The monitoring device shall have a margin of error less than the greater of +/- 0.75 percent of the temperature being measured or +/- 2.5 degrees Celsius. The recording device shall also calculate the three-hour rolling average combustion chamber temperature. [40 CFR 63.427(a)(3), 40 CFR 64.7(b), Minn. R. 7007.0800, subps. 4-5, Minn. R. 7011.7280(C), Minn. R. 7017.0200]
	5.20.8		Periodic Inspections: Conduct periodic inspections in accordance with the CAM plan. [40 CFR 64.3, Minn. R. 7017.0200]
	5.20.9		Corrective Actions: If the temperature is below the minimum specified by this permit or if the Vapor Combustor Unit or any of its components are found during the inspections to need repair, the Permittee shall take corrective action as soon as possible. Corrective actions shall return the temperature to at least the permitted minimum and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the Vapor Combustor Unit. The Permittee shall keep a record of the type and date of any corrective action taken. [40 CFR 64.7(d)(1), Minn. R. 7017.0200]
	5.20.10		Documentation of Need for Improved Monitoring: If the Permittee fails to achieve compliance with an emission limitation or standard for which the monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing minimum combustion chamber temperature(s), the Permittee shall promptly notify the MPCA and, if necessary, submit a permit amendment application to address the necessary monitoring changes. [40 CFR 64.7(e), Minn. R. 7017.0200]
	5.20.11		CAM Excursions Reporting: As required by 40 CFR Section 64.9(a)(2), for the Semi-Annual Deviations Report listed in Section 6 (Submittal/action requirements) of this permit and/or the Notification of Deviations Endangering Human Health and the Environment listed earlier in this permit, as applicable, the Permittee shall include the following related to the monitoring identified as required by 40 CFR pt. 64: 1) Summary information on the number, duration, and cause of excursions or exceedances, as applicable, and the corrective action taken; and 2) Summary information on the number, duration, and cause for monitor downtime incidents. [40 CFR 64.9(a)(2), Minn. R.

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			7017.0200]
	5.20.12		The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, and other supporting information required to be maintained. The Permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements. [40 CFR 64.9(b), Minn. R. 7017.0200]
	5.20.13		Operation Requirement: The Permittee shall act to assure that loadings of gasoline tank trucks at the affected facility are made into tanks equipped with vapor collection equipment that is compatible with the terminals vapor collection system. [40 CFR 60.502(f), Minn. R. 7011.1550]
	5.20.14		Operation Requirement: The Permittee shall act to assure that the terminal's and the tank truck's vapor collection systems are connected during each loading of a gasoline tank truck at the affected facility. [40 CFR 60.502(g), Minn. R. 7011.1550]
	5.20.15		Operation Requirement: Operation of air pollution control system to achieve emission limit or operational parameter. [40 CFR 63.427(b), Minn. R. 7011.7280, A]
	5.20.16		Startup, Shutdown, and Malfunction Plan: The Permittee shall develop and implement a written startup, shutdown, and malfunction plan that describes, in detail, procedures for operating and maintaining the source during periods of startup, shutdown, and malfunction and a program of corrective action for malfunctioning process and air pollution control equipment used to comply with the relevant standard. As required under 40 CFR Section 63.8(c)(1)(i), the plan shall identify all routine or otherwise predictable CMS malfunctions. The plan shall be developed by the compliance date and shall meet the purposes specified in 40 CFR Section 63.6(e)(3)(i)(A) through (C). [40 CFR 63.6(e)(3)(i), Minn. R. 7011.7000]
	5.20.17		Recordkeeping Requirement: Record each startup, shutdown or malfunction of the air pollution control equipment. [40 CFR 60.7(b), Minn. R. 7019.0100, Minn. R. 7011.0050]
	5.20.18		Recordkeeping Requirement: For performance tests performed after the initial test, the owner or operator shall document the reasons for any change in the operating parameter value since the previous performance test. [40 CFR 63.425(c), Minn. R. 7011.7180, Minn. R. 7011.7280, C]
	5.20.19		Recordkeeping Requirement: Records of the annual tests of gasoline cargo tanks to be conducted as specified in 40 CFR Section 63.425(e)-(h). [40 CFR 63.428(b), Minn. R. 7011.7180, Minn. R. 7011.7280, C]
	5.20.20		Additional Recordkeeping Requirements for Sources with Continuous Monitoring Systems: In addition to the requirements of 40 CFR Section 63.10(b)(1) and (2), the owner

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			or operator shall maintain the records required by 40 CFR Section 63.10(c). [40 CFR 63.10(c), Minn. R. 7011.1010, Minn. R. 7011.7000, Minn. R. 7019.0100]
	5.20.21		General Recordkeeping Requirements: The Permittee shall maintain files of all information (including all reports and notifications) required by 40 CFR pt. 63 recorded in a form suitable and readily available for expeditious inspection and review including all information required by 40 CFR Section 63.10(b). The files shall be kept for at least five (5) years following the date of each occurrence, measurement, maintenance, corrective action, report or record. [40 CFR 63.10(b), Minn. R. 7011.7000, Minn. R. 7019.0100]
	5.20.22		Recordkeeping Requirement: Records of continuous monitoring data required by 40 CFR Section 63.427(a), or of the alternative parameter if approved under 40 CFR Section 63.427(b) shall be kept in a readily accessible location. [40 CFR 63.428(c), Minn. R. 7011.7180, Minn. R. 7011.7280, A]
	5.20.23		Performance Test Requirement: in conducting the performance tests required by this subpart, the Permittee shall use the test methods in Appendix A of this part, except as provided in 60.8(b); the three-run requirement of 60.8(f) does not apply to this subpart. [40 CFR 60.503(a), Minn. R. 7011.1550]
	5.20.24		Compliance Requirement: Each Permittee subject to the emission standard in 40 CFR Section 63.422(b) shall conduct a performance test on the vapor processing system according to the test methods and procedures of 40 CFR Section 60.503 except that a reading of 500 ppm shall be used to determine the level of leaks to be repaired under 40 CFR Section 60.503(b). [40 CFR 63.425(a), Minn. R. 7011.7180, Minn. R. 7011.7280, A]
	5.20.25		Performance Test Requirement: For each performance test conducted under 40 CFR Section 63.425(a), the Permittee shall determine a monitored operating parameter value for the vapor processing system by continuously recording the operating parameter during the performance test and determining operating parameter values based on the results of the test; a rationale for selecting the parameter values shall be provided to the Administrator. [40 CFR 63.425(b), Minn. R. 7011.7180, Minn. R. 7011.7280, A]
COMG 32	GP009	NESHAP subp CC tanks; No NSPS (each)	
	5.21.1		Existing Group 1 floating roof storage vessels shall be in compliance with 40 CFR Section 63.646 at the next degassing and cleaning activity or within 10 years after [August 18, 1995], whichever is first. [40 CFR 63.640(h)(4), Minn. R. 7011.7280(A)]
	5.21.2		The Permittee may use good engineering judgment or test

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			results to determine the stored liquid weight percent total organic HAP for purposes of group determination. Data, assumptions, and procedures used in the determination shall be documented. [40 CFR 63.646(b)(1), Minn. R. 7011.7280(A)]
	5.21.3		(1) If a cover or lid is installed on an opening on a floating roof, the cover or lid shall remain closed except when the cover or lid must be open for access. (2) Rim space vents are to be set to open only when the floating roof is not floating or when the pressure beneath the rim seal exceeds the manufacturer's recommended setting. (3) Automatic bleeder vents 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. [40 CFR 63.646(f), Minn. R. 7011.7280(A)]
	5.21.4		Refers to 40 CFR pt. 63, subp. G (SOCMI NESHAP) 40 CFR Section 63.119 through 63.121. [40 CFR 63.646, Minn. R. 7011.7280(A)]
	5.21.5		(1) For each Group 1 storage vessel (as defined in table 5 of 40 CFR pt. 63, subp. G for existing sources and table 6 for new sources) storing a liquid for which the maximum true vapor pressure of the total organic hazardous air pollutants in the liquid is less than 76.6 kilopascals, the owner or operator shall reduce hazardous air pollutants emissions to the atmosphere either by operating and maintaining a fixed roof and internal floating roof, an external floating roof, an external floating roof converted to an internal floating roof, or a closed vent system and control device, or routing the emissions to a process or a fuel gas system in accordance with the requirements in 40 CFR Section 63.110(b), (c), (d), (e), or (f) of this section, or equivalent as provided in 40 CFR Section 63.121 of this subpart. [40 CFR 63.119(a)(1), Minn. R. 7011.7040(B)]
	5.21.6		(b) The Permittee who elects to use a fixed roof and an internal floating roof, as defined in 40 CFR Section 63.111 of 40 CFR pt. 60, subp. G, to comply with the requirements of paragraph (a)(1) of this section shall comply with the requirements specified in paragraphs 40 CFR Section 63.119(b)(1) through (b)(6) of this section.[Note: The intent of paragraphs 40 CFR Section 63.119(b)(1) and (b)(2) is to avoid having a vapor space between the floating roof and the stored liquid for extended periods. Storage vessels may be emptied for purposes such as routine storage vessel maintenance, inspections, petroleum liquid deliveries, or transfer operations. Storage vessels where liquid is left on walls, as bottom clingage, or in pools due to floor irregularity are considered completely empty.] (1) The internal floating roof shall be floating on the liquid surface at all times except when the floating roof must be supported by the leg supports during the periods specified in

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>40 CFR Section 63.119(b)(1)(i) through (b)(1)(iii).</p> <p>(i) During the initial fill.</p> <p>(ii) After the vessel has been completely emptied and degassed.</p> <p>(iii) When the vessel is completely emptied before being subsequently refilled.</p> <p>(2) When the floating roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as soon as practical.</p> <p>(3) Each internal floating roof shall be equipped with a closure device between the wall of the storage vessel and the roof edge. Except as provided in paragraph (b)(3)(iv) of this section, the closure device shall consist of one of the devices listed in paragraph (b)(3)(i), (b)(3)(ii), or (b)(3)(iii) of this section.</p> <p>(i) A liquid mounted seal as defined in 40 CFR Section 63.111 of this subpart.</p> <p>(ii) A metallic shoe seal as defined in 40 CFR Section 63.111 of this subpart.</p> <p>(iii) 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 internal floating roof. The lower seal may be vapor mounted, but both must be continuous seals.</p> <p>(iv) If the internal floating roof is equipped with a vapor mounted seal as of [July 15, 1994], the requirement for one of the seal options specified in paragraphs (b)(3)(i), (b)(3)(ii), and (b)(3)(iii) of this section does not apply until the earlier of the dates specified in paragraphs (b)(3)(iv)(A) and (b)(3)(iv)(B) of this section.</p> <p>(A) The next time the storage vessel is emptied and degassed.</p> <p>(B) No later than 10 years after [August 15, 1995].</p> <p>(4) Automatic bleeder vents 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. [40 CFR 63.119(b)(1) - (2), Minn. R. 7011.7040(B)]</p>
	5.21.7		<p>(c) The Permittee who elects to use an external floating roof, as defined in 40 CFR Section 63.111 of this subpart, to comply with the requirements of paragraph (a)(1) of this section shall comply with the requirements specified in paragraphs (c)(1) through (c)(4) of this section. [Paragraph 2 excepted per 40 CFR Section 63.646]</p> <p>(1) Each external floating roof shall be equipped with a closure device between the wall of the storage vessel and the roof edge.</p> <p>(i) Except as provided in paragraph (c)(1)(iv) of this section, the closure device is to consist of two seals, one above the</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>other. The lower seal is referred to as the primary seal and the upper seal is referred to as the secondary seal.</p> <p>(ii) Except as provided in paragraph (c)(1)(v) of this section, the primary seal shall be either a metallic shoe seal or a liquid mounted seal.</p> <p>(iii) Except during the inspections required by 40 CFR Section 63.120(b) of this subpart, both the primary seal and the secondary seal shall completely cover the annular space between the external floating roof and the wall of the storage vessel in a continuous fashion.</p> <p>(iv) If the external floating roof is equipped with a liquid mounted or metallic shoe primary seal as of [July 15, 1994], the requirement for a secondary seal in paragraph (c)(1)(i) of this section does not apply until the earlier of the dates specified in paragraphs (c)(1)(iv)(A) and (c)(1)(iv)(B) of this section.</p> <p>(A) The next time the storage vessel is emptied and degassed.</p> <p>(B) No later than 10 years after [August 18, 1995].</p> <p>(v) If the external floating roof is equipped with a vapor mounted primary seal and a secondary seal as of [July 15, 1994], the requirement for a liquid mounted or metallic shoe primary seal in paragraph (c)(1)(ii) of this section does not apply until the earlier of the dates specified in paragraphs (c)(1)(v)(A) and (c)(1)(v)(B) of this section.</p> <p>(A) The next time the storage vessel is emptied and degassed.</p> <p>(B) No later than 10 years after [August 18, 1995]. (3) The external floating roof shall be floating on the liquid surface at all times except when the floating roof must be supported by the leg supports during the periods specified in paragraphs (c)(3)(i) through (c)(3)(iii) of this section.</p> <p>(i) During the initial fill.</p> <p>(ii) After the vessel has been completely emptied and degassed.</p> <p>(iii) When the vessel is completely emptied before being subsequently refilled.</p> <p>(4) When the floating roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as soon as possible. [40 CFR 63.119(c)(1),(3),&(4), Minn. R. 7011.7040(B)]</p>
	5.21.8		<p>(d) The Permittee who elects to use an external floating roof converted to an internal floating roof (i.e., fixed roof installed above external floating roof) to comply with paragraph (a)(1) of this section shall comply with paragraphs (d)(1) and (d)(2) of this section.</p> <p>(1) Comply with the requirements for internal floating roof vessels specified in paragraphs (b)(1), (2), and (3) of this section. [40 CFR 63.119(d)(1), Minn. R. 7011.7040(B)]</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
	5.21.9		<p>(e) The Permittee who elects to use a closed vent system and control device, as defined in 40 CFR Section 63.111 of this subpart, to comply with the requirements of paragraph (a)(1) or (a)(2) of this section shall comply with the requirements specified in paragraphs (e)(1) through (e)(5) of this section.</p> <p>(1) Except as provided in paragraph (e)(2) of this section, the control device shall be designed and operated to reduce inlet emissions of total organic HAP by 95 percent or greater. If a flare is used as the control device, it shall meet the specifications described in the general control device requirements of 40 CFR Section 63.11(b) of subp. A of this part.</p> <p>(2) If the Permittee can demonstrate that a control device installed on a storage vessel on or before [July 15, 1994] is designed to reduce inlet emissions of total organic HAP by greater than or equal to 90 percent but less than 95 percent, then the control device is required to be operated to reduce inlet emissions of total organic HAP by 90 percent or greater.</p> <p>(3) Periods of planned routine maintenance of the control device, during which the control device does not meet the specifications of paragraph (e)(1) or (e)(2) of this section, as applicable, shall not exceed 240 hours per year.</p> <p>(4) The specifications and requirements in paragraphs (e)(1) and (e)(2) of this section for control devices do not apply during periods of planned routine maintenance.</p> <p>(5) The specifications and requirements in paragraphs (e)(1) and (e)(2) of this section for control devices do not apply during a control system malfunction.</p> <p>(6) The Permittee may use a combination of control devices to achieve the required reduction of total organic hazardous air pollutants specified in paragraph (e)(1) of this section. The Permittee may use a combination of control devices installed on a storage vessel on or before [July 15, 1994] to achieve the required reduction of total organic hazardous air pollutants specified in paragraph (e)(2) of this section. [40 CFR 63.119(e)(1) - (6), Minn. R. 7011.7040(B)]</p>
	5.21.10		<p>(f) The Permittee who elects to route emissions to a fuel gas system or to a process, as defined in 40 CFR Section 63.111, to comply with the requirements of paragraph (a)(1) or (a)(2) of this section shall comply with the requirements in paragraphs (f)(1) through (f)(3) of this section, as applicable.</p> <p>(1) If emissions are routed to a fuel gas system, there is no requirement to conduct a performance test or design</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>evaluation. If emissions are routed to a process, the organic hazardous air pollutants in the emissions shall predominantly meet one of, or a combination of, the ends specified in paragraphs (f)(1)(i) through (f)(1)(iv) of this section. The Permittee shall comply with the compliance demonstration requirements in 40 CFR Section 63.120(f).</p> <p>(i) Recycled and/or consumed in the same manner as a material that fulfills the same function in that process;</p> <p>(ii) Transformed by chemical reaction into materials that are not organic hazardous air pollutants;</p> <p>(iii) Incorporated into a product; and/or</p> <p>(iv) Recovered.</p> <p>(2) If the emissions are conveyed by a system other than hard piping, any conveyance system operated under positive pressure shall be subject to the requirements of 40 CFR Section 63.148 of this subpart. [40 CFR 63.119(f)(1) - (2), Minn. R. 7011.7040(B)]</p>
	5.21.11		<p>(3) The fuel gas system or process shall be operating at all times when organic hazardous air pollutants emissions are routed to it except as provided in 40 CFR Section 63.102(a)(1) of subp. F of this part and in paragraphs (f)(3)(i) through (f)(3)(iii) of this section. Whenever the Permittee bypasses the fuel gas system or process, the Permittee shall comply with the recordkeeping requirement in 40 CFR Section 63.123(h) of this subpart. Bypassing is permitted if the Permittee complies with one or more of the conditions specified in paragraphs (f)(3)(i) through (f)(3)(iii) of this section.</p> <p>(i) The liquid level in the storage vessel is not increased;</p> <p>(ii) The emissions are routed through a closed vent system to a control device complying with 40 CFR Section 63.119(e) of this subpart; or</p> <p>(iii) The total aggregate amount of time during which the emissions by pass the fuel gas system or process during the calendar year without being routed to a control device, for all reasons (except start ups/shutdowns/malfunctions or product changeovers of flexible operation units and periods when the storage vessel has been emptied and degassed), does not exceed 240 hours. [40 CFR 63.119(f)(3), Minn. R. 7011.7040(B)]</p>
	5.21.12		<p>(a) To demonstrate compliance with 40 CFR Section 63.119(b) of this subpart (storage vessel equipped with a fixed roof and internal floating roof) or with 40 CFR Section 63.119(d) of this subpart (storage vessel equipped with an external floating roof converted to an internal floating roof), the Permittee shall comply with the requirements in paragraphs (a)(1) through (a)(7) of this section.</p> <p>(1) The owner or operator shall visually inspect the internal floating roof, the primary seal, and the secondary seal (if one is in service), according to the schedule specified in paragraphs</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>(a)(2) and (a)(3) of this section.</p> <p>(2) For vessels equipped with a single seal system, the Permittee shall perform the inspections specified in paragraphs (a)(2)(i) and (a)(2)(ii) of this section.</p> <p>(i) Visually inspect the internal floating roof and the seal through manholes and roof hatches on the fixed roof at least once every 12 months after initial fill, or at least once every 12 months after the compliance date specified in 40 CFR Section 63.640(h) of subp. CC of this part.</p> <p>(ii) Visually inspect the internal floating roof and the seal each time the storage vessel is emptied and degassed, and at least once every 10 years after the compliance date specified in 40 CFR Section 63.640(h) of subp. CC of this part. [40 CFR 63.120(a)(1) - (2), Minn. R. 7011.7040(B)]</p>
	5.21.13		<p>(3) For vessels equipped with a double seal system as specified in 40 CFR Section 63.119(b)(3)(iii) of this subpart, the Permittee shall perform either the inspection required in paragraph (a)(3)(i) of this section or the inspections required in both paragraphs (a)(3)(ii) and (a)(3)(iii) of this section.</p> <p>(i) The Permittee shall visually inspect the internal floating roof, the primary seal, and the secondary seal each time the storage vessel is emptied and degassed and at least once every 5 years after the compliance date specified in 40 CFR Section 63.640(h) of subp. CC of this part; or</p> <p>(ii) The Permittee shall visually inspect the internal floating roof and the secondary seal through manholes and roof hatches on the fixed roof at least once every 12 months after initial fill, or at least once every 12 months after the compliance date specified in 40 CFR Section 63.640(h) of subp. CC of this part, and</p> <p>(iii) Visually inspect the internal floating roof, the primary seal, and the secondary seal each time the vessel is emptied and degassed and at least once every 10 years after the compliance date specified in 40 CFR Section 63.640(h) of subp. CC of this part. [40 CFR 63.120(a)(3), Minn. R. 7011.7040(B)]</p>
	5.21.14		<p>(4) If during the inspections required by paragraph (a)(2)(i) or (a)(3)(ii) of this section, the internal floating roof is not resting on the surface of the liquid inside the storage vessel and is not resting on the leg supports; or there is liquid on the floating roof; or the seal is detached; or there are holes or tears in the seal fabric; or there are visible gaps between the seal and the wall of the storage vessel, the Permittee shall repair the items or empty and remove the storage vessel from service within 45 calendar days. If a failure that is detected during inspections required by paragraph (a)(2)(i) or (a)(3)(ii) of this section cannot be repaired within 45 calendar days and if the vessel cannot be emptied within 45 calendar days, the Permittee may utilize up to 2 extensions of up to 30 additional calendar days</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>each.</p> <p>Documentation of a decision to utilize an extension shall include a description of the failure, shall document that alternate storage capacity is unavailable, and shall specify a schedule of actions that will ensure that the control equipment will be repaired or the vessel will be emptied as soon as practical.</p> <p>(5) Except as provided in paragraph (a)(6) of this section, for all the inspections required by paragraphs (a)(2)(ii), (a)(3)(i), and (a)(3)(iii) of this section, the Permittee shall notify the Administrator in writing at least 30 calendar days prior to the refilling of each storage vessel to afford the Administrator the opportunity to have an observer present.</p> <p>(6) If the inspection required by paragraph (a)(2)(ii), (a)(3)(i), or (a)(3)(iii) of this section is not planned and the Permittee could not have known about the inspection 30 calendar days in advance of refilling the vessel, the Permittee shall notify the Administrator at least 7 calendar days prior to the refilling of the storage vessel. Notification may be made by telephone and immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, the notification including the written documentation may be made in writing and sent so that it is received by the Administrator at least 7 calendar days prior to refilling. [40 CFR 63.120(a)(4) - (6), Minn. R. 7011.7040(B)]</p>
	5.21.15		<p>(7) If during the inspections required by paragraph (a)(2)(ii), (a)(3)(i), or (a)(3)(iii) of this section, the internal floating roof has defects; or the primary seal has holes, tears, or other openings in the seal or the seal fabric; or the secondary seal has holes, tears, or other openings in the seal or the seal fabric; or the gaskets no longer close off the liquid surface from the atmosphere; or the slotted membrane has more than 10 percent open area, the Permittee shall repair the items as necessary so that none of the conditions specified in this paragraph exist before refilling the storage vessel with organic HAP. [40 CFR 63.120(a)(7), Minn. R. 7011.7040(B)]</p>
	5.21.16		<p>(b) To demonstrate compliance with 40 CFR Section 63.119(c) of this subpart (storage vessel equipped with an external floating roof), the Permittee shall comply with the requirements specified in paragraphs (b)(1) through (b)(10) of this section.</p> <p>(1) Except as provided in paragraph (b)(7) of this section, the Permittee shall determine the gap areas and maximum gap widths between the primary seal and the wall of the storage vessel, and the secondary seal and the wall of the storage</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>vessel according to the frequency specified in paragraphs (b)(1)(i) through (b)(1)(iii) of this section.</p> <p>(i) For an external floating roof vessel equipped with primary and secondary seals, measurements of gaps between the vessel wall and the primary seal shall be performed during the hydrostatic testing of the vessel or by the compliance date specified in 40 CFR Section 63.640(h) of subp. CC of this part, whichever occurs last, and at least once every 5 years thereafter.</p> <p>(ii) For an external floating roof vessel equipped with a liquid mounted or metallic shoe primary seal and without a secondary seal as provided for in 40 CFR Section 63.119(c)(1)(iv) of this subpart, measurements of gaps between the vessel wall and the primary seal shall be performed by the compliance date specified in 40 CFR Section 63.640(h) of subp. CC of this part and at least once per year thereafter, until a secondary seal is installed. When a secondary seal is installed above the primary seal, measurements of gaps between the vessel wall and both the primary and secondary seals shall be performed within 90 calendar days of installation of the secondary seal, and according to the frequency specified in paragraphs (b)(1)(i) and (b)(1)(iii) of this section thereafter.</p> <p>(iii) For an external floating roof vessel equipped with primary and secondary seals, measurements of gaps between the vessel wall and the secondary seal shall be performed by the compliance date specified in 40 CFR Section 63.640(h) of subp. CC of this part and at least once per year thereafter.</p> <p>(iv) If any storage vessel ceases to store organic HAP for a period of 1 year or more, or if the maximum true vapor pressure of the total organic HAP's in the stored liquid falls below the values defining Group 1 storage vessels specified in table 5 or table 6 of this subpart for a period of 1 year or more, measurements of gaps between the vessel wall and the primary seal, and gaps between the vessel wall and the secondary seal shall be performed within 90 calendar days of the vessel being refilled with organic HAP.</p> <p>(2) Except as provided in paragraph (b)(7) of this section, the Permittee shall determine gap widths and gap areas in the primary and secondary seals (seal gaps) individually by the procedures described in paragraphs (b)(2)(i) through (b)(2)(iii) of this section.</p> <p>(i) Seal gaps, if any, shall be measured at one or more floating roof levels when the roof is not resting on the roof leg supports.</p> <p>(ii) Seal gaps, if any, shall be measured around the entire circumference of the vessel in each place where a 0.32 centimeter diameter uniform probe passes freely (without</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>forcing or binding against the seal) between the seal and the wall of the storage vessel. The circumferential distance of each such location shall also be measured.</p> <p>(iii) The total surface area of each gap described in paragraph (b)(2)(ii) of this section shall be determined by using probes of various widths to measure accurately the actual distance from the vessel wall to the seal and multiplying each such width by its respective circumferential distance.</p> <p>(continued below). [40 CFR 63.120(b)(1) - (10), Minn. R. 7011.7040(B)]</p>
	5.21.17		<p>(continued from above)</p> <p>(3) The Permittee shall add the gap surface area of each gap location for the primary seal and divide the sum by the nominal diameter of the vessel. The accumulated area of gaps between the vessel wall and the primary seal shall not exceed 212 square centimeters per meter of vessel diameter and the width of any portion of any gap shall not exceed 3.81 centimeters.</p> <p>(4) The Permittee shall add the gap surface area of each gap location for the secondary seal and divide the sum by the nominal diameter of the vessel. The accumulated area of gaps between the vessel wall and the secondary seal shall not exceed 21.2 square centimeters per meter of vessel diameter and the width of any portion of any gap shall not exceed 1.27 centimeters. These seal gap requirements may be exceeded during the measurement of primary seal gaps as required by paragraph (b)(1)(i) and (b)(1)(ii) of this section.</p> <p>(5) The primary seal shall meet the additional requirements specified in paragraphs (b)(5)(i) and (b)(5)(ii) of this section.</p> <p>(i) Where a metallic shoe seal is in use, one end of the metallic shoe shall extend into the stored liquid and the other end shall extend a minimum vertical distance of 61 centimeters above the stored liquid surface.</p> <p>(ii) There shall be no holes, tears, or other openings in the shoe, seal fabric, or seal envelope.</p> <p>(6) The secondary seal shall meet the additional requirements specified in paragraphs (b)(6)(i) and (b)(6)(ii) of this section.</p> <p>(i) The secondary seal shall be installed above the primary seal so that it completely covers the space between the roof edge and the vessel wall except as provided in paragraph (b)(4) of this section.</p> <p>(ii) There shall be no holes, tears, or other openings in the seal or seal fabric.</p> <p>(7) If the Permittee determines that it is unsafe to perform the seal gap measurements required in paragraphs (b)(1) & (b)(2) of this section or to inspect the vessel to determine</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>compliance with paragraphs (b)(5) & (b)(6) of this section because the floating roof appears to be structurally unsound & poses an imminent or potential danger to inspecting personnel, the Permittee shall comply with the requirements in either paragraph (b)(7)(i) or (b)(7)(ii) of this section.</p> <p>(i) The Permittee shall measure the seal gaps or inspect the storage vessel no later than 30 calendar days after the determination that the roof is unsafe, or</p> <p>(ii) The Permittee shall empty and remove the storage vessel from service no later than 45 calendar days after determining that the roof is unsafe. If the vessel cannot be emptied within 45 calendar days, the Permittee may utilize up to 2 extensions of up to 30 additional calendar days each. Documentation of a decision to utilize an extension shall include an explanation of why it was unsafe to perform the inspection or seal gap measurement, shall document that alternate storage capacity is unavailable, and shall specify a schedule of actions that will ensure that the vessel will be emptied as soon as possible.</p> <p>(8) The Permittee shall repair conditions that do not meet requirements listed in paragraphs (b)(3), (b)(4), (b)(5), and (b)(6) of this section (i.e., failures) no later than 45 calendar days after identification, or shall empty and remove the storage vessel from service no later than 45 calendar days after identification. If during seal gap measurements required in paragraph (b)(1) and (b)(2) of this section or during inspections necessary to determine compliance with paragraphs (b)(5) and (b)(6) of this section a failure is detected that cannot be repaired within 45 calendar days and if the vessel cannot be emptied within 45 calendar days, the Permittee may utilize up to 2 extensions of up to 30 additional calendar days each.</p> <p>(continued below). [40 CFR 63.120(b)(1) - (10), Minn. R. 7011.7040(B)]</p>
	5.21.18		<p>(continued from above)</p> <p>Documentation of a decision to utilize an extension shall include a description of the failure, shall document that alternate storage capacity is unavailable, and shall specify a schedule of actions that will ensure that the control equipment will be repaired or the vessel will be emptied as soon as possible.</p> <p>(9) The Permittee shall notify the Administrator in writing 30 calendar days in advance of any gap measurements required by paragraph (b)(1) or (b)(2) of this section to afford the Administrator the opportunity to have an observer present.</p> <p>(10) The Permittee shall visually inspect the external floating roof, the primary seal, secondary seal, and fittings each time</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>the vessel is emptied and degassed.</p> <p>(i) If the external floating roof has defects; the primary seal has holes, tears, or other openings in the seal or the seal fabric; or the secondary seal has holes, tears, or other openings in the seal or the seal fabric; or the gaskets no longer close off the liquid surface from the atmosphere; or the slotted membrane has more than 10 percent open area, the Permittee shall repair the items as necessary so that none of the conditions specified in this paragraph exist before filling or refilling the storage vessel with organic HAP.</p> <p>(ii) Except as provided in paragraph (b)(10)(iii) of this section, for all the inspections required by paragraph (b)(10) of this section, the own Permittee shall notify the Administrator in writing at least 30 calendar days prior to filling or refilling of each storage vessel with organic HAP to afford the Administrator the opportunity to inspect the storage vessel prior to refilling.</p> <p>(iii) If the inspection required by paragraph (b)(10) of this section is not planned and the Permittee could not have known about the inspection 30 calendar days in advance of refilling the vessel with organic HAP, the Permittee shall notify the Administrator at least 7 calendar days prior to refilling of the storage vessel. Notification may be made by telephone and 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 so that it is received by the Administrator at least 7 calendar days prior to the refilling. [40 CFR 63.120(b)(1) - (10), Minn. R. 7011.7040(B)]</p>
	5.21.19		<p>(d) To demonstrate compliance with 40 CFR Section 63.119(e) of this subpart (storage vessel equipped with a closed vent system and control device) using a control device other than a flare, the Permittee shall comply with the requirements in paragraphs (d)(1) through (d)(7) of this section, except as provided in paragraph (d)(8) of this section.</p> <p>(1) The Permittee shall either prepare a design evaluation, which includes the information specified in paragraph (d)(1)(i) of this section, or submit the results of a performance test as described in paragraph (d)(1)(ii) of this section.</p> <p>(i) The design evaluation shall include documentation demonstrating that the control device being used achieves the required control efficiency during reasonably expected maximum filling rate. This documentation is to include a description of the gas stream which enters the control device, including flow and organic HAP content under varying liquid level conditions, and the information specified in paragraphs (d)(1)(i)(A) through (d)(1)(i)(E) of this section, as applicable.</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>(A) If the control device receives vapors, gases or liquids, other than fuels, from emission points other than storage vessels subject to this subpart, the efficiency demonstration is to include consideration of all vapors, gases, and liquids, other than fuels, received by the control device.</p> <p>(B) If an enclosed combustion device with a minimum residence time of 0.5 seconds and a minimum temperature of 760&deg;C is used to meet the emission reduction requirement specified in 40 CFR Section 63.119(e)(1) or (e)(2), as applicable, documentation that those conditions exist is sufficient to meet the requirements of paragraph (d)(1)(i) of this section.</p> <p>(C) Except as provided in paragraph (d)(1)(i)(B) of this section, for thermal incinerators, the design evaluation shall include the autoignition temperature of the organic HAP, the flow rate of the organic HAP emission stream, the combustion temperature, and the residence time at the combustion temperature.</p> <p>(D) For carbon adsorbers, the design evaluation shall include the affinity of the organic HAP vapors for carbon, the amount of carbon in each bed, the number of beds, the humidity of the feed gases, the temperature of the feed gases, the flow rate of the organic HAP emission stream, the desorption schedule, the regeneration stream pressure or temperature, and the flow rate of the regeneration stream. For vacuum desorption, pressure drop shall be included.</p> <p>(E) For condensers, the design evaluation shall include the final temperature of the organic HAP vapors, the type of condenser, and the design flow rate of the organic HAP emission stream.</p> <p>(ii) If the control device used to comply with 40 CFR Section 63.119(e) of this subpart is also used to comply with 40 CFR Section 63.113(a)(2), 40 CFR Section 63.126(b)(1), or 40 CFR Section 63.139(c) of this subpart, the performance test required by 40 CFR Section 63.116(c), 40 CFR Section 63.128(a), or 40 CFR Section 63.139(d)(1) of this subpart is acceptable to demonstrate compliance with 40 CFR Section 63.119(e) of this subpart. The Permittee is not required to prepare a design evaluation for the control device as described in paragraph (d)(1)(i) of this section, if the performance tests meets the criteria specified in paragraphs (d)(1)(ii)(A) and (d)(1)(ii)(B) of this section.</p> <p>(A) The performance test demonstrates that the control device achieves greater than or equal to the required control efficiency specified in 40 CFR Section 63.119(e)(1) or (e)(2) of this subpart, as applicable; and (B) The performance test is submitted as part of the Notification of Compliance Status required by 40 CFR Section 63.151(b) of this subpart. [40 CFR 63.120(d)(1), Minn. R. 7011.7040(B)]</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
	5.21.20		<p>(2) The Permittee shall submit, as part of the Notification of Compliance Status required by 40 CFR Section 63.151(b) of this subpart, a monitoring plan containing the information specified in paragraph (d)(2)(i) of this section and in either (d)(2)(ii) or (d)(2)(iii) of this section.</p> <p>(i) A description of the parameter or parameters to be monitored to ensure that the control device is being properly operated and maintained, an explanation of the criteria used for selection of that parameter (or parameters), and the frequency with which monitoring will be performed (e.g., when the liquid level in the storage vessel is being raised); and either</p> <p>(ii) The documentation specified in paragraph (d)(1)(i) of this section, if the owner or operator elects to prepare a design evaluation; or</p> <p>(iii) The information specified in paragraph (d)(2)(iii)(A) and (B) of this section if the owner or operator elects to submit the results of a performance test.</p> <p>(A) Identification of the storage vessel and control device for which the performance test will be submitted, and</p> <p>(B) Identification of the emission point(s) that share the control device with the storage vessel and for which the performance test will be conducted. [40 CFR 63.120(d)(2), Minn. R. 7011.7040(B)]</p>
	5.21.21		<p>(3) The Permittee shall submit, as part of the Notification of Compliance Status required by 40 CFR Section 63.152(b) of this subpart, the information specified in paragraphs (d)(3)(i) and, if applicable, (d)(3)(ii) of this section.</p> <p>(i) The operating range for each monitoring parameter identified in the monitoring plan. The specified operating range shall represent the conditions for which the control device is being properly operated and maintained.</p> <p>(ii) Results of the performance test described in paragraph (d)(1)(ii) of this section.</p> <p>(4) The Permittee shall demonstrate compliance with the requirements of 40 CFR Section 63.119(e)(3) of this subpart (planned routine maintenance of a control device, during which the control device does not meet the specifications of 40 CFR Section 63.119(e)(1) or (e)(2) of this subpart, as applicable, shall not exceed 240 hours per year) by including in each Periodic Report required by 40 CFR Section 63.152(c) of this subpart the information specified in 40 CFR Section 63.122(g)(1) of this subpart. [40 CFR 63.120(d)(3) - (4), Minn. R. 7011.7040(B)]</p>
	5.21.22		<p>(5) The Permittee shall monitor the parameters specified in the Notification of Compliance Status required in 40 CFR Section 63.152(b) of this subpart or in the operating permit and shall operate and maintain the control device such that</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>the monitored parameters remain within the ranges specified in the Notification of Compliance Status.</p> <p>(6) Except as provided in paragraph (d)(7) of this section, each closed vent system shall be inspected as specified in 40 CFR Section 63.148 of this subpart. The initial and annual inspections required by 40 CFR Section 63.148(b) of this subpart shall be done during filling of the storage vessel.</p> <p>(7) For any fixed roof tank and closed vent system that are operated and maintained under negative pressure, the Permittee is not required to comply with the requirements specified in 40 CFR Section 63.148 of this subpart.</p> <p>(8) A design evaluation or performance test is not required, if the Permittee uses a combustion device meeting the criteria in paragraph (d)(8)(i), (d)(8)(ii), (d)(8)(iii), or (d)(8)(iv) of this section.</p> <p>(i) A boiler or process heater with a design heat input capacity of 44 megawatts or greater.</p> <p>(ii) A boiler or process heater burning hazardous waste for which the Permittee:</p> <p>(A) Has been issued a final permit under 40 CFR pt. 270 and complies with the requirements of 40 CFR pt. 266, subp. H, or</p> <p>(B) Has certified compliance with the interim status requirements of 40 CFR pt. 266, subp. H.</p> <p>(iii) A hazardous waste incinerator for which the Permittee has been issued a final permit under 40 CFR pt. 270 and complies with the requirements of 40 CFR pt. 264, subp. O or has certified compliance with the interim status requirements of 40 CFR pt. 265, subp. O.</p> <p>(iv) A boiler or process heater into which the vent stream is introduced with the primary fuel. [40 CFR 63.120(d)(5) - (8), Minn. R. 7011.7040(B)]</p>
	5.21.23		<p>(e) To demonstrate compliance with 40 CFR Section 63.119(e) of this subpart (storage vessel equipped with a closed vent system and control device) using a flare, the Permittee shall comply with the requirements in paragraphs (e)(1) through (e)(6) of this section.</p> <p>(1) The Permittee shall perform the compliance determination specified in 40 CFR Section 63.11(b) of subp. A of this part.</p> <p>(2) The Permittee shall submit, as part of the Notification of Compliance Status required by 40 CFR Section 63.152(b) of this subpart, the information specified in paragraphs (e)(2)(i) through (e)(2)(iii) of this section.</p> <p>(i) Flare design (i.e., steam assisted, air assisted, or non</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>assisted);</p> <p>(ii) All visible emission readings, heat content determinations, flow rate measurements, and exit velocity determinations made during the compliance determination required by paragraph (e)(1) of this section; and (iii) All periods during the compliance determination when the pilot flame is absent.</p> <p>(3) The Permittee shall demonstrate compliance with the requirements of 40 CFR Section 63.119(e)(3) of this subpart (planned routine maintenance of a flare, during which the flare does not meet the specifications of 40 CFR Section 63.119(e)(1) of this subpart, shall not exceed 240 hours per year) by including in each Periodic Report required by 40 CFR Section 63.152(c) of this subpart the information specified in 40 CFR Section 63.122(g)(1) of this subpart.</p> <p>(4) The Permittee shall continue to meet the general control device requirements specified in 40 CFR Section 63.11(b) of subp. A of this part.</p> <p>(5) Except as provided in paragraph (e)(6) of this section, each closed vent system shall be inspected as specified in 40 CFR Section 63.148 of this subpart. The inspections required to be performed in accordance with 40 CFR Section 63.148(c) of this subpart shall be done during filling of the storage vessel.</p> <p>(6) For any fixed roof tank and closed vent system that is operated and maintained under negative pressure, the Permittee is not required to comply with the requirements specified in 40 CFR Section 63.148 of this subpart. [40 CFR 63.120(e)(1) - (6), Minn. R. 7011.7040(B)]</p>
	5.21.24		<p>(f) To demonstrate compliance with 40 CFR Section 63.119(f) of this subpart (storage vessel routed to a process), the Permittee shall prepare a design evaluation (or engineering assessment) that demonstrates the extent to which one or more of the ends specified in 40 CFR Section 63.119(f)(1)(i) through (f)(1)(iv) are being met. The Permittee shall submit the design evaluation as part of the Notification of Compliance Status required by 40 CFR Section 63.152(b) of this subpart. [40 CFR 63.120(f), Minn. R. 7011.7040(B)]</p>
	5.21.25		<p>(f) Submit a Notification of Compliance Status report within 150 days after the compliance dates specified in 40 CFR Section 63.640(h). This information may be submitted in an operating permit application, in an amendment to an operating permit application, in a separate submittal, or in any combination of the three. If the required information has been submitted before the date 150 days after the compliance date specified in 40 CFR Section 63.640(h), a separate Notification of Compliance Status report is not required within</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>150 days after the compliance dates specified in 40 CFR Section 63.640(h). If the Permittee submits the information specified in paragraphs (f)(1) through (f)(5) of this section at different times, and/or in different submittals, later submittals may refer to earlier submittals instead of duplicating and resubmitting the previously submitted information.</p> <p>(1) The Notification of Compliance Status report shall include the information specified in paragraphs (f)(1)(i) through (f)(1)(v) of this section.</p> <p>(i) For storage vessels, this report shall include the information specified in paragraphs (f)(1)(i)(A) through (f)(1)(i)(D) of this section.</p> <p>(A) Identification of each storage vessel subject to this subpart, whether the vessel is Group 1 or Group 2, and the method of compliance for each Group 1 storage vessel that is not included in an emissions average (i.e., internal floating roof, external floating roof, or closed vent system and control device). [40 CFR 63.654(f)(1), Minn. R. 7011.7280(A)]</p>
	5.21.26		<p>(B) If a closed vent system and a control device other than a flare is used to comply with 40 CFR Section 63.646 the Permittee shall submit:</p> <p>(1) A description of the parameter or parameters to be monitored to ensure that the control device is being properly operated and maintained, an explanation of the criteria used for selection of that parameter (or parameters), and the frequency with which monitoring will be performed; and either</p> <p>(2) The design evaluation documentation specified in 40 CFR Section 63.120(d)(1)(i) of subp. G, if the owner or operator elects to prepare a design evaluation; or</p> <p>(3) If the Permittee elects to submit the results of a performance test, identification of the storage vessel and control device for which the performance test will be submitted, and identification of the emission point(s) that share the control device with the storage vessel and for which the performance test will be conducted.</p> <p>(C) If a closed vent system and control device other than a flare is used, the Permittee shall submit:</p> <p>(1) The operating range for each monitoring parameter. The specified operating range shall represent the conditions for which the control device is being properly operated and maintained.</p> <p>(2) If a performance test is conducted instead of a design evaluation, results of the performance test demonstrating that the control device achieves greater than or equal to the required control efficiency. A performance test conducted prior to the compliance date of this subpart can be used to</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			comply with this requirement, provided that the test was conducted using EPA methods and that the test conditions are representative of current operating practices. [40 CFR 63.654(f)(1), Minn. R. 7011.7280(A)]
	5.21.27		(D) If a closed vent system and a flare is used, the Permittee shall submit: (1) Flare design (e.g., steam assisted, air assisted, or nonassisted); (2) All visible emission readings, heat content determinations, flow rate measurements, and exit velocity determinations made during the compliance determination required by 40 CFR Section 63.120(e) of subp. G of this part; and (3) All periods during the compliance determination when the pilot flame is absent. [40 CFR 63.654(f)(1), Minn. R. 7011.7280(A)]
	5.21.28		(g) Submit Periodic Reports no later than 60 days after the end of each 6 month period when any of the compliance exceptions specified in paragraphs (g)(1) through (g)(6) of this section occur. The first 6 month period shall begin on the date the Notification of Compliance Status report is required to be submitted. A Periodic Report is not required if none of the compliance exceptions specified in paragraphs (g)(1) through (g)(6) of this section occurred during the 6 month period unless emissions averaging is utilized. Quarterly reports must be submitted for emission points included in emissions averages, as provided in paragraph (g)(8) of this section. An owner or operator may submit reports required by other regulations in place of or as part of the Periodic Report required by this paragraph if the reports contain the information required by paragraphs (g)(1) through (g)(8) of this section. (1) For storage vessels, Periodic Reports shall include the information specified for Periodic Reports in paragraph (g)(2) through (g)(5) of this section except that information related to gaskets, slotted membranes, and sleeve seals is not required for storage vessels that are part of an existing source. [40 CFR 63.654(g)(1), Minn. R. 7011.7280(A)]
	5.21.29		(2) A Permittee who elects to comply with 40 CFR Section 63.646 by using a fixed roof and an internal floating roof or by using an external floating roof converted to an internal floating roof shall submit the results of each inspection conducted in accordance with 40 CFR Section 63.120(a) of subp. G of this part in which a failure is detected in the control equipment. (i) For vessels for which annual inspections are required under 40 CFR Section 63.120(a)(2)(i) or (a)(3)(ii) of subp. G of this part, the specifications and requirements listed in paragraphs (g)(2)(i)(A) through (g)(2)(i)(C) of this section apply. (A) A failure is defined as any time in which the internal

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>floating roof is not resting on the surface of the liquid inside the storage vessel and is not resting on the leg supports; or there is liquid on the floating roof; or the seal is detached from the internal floating roof; or there are holes, tears, or other openings in the seal or seal fabric; or there are visible gaps between the seal and the wall of the storage vessel.</p> <p>(B) Except as provided in paragraph (g)(2)(i)(C) of this section, each Periodic Report shall include the date of the inspection, identification of each storage vessel in which a failure was detected, and a description of the failure. The Periodic Report shall also describe the nature of and date the repair was made or the date the storage vessel was emptied.</p> <p>(C) If an extension is utilized in accordance with 40 CFR Section 63.120(a)(4) of subp. G of this part, the Permittee shall, in the next Periodic Report, identify the vessel; include the documentation specified in 40 CFR Section 63.120(a)(4) of subp. G of this part; and describe the date the storage vessel was emptied and the nature of and date the repair was made.</p> <p>(ii) For vessels for which inspections are required under 40 CFR Section 63.120(a)(2)(ii), (a)(3)(i), or (a)(3)(iii) of subp. G of this part (i.e., internal inspections), the specifications and requirements listed in paragraphs (g)(2)(ii)(A) and (g)(2)(ii)(B) of this section apply.</p> <p>(A) A failure is defined as any time in which the internal floating roof has defects; or the primary seal has holes, tears, or other openings in the seal or the seal fabric; or the secondary seal (if one has been installed) has holes, tears, or other openings in the seal or the seal fabric; or, for a storage vessel that is part of a new source, the gaskets no longer close off the liquid surface from the atmosphere; or, for a storage vessel that is part of a new source, the slotted membrane has more than a 10 percent open area.</p> <p>(B) Each Periodic Report shall include the date of the inspection, identification of each storage vessel in which a failure was detected, and a description of the failure. The Periodic Report shall also describe the nature of and date the repair was made. [40 CFR 63.654(g)(2), Minn. R. 7011.7280(A)]</p>
	5.21.30		<p>(3) A Permittee who elects to comply with 40 CFR Section 63.646 by using an external floating roof shall meet the periodic reporting requirements specified in paragraphs (g)(3)(i) through (g)(3)(iii) of this section.</p> <p>(i) Submit, as part of the Periodic Report, documentation of the results of each seal gap measurement made in accordance with 40 CFR Section 63.120(b) of subp. G of this part in which the seal and seal gap requirements of 40 CFR Section 63.120(b)(3), (b)(4), (b)(5), or (b)(6) of subp. G of this part are not met. This documentation shall include the information</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>specified in paragraphs (g)(3)(i)(A) through (g)(3)(i)(D) of this section.</p> <p>(A) The date of the seal gap measurement.</p> <p>(B) The raw data obtained in the seal gap measurement and the calculations described in 40 CFR Section 63.120(b)(3) and (b)(4) of subp. G of this part.</p> <p>(C) A description of any seal condition specified in 40 CFR Section 63.120(b)(5) or (b)(6) of subp. G of this part that is not met.</p> <p>(D) A description of the nature of and date the repair was made, or the date the storage vessel was emptied. (ii) If an extension is utilized in accordance with 40 CFR Section 63.120(b)(7)(ii) or (b)(8) of subp. G of this part, the Permittee shall, in the next Periodic Report, identify the vessel; include the documentation specified in 40 CFR Section 63.120(b)(7)(ii) or (b)(8) of subp. G of this part, as applicable; and describe the date the vessel was emptied and the nature of and date the repair was made.</p> <p>(iii) Submit, as part of the Periodic Report, documentation of any failures that are identified during visual inspections required by 40 CFR Section 63.120(b)(10) of subp. G of this part. This documentation shall meet the specifications and requirements in paragraphs (g)(3)(iii)(A) and (g)(3)(iii)(B) of this section.</p> <p>(A) A failure is defined as any time in which the external floating roof has defects; or the primary seal has holes or other openings in the seal or the seal fabric; or the secondary seal has holes, tears, or other openings in the seal or the seal fabric; or, for a storage vessel that is part of a new source, the gaskets no longer close off the liquid surface from the atmosphere; or, for a storage vessel that is part of a new source, the slotted membrane has more than 10 percent open area.</p> <p>(B) Each Periodic Report shall include the date of the inspection, identification of each storage vessel in which a failure was detected, and a description of the failure. The Periodic Report shall also describe the nature of and date the repair was made. [40 CFR 63.654(g)(3), Minn. R. 7011.7280(A)]</p>
	5.21.31		<p>(4) A Permittee who elects to comply with 40 CFR Section 63.646 by using an external floating roof converted to an internal floating roof shall comply with the periodic reporting requirements of paragraph (g)(2) of this section. [40 CFR 63.654(g)(4), Minn. R. 7011.7280(A)]</p>
	5.21.32		<p>(5) A Permittee who elects to comply with 40 CFR Section 63.646 by installing a closed vent system and control device shall submit, as part of the next Periodic Report, the information specified in paragraphs (g)(5)(i) through (g)(5)(iii) of this section.</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>(i) The Periodic Report shall include the information specified in paragraphs (g)(5)(i)(A) and (g)(5)(i)(B) of this section for those planned routine maintenance operations that would require the control device not to meet the requirements of 40 CFR Section 63.119(e)(1) or (e)(2) of subp. G of this part, as applicable.</p> <p>(A) A description of the planned routine maintenance that is anticipated to be performed for the control device during the next 6 months. This description shall include the type of maintenance necessary, planned frequency of maintenance, and lengths of maintenance periods.</p> <p>(B) A description of the planned routine maintenance that was performed for the control device during the previous 6 months. This description shall include the type of maintenance performed and the total number of hours during those 6 months that the control device did not meet the requirements of 40 CFR Section 63.119(e)(1) or (e)(2) of subp. G of this part, as applicable, due to planned routine maintenance.</p> <p>(ii) If a control device other than a flare is used, the Periodic Report shall describe each occurrence when the monitored parameters were outside of the parameter ranges documented in the Notification of Compliance Status report. The description shall include: Identification of the control device for which the measured parameters were outside of the established ranges, and causes for the measured parameters to be outside of the established ranges.</p> <p>(iii) If a flare is used, the Periodic Report shall describe each occurrence when the flare does not meet the general control device requirements specified in 40 CFR Section 63.11(b) of subp. A of this part and shall include: Identification of the flare that does not meet the general requirements specified in 40 CFR Section 63.11(b) of subp. A of this part, and reasons the flare did not meet the general requirements specified in 40 CFR Section 63.11(b) of subp. A of this part. [40 CFR 63.654(g), Minn. R. 7011.7280(A)]</p>
	5.21.33		<p>(h) Other reports shall be submitted as specified in subp. A of this part and as follows:</p> <p>(1) Reports of startup, shutdown, and malfunction required by 40 CFR Section 63.10(d)(5) of subp. A of this part [reports required by 40 CFR Section 63.10(d)(5)(i) may be submitted at the same time as periodic reports specified in 40 CFR Section 63.654(e)]; and</p> <p>(2) For storage vessels, notifications of inspections as specified in paragraphs (h)(2)(i) and (h)(2)(ii) of this section;</p> <p>(i) In order to afford the Administrator the opportunity to</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>have an observer present, the owner or operator shall notify the Administrator of the refilling of each Group 1 storage vessel that has been emptied and degassed.</p> <p>(A) Except as provided in paragraphs (h)(2)(i)(B) and (C) of this section, the Permittee shall notify the Administrator in writing at least 30 calendar days prior to filling or refilling of each storage vessel with organic HAP to afford the Administrator the opportunity to inspect the storage vessel prior to refilling.</p> <p>(B) Except as provided in paragraph (h)(2)(i)(C) of this section, if the internal inspection required by 40 CFR Sections 63.120(a)(2), 63.120(a)(3), or 63.120(b)(10) of subp. G of this part is not planned and the Permittee could not have known about the inspection 30 calendar days in advance of refilling the vessel with organic HAP's, the Permittee shall notify the Administrator at least 7 calendar days prior to refilling of the storage vessel. Notification may be made by telephone and immediately followed by written documentation demonstrating why the inspection was unplanned. This notification, including the written documentation, may also be made in writing and sent so that it is received by the Administrator at least 7 calendar days prior to the refilling.</p> <p>(C) The State or local permitting authority can waive the notification requirements of paragraphs (h)(2)(i)(A) and/or (h)(2)(i)(B) of this section for all or some storage vessels at petroleum refineries subject to this subpart. The State or local permitting authority may also grant permission to refill storage vessels sooner than 30 days after submitting the notification required by paragraph (h)(2)(i)(A) of this section, or sooner than 7 days after submitting the notification required by paragraph (h)(2)(i)(B) of this section for all storage vessels, or for individual storage vessels on a case by case basis.</p> <p>(ii) For a storage vessel equipped with an external floating roof, notify the Administrator of any seal gap measurements, in writing, at least 30 calendar days in advance of any gap measurements required by 40 CFR Section 63.120(b)(1) or (b)(2) of subp. G of this part. The State or local permitting authority can waive this notification requirement for all or some storage vessels subject to the rule or can allow less than 30 calendar days' notice. [40 CFR 63.654(h)(1, 2), Minn. R. 7011.7280(A)]</p>
	5.21.34		<p>(6) Submit the information specified in paragraphs (h)(6)(i) through (h)(6)(iii) of this section, as applicable. For existing sources, this information shall be submitted no later than 18 months prior to the compliance date. For a new source, the information shall be submitted with the application for approval of construction or reconstruction required by 40 CFR Section 63.5(d) of subp. A of this part. The information may be submitted in an operating permit application, in an</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			amendment to an operating permit application, or in a separate submittal. (i) The determination of applicability of this subpart to petroleum refining process units that are designed and operated as flexible operation units. (ii) The determination of applicability of this subpart to any storage vessel for which use varies from year to year. (iii) The determination of applicability of this subpart to any distillation unit for which use varies from year to year. [40 CFR 63.654(h)(6), Minn. R. 7011.7280(A)]
	5.21.35		(i) Recordkeeping. (1) The Permittee shall keep the records specified in 40 CFR Section 63.123 of subp. G of this part except as specified in paragraphs (i)(1)(i) through (i)(1)(iv) of this section. (i) Records related to gaskets, slotted membranes, and sleeve seals are not required for storage vessels within existing sources. (ii) All references to 40 CFR Section 63.122 in 40 CFR Section 63.123 of subp. G of this part shall be replaced with 40 CFR Section 63.654(e), (iii) All references to 40 CFR Section 63.150 in 40 CFR Section 63.123 of subp. G of this part shall be replaced with 40 CFR Section 63.652. (iv) If a storage vessel is determined to be Group 2 because the weight percent total organic HAP of the stored liquid is less than or equal to 4 percent for existing sources or 2 percent for new sources, a record of any data, assumptions, and procedures used to make this determination shall be retained. (4) All other information required to be reported under paragraphs (a) through (h) of this section shall be retained for 5 years. [40 CFR 63.654(i)(1, 4), Minn. R. 7011.7280(A)]
COMG 33	GP010	NESHAP CC w/NSPS K overlap (each)	
	5.22.1		(a) The Permittee shall store petroleum liquids as follows: (1) If the true vapor pressure of the petroleum liquid, as stored, is equal to or greater than 78 mm Hg (1.5 psia) but not greater than 570 mm Hg (11.1 psia), the storage vessel shall be equipped with a floating roof, a vapor recovery system, or their equivalents. [40 CFR 60.112(a), 40 CFR pt. 60, subp. K, Minn. R. 7011.1520(A)]
	5.22.2		(a) Except as provided in paragraph (d) of this section, the Permittee shall maintain a record of the petroleum liquid stored, the period of storage, and the maximum true vapor pressure of that liquid during the respective storage period. [40 CFR 60.113(a), Minn. R. 7011.1520(A)]
	5.22.3		Except as provided in paragraph 63.640(h)(4), existing sources

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			shall be in compliance no later than August 18, 1998, except as provided in 40 CFR Section 63.6(c) or unless an extension has been granted by the Administrator as provided in 40 CFR Section 63.6(i). [40 CFR 63.640(h)(2), 40 CFR pt. 63, subp. CC, Minn. R. 7011.7280(C)]
	5.22.4		Existing Group 1 floating roof storage vessels shall be in compliance with 40 CFR Section 63.646 at the next degassing and cleaning activity or within 10 years after [August 18, 1995], whichever is first. [40 CFR 63.640(h)(4), Minn. R. 7011.7280(A)]
	5.22.5		(5) After the compliance dates specified in paragraph (h) of this section [August 18, 1998], a Group 1 storage vessel that is also subject to the provisions of 40 CFR pt. 60, subp. K or Ka is required to only comply with the provisions of this subpart. [40 CFR 63.640(n)(5), Minn. R. 7011.7280(A)]
	5.22.6		The Permittee may use good engineering judgment or test results to determine the stored liquid weight percent total organic HAP for purposes of group determination. Data, assumptions, and procedures used in the determination shall be documented. [40 CFR 63.646(b)(1), Minn. R. 7011.7280(A)]
	5.22.7		(1) If a cover or lid is installed on an opening on a floating roof, the cover or lid shall remain closed except when the cover or lid must be open for access. (2) Rim space vents are to be set to open only when the floating roof is not floating or when the pressure beneath the rim seal exceeds the manufacturer's recommended setting. (3) Automatic bleeder vents 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. [40 CFR 63.646(f), Minn. R. 7011.7280(A)]
	5.22.8		Refers to 40 CFR pt. 63, subp. G (SOCMI NESHAP) 40 CFR Sections 63.119-63.121. [40 CFR 63.646, Minn. R. 7011.7280(A)]
	5.22.9		(1) For each Group 1 storage vessel (as defined in table 5 of this subpart for existing sources and table 6 for new sources) storing a liquid for which the maximum true vapor pressure of the total organic hazardous air pollutants in the liquid is less than 76.6 kilopascals, the owner or operator shall reduce hazardous air pollutants emissions to the atmosphere either by operating and maintaining a fixed roof and internal floating roof, an external floating roof, an external floating roof converted to an internal floating roof, or a closed vent system and control device, or routing the emissions to a process or a fuel gas system in accordance with the requirements in paragraph (b), (c), (d), (e), or (f) of this section, or equivalent as provided in 40 CFR Section 63.121. [40 CFR 63.119(a)(1), Minn. R. 7011.7040(B)]
	5.22.10		(b) The Permittee who elects to use a fixed roof and an internal floating roof, as defined in 40 CFR Section 63.111 of this subpart, to comply with the requirements of paragraph

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>(a)(1) of this section shall comply with the requirements specified in paragraphs (b)(1) through (b)(6) of this section. [Note: The intent of paragraphs (b)(1) and (b)(2) of this section is to avoid having a vapor space between the floating roof and the stored liquid for extended periods. Storage vessels may be emptied for purposes such as routine storage vessel maintenance, inspections, petroleum liquid deliveries, or transfer operations. Storage vessels where liquid is left on walls, as bottom clingage, or in pools due to floor irregularity are considered completely empty.]</p> <p>(1) The internal floating roof shall be floating on the liquid surface at all times except when the floating roof must be supported by the leg supports during the periods specified in paragraphs (b)(1)(i) through (b)(1)(iii) of this section. (i) During the initial fill. (ii) After the vessel has been completely emptied and degassed. (iii) When the vessel is completely emptied before being subsequently refilled.</p> <p>(2) When the floating roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as soon as practical. [40 CFR 63.119(b)(1) - (2), Minn. R. 7011.7040(B)]</p>
	5.22.11		<p>(3) Each internal floating roof shall be equipped with a closure device between the wall of the storage vessel and the roof edge. Except as provided in paragraph (b)(3)(iv) of this section, the closure device shall consist of one of the devices listed in paragraph (b)(3)(i), (b)(3)(ii), or (b)(3)(iii) of this section.</p> <p>(i) A liquid mounted seal as defined in 40 CFR Section 63.111 of this subpart. (ii) A metallic shoe seal as defined in 40 CFR Section 63.111 of this subpart. (iii) 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 internal floating roof. The lower seal may be vapor mounted, but both must be continuous seals. (iv) If the internal floating roof is equipped with a vapor mounted seal as of [July 15, 1994], the requirement for one of the seal options specified in paragraphs (b)(3)(i), (b)(3)(ii), and (b)(3)(iii) of this section does not apply until the earlier of the dates specified in paragraphs (b)(3)(iv)(A) and (b)(3)(iv)(B) of this section.</p> <p>(A) The next time the storage vessel is emptied and degassed. (B) No later than 10 years after [August 15, 1995].</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>(4) Automatic bleeder vents 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. [40 CFR 63.119(b)(3) - (4), Minn. R. 7011.7040(B)]</p>
	5.22.12		<p>(c) The Permittee who elects to use an external floating roof, as defined in 40 CFR Section 63.111 of this subpart, to comply with the requirements of paragraph (a)(1) of this section shall comply with the requirements specified in paragraphs (c)(1) through (c)(4) of this section. [Paragraph 2 excepted per 40 CFR Section 63.646]</p> <p>(1) Each external floating roof shall be equipped with a closure device between the wall of the storage vessel and the roof edge.</p> <p>(i) Except as provided in paragraph (c)(1)(iv) of this section, the closure device is to consist of two seals, one above the other. The lower seal is referred to as the primary seal and the upper seal is referred to as the secondary seal.</p> <p>(ii) Except as provided in paragraph (c)(1)(v) of this section, the primary seal shall be either a metallic shoe seal or a liquid mounted seal.</p> <p>(iii) Except during the inspections required by 40 CFR Section 63.120(b) of this subpart, both the primary seal and the secondary seal shall completely cover the annular space between the external floating roof and the wall of the storage vessel in a continuous fashion.</p> <p>(iv) If the external floating roof is equipped with a liquid mounted or metallic shoe primary seal as of [July 15, 1994], the requirement for a secondary seal in paragraph (c)(1)(i) of this section does not apply until the earlier of the dates specified in paragraphs (c)(1)(iv)(A) and (c)(1)(iv)(B) of this section.</p> <p>(A) The next time the storage vessel is emptied and degassed. (B) No later than 10 years after [August 18, 1995].</p> <p>(v) If the external floating roof is equipped with a vapor mounted primary seal and a secondary seal as of [July 15, 1994], the requirement for a liquid mounted or metallic shoe primary seal in paragraph (c)(1)(ii) of this section does not apply until the earlier of the dates specified in paragraphs (c)(1)(v)(A) and (c)(1)(v)(B) of this section.</p> <p>(A) The next time the storage vessel is emptied and degassed. (B) No later than 10 years after [August 18, 1995].</p> <p>(3) The external floating roof shall be floating on the liquid surface at all times except when the floating roof must be supported by the leg supports during the periods specified in paragraphs (c)(3)(i) through (c)(3)(iii) of this section.</p> <p>(i) During the initial fill. (ii) After the vessel has been completely emptied and</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>degassed.</p> <p>(iii) When the vessel is completely emptied before being subsequently refilled.</p> <p>(4) When the floating roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as soon as possible. [40 CFR 63.119(c)(1),(3),&(4), Minn. R. 7011.7040(B)]</p>
	5.22.13		<p>(d) The owner or operator who elects to use an external floating roof converted to an internal floating roof (i.e., fixed roof installed above external floating roof) to comply with paragraph (a)(1) of this section shall comply with paragraphs (d)(1) and (d)(2) of this section.</p> <p>(1) Comply with the requirements for internal floating roof vessels specified in paragraphs (b)(1), (2), and (3) of this section. [40 CFR 63.119(d)(1), Minn. R. 7011.7040(B)]</p>
	5.22.14		<p>(e) The Permittee who elects to use a closed vent system and control device, as defined in 40 CFR Section 63.111 of this subpart, to comply with the requirements of paragraph (a)(1) or (a)(2) of this section shall comply with the requirements specified in paragraphs (e)(1) through (e)(5) of this section.</p> <p>(1) Except as provided in paragraph (e)(2) of this section, the control device shall be designed and operated to reduce inlet emissions of total organic HAP by 95 percent or greater. If a flare is used as the control device, it shall meet the specifications described in the general control device requirements of 40 CFR Section 63.11(b) of subp. A of this part.</p> <p>(2) If the Permittee can demonstrate that a control device installed on a storage vessel on or before [July 15, 1994] is designed to reduce inlet emissions of total organic HAP by greater than or equal to 90 percent but less than 95 percent, then the control device is required to be operated to reduce inlet emissions of total organic HAP by 90 percent or greater.</p> <p>(3) Periods of planned routine maintenance of the control device, during which the control device does not meet the specifications of paragraph (e)(1) or (e)(2) of this section, as applicable, shall not exceed 240 hours per year.</p> <p>(4) The specifications and requirements in paragraphs (e)(1) and (e)(2) of this section for control devices do not apply during periods of planned routine maintenance.</p> <p>(5) The specifications and requirements in paragraphs (e)(1) and (e)(2) of this section for control devices do not apply during a control system malfunction. (6) A Permittee may use a combination of control devices to achieve the required</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			reduction of total organic hazardous air pollutants specified in paragraph (e)(1) of this section. A Permittee may use a combination of control devices installed on a storage vessel on or before [July 15, 1994] to achieve the required reduction of total organic hazardous air pollutants specified in paragraph (e)(2) of this section. [40 CFR 63.119(e)(1) - (6), Minn. R. 7011.7040(B)]
	5.22.15		<p>(f) The Permittee who elects to route emissions to a fuel gas system or to a process, as defined in 40 CFR Section 63.111 of this subpart, to comply with the requirements of paragraph (a)(1) or (a)(2) of this section shall comply with the requirements in paragraphs (f)(1) through (f)(3) of this section, as applicable.</p> <p>(1) If emissions are routed to a fuel gas system, there is no requirement to conduct a performance test or design evaluation. If emissions are routed to a process, the organic hazardous air pollutants in the emissions shall predominantly meet one of, or a combination of, the ends specified in paragraphs (f)(1)(i) through (f)(1)(iv) of this section. The Permittee shall comply with the compliance demonstration requirements in 40 CFR Section 63.120(f).</p> <p>(i) Recycled and/or consumed in the same manner as a material that fulfills the same function in that process; (ii) Transformed by chemical reaction into materials that are not organic hazardous air pollutants; (iii) Incorporated into a product; and/or (iv) Recovered.</p> <p>(2) If the emissions are conveyed by a system other than hard piping, any conveyance system operated under positive pressure shall be subject to the requirements of 40 CFR Section 63.148 of this subpart. [40 CFR 63.119(f)(1) - (2), Minn. R. 7011.7040(B)]</p>
	5.22.16		<p>(3) The fuel gas system or process shall be operating at all times when organic hazardous air pollutants emissions are routed to it except as provided in 40 CFR Section 63.102(a)(1) of subp. F of this part and in paragraphs (f)(3)(i) through (f)(3)(iii) of this section. Whenever the Permittee bypasses the fuel gas system or process, the Permittee shall comply with the recordkeeping requirement in 40 CFR Section 63.123(h) of this subpart. Bypassing is permitted if the Permittee complies with one or more of the conditions specified in paragraphs (f)(3)(i) through (f)(3)(iii) of this section.</p> <p>(i) The liquid level in the storage vessel is not increased; (ii) The emissions are routed through a closed vent system to a control device complying with 40 CFR Section 63.119(e) of</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>this subpart; or</p> <p>(iii) The total aggregate amount of time during which the emissions by bypass the fuel gas system or process during the calendar year without being routed to a control device, for all reasons (except start ups/shutdowns/malfunctions or product changeovers of flexible operation units and periods when the storage vessel has been emptied and degassed), does not exceed 240 hours. [40 CFR 63.119(f)(3), Minn. R. 7011.7040(B)]</p>
	5.22.17		<p>(a) To demonstrate compliance with 40 CFR Section 63.119(b) of this subpart (storage vessel equipped with a fixed roof and internal floating roof) or with 40 CFR Section 63.119(d) of this subpart (storage vessel equipped with an external floating roof converted to an internal floating roof), the Permittee shall comply with the requirements in paragraphs (a)(1) through (a)(7) of this section.</p> <p>(1) The Permittee shall visually inspect the internal floating roof, the primary seal, and the secondary seal (if one is in service), according to the schedule specified in paragraphs (a)(2) and (a)(3) of this section.</p> <p>(2) For vessels equipped with a single seal system, the owner or operator shall perform the inspections specified in paragraphs (a)(2)(i) and (a)(2)(ii) of this section.</p> <p>(i) Visually inspect the internal floating roof and the seal through manholes and roof hatches on the fixed roof at least once every 12 months after initial fill, or at least once every 12 months after the compliance date specified in 40 CFR Section 63.640(h) of subp. CC of this part.</p> <p>(ii) Visually inspect the internal floating roof and the seal each time the storage vessel is emptied and degassed, and at least once every 10 years after the compliance date specified in 40 CFR Section 63.640(h) of subp. CC of this part. [40 CFR 63.120(a)(1) - (2), Minn. R. 7011.7040(B)]</p>
	5.22.18		<p>(3) For vessels equipped with a double seal system as specified in 40 CFR Section 63.119(b)(3)(iii) of this subpart, the Permittee shall perform either the inspection required in paragraph (a)(3)(i) of this section or the inspections required in both paragraphs (a)(3)(ii) and (a)(3)(iii) of this section.</p> <p>(i) The owner or operator shall visually inspect the internal floating roof, the primary seal, and the secondary seal each time the storage vessel is emptied and degassed and at least once every 5 years after the compliance date specified in 40 CFR Section 63.640(h) of subp. CC of this part; or</p> <p>(ii) The owner or operator shall visually inspect the internal floating roof and the secondary seal through manholes and roof hatches on the fixed roof at least once every 12 months after initial fill, or at least once every 12 months after the</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>compliance date specified in 40 CFR Section 63.640(h) of subp. CC of this part, and</p> <p>(iii) Visually inspect the internal floating roof, the primary seal, and the secondary seal each time the vessel is emptied and degassed and at least once every 10 years after the compliance date specified in 40 CFR Section 63.640(h) of subp. CC of this part.</p> <p>(4) If during the inspections required by paragraph (a)(2)(i) or (a)(3)(ii) of this section, the internal floating roof is not resting on the surface of the liquid inside the storage vessel and is not resting on the leg supports; or there is liquid on the floating roof; or the seal is detached; or there are holes or tears in the seal fabric; or there are visible gaps between the seal and the wall of the storage vessel, the Permittee shall repair the items or empty and remove the storage vessel from service within 45 calendar days. If a failure that is detected during inspections required by paragraph (a)(2)(i) or (a)(3)(ii) of this section cannot be repaired within 45 calendar days and if the vessel cannot be emptied within 45 calendar days, the Permittee may utilize up to 2 extensions of up to 30 additional calendar days each. Documentation of a decision to utilize an extension shall include a description of the failure, shall document that alternate storage capacity is unavailable, and shall specify a schedule of actions that will ensure that the control equipment will be repaired or the vessel will be emptied as soon as practical.</p> <p>(5) Except as provided in paragraph (a)(6) of this section, for all the inspections required by paragraphs (a)(2)(ii), (a)(3)(i), and (a)(3)(iii) of this section, the Permittee shall notify the Administrator in writing at least 30 calendar days prior to the refilling of each storage vessel to afford the Administrator the opportunity to have an observer present.</p> <p>(6) If the inspection required by paragraph (a)(2)(ii), (a)(3)(i), or (a)(3)(iii) of this section is not planned and the Permittee could not have known about the inspection 30 calendar days in advance of refilling the vessel, the Permittee shall notify the Administrator at least 7 calendar days prior to the refilling of the storage vessel. Notification may be made by telephone and immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, the notification including the written documentation may be made in writing and sent so that it is received by the Administrator at least 7 calendar days prior to refilling. [40 CFR 63.120(a)(3 - 6), Minn. R. 7011.7040(B)]</p>
	5.22.19		<p>(7) If during the inspections required by paragraph (a)(2)(ii), (a)(3)(i), or (a)(3)(iii) of this section, the internal floating roof</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>has defects; or the primary seal has holes, tears, or other openings in the seal or the seal fabric; or the secondary seal has holes, tears, or other openings in the seal or the seal fabric; or the gaskets no longer close off the liquid surface from the atmosphere; or the slotted membrane has more than 10 percent open area, the Permittee shall repair the items as necessary so that none of the conditions specified in this paragraph exist before refilling the storage vessel with organic HAP. [40 CFR 63.120(a)(7), Minn. R. 7011.7040(B)]</p>
	5.22.20		<p>(b) To demonstrate compliance with 40 CFR Section 63.119(c) of this subpart (storage vessel equipped with an external floating roof), the Permittee shall comply with the requirements specified in paragraphs (b)(1) through (b)(10) of this section.</p> <p>(1) Except as provided in paragraph (b)(7) of this section, the Permittee shall determine the gap areas and maximum gap widths between the primary seal and the wall of the storage vessel, and the secondary seal and the wall of the storage vessel according to the frequency specified in paragraphs (b)(1)(i) through (b)(1)(iii) of this section.</p> <p>(i) For an external floating roof vessel equipped with primary and secondary seals, measurements of gaps between the vessel wall and the primary seal shall be performed during the hydrostatic testing of the vessel or by the compliance date specified in 40 CFR Section 63.640(h) of subp. CC of this part, whichever occurs last, and at least once every 5 years thereafter.</p> <p>(ii) For an external floating roof vessel equipped with a liquid mounted or metallic shoe primary seal and without a secondary seal as provided for in 40 CFR Section 63.119(c)(1)(iv) of this subpart, measurements of gaps between the vessel wall and the primary seal shall be performed by the compliance date specified in 40 CFR Section 63.640(h) of subp. CC of this part and at least once per year thereafter, until a secondary seal is installed. When a secondary seal is installed above the primary seal, measurements of gaps between the vessel wall and both the primary and secondary seals shall be performed within 90 calendar days of installation of the secondary seal, and according to the frequency specified in paragraphs (b)(1)(i) and (b)(1)(iii) of this section thereafter.</p> <p>(iii) For an external floating roof vessel equipped with primary and secondary seals, measurements of gaps between the vessel wall and the secondary seal shall be performed by the compliance date specified in 40 CFR Section 63.640(h) of subp. CC of this part and at least once per year thereafter.(iv) If any storage vessel ceases to store organic HAP for a period of 1 year or more, or if the maximum true vapor pressure of the</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>total organic HAP's in the stored liquid falls below the values defining Group 1 storage vessels specified in table 5 or table 6 of this subpart for a period of 1 year or more, measurements of gaps between the vessel wall and the primary seal, and gaps between the vessel wall and the secondary seal shall be performed within 90 calendar days of the vessel being refilled with organic HAP.</p> <p>(2) Except as provided in paragraph (b)(7) of this section, the Permittee shall determine gap widths and gap areas in the primary and secondary seals (seal gaps) individually by the procedures described in paragraphs (b)(2)(i) through (b)(2)(iii) of this section.</p> <p>(i) Seal gaps, if any, shall be measured at one or more floating roof levels when the roof is not resting on the roof leg supports.</p> <p>(ii) Seal gaps, if any, shall be measured around the entire circumference of the vessel in each place where a 0.32 centimeter diameter uniform probe passes freely (without forcing or binding against the seal) between the seal and the wall of the storage vessel. The circumferential distance of each such location shall also be measured.</p> <p>(iii) The total surface area of each gap described in paragraph (b)(2)(ii) of this section shall be determined by using probes of various widths to measure accurately the actual distance from the vessel wall to the seal and multiplying each such width by its respective circumferential distance. [40 CFR 63.120(b)(1) - (2), Minn. R. 7011.7040(B)]</p>
	5.22.21		<p>(3) The Permittee shall add the gap surface area of each gap location for the primary seal and divide the sum by the nominal diameter of the vessel. The accumulated area of gaps between the vessel wall and the primary seal shall not exceed 212 square centimeters per meter of vessel diameter and the width of any portion of any gap shall not exceed 3.81 centimeters.</p> <p>(4) The Permittee shall add the gap surface area of each gap location for the secondary seal and divide the sum by the nominal diameter of the vessel. The accumulated area of gaps between the vessel wall and the secondary seal shall not exceed 21.2 square centimeters per meter of vessel diameter and the width of any portion of any gap shall not exceed 1.27 centimeters. These seal gap requirements may be exceeded during the measurement of primary seal gaps as required by paragraph (b)(1)(i) and (b)(1)(ii) of this section.</p> <p>(5) The primary seal shall meet the additional requirements specified in paragraphs (b)(5)(i) and (b)(5)(ii) of this section.</p> <p>(i) Where a metallic shoe seal is in use, one end of the metallic</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>shoe shall extend into the stored liquid and the other end shall extend a minimum vertical distance of 61 centimeters above the stored liquid surface.</p> <p>(ii) There shall be no holes, tears, or other openings in the shoe, seal fabric, or seal envelope. (6) The secondary seal shall meet the additional requirements specified in paragraphs (b)(6)(i) and (b)(6)(ii) of this section.</p> <p>(i) The secondary seal shall be installed above the primary seal so that it completely covers the space between the roof edge and the vessel wall except as provided in paragraph (b)(4) of this section.</p> <p>(ii) There shall be no holes, tears, or other openings in the seal or seal fabric.</p> <p>(7) If the Permittee determines that it is unsafe to perform the seal gap measurements required in paragraphs (b)(1) and (b)(2) of this section or to inspect the vessel to determine compliance with paragraphs (b)(5) and (b)(6) of this section because the floating roof appears to be structurally unsound and poses an imminent or potential danger to inspecting personnel, the Permittee shall comply with the requirements in either paragraph (b)(7)(i) or (b)(7)(ii) of this section.</p> <p>(i) The Permittee shall measure the seal gaps or inspect the storage vessel no later than 30 calendar days after the determination that the roof is unsafe, or</p> <p>(ii) The Permittee shall empty and remove the storage vessel from service no later than 45 calendar days after determining that the roof is unsafe. If the vessel cannot be emptied within 45 calendar days, the Permittee may utilize up to 2 extensions of up to 30 additional calendar days each. Documentation of a decision to utilize an extension shall include an explanation of why it was unsafe to perform the inspection or seal gap measurement, shall document that alternate storage capacity is unavailable, and shall specify a schedule of actions that will ensure that the vessel will be emptied as soon as possible. [40 CFR 63.120(b)(3) - (7), Minn. R. 7011.7040(B)]</p>
	5.22.22		<p>(8) The Permittee shall repair conditions that do not meet requirements listed in paragraphs (b)(3), (b)(4), (b)(5), and (b)(6) of this section (i.e., failures) no later than 45 calendar days after identification, or shall empty and remove the storage vessel from service no later than 45 calendar days after identification. If during seal gap measurements required in paragraph (b)(1) and (b)(2) of this section or during inspections necessary to determine compliance with paragraphs (b)(5) and (b)(6) of this section a failure is detected that cannot be repaired within 45 calendar days and if the vessel cannot be emptied within 45 calendar days, the Permittee may utilize up to 2 extensions of up to 30 additional calendar days each. Documentation of a decision to utilize an</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>extension shall include a description of the failure, shall document that alternate storage capacity is unavailable, and shall specify a schedule of actions that will ensure that the control equipment will be repaired or the vessel will be emptied as soon as possible. (9) The Permittee shall notify the Administrator in writing 30 calendar days in advance of any gap measurements required by paragraph (b)(1) or (b)(2) of this section to afford the Administrator the opportunity to have an observer present.</p> <p>(10) The Permittee shall visually inspect the external floating roof, the primary seal, secondary seal, and fittings each time the vessel is emptied and degassed.</p> <p>(i) If the external floating roof has defects; the primary seal has holes, tears, or other openings in the seal or the seal fabric; or the secondary seal has holes, tears, or other openings in the seal or the seal fabric; or the gaskets no longer close off the liquid surface from the atmosphere; or the slotted membrane has more than 10 percent open area, the Permittee shall repair the items as necessary so that none of the conditions specified in this paragraph exist before filling or refilling the storage vessel with organic HAP.</p> <p>(ii) Except as provided in paragraph (b)(10)(iii) of this section, for all the inspections required by paragraph (b)(10) of this section, the Permittee shall notify the Administrator in writing at least 30 calendar days prior to filling or refilling of each storage vessel with organic HAP to afford the Administrator the opportunity to inspect the storage vessel prior to refilling.</p> <p>(iii) If the inspection required by paragraph (b)(10) of this section is not planned and the Permittee could not have known about the inspection 30 calendar days in advance of refilling the vessel with organic HAP, the Permittee shall notify the Administrator at least 7 calendar days prior to refilling of the storage vessel. Notification may be made by telephone and 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 so that it is received by the Administrator at least 7 calendar days prior to the refilling. [40 CFR 63.120(b)(8) - (10), Minn. R. 7011.7040(B)]</p>
	5.22.23		<p>(d) To demonstrate compliance with 40 CFR Section 63.119(e) of this subpart (storage vessel equipped with a closed vent system and control device) using a control device other than a flare, the Permittee shall comply with the requirements in paragraphs (d)(1) through (d)(7) of this section, except as provided in paragraph (d)(8) of this section.</p> <p>(1) The Permittee shall either prepare a design evaluation,</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>which includes the information specified in paragraph (d)(1)(i) of this section, or submit the results of a performance test as described in paragraph (d)(1)(ii) of this section.</p> <p>(i) The design evaluation shall include documentation demonstrating that the control device being used achieves the required control efficiency during reasonably expected maximum filling rate. This documentation is to include a description of the gas stream which enters the control device, including flow and organic HAP content under varying liquid level conditions, and the information specified in paragraphs (d)(1)(i)(A) through (d)(1)(i)(E) of this section, as applicable.</p> <p>(A) If the control device receives vapors, gases or liquids, other than fuels, from emission points other than storage vessels subject to this subpart, the efficiency demonstration is to include consideration of all vapors, gases, and liquids, other than fuels, received by the control device.</p> <p>(B) If an enclosed combustion device with a minimum residence time of 0.5 seconds and a minimum temperature of 760°C is used to meet the emission reduction requirement specified in 40 CFR Section 63.119(e)(1) or (e)(2), as applicable, documentation that those conditions exist is sufficient to meet the requirements of paragraph (d)(1)(i) of this section.</p> <p>(C) Except as provided in paragraph (d)(1)(i)(B) of this section, for thermal incinerators, the design evaluation shall include the autoignition temperature of the organic HAP, the flow rate of the organic HAP emission stream, the combustion temperature, and the residence time at the combustion temperature.</p> <p>(D) For carbon adsorbers, the design evaluation shall include the affinity of the organic HAP vapors for carbon, the amount of carbon in each bed, the number of beds, the humidity of the feed gases, the temperature of the feed gases, the flow rate of the organic HAP emission stream, the desorption schedule, the regeneration stream pressure or temperature, and the flow rate of the regeneration stream. For vacuum desorption, pressure drop shall be included.</p> <p>(E) For condensers, the design evaluation shall include the final temperature of the organic HAP vapors, the type of condenser, and the design flow rate of the organic HAP emission stream.</p> <p>(ii) If the control device used to comply with 40 CFR Section 63.119(e) of this subpart is also used to comply with 40 CFR Section 63.113(a)(2), 40 CFR Section 63.126(b)(1), or 40 CFR Section 63.139(c) of this subpart, the performance test required by 40 CFR Section 63.116(c), 40 CFR Section 63.128(a), or 40 CFR Section 63.139(d)(1) of this subpart is</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>acceptable to demonstrate compliance with 40 CFR Section 63.119(e) of this subpart. The Permittee is not required to prepare a design evaluation for the control device as described in paragraph (d)(1)(i) of this section, if the performance tests meets the criteria specified in paragraphs (d)(1)(ii)(A) and (d)(1)(ii)(B) of this section.</p> <p>(A) The performance test demonstrates that the control device achieves greater than or equal to the required control efficiency specified in 40 CFR Section 63.119(e)(1) or (e)(2) of this subpart, as applicable; and</p> <p>(B) The performance test is submitted as part of the Notification of Compliance Status required by 40 CFR Section 63.151(b) of this subpart. [40 CFR 63.120(d)(1), Minn. R. 7011.7040(B)]</p>
	5.22.24		<p>(2) The Permittee shall submit, as part of the Notification of Compliance Status required by 40 CFR Section 63.151(b) of this subpart, a monitoring plan containing the information specified in paragraph (d)(2)(i) of this section and in either (d)(2)(ii) or (d)(2)(iii) of this section.</p> <p>(i) A description of the parameter or parameters to be monitored to ensure that the control device is being properly operated and maintained, an explanation of the criteria used for selection of that parameter (or parameters), and the frequency with which monitoring will be performed (e.g., when the liquid level in the storage vessel is being raised); and either</p> <p>(ii) The documentation specified in paragraph (d)(1)(i) of this section, if the owner or operator elects to prepare a design evaluation; or</p> <p>(iii) The information specified in paragraph (d)(2)(iii)(A) and (B) of this section if the Permittee elects to submit the results of a performance test.</p> <p>(A) Identification of the storage vessel and control device for which the performance test will be submitted, and</p> <p>(B) Identification of the emission point(s) that share the control device with the storage vessel and for which the performance test will be conducted. [40 CFR 63.120(d)(2), Minn. R. 7011.7040(B)]</p>
	5.22.25		<p>(3) The Permittee shall submit, as part of the Notification of Compliance Status required by 40 CFR Section 63.152(b) of this subpart, the information specified in paragraphs (d)(3)(i) and, if applicable, (d)(3)(ii) of this section.</p> <p>(i) The operating range for each monitoring parameter identified in the monitoring plan. The specified operating range shall represent the conditions for which the control</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>device is being properly operated and maintained.</p> <p>(ii) Results of the performance test described in paragraph (d)(1)(ii) of this section.</p> <p>(4) The Permittee shall demonstrate compliance with the requirements of 40 CFR Section 63.119(e)(3) of this subpart (planned routine maintenance of a control device, during which the control device does not meet the specifications of 40 CFR Section 63.119(e)(1) or (e)(2) of this subpart, as applicable, shall not exceed 240 hours per year) by including in each Periodic Report required by 40 CFR Section 63.152(c) of this subpart the information specified in 40 CFR Section 63.122(g)(1) of this subpart. [40 CFR 63.120(d)(3) - (4), Minn. R. 7011.7040(B)]</p>
	5.22.26		<p>(5) The Permittee shall monitor the parameters specified in the Notification of Compliance Status required in 40 CFR Section 63.152(b) of this subpart or in the operating permit and shall operate and maintain the control device such that the monitored parameters remain within the ranges specified in the Notification of Compliance Status.</p> <p>(6) Except as provided in paragraph (d)(7) of this section, each closed vent system shall be inspected as specified in 40 CFR Section 63.148 of this subpart. The initial and annual inspections required by 40 CFR Section 63.148(b) of this subpart shall be done during filling of the storage vessel.(7) For any fixed roof tank and closed vent system that are operated and maintained under negative pressure, the owner or operator is not required to comply with the requirements specified in 40 CFR Section 63.148 of this subpart.</p> <p>(8) A design evaluation or performance test is not required, if the Permittee uses a combustion device meeting the criteria in paragraph (d)(8)(i), (d)(8)(ii), (d)(8)(iii), or (d)(8)(iv) of this section.</p> <p>(i) A boiler or process heater with a design heat input capacity of 44 megawatts or greater.</p> <p>ii) A boiler or process heater burning hazardous waste for which the Permittee:</p> <p>(A) Has been issued a final permit under 40 CFR pt. 270 and complies with the requirements of 40 CFR pt. 266, subp. H, or</p> <p>(B) Has certified compliance with the interim status requirements of 40 CFR pt. 266, subp. H.</p> <p>(iii) A hazardous waste incinerator for which the Permittee has been issued a final permit under 40 CFR pt. 270 and complies with the requirements of 40 CFR pt. 264, subp. O or has certified compliance with the interim status requirements of 40 CFR pt. 265, subp. O.</p> <p>(iv) A boiler or process heater into which the vent stream is introduced with the primary fuel. [40 CFR 63.120(d)(5) - (8),</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
	5.22.27		<p>Minn. R. 7011.7040(B)]</p> <p>(e) To demonstrate compliance with 40 CFR Section 63.119(e) of this subpart (storage vessel equipped with a closed vent system and control device) using a flare, the Permittee shall comply with the requirements in paragraphs (e)(1) through (e)(6) of this section.</p> <p>(1) The Permittee shall perform the compliance determination specified in 40 CFR Section 63.11(b) of subp. A of this part.</p> <p>(2) The Permittee shall submit, as part of the Notification of Compliance Status required by 40 CFR Section 63.152(b) of this subpart, the information specified in paragraphs (e)(2)(i) through (e)(2)(iii) of this section.</p> <p>(i) Flare design (i.e., steam assisted, air assisted, or non assisted);</p> <p>(ii) All visible emission readings, heat content determinations, flow rate measurements, and exit velocity determinations made during the compliance determination required by paragraph (e)(1) of this section; and</p> <p>(iii) All periods during the compliance determination when the pilot flame is absent. (3) The Permittee shall demonstrate compliance with the requirements of 40 CFR Section 63.119(e)(3) of this subpart (planned routine maintenance of a flare, during which the flare does not meet the specifications of 40 CFR Section 63.119(e)(1) of this subpart, shall not exceed 240 hours per year) by including in each Periodic Report required by 40 CFR Section 63.152(c) of this subpart the information specified in 40 CFR Section 63.122(g)(1) of this subpart.</p> <p>(4) The Permittee shall continue to meet the general control device requirements specified in 40 CFR Section 63.11(b) of subp. A of this part.</p> <p>(5) Except as provided in paragraph (e)(6) of this section, each closed vent system shall be inspected as specified in 40 CFR Section 63.148 of this subpart. The inspections required to be performed in accordance with 40 CFR Section 63.148(c) of this subpart shall be done during filling of the storage vessel.</p> <p>(6) For any fixed roof tank and closed vent system that is operated and maintained under negative pressure, the Permittee is not required to comply with the requirements specified in 40 CFR Section 63.148 of this subpart. [40 CFR 63.120(e)(1) - (6), Minn. R. 7011.7040(B)]</p>
	5.22.28		<p>(f) To demonstrate compliance with 40 CFR Section 63.119(f) of this subpart (storage vessel routed to a process), the</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>Permittee shall prepare a design evaluation (or engineering assessment) that demonstrates the extent to which one or more of the ends specified in 40 CFR Section 63.119(f)(1)(i) through (f)(1)(iv) are being met. The Permittee shall submit the design evaluation as part of the Notification of Compliance Status required by 40 CFR Section 63.152(b) of this subpart. [40 CFR 63.120(f), Minn. R. 7011.7040(B)]</p>
	5.22.29		<p>(f) Submit a Notification of Compliance Status report within 150 days after the compliance dates specified in 40 CFR Section 63.640(h). This information may be submitted in an operating permit application, in an amendment to an operating permit application, in a separate submittal, or in any combination of the three. If the required information has been submitted before the date 150 days after the compliance date specified in 40 CFR Section 63.640(h), a separate Notification of Compliance Status report is not required within 150 days after the compliance dates specified in 40 CFR Section 63.640(h). If an owner or operator submits the information specified in paragraphs (f)(1) through (f)(5) of this section at different times, and/or in different submittals, later submittals may refer to earlier submittals instead of duplicating and resubmitting the previously submitted information.</p> <p>(1) The Notification of Compliance Status report shall include the information specified in paragraphs (f)(1)(i) through (f)(1)(v) of this section.</p> <p>(i) For storage vessels, this report shall include the information specified in paragraphs (f)(1)(i)(A) through (f)(1)(i)(D) of this section.</p> <p>(A) Identification of each storage vessel subject to this subpart, whether the vessel is Group 1 or Group 2, and the method of compliance for each Group 1 storage vessel that is not included in an emissions average (i.e., internal floating roof, external floating roof, or closed vent system and control device). [40 CFR 63.654(f)(1)(i)(A), Minn. R. 7011.7280(A)]</p>
	5.22.30		<p>(B) If a closed vent system and a control device other than a flare is used to comply with 40 CFR Section 63.646 the Permittee shall submit:</p> <p>(1) A description of the parameter or parameters to be monitored to ensure that the control device is being properly operated and maintained, an explanation of the criteria used for selection of that parameter (or parameters), and the frequency with which monitoring will be performed; and either</p> <p>(2) The design evaluation documentation specified in 40 CFR Section 63.120(d)(1)(i) of subp. G, if the Permittee elects to prepare a design evaluation; or</p> <p>(3) If the Permittee elects to submit the results of a</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>performance test, identification of the storage vessel and control device for which the performance test will be submitted, and identification of the emission point(s) that share the control device with the storage vessel and for which the performance test will be conducted.</p> <p>(C) If a closed vent system and control device other than a flare is used, the Permittee shall submit:</p> <p>(1) The operating range for each monitoring parameter. The specified operating range shall represent the conditions for which the control device is being properly operated and maintained.</p> <p>(2) If a performance test is conducted instead of a design evaluation, results of the performance test demonstrating that the control device achieves greater than or equal to the required control efficiency. A performance test conducted prior to the compliance date of this subpart can be used to comply with this requirement, provided that the test was conducted using EPA methods and that the test conditions are representative of current operating practices. [40 CFR 63.654(f)(1)(i)(B, C), Minn. R. 7011.7280(A)]</p>
	5.22.31		<p>(D) If a closed vent system and a flare is used, the Permittee shall submit:</p> <p>(1) Flare design (e.g., steam assisted, air assisted, or nonassisted);</p> <p>(2) All visible emission readings, heat content determinations, flow rate measurements, and exit velocity determinations made during the compliance determination required by 40 CFR Section 63.120(e) of subp. G of this part; and</p> <p>(3) All periods during the compliance determination when the pilot flame is absent. [40 CFR 63.654(f)(1)(i)(D), Minn. R. 7011.7280(A)]</p>
	5.22.32		<p>(g) Submit Periodic Reports no later than 60 days after the end of each 6 month period when any of the compliance exceptions specified in paragraphs (g)(1) through (g)(6) of this section occur. The first 6 month period shall begin on the date the Notification of Compliance Status report is required to be submitted. A Periodic Report is not required if none of the compliance exceptions specified in paragraphs (g)(1) through (g)(6) of this section occurred during the 6 month period unless emissions averaging is utilized. Quarterly reports must be submitted for emission points included in emissions averages, as provided in paragraph (g)(8) of this section. A Permittee may submit reports required by other regulations in place of or as part of the Periodic Report required by this paragraph if the reports contain the information required by paragraphs (g)(1) through (g)(8) of this section.</p> <p>(1) For storage vessels, Periodic Reports shall include the</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			information specified for Periodic Reports in paragraph (g)(2) through (g)(5) of this section except that information related to gaskets, slotted membranes, and sleeve seals is not required for storage vessels that are part of an existing source. [40 CFR 63.654(g)(1), Minn. R. 7011.7280(A)]
	5.22.33		<p>(2) A Permittee who elects to comply with 40 CFR Section 63.646 by using a fixed roof and an internal floating roof or by using an external floating roof converted to an internal floating roof shall submit the results of each inspection conducted in accordance with 40 CFR Section 63.120(a) of subp. G of this part in which a failure is detected in the control equipment.</p> <p>(i) For vessels for which annual inspections are required under 40 CFR Section 63.120(a)(2)(i) or (a)(3)(ii) of subp. G of this part, the specifications and requirements listed in paragraphs (g)(2)(i)(A) through (g)(2)(i)(C) of this section apply.</p> <p>(A) A failure is defined as any time in which the internal floating roof is not resting on the surface of the liquid inside the storage vessel and is not resting on the leg supports; or there is liquid on the floating roof; or the seal is detached from the internal floating roof; or there are holes, tears, or other openings in the seal or seal fabric; or there are visible gaps between the seal and the wall of the storage vessel.</p> <p>(B) Except as provided in paragraph (g)(2)(i)(C) of this section, each Periodic Report shall include the date of the inspection, identification of each storage vessel in which a failure was detected, and a description of the failure. The Periodic Report shall also describe the nature of and date the repair was made or the date the storage vessel was emptied.</p> <p>(C) If an extension is utilized in accordance with 40 CFR Section 63.120(a)(4) of subp. G of this part, the Permittee shall, in the next Periodic Report, identify the vessel; include the documentation specified in 40 CFR Section 63.120(a)(4) of subp. G of this part; and describe the date the storage vessel was emptied and the nature of and date the repair was made.</p> <p>(ii) For vessels for which inspections are required under 40 CFR Section 63.120(a)(2)(ii), (a)(3)(i), or (a)(3)(iii) of subp. G of this part (i.e., internal inspections), the specifications and requirements listed in paragraphs (g)(2)(ii)(A) and (g)(2)(ii)(B) of this section apply.</p> <p>(A) A failure is defined as any time in which the internal floating roof has defects; or the primary seal has holes, tears, or other openings in the seal or the seal fabric; or the secondary seal (if one has been installed) has holes, tears, or other openings in the seal or the seal fabric; or, for a storage vessel that is part of a new source, the gaskets no longer close off the liquid surface from the atmosphere; or, for a storage</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>vessel that is part of a new source, the slotted membrane has more than a 10 percent open area.</p> <p>(B) Each Periodic Report shall include the date of the inspection, identification of each storage vessel in which a failure was detected, and a description of the failure. The Periodic Report shall also describe the nature of and date the repair was made. [40 CFR 63.654(g)(2), Minn. R. 7011.7280(A)]</p>
	5.22.34		<p>(3) The Permittee who elects to comply with 40 CFR Section 63.646 by using an external floating roof shall meet the periodic reporting requirements specified in paragraphs (g)(3)(i) through (g)(3)(iii) of this section.</p> <p>(i) Submit, as part of the Periodic Report, documentation of the results of each seal gap measurement made in accordance with 40 CFR Section 63.120(b) of subp. G of this part in which the seal and seal gap requirements of 40 CFR Section 63.120(b)(3), (b)(4), (b)(5), or (b)(6) of subp. G of this part are not met. This documentation shall include the information specified in paragraphs (g)(3)(i)(A) through (g)(3)(i)(D) of this section.</p> <p>(A) The date of the seal gap measurement.</p> <p>(B) The raw data obtained in the seal gap measurement and the calculations described in 40 CFR Section 63.120(b)(3) and (b)(4) of subp. G of this part.</p> <p>(C) A description of any seal condition specified in 40 CFR Section 63.120(b)(5) or (b)(6) of subp. G of this part that is not met.</p> <p>(D) A description of the nature of and date the repair was made, or the date the storage vessel was emptied.</p> <p>(ii) If an extension is utilized in accordance with 40 CFR Section 63.120(b)(7)(ii) or (b)(8) of subp. G of this part, the Permittee shall, in the next Periodic Report, identify the vessel; include the documentation specified in 40 CFR Section 63.120(b)(7)(ii) or (b)(8) of subp. G of this part, as applicable; and describe the date the vessel was emptied and the nature of and date the repair was made.</p> <p>(iii) Submit, as part of the Periodic Report, documentation of any failures that are identified during visual inspections required by 40 CFR Section 63.120(b)(10) of subp. G of this part. This documentation shall meet the specifications and requirements in paragraphs (g)(3)(iii)(A) and (g)(3)(iii)(B) of this section.</p> <p>(A) A failure is defined as any time in which the external floating roof has defects; or the primary seal has holes or other openings in the seal or the seal fabric; or the secondary seal has holes, tears, or other openings in the seal or the seal fabric; or, for a storage vessel that is part of a new source, the</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>gaskets no longer close off the liquid surface from the atmosphere; or, for a storage vessel that is part of a new source, the slotted membrane has more than 10 percent open area.</p> <p>(B) Each Periodic Report shall include the date of the inspection, identification of each storage vessel in which a failure was detected, and a description of the failure. The Periodic Report shall also describe the nature of and date the repair was made. [40 CFR 63.654(g)(3), Minn. R. 7011.7280(A)]</p>
	5.22.35		<p>(4) The Permittee who elects to comply with 40 CFR Section 63.646 by using an external floating roof converted to an internal floating roof shall comply with the periodic reporting requirements of paragraph (g)(2) of this section. [40 CFR 63.654(g)(4), Minn. R. 7011.7280(A)]</p>
	5.22.36		<p>(5) The Permittee who elects to comply with 40 CFR Section 63.646 by installing a closed vent system and control device shall submit, as part of the next Periodic Report, the information specified in paragraphs (g)(5)(i) through (g)(5)(iii) of this section.</p> <p>(i) The Periodic Report shall include the information specified in paragraphs (g)(5)(i)(A) and (g)(5)(i)(B) of this section for those planned routine maintenance operations that would require the control device not to meet the requirements of 40 CFR Section 63.119(e)(1) or (e)(2) of subp. G of this part, as applicable.</p> <p>(A) A description of the planned routine maintenance that is anticipated to be performed for the control device during the next 6 months. This description shall include the type of maintenance necessary, planned frequency of maintenance, and lengths of maintenance periods.</p> <p>(B) A description of the planned routine maintenance that was performed for the control device during the previous 6 months. This description shall include the type of maintenance performed and the total number of hours during those 6 months that the control device did not meet the requirements of 40 CFR Section 63.119(e)(1) or (e)(2) of subp. G of this part, as applicable, due to planned routine maintenance.</p> <p>(ii) If a control device other than a flare is used, the Periodic Report shall describe each occurrence when the monitored parameters were outside of the parameter ranges documented in the Notification of Compliance Status report. The description shall include: Identification of the control device for which the measured parameters were outside of the established ranges, and causes for the measured parameters to be outside of the established ranges.</p> <p>(iii) If a flare is used, the Periodic Report shall describe each</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>occurrence when the flare does not meet the general control device requirements specified in 40 CFR Section 63.11(b) of subp. A of this part and shall include: Identification of the flare that does not meet the general requirements specified in 40 CFR Section 63.11(b) of subp. A of this part, and reasons the flare did not meet the general requirements specified in 40 CFR Section 63.11(b) of subp. A of this part. [40 CFR 63.654(g)(5), Minn. R. 7011.7280(A)]</p>
	5.22.37		<p>(h) Other reports shall be submitted as specified in subp. A of this part and as follows:</p> <p>(1) Reports of startup, shutdown, and malfunction required by 40 CFR Section 63.10(d)(5) of subp. A of this part [reports required by 63.10(d)(5)(i) may be submitted at the same time as periodic reports specified in 63.654(e)]; and</p> <p>(2) For storage vessels, notifications of inspections as specified in paragraphs (h)(2)(i) and (h)(2)(ii) of this section;</p> <p>(i) In order to afford the Administrator the opportunity to have an observer present, the Permittee shall notify the Administrator of the refilling of each Group 1 storage vessel that has been emptied and degassed.</p> <p>(A) Except as provided in paragraphs (h)(2)(i)(B) and (C) of this section, the Permittee shall notify the Administrator in writing at least 30 calendar days prior to filling or refilling of each storage vessel with organic HAP's to afford the Administrator the opportunity to inspect the storage vessel prior to refilling.</p> <p>(B) Except as provided in paragraph (h)(2)(i)(C) of this section, if the internal inspection required by 40 CFR Section 63.120(a)(2), 63.120(a)(3), or 63.120(b)(10) of subp. G of this part is not planned and the Permittee could not have known about the inspection 30 calendar days in advance of refilling the vessel with organic HAP, the Permittee shall notify the Administrator at least 7 calendar days prior to refilling of the storage vessel. Notification may be made by telephone and immediately followed by written documentation demonstrating why the inspection was unplanned. This notification, including the written documentation, may also be made in writing and sent so that it is received by the Administrator at least 7 calendar days prior to the refilling.</p> <p>(C) The State or local permitting authority can waive the notification requirements of paragraphs (h)(2)(i)(A) and/or (h)(2)(i)(B) of this section for all or some storage vessels at petroleum refineries subject to this subpart. The State or local permitting authority may also grant permission to refill storage vessels sooner than 30 days after submitting the notification required by paragraph (h)(2)(i)(A) of this section, or sooner than 7 days after submitting the notification required by</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>paragraph (h)(2)(i)(B) of this section for all storage vessels, or for individual storage vessels on a case by case basis.</p> <p>(ii) For a storage vessel equipped with an external floating roof, notify the Administrator of any seal gap measurements, in writing, at least 30 calendar days in advance of any gap measurements required by 40 CFR Section 63.120(b)(1) or (b)(2) of subp. G of this part. The State or local permitting authority can waive this notification requirement for all or some storage vessels subject to the rule or can allow less than 30 calendar days' notice. [40 CFR 63.654(h)((1, 2)), Minn. R. 7011.7280(A)]</p>
	5.22.38		<p>(6) Submit the information specified in paragraphs (h)(6)(i) through (h)(6)(iii) of this section, as applicable. For existing sources, this information shall be submitted no later than 18 months prior to the compliance date. For a new source, the information shall be submitted with the application for approval of construction or reconstruction required by 40 CFR Section 63.5(d) of subp. A of this part. The information may be submitted in an operating permit application, in an amendment to an operating permit application, or in a separate submittal.</p> <p>(i) The determination of applicability of this subpart to petroleum refining process units that are designed and operated as flexible operation units.</p> <p>(ii) The determination of applicability of this subpart to any storage vessel for which use varies from year to year.</p> <p>(iii) The determination of applicability of this subpart to any distillation unit for which use varies from year to year. [40 CFR 63.654(h)(6), Minn. R. 7011.7280(A)]</p>
	5.22.39		<p>(i) Recordkeeping.</p> <p>(1) The Permittee subject to the storage vessel provisions in 40 CFR Section 63.646 shall keep the records specified in 40 CFR Section 63.123 of subp. G of this part except as specified in paragraphs (i)(1)(i) through (i)(1)(iv) of this section.</p> <p>(i) Records related to gaskets, slotted membranes, and sleeve seals are not required for storage vessels within existing sources.</p> <p>(ii) All references to 40 CFR Section 63.122 in 40 CFR Section 63.123 of subp. G of this part shall be replaced with 40 CFR Section 63.654(e),</p> <p>(iii) All references to 40 CFR Section 63.150 in 40 CFR Section 63.123 of subp. G of this part shall be replaced with 40 CFR Section 63.652.</p> <p>(iv) If a storage vessel is determined to be Group 2 because the weight percent total organic HAP of the stored liquid is less than or equal to 4 percent for existing sources or 2 percent for</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>new sources, a record of any data, assumptions, and procedures used to make this determination shall be retained.</p> <p>(4) All other information required to be reported under paragraphs (a) through (h) of this section shall be retained for 5 years. [40 CFR 63.654(i)((1, 4)), Minn. R. 7011.7280(A)]</p>
	5.22.40		<p>Subp. 3. Post June 11, 1973 Storage Vessels.</p> <p>A. There are no standards of performance promulgated in this part for storage vessels with a storage capacity of 2,000 gallons (7,571 liters) or less for which construction was commenced on or after June 11, 1973.</p> <p>B. The Permittee of any storage vessel with a storage capacity of greater than 2,000 gallons (7,571 liters) but less than or equal to 40,000 gallons (151,412 liters) for which construction was commenced on or after June 11, 1973, shall equip the storage vessel with a permanent submerged fill pipe or comply with the requirements of item C.</p> <p>C. The Permittee of any storage vessel with a storage capacity of greater than 40,000 gallons (151,412 liters) for which construction was commenced on or after June 11, 1973, shall comply with the following requirements:</p> <p>(1) If the true vapor pressure of the petroleum liquid, as stored, is equal to or greater than 78 mm Hg (1.5 psia) but not greater than 570 mm Hg (11.1 psia), the storage vessel shall be equipped with a floating roof, a vapor recovery system, or their equivalents.</p> <p>(2) If the true vapor pressure of the petroleum liquid as stored is greater than 570 mm Hg (11.1 psia), the storage vessel shall be equipped with a vapor recovery system or its equivalent. [Minn. R. 7011.1505, subp. 3, Minn. R. 7011.7280(A)]</p>
	5.22.41		<p>Subpart 1. Records. The Permittee of any storage vessel, the construction or modification of which commenced on or after June 11, 1973, which has a storage capacity of greater than 40,000 gallons (151,412 liters) shall for each storage vessel:</p> <p>A. maintain a file of each type of petroleum liquid stored, of the typical Reid vapor pressure of each type of petroleum liquid stored, of the dates of storage and withdrawals, and of the date on which the storage vessel is empty;</p> <p>B. determine and record the average monthly storage temperature and true vapor pressure of the petroleum liquid stored at such temperature if:</p> <p>(1) the petroleum liquid has a true vapor pressure, as stored, greater than 26 mm Hg (0.5 psia) but less than 78 mm Hg (1.5 psia) and is stored in a storage vessel other than one equipped with a floating roof, a vapor recovery system or their</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			equivalents; or (2) the petroleum liquid has a true vapor pressure, as stored, greater than 470 mm Hg(9.1 psia) and is stored in a storage vessel other than one equipped with a vapor recovery system or its equivalent. [Minn. R. 7011.1510, subp. 1]
	5.22.42		Subp. 2. Calculation. The average monthly storage temperature is an arithmetic average calculated for each calendar month, or portion thereof if storage is for less than a month, from bulk liquid storage temperatures determined at least once every seven days. [Minn. R. 7011.1510, subp. 2]
	5.22.43		Subp. 3. Vapor Pressure Determination. The true vapor pressure shall be determined by the procedure in American Petroleum Institute Bulletin 2517. This procedure is dependent upon determination of the storage temperature and the Reid vapor pressure, which requires sampling of the petroleum liquids in the storage vessels. Unless the agency or the Commissioner requires in specific cases that the stored petroleum liquid be sampled, the true vapor pressure may be determined by using the average monthly storage temperature and the typical Reid vapor pressure. For those liquids for which certified specifications limiting the Reid vapor pressure exist, that Reid vapor pressure may be used. For other liquids, supporting analytical data must be made available on request of the agency or the commissioner when typical Reid vapor pressure is used. [Minn. R. 7011.1510, subp. 3]
	5.22.44		A. Code of Federal Regulations, title 40, pt. 60, subp. K, as amended, entitled "Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978." [Minn. R. 7011.1520(A)]
EQUI 1	EU003	Alky Isostripper Htr 5-28-B-1	
	5.23.1		THIS CONDITION WILL BECOME EFFECTIVE ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. Sulfur Dioxide <= 1.44 pounds per hour 3-hour rolling average. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.23.2		THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. Sulfur Dioxide <= 64.08 pounds per hour 3-hour rolling average. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.23.3		THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. Sulfur Dioxide <= 0.90 pounds per million Btu heat input 3-hour rolling average. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.23.4		Hydrogen Sulfide (H2S) <= 162 parts per million 3-hour average

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			Fuel Restriction: The company shall not burn refinery gas with a hydrogen sulfide content in excess of 162 ppm as an average for any consecutive 3-hour period. [40 CFR pt. 60, subp. Ja, Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.23.5		Hydrogen Sulfide (H2S) <= 230 milligrams per dscm 3-hour rolling average for fuel gas combusted in a device subject to this subpart (0.10 gr/dscf); flare emergency reliefs are exempt. In place of the SO2 monitor in paragraph (a)(3) of 40 CFR Section 60.105, an instrument for continuously monitoring and recording the concentration (dry basis) of H2S in fuel gases before being burned in any fuel gas combustion device. [40 CFR 60.104(a)(1), 40 CFR 60.105(a)(4), Minn. R. 7011.1410, subp. 2]
	5.23.6		Total Particulate Matter <= 0.40 pounds per million Btu heat input 3-hour average. The PTE for this heater is 0.00745 lb/mmBtu heat input at maximum capacity. Compliance with the fuel restriction requirement constitutes compliance with this limit. [Minn. R. 7011.1405, subp. 3(A)]
	5.23.7		Sulfur Dioxide <= 1.75 pounds per million Btu heat input 3-hour rolling average. Compliance with the fuel restriction requirement constitutes compliance with this limit. [Minn. R. 7011.1405, subp. 2]
	5.23.8		Opacity <= 20 percent opacity 6-minute average; except for one six-minute period per hour of not more than 60 percent opacity. Compliance with the fuel restriction requirement constitutes compliance with this limit. [Minn. R. 7011.1405, subp. 3(B)]
	5.23.9		For the purpose of reports under 40 CFR Section 60.7(c), periods of excess emissions that shall be determined and reported are defined as follows: Note: All averages, except for opacity, shall be determined as the arithmetic average of the applicable 1-hour averages, e.g., the rolling 3-hour average shall be determined as the arithmetic average of three contiguous 1-hour averages. All rolling 3-hour periods during which the average concentration of H2S as measured by the H2S continuous monitoring system under 40 CFR Section 60.105(a)(4) exceeds 230 mg/dscm (0.10 gr/dscf). [40 CFR 60.105(e)(3)(ii), Minn. R. 7011.1435]
	5.23.10		THIS CONDITION WILL BECOME EFFECTIVE ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. Fuel Restriction: Authorized to burn refinery gas and/or natural gas only. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.23.11		THIS CONDITION WILL BE TERMINATED ON THE DATE THE

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			USEPA APPROVES THE REVISION TO THE SIP. Fuel Restriction: Authorized to burn refinery gas, natural gas and/or refinery oil only. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.23.12		Recordkeeping: Record and maintain records of each fuel combusted in the heater on a monthly basis. [Minn. R. 7007.0800, subp. 2]
	5.23.13		THIS CONDITION WILL BECOME EFFECTIVE ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. Fuel Restrictions: authorized to burn refinery gas as long as the refinery gas complies with the lbs SO2/hr limit. The company shall determine the sulfur dioxide emissions using the following calculation: $W > 1.88 * (a)$ where; W = the emission limit (0.9 lbs SO2/MMBtu) $1.88 = MW(SO_2) / MW(H_2S) = 64.06 / 34.08$ a = fraction of H2S in refinery gas (lbs/Btu) = $(0.0898) * (ppmv) / (HHV-rg)$ $0.0898 = [(1 \text{ lb-mole } H_2S) * (34.08 \text{ lb } H_2S / \text{lb-mole } H_2S) * (1 \text{ atm})] / [(10^6 \text{ lb-mole } rg) * (520 \text{ R}) * (0.7302 \text{ ft}^3\text{-atm} / \text{lb-mole } R)]$ ppmv = parts per million by volume of H2S in refinery gas HHV-rg = high heating value for refinery gas (Btu/ft ³ @ 60 degrees F). [Title I Condition: 40 CFR pt. 50, 4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.23.14		THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. Fuel Restrictions: Authorized to burn refinery gas and refinery oil as long as the combination (1) has a sulfur content and heating value less than or equal to that corresponding to SO2 emissions of 0.90 lb/MMBtu and (2) complies with the lbs SO2/hr limit. The company shall determine the sulfur dioxide emissions using the following calculation: $W > [1.88 * (a) * (x) + 2.00 * (b) * (y)] / [x+y]$ where; W = the emission limit (0.9 lbs SO2/MMBtu) $1.88 = MW(SO_2) / MW(H_2S) = 64.06 / 34.08$ a = fraction of H2S in refinery gas (lbs/Btu) = $(0.0898) * (ppmv) / (HHV-rg)$ $0.0898 = [(1 \text{ lb-mole } H_2S) * (34.08 \text{ lb } H_2S / \text{lb-mole } H_2S) * (1 \text{ atm})] / [(10^6 \text{ lb-mole } rg) * (520 \text{ R}) * (0.7302 \text{ ft}^3\text{-atm} / \text{lb-mole } R)]$ ppmv = parts per million by volume of H2S in refinery gas HHV-rg = high heating value for refinery gas (Btu/ft ³ @ 60 degrees F)

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>where: Q = volumetric flow rate of refinery gas (ft³/min @ 60 degrees F) HHV-rg = high heating value for refinery gas (Btu/ft³ @ 60 degrees F) 60 = minutes/hour 2.00 = MW (SO₂)/MW(S) = 64.06/32.06 b = fraction of S in refinery oil (bs/Btu) = (ppmv)*(density)/HHV-ro)</p> <p>where: ppmw = parts per million by weight of S in refinery oil (lb/lb) density = density of refinery oil (Btu/gal @ 60 degrees F) HHV-ro = high heating value for refinery oil (Btu/gal @ 60 degrees F) y = flow rate of refinery oil (MMBtuh) = (q)*(HHV-ro)*(60)</p> <p>where: q = volumetric flow rate of refinery oil (gal/min @ 60 degrees F) HHV-ro = high heating value for refinery oil (Btu/gal @ 60 degrees F) 60 = 60 minutes/hour. [Title I Condition: 40 CFR 50.4(SO₂ SIP), Title I Condition: 40 CFR pt. 52, subp. Y]</p>
	5.23.15		<p>THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP.</p> <p>Recordkeeping of fuel: The owner or operator shall record the time period when burning fuel oil. [Title I Condition: 40 CFR 50.4(SO₂ SIP), Title I Condition: 40 CFR pt. 52, subp. Y]</p>
	5.23.16		<p>Fuel Flowrate: calibrate, operate and maintain CMS that record the fuel flow rate at each fuel combustion device. [Title I Condition: 40 CFR 50.4(SO₂ SIP), Title I Condition: 40 CFR pt. 52, subp. Y]</p>
	5.23.17		<p>SO₂ Emissions Recordkeeping: The Permittee shall maintain records of the calculated SO₂ emissions in pounds per hour (lb/hr). [Title I Condition: 40 CFR 50.4(SO₂ SIP), Title I Condition: 40 CFR pt. 52, subp. Y]</p>
	5.23.18		<p>SO₂ Emissions: The Permittee shall use the combination of the fuel flowrate and the H₂S CEMS to measure SO₂ emissions from STRU 47 (SV 002). [Title I Condition: 40 CFR 50.4(SO₂ SIP), Title I Condition: 40 CFR pt. 52, subp. Y]</p>
	5.23.19		<p>CEMS Continuous Operation: CEMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A CEMS</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment.</p> <p>Acceptable monitor downtime includes reasonable periods due to the following causes:</p> <p>A. damage to the monitoring system due to a Force Majeure such as lightning strikes, tornadoes, or floods which render the monitor inoperative;</p> <p>B. sudden and not reasonably preventable breakdowns;</p> <p>C. scheduled monitor maintenance based upon equipment manufacturer's recommended maintenance schedule which cannot reasonably be conducted when the emission unit is not operating; or</p> <p>D. unavoidable monitor downtime in order to conduct daily drift checks, calibration error audits, relative accuracy test audits, linearity checks, and cylinder gas audits required by a compliance document, applicable requirement, or by request of the Commissioner. [Minn. R. 7017.1090, subp. 1, Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]</p>
	5.23.20		<p>THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP.</p> <p>Visible Emissions: The Permittee shall check STRU 47 (SV 002) for visible emissions during daylight hours, on a daily basis, while burning refinery oil. [Minn. R. 7007.0800, subp. 4]</p>
	5.23.21		<p>THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP.</p> <p>Recordkeeping of Visible Emissions (VE): The owner or operator shall keep records on the time and date of VE inspection, and whether or not any VEs were observed, and if corrective action was needed. [Minn. R. 7007.0800, subp. 5]</p>
	5.23.22		<p>THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP.</p> <p>Recordkeeping of corrective actions: If visible emissions are observed over 10% opacity instantaneously then take corrective actions to reduce emissions; if visible emissions continue over 10% opacity, the owner or operator shall perform Method 9 with a certified observer. The owner or operator shall keep a record of the corrective actions taken. If visible emissions exceed the permitted limit, report as a deviation in the owner or operator's semiannual report. [Minn. R. 7007.0800, subp. 5]</p>
EQUI 2	EU004	FCC Regenerator 5-8-F-5	

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
	5.24.1		Total Particulate Matter <= 0.90 pounds per 1000 pounds 3-hour rolling average of coke burn-off in the catalyst regenerator. Limit does not apply during startup, shutdown or malfunction. (EPA Consent Decree, as amended). (most stringent limit, meet the limits set by 40 CFR Section 60.102(a)(1) and 40 CFR Section 63.1564(a)(1)). [CAAA of 1990, Minn. R. 7007.0800, subp. 2, Title I Condition: 40 CFR 63]
	5.24.2		Total Particulate Matter <= 1.0 pounds per 1000 pounds 3-hour rolling average of coke burn-off in the catalyst regenerator. Limit does not apply during startup, shutdown or malfunction. [40 CFR 60.102(a)(1), 40 CFR 60.8(c), 40 CFR 63.1564(a)(1), 40 CFR 63.1564(c)(1), Minn. R. 7011.1405, subp. 1(B), Minn. R. 7011.1435]
	5.24.3		<p>Opacity <= 30 percent opacity, except for one six-minute average opacity reading in any one hour period. Limit does not apply during startup, shutdown or malfunction. (EPA Consent Decree, as amended)</p> <p>40 CFR Section 60.105(a): Continuous monitoring systems shall be installed, calibrated, maintained, and operated by the Permittee subject to the provisions of this subpart:</p> <p>(1) For fluid catalytic cracking unit catalyst regenerators subject to 40 CFR Section 60.102(a)(2), an instrument for continuously monitoring and recording the opacity of emissions into the atmosphere. The instrument shall be spanned at 60, 70, or 80 percent opacity. [40 CFR 60.105(a)(2), 40 CFR 63.1564(c)(1), CAAA of 1990, Minn. R. 7007.0100, subps. 7, A & B, Minn. R. 7007.0800, subps. 1-2, Minn. R. 7011.1405, subp. 1, B, Minn. R. 7011.1435, Minn. Stat. 116.07, subd. 4a, Title I Condition: 40 CFR 63.1564(a)(1)]</p>
	5.24.4		<p>Sulfur Dioxide <= 9.8 pounds per 1000 pounds coke burn-off, without the use of an add-on control device.</p> <p>Compliance with 40 CFR Section 60.104 (b)(2) is determined daily on a 7-day rolling average basis using the appropriate procedures outlined in Alternate Monitoring Plan approved by EPA, as noted below. [40 CFR 60.104(b)(2), 40 CFR 60.104(c), CAAA of 1990, Minn. R. 7007.0100, subps. 7, A & B, Minn. R. 7007.0800, subps. 1-2, Minn. Stat. 116.07, subds. 4a & 9, Title I Condition: 40 CFR 63]</p>
	5.24.5		Sulfur Dioxide <= 793.65 pounds per hour 3-hour rolling average The Permittee shall use CEMS to monitor the sulfur dioxide emissions in order to calculate pounds of sulfur dioxide per hour (lb/hr). [40 CFR pt. 51, Title I Condition: 40 CFR 50.4(SO ₂ SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.24.6		Sulfur Dioxide <= 100 parts per million volume dry, corrected to zero percent Oxygen, based on a 7-day rolling average limit. This limit is effective June 30, 2006. This limit is not applicable

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			during periods of startup, shutdown, or malfunction. In addition, this limit is not applicable during outage periods for the HDH Unit, provided the Permittee is operating EQUI 2 (EU 004) in a manner consistent with good air pollution control practices for minimizing emissions in accordance with an EPA-approved good air pollution control plan. By no later than 30 days from the Date of Lodging of the First Revised Consent Decree, the Permittee shall submit to EPA for its approval a plan to minimize the SO ₂ emissions from EQUI 2 during the hydrotreater outages. The Permittee shall comply with the Plan at all times, including periods of startup, shutdown, or malfunction of the Hydrotreater. [CAAA of 1990, Minn. R. 7007.0100, subps. 7, (A) & (B), Minn. R. 7007.0800, subps. 1 & 2, Minn. Stat. 116.07, subds. 4a & 9, Title I Condition: 40 CFR pt. 52]
	5.24.7		Sulfur Dioxide <= 50 parts per million volume dry, corrected to zero percent oxygen, based on a daily 365-day rolling average limit, including all time periods (startup, shutdown and malfunctions shall be included). [CAAA of 1990, Minn. R. 7007.0100, subps. 7A & B, Minn. R. 7007.0800, subps. 1-2, Minn. Stat. 116.07, subds. 4a & 9, Title I Condition: 40 CFR 63]
	5.24.8		CO Standard: The Permittee of any fluid catalytic cracking unit catalyst regenerator that is subject to the requirements of 40 CFR pt. 60, subp. J shall comply with the emission limitations set forth in 40 CFR Section 60.103. [40 CFR 60.103, 40 CFR 60.105, Minn. R. 7007.0100, subps. 7A & B, Minn. R. 7007.0800, subps. 1-2, Minn. Stat. 116.07, subds. 4a & 9, Title I Condition: 40 CFR 63]
	5.24.9		Carbon Monoxide <= 500 parts per million by volume (dry basis). Limit does not apply during startup, shutdown or malfunction. [40 CFR 60.103(a), 40 CFR 60.8, 40 CFR 63.1565(c), CAAA of 1990, Minn. R. 7007.0100, subps. 7A & B, Minn. R. 7007.0800, subps. 1-2, Minn. R. 7011.1435, Minn. Stat. 116.07, subds. 4a & 9, Title I Condition: 40 CFR 63.1565(a)]
	5.24.10		Continuous monitoring systems shall be installed, calibrated, maintained, and operated by the Permittee subject to the provisions of 40 CFR pt. 60, subp. J as follows: For fluid catalytic cracking unit catalyst regenerators subject to 40 CFR Section 60.103(a), an instrument for continuously monitoring and recording the concentration by volume (dry basis) of CO emissions into the atmosphere. [40 CFR 60.105, CAAA of 1990, Minn. R. 7007.0100, subps. 7(A) & 7(B), Minn. R. 7007.0800, subp. 4, Minn. R. 7007.0800, subps. 1-2, Minn. R. 7011.1435, Minn. Stat. 116.subd. 4a, Minn. Stat. 116.subd. 9, Title I Condition: 40 CFR 63]
	5.24.11		Carbon Monoxide: Periods of excessive emissions of CO shall be defined as all 1-hour periods during which the average CO

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			concentration as measured by the Continuous Monitoring System required under 40 CFR Section 60.105(a)(2) exceeds 500 ppm. [40 CFR 60.105(e)(2), CAAA of 1990, Minn. R. 7007.0100, subps. 7(A) & 7(B), Minn. R. 7007.0800, subp. 2, Minn. R. 7007.0800, subps. 1-2, Minn. Stat. 116.subd. 4a, Minn. Stat. 116.subd. 9, Title I Condition: 40 CFR 63]
	5.24.12		Nitrogen Oxides <= 90.0 parts per million volume dry, corrected to zero percent Oxygen, based on a 7-day rolling average limit. This limit is not applicable during periods of startup, shutdown, or malfunction. In addition, this limit is not applicable during outage periods for the HDH Unit, provided the Permittee is operating EQUI 2 in a manner consistent with good air pollution control practices for minimizing emissions in accordance with an EPA-approved good air pollution control plan. By no later than 30 days from the Date of Lodging of the First Revised Consent Decree, the Permittee shall submit to EPA for its approval a plan to minimize the SO2 emissions from EQUI 2 during the hydrotreater outages. The Permittee shall comply with the Plan at all times, including periods of startup, shutdown, or malfunction of the Hydrotreater. [CAAA of 1990, Minn. R. 7007.0100, subps. 7(A, B), Minn. R. 7007.0800, subp. 2, Minn. Stat. 116., subd. 4a, Minn. Stat. 116., subd. 9, Title I Condition: 40 CFR 63]
	5.24.13		Nitrogen Oxides <= 70.0 parts per million (measured volume dry, corrected to zero percent oxygen), based on a daily rolling 365-day average including all time periods (start-up, shutdown and malfunctions shall be included). [CAAA of 1990, Minn. R. 7007.0100, subps. 7(A) & 7(B), Minn. R. 7007.0800, subp. 2, Minn. R. 7007.0800, subps. 1-2, Minn. Stat. 116.subd. 4a, Minn. Stat. 116.subd. 9, Title I Condition: 40 CFR 63]
	5.24.14		Installation of the equipment intended to allow the regenerator to be in "complete burn mode". The Permittee is not required to operate the regenerator in "complete burn mode" or the equipment being installed to allow the regenerator to be operated in "complete burn mode". This is a state-only requirement and, pursuant to Minn. R. 7007.1750, it is not enforceable by the EPA administrator or citizens under the Clean Air Act. [Minn. R. 7007.0800, subp. 2]
	5.24.15		Coke burn-off: the average coke burn-off rate (Mlb/hr or Mkg/hr) and hours of operation of any FCCU catalyst regenerator shall be recorded daily. [Minn. R. 7011.1420, subp. 1(B)]
	5.24.16		SO2 Emissions Monitoring: The Permittee shall calibrate, operate and maintain SO2 Continuous Emissions Monitoring Systems (CEMS). [40 CFR pt. 51, Minn. R. 7017.1006, Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.24.17		SO2 Emissions Measuring: The Permittee shall use a sulfur dioxide CEM to measure sulfur dioxide emissions from STRU 7

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			(SV 003). [Minn. R. 7017.1006]
	5.24.18		SO2 Emissions Recordkeeping: The Permittee shall maintain records of the calculated SO2 emissions in pounds per hour (lb/hr). [40 CFR pt. 51, Title I Condition: 40 CFR 51.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.24.19		<p>SO2 CEMS Continuous Operation: CEMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A CEMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment.</p> <p>For Sulfur Dioxide CEMS - Acceptable monitor downtime includes reasonable periods due to the following causes:</p> <ul style="list-style-type: none"> A. damage to the monitoring system due to a Force Majeure such as lightning strikes, tornadoes, or floods which render the monitor inoperative; B. sudden and not reasonably preventable breakdowns; C. scheduled monitor maintenance based upon equipment manufacturer's recommended maintenance schedule which cannot reasonably be conducted when the emission unit is not operating; or D. unavoidable monitor downtime in order to conduct daily drift checks, calibration error audits, relative accuracy test audits, linearity checks, and cylinder gas audits required by a compliance document, applicable requirement, or by request of the Commissioner. [40 CFR pt. 51, Minn. R. 7017.1090, subp. 1, Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.24.20		For SO2 CEMS Compliance with 40 CFR Section 60.104(b)(c) is determined daily on a 7-day rolling average basis using the appropriate procedures outlined in Alternate Monitoring Plan approved by EPA. [40 CFR 60.13(h)]
	5.24.21		CO Continuous Emission Monitoring System (CEMS): The Permittee shall calibrate, operate and maintain CEMS for the measurement of CO emissions from STRU 7 (SV 003). The span value for this instrument is 1,000 ppm CO. [40 CFR 60.105(a)(2), CAAA of 1990, Minn. R. 7007.0100, subps. 7(A) & 7(B), Minn. R. 7007.0800, subp. 4, Minn. R. 7007.0800, subps. 1-2, Minn. R. 7017.1006, Minn. Stat. 116.subd. 4a, Minn. Stat. 116.subd. 9, Title I Condition: 40 CFR 63.1565(b)(1)]
	5.24.22		CO CEMS Monitor Design: Each CO CEMS shall be designed to complete a minimum of one cycle of sampling, analyzing, and data recording in each 15-minute period. [40 CFR 60.13(e)(2)]
	5.24.23		CO Recordkeeping: The Permittee shall maintain records of the calculated hourly average of CO in ppm, on a dry basis. [40 CFR

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			60.105(a)(1), 40 CFR 63.1565(c), Minn. R. 7011.1435]
	5.24.24		CO CEMS Continuous Operation: CO CEMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A CO CEMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment. Acceptable monitor downtime includes reasonable periods as listed in Items A, B, C, and D of Minn. R. 7017.1090, subp. 2. [40 CFR 60.13(e), Minn. R. 7017.1090, subps. 1-2]
	5.24.25		NOx Continuous Emission Monitoring System (CEMS): The Permittee shall calibrate, operate and maintain CEMS for the measurement of NOx emissions from STRU 7 (SV 003). [CAAA of 1990, Minn. R. 7007.0100, subps. 7(A) & 7(B), Minn. R. 7007.0800, subp. 2, Minn. R. 7007.0800, subps. 1-2, Minn. Stat. 116.subd. 4a, Minn. Stat. 116.subd. 9, Title I Condition: 40 CFR 63]
	5.24.26		NOx Emission Measuring: The Permittee shall use NOx CEMS to measure NOx emissions from STRU 7 (SV 003). [CAAA of 1990, Minn. R. 7007.0100, subps. 7(A) & 7(B), Minn. R. 7007.0800, subp. 2, Minn. R. 7007.0800, subps. 1-2, Minn. Stat. 116.subd. 4a, Minn. Stat. 116.subd. 9, Title I Condition: 40 CFR 63]
	5.24.27		NOx Emissions Calculation and Recordkeeping: The Permittee shall use the NOx CEMS to calculate and record NOx emissions from STRU 7 (SV 003) in units of parts per million (ppm). [CAAA of 1990, Minn. R. 7007.0100, subps. 7(A) & 7(B), Minn. R. 7007.0800, subps. 1-2, Minn. R. 7007.subp. 5, Minn. Stat. 116.subd. 4a, Minn. Stat. 116.subd. 9, Title I Condition: 40 CFR 63]
	5.24.28		NOx CEMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. NOx CEMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment. [Minn. R. 7017.1090, subp. 1]
	5.24.29		CEMS QA/QC: The Permittee of an affected facility is subject to the performance specifications listed in 40 CFR pt. 60, Appendix B and shall operate, calibrate, and maintain each CEMS according to the QA/QC procedures in 40 CFR pt. 60, Appendix F as amended and maintain a written QA/QC program available in a form suitable for inspection. [40 CFR 60.13(a), 40 CFR pt. 60, Appendix F]

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
	5.24.30		CEMS Daily Calibration Drift Test: Check the zero (low level value between 0 and 20 percent of span value) and span (50 to 100 percent of span value) calibration drifts at least once daily. The zero and span must, at a minimum, be adjusted whenever the drift exceeds two times the limit specified in 40 CFR pt. 60, Appendix B. 40 CFR pt. 60, Appendix F, Section 4.3.1 shall be used to determine out-of-control periods for CEMS. [40 CFR 60.13(d)(1), 40 CFR pt. 60, Appendix F]
	5.24.31		QA Plan: Develop and implement a written quality assurance plan that covers each CEMS. The plan shall be on site and available for inspection within 30 days after monitor certification. The plan shall contain all of the information required by 40 CFR pt. 60, Appendix F, Section 3. [40 CFR pt. 60, Appendix F, Minn. R. 7017.1170, subp. 2]
	5.24.32		Recordkeeping: The Permittee must retain records of all CEMS monitoring data and support information for a period of five years from the date of the monitoring sample, measurement or report. Records shall be kept at the source. [40 CFR 60.7(f), Minn. R. 7017.1130]
	5.24.33		Continuous Opacity Monitoring System (COMS): The Permittee shall calibrate, operate and maintain a continuous monitoring system for the measurement of opacity. [40 CFR 60.105(a), 40 CFR 63.1564(b)(1), Minn. R. 7011.1420, subp. 1(A)(1), Minn. R. 7011.1435(A), Minn. R. 7017.1010, subp. 1(A)(C)]
	5.24.34		Emission Monitoring: The Permittee shall use a COMS to measure opacity emissions from STRU 7. [40 CFR 63.1564(b)(1), Minn. R. 7017.0200, Minn. R. 7017.1006]
	5.24.35		QA Plan: Develop and implement a written quality assurance plan that covers each COMS. The plan shall be on site and available for inspection within 30 days after monitor certification. The plan shall contain all of the information required by Minn. R. 7017.1210, subp. 1. The plan shall include the manufacturer's spare parts list for each COMS and require that those parts be kept at the facility unless the Commissioner gives written approval to exclude specific spare parts from the list. [Minn. R. 7017.1210, subp. 1]
	5.24.36		COMS Continuous Operation: COMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A COMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment. Acceptable monitor downtime includes reasonable periods as listed in Items A, B, C and D of Minn. R. 7017.1090, subp. 2. [40 CFR 60.13, Minn. R. 7017.0200, Minn. R. 7017.1010, subps. 1-2]
	5.24.37		COMS Daily Calibration Drift Test: The Permittee of a COMS

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			shall conduct a daily zero and upscale calibration drift assessment and adjustments according to the requirements of 40 CFR Section 60.13(d)(2). The zero and upscale calibration levels must be determined by using the span value specified in the applicable requirement. If the applicable requirement does not specify a span value, a span value of 60, 70, or 80 percent opacity must be used unless an alternative span value is approved by the Commissioner. [40 CFR 60.13(d), Minn. R. 7017.1210, subp. 2]
	5.24.38		Monitoring Data: All COMS data must be reduced to six-minute averages. Six-minute opacity averages shall be calculated from 36 or more data points equally spaced over each 6-minute period. [40 CFR 60.13(e)(1), 40 CFR 60.13(h), Minn. R. 7017.1200, subps. 1-3]
	5.24.39		COMS Attenuator Calibration: The Permittee shall semiannually have an independent testing company conduct calibrations of each of the neutral density filters used in the calibration error audit according to the procedure in 40 CFR pt. 60, Appendix B. [40 CFR pt. 60, Appendix B, Sec. 7, Minn. R. 7017.1210, subp. 4]
	5.24.40		Recordkeeping: The Permittee must retain records of all COMS monitoring data and support information for a period of five years from the date of the monitoring sample, measurement or report. Records shall be kept at the source. [Minn. R. 7017.0200, Minn. R. 7017.1130]
	5.24.41		APPROVED ALTERNATIVE METHOD FOR DETERMINING COMPLIANCE WITH 40 CFR SECTION 60.104(b)(2). U.S. EPA has approved an alternative method for determining compliance with 40 CFR Section 60.104(b)(2). This method is specific to EQUI 2 at the St. Paul Park refinery. The method and approval are documented in a 10/6/2004 letter from C.B. Oldham of U.S. EPA to J.R. Wilkins of Marathon Ashland Petroleum LLC. [Minn. R. 7007.0800, subp. 2]
	5.24.42		According to 40 CFR Section 60.106 the following information is required to demonstrate compliance with the requirements of 40 CFR Section 60.104(b)(2): CSOx = sulfur oxides emission concentration, calculated as sulfur dioxide (Method 8) Qr = volumetric flow rate of exhaust gas from the catalyst regenerator (Methods 1 and 2) Qa = volumetric flow rate of air to the FCCU regenerator (measured using control room instrumentation). %CO ₂ = carbon dioxide concentration in the exhaust gas from the catalyst regenerator (Method 3) %CO = carbon monoxide concentration in the exhaust gas from the catalyst regenerator (Method 3) %O ₂ = oxygen concentration in the exhaust gas from the

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>catalyst regenerator (Method 3)</p> <p>Of these variables, Qa is based on control room process instrumentation and the remainder are to be determined using the EPA reference methods listed above. The equations for determining the SO_x emissions rate is:</p> <p>RSO_x = (ESO_x/Rc) (Eqn. A-1) ESO_x = KCSO_xQr (Eqn. A-2) Rc = K1Qr (%CO₂+%CO) + K2Qa-K3Qr [(%CO/2)+%CO₂+%O₂] (Eqn. A-3)</p> <p>Where K, K1, K2, and K3 are the appropriate conversion factor constants, RSO_x is the SO_x emissions rate expressed as a ratio to the coke burn rate (e.g., lb SO_x/ton of coke burned), and ESO_x is the sulfur oxides emission rate calculated as sulfur dioxide (lb/hr).</p> <p>The following measurements will be used in place of the EPA reference methods required by Section 60.106: CSO₂ = Measured using the SO₂ CEMS installed in the regenerator off-gas stack. CSO_x = Calculated as the product of CSO₂ and a correction factor of 1.025 (to account for any unmeasured SO₃). Qr = Calculated based on the flow of air to the FCCU regenerator, the measured CO₂, CO, and O₂ concentrations, and the measured temperature and relative humidity, as described below. %CO₂ = Measured continuously using the CEMS installed in the regenerator off-gas stack. %CO = Measured continuously using the CEMS installed in the regenerator off-gas stack. %O₂ = Measured continuously using the CEMS installed in the regenerator off-gas stack.</p> <p>The following measurements are used in determining Qr: Qa,wet = Flow rate of air to the FCCU regenerator, scf (@ 60 degrees F)/min wet. QO = Flow rate of oxygen to the FCCU regenerator, dscfm. T = Temperature of the ambient air, degrees F. RH = Relative humidity of the ambient air, %. %CO₂ = CO₂ concentration in the FCCU regenerator flue gas, vol.% dry. %O₂ = O₂ concentration in the FCCU regenerator flue gas, vol.% dry. COppm = CO concentration in the FCCU regenerator flue gas, ppmv dry. SO₂ppm = SO₂ concentration in the FCCU regenerator flue gas, ppmv dry. (continued below). [40 CFR 60.106(i)(12)]</p>
	5.24.43		(continued from above)

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>The first step in calculating the FCCU regenerator off-gas flow is to do a nitrogen balance on the regenerator (i.e., determine the flow of nitrogen in the regenerator flue gas). To complete this balance accurately, the regenerator air flow must first be converted to a dry basis.</p> <p>Using the Antoine equation the vapor pressure of water in air can be calculated. $P_v = 10(6.40375 - 3165.36 / (T + 392.565))$</p> <p>Where: P_v = vapor pressure of water, psi.</p> <p>Using this vapor pressure value and the measured relative humidity, the moisture content of air fed to the FCCU regenerator can be determined (note that this and subsequent calculations are based on the assumption that ambient air is at 14.7 psia or 1 atmosphere):</p> $X_{H_2O} = (P_v, \text{psi}) \times (RH / 100) / (14.7 \text{ psi} - (P_v, \text{psi}) \times (RH / 100)) \times (18 \text{ lb H}_2\text{O} / 1 \text{ lb-mole H}_2\text{O}) / (29 \text{ lb dry air} / 1 \text{ lb-mole dry air})$ <p>Where: X_{H_2O} = the moisture fraction of ambient air, lb H₂O/lb dry air.</p> <p>The flow of dry air to the regenerator can now be calculated using the following equation:</p> $M_{a,dry} = (Q_{a,wet}, \text{scf/min}) \times (1 \text{ lb-mole} / 387 \text{ scf}) \times (29 \text{ lb air/lb-mole}) / (1 + X_{H_2O})$ <p>Where: $M_{a,dry}$ = the mass flow of dry air to the regenerator, lb/min.</p> $Q_a = (M_{a,dry}, \text{lb/min}) / [(29 \text{ lb air/lb-mole}) \times (1 \text{ lb-mole} / 387 \text{ scf})]$ <p>Where: Q_a = the dry volumetric flow of air to the regenerator, dscf/min.</p> <p>The molar nitrogen (N₂) flow to the regenerator is then calculated using the mass flow rate of dry air to the regenerator plus the oxygen that is added to the regenerator with an assumed constant impurity of 10% nitrogen:</p> $Q_{N_2} = (M_{a,dry}, \text{lb/min}) / (29 \text{ lb air/lb-mole}) \times (0.79 \text{ moles N}_2\text{/mole air}) + (Q_O, \text{scf/min}) \times (1 \text{ lb-mole} / 387 \text{ scf}) \times (0.10 \text{ mole N}_2\text{/mole oxygen})$ <p>Where: Q_{N_2} = the molar flow of nitrogen to the regenerator, lb-mole/min.</p> <p>Since nitrogen is only consumed in the regenerator in minor amounts (i.e., an insignificant fraction is converted to NO_x), it can be assumed that the molar flow of N₂ to the regenerator equals the molar flow of N₂ leaving the regenerator. Thus, if the volume fraction of N₂ in the regenerator off-gas is determined, then regenerator flue gas flow can be calculated. The volume fraction of N₂ in the dry regenerator flue gas is calculated from the following equation:</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>$\%N_2 = 100\% - \%CO_2 - \%O_2 - (CO_{ppm} + SO_2_{ppm}) / 10000$ Where: %N₂ = N₂ concentration in the FCCU regenerator flue gas, vol.% dry.</p> <p>And the regenerator flue gas flow equals: $Q_r = (QN_2, \text{lb-mole } N_2/\text{min}) / (\%N_2, \text{lb-mole } N_2/\text{lb-mole flue gas}) \times (1/100\%) \times (387, \text{scf/lb-mole})$ Where: Q_r = flow rate of flue gas from the catalyst regenerator, dscf/min.</p> <p>The SO_x emissions rate will be calculated once per day using the previous seven calendar days of data generated by these instruments.</p> <p>Data from the continuous measurements will be obtained for a minimum of 18 hours per day in at least 22 out of 30 successive calendar days. If the data capture rate does not meet this minimum level because of continuous monitoring system breakdowns, repairs, calibration checks and zero and span adjustments, then the missing data will be obtained by the applicable test method specified in 40 CFR Section 60.106. For example, if the CO₂ CEMS is down for a 9th day out of 30, a Method 3 measurement would be made to provide the missing data for that day. [40 CFR 60.106(i)(12)]</p>
EQUI 3	EU005	No. 2 Crude Vacuum Heater 5-5-B-1	
	5.25.1		THIS CONDITION WILL BECOME EFFECTIVE ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. Sulfur Dioxide <= 2.62 pounds per hour 3-hour rolling average. [Title I Condition: 40 CFR 50.4(SO ₂ SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.25.2		THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. Sulfur Dioxide <= 48.60 pounds per hour 3-hour rolling average. [Title I Condition: 40 CFR 50.4(SO ₂ SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.25.3		THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. Sulfur Dioxide <= 0.90 pounds per million Btu heat input 3-hour rolling average. [Title I Condition: 40 CFR 50.4(SO ₂ SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.25.4		Hydrogen Sulfide (H ₂ S) <= 162 parts per million Fuel Restriction: The company shall not burn refinery gas with a hydrogen sulfide content in excess of 162 ppm as an average for any consecutive 3-hour period. [40 CFR pt. 60, subp. Ja, Title I Condition: 40 CFR 50.4(SO ₂ SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.25.5		Hydrogen Sulfide (H ₂ S) <= 230 milligrams per dscm 3-hour rolling average for fuel gas combusted in a device subject to

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			this subpart (0.10 gr/dscf); flare emergency reliefs are exempt. In place of the SO2 monitor in paragraph (a)(3) of 40 CFR Section 60.105, an instrument for continuously monitoring and recording the concentration (dry basis) of H2S in fuel gases before being burned in any fuel gas combustion device. [40 CFR 60.104(a)(1), 40 CFR 60.105(a)(4), Minn. R. 7011.1410, subp. 2]
	5.25.6		For the purpose of reports under 40 CFR Section 60.7(c), periods of excess emissions that shall be determined and reported are defined as follows: Note: All averages, except for opacity, shall be determined as the arithmetic average of the applicable 1-hour averages, e.g., the rolling 3-hour average shall be determined as the arithmetic average of three contiguous 1-hour averages. All rolling 3-hour periods during which the average concentration of H2S as measured by the H2S continuous monitoring system under 40 CFR Section 60.105(a)(4) exceeds 230 mg/dscm (0.10 gr/dscf). [40 CFR 60.105(e)(3)(ii), Minn. R. 7011.1435]
	5.25.7		Total Particulate Matter <= 0.40 pounds per million Btu heat input 3-hour rolling average. Compliance with the fuel restriction requirement constitutes compliance with this limit. [Minn. R. 7011.1405, subp. 3(A)]
	5.25.8		Sulfur Dioxide <= 1.75 pounds per million Btu heat input 3-hour rolling average. Compliance with the fuel restriction requirement constitutes compliance with this limit. [Minn. R. 7011.1405, subp. 2]
	5.25.9		Opacity <= 20 percent opacity 6-minute average; except for one six-minute period per hour of not more than 60 percent opacity. [Minn. R. 7011.1405, subp. 3(B)]
	5.25.10		THIS CONDITION WILL BECOME EFFECTIVE ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. Fuel Restriction: authorized to burn refinery gas and/or natural gas only. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.25.11		THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. Fuel Restriction: authorized to burn refinery gas, natural gas and/or refinery oil only. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.25.12		Recordkeeping: Record and maintain records of each fuel combusted in the unit on a monthly basis. [Minn. R. 7007.0800, subp. 2]
	5.25.13		THIS CONDITION WILL BECOME EFFECTIVE ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. Fuel Restrictions: authorized to burn refinery gas as long as

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			the refinery gas complies with the lbs SO ₂ /hr limit. The company shall determine the sulfur dioxide emissions using the following calculation: $W > 1.88*(a)$ where; W = the emission limit (0.9 lbs SO ₂ /MMBtu) 1.88 = MW(SO ₂)/MW(H ₂ S) = 64.06/34.08 a = fraction of H ₂ S in refinery gas (lbs/Btu) = (0.0898)*(ppmv)/(HHV-rg) $0.0898 = [(1\text{lb-mole H}_2\text{S})*(34.08 \text{ lb H}_2\text{S/lb-mole H}_2\text{S})*(1 \text{ atm})] / [(10^6 \text{ lb-mole rg})*(520 \text{ R})*(0.7302 \text{ ft}^3\text{-atm/lb-mole R})]$ ppmv = parts per million by volume of H ₂ S in refinery gas HHV-rg = high heating value for refinery gas (Btu/ft ³ @ 60 degrees F). [Title I Condition: 40 CFR 50.4(SO ₂ SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.25.14		THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. Fuel Restrictions: authorized to burn refinery gas and refinery oil as long as the combination (1) has a sulfur content and heating value less than or equal to that corresponding to SO ₂ emissions of 0.90 lb/MMBtu and (2) complies with the lbs SO ₂ /hr limit. The company shall determine the sulfur dioxide emissions using the following calculation: $W > [1.88*(a)*(x) + 2.00*(b)*(y)] / [x+y]$ where; W = the emission limit (0.9 lbs SO ₂ /MMBtu) 1.88 = MW(SO ₂)/MW(H ₂ S) = 64.06/34.08 a = fraction of H ₂ S in refinery gas (lbs/Btu) = (0.0898)*(ppmv)/(HHV-rg) $0.0898 = [(1\text{lb-mole H}_2\text{S})*(34.08 \text{ lb H}_2\text{S/lb-mole H}_2\text{S})*(1 \text{ atm})] / [(10^6 \text{ lb-mole rg})*(520 \text{ R})*(0.7302 \text{ ft}^3\text{-atm/lb-mole R})]$ ppmv = parts per million by volume of H ₂ S in refinery gas HHV-rg = high heating value for refinery gas (Btu/ft ³ @ 60 degrees F) $x = \text{flow rate of refinery gas (MMBtu)} = (Q)*(HHV\text{-rg})*(60)$ where; Q = volumetric flow rate of refinery gas (ft ³ /min @ 60 degrees F) HHV-rg = high heating value for refinery gas (Btu/ft ³ @ 60 degrees F) 60 = minutes/hour 2.00 = MW (SO ₂)/MW(S) = 64.06/32.06 b = fraction of S in refinery oil (bs/Btu) = (ppmv)*(density)/HHV-ro)

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>where; ppmw = parts per million by weight of S in refinery oil (lb/lb) density = density of refinery oil (Btu/gal @ 60 degrees F) HHV-ro = high heating value for refinery oil (Btu/gal @ 60 degrees F) y = flow rate of refinery oil (MMBtuh) = (q)*(HHV-ro)*(60)</p> <p>where; q = volumetric flow rate of refinery oil (gal/min @ 60 degrees F) HHV-ro = high heating value for refinery oil (Btu/gal @ 60 degrees F) 60 = 60 minutes/hour. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 50, subp. Y]</p>
	5.25.15		<p>THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP.</p> <p>Recordkeeping of fuel: The Permittee shall record the time period when burning fuel oil. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]</p>
	5.25.16		<p>Fuel Flowrate: annually calibrate, operate and maintain Continuous Monitoring Systems (CMS)s that record the fuel flow rate at each fuel combustion device. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]</p>
	5.25.17		<p>Sulfur Dioxide Emissions Record keeping: The Permittee shall maintain records of the calculated SO2 emissions in pounds per hour (lb/hr). [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]</p>
	5.25.18		<p>Sulfur Dioxide Emissions: The Permittee shall use the combination of the fuel flowrate CMS and the H2S CEMS to measure sulfur dioxide emissions from STRU 70 (SV 004). [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]</p>
	5.25.19		<p>CEMS Continuous Operation: CEMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A CEMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment.</p> <p>Acceptable monitor downtime includes reasonable periods due to the following causes: A. damage to the monitoring system due to a Force Majeure such as lightning strikes, tornadoes, or floods which render the monitor inoperative;</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			B. sudden and not reasonably preventable breakdowns; C. scheduled monitor maintenance based upon equipment manufacturer's recommended maintenance schedule which cannot reasonably be conducted when the emission unit is not operating; or D. unavoidable monitor downtime in order to conduct daily drift checks, calibration error audits, relative accuracy test audits, linearity checks, and cylinder gas audits required by a compliance document, applicable requirement, or by request of the Commissioner. [Minn. R. 7017.1090, subp. 1, Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.25.20		THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. Visible Emissions: The owner or operator shall check STRU 70 (SV 004) for visible emissions during daylight hours, on a daily basis, while burning refinery oil. [Minn. R. 7007.0800, subp. 4]
	5.25.21		THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. Record keeping of Visible Emissions(VE): The owner or operator shall keep records on the time and date of VE inspection, and whether or not any VEs were observed, and if corrective action was needed. [Minn. R. 7007.0800, subp. 5]
	5.25.22		THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. Record keeping of corrective actions: If visible emissions are observed over 10% opacity instantaneously then take corrective actions to reduce emissions; if visible emissions continue over 10% opacity, the owner or operator shall perform Method 9 with a certified observer. The owner or operator shall keep a record of the corrective actions taken. If visible emissions exceed the permitted limit, report as a deviation in the owner or operator's semiannual report. [Minn. R. 7007.0800, subp. 5]
EQUI 4	EU006	No. 2 Crude Charge Heater 5-2-B-3	
	5.26.1		THIS CONDITION WILL BECOME EFFECTIVE ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. Sulfur Dioxide <= 4.16 pounds per hour 3-hour rolling average. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.26.2		THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. Sulfur Dioxide <= 34.0 pounds per hour 3-hour rolling average (most stringent limit, meets the limit set by Minn. R. 7011.1410, subp. 3). [Title

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.26.3		THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. Sulfur Dioxide <= 0.2834 pounds per million Btu heat input 3-hour rolling average. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.26.4		Nitrogen Oxides <= 0.14 pounds per million Btu heat input 3-hour average (BACT Limit). [Minn. R. 7007.3000, Title I Condition: 40 CFR 52.21]
	5.26.5		<p>Nitrogen Oxides <= 0.050 pounds per million Btu heat input 365-day rolling average (August 31, 2005 First Revised Consent Decree US District Court Eastern District of Michigan).</p> <p>The 365-day rolling average is calculated by averaging the daily averages for the previous 365 calendar days including non-operating days. Daily NOx emissions are determined using hourly average NOx emissions. Hourly average NOx emissions are determined according to 40 CFR Section 60.13(h)(2) and 40 CFR pt. 60 Appendix A Method 19 Section 12.2.1 Equation 19-1 as shown below: $\text{lb NOx/mmBtu} = \text{Cd} * 1.194\text{E-}07 * \text{Fd} * (20.9/[20.9\text{-}02])$ where: Cd = dry concentration of NOx (lb/scf) Fd = dry F-factor (scf/mmBtu). [CAAA of 1990, Minn. R. 7007.0100, subps. 7(A) & 7(B), Minn. R. 7007.0800, subp. 2, Minn. R. 7007.0800, subps. 1-2, Minn. Stat. 116.subd. 4a, Minn. Stat. 116.subd. 9, Title I Condition: 40 CFR pt. 52]</p>
	5.26.6		Hydrogen Sulfide (H2S) <= 162 parts per million Fuel Restriction: The company shall not burn refinery gas with a hydrogen sulfide content in excess of 162 ppm as an average for any consecutive 3-hour period. [40 CFR pt. 60, subp. J, Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.26.7		Hydrogen Sulfide (H2S) <= 230 milligrams per dscm 3-hour rolling average (H2S limit): for fuel gas combusted in a device subject to this subpart (0.10 gr/dscf); flare emergency reliefs are exempt. [40 CFR 60.104(a)(1), Minn. R. 7011.1410, subp. 2]
	5.26.8		Total Particulate Matter <= 0.40 pounds per million Btu heat input 3-hour rolling average. Compliance with the fuel restriction requirement constitutes compliance with this limit. [Minn. R. 7011.1410, subp. 3(B)]
	5.26.9		Sulfur Dioxide <= 1.75 pounds per million Btu heat input 3-hour rolling average. Compliance with the fuel restriction requirement constitutes compliance with this limit. [Minn. R. 7011.1410, subp. 3(A)]
	5.26.10		Opacity <= 20 percent opacity 6-minute average except for one six-minute period per hour of not more than 60 percent opacity. [Minn. R. 7011.1410, subp. 3(B)]

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
	5.26.11		Fuel Restriction: authorized to burn refinery gas and natural gas only. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.26.12		Heat Input <= 178.0 million Btu per hour 365-day rolling average on a High Heating Value (HHV) basis. [CAAA of 1990, Minn. R. 7007.0100, subps. 7(A) & 7(B), Minn. R. 7007.0800, subp. 2, Minn. R. 7007.0800, subps. 1-2, Minn. Stat. 116.subd. 4a, Minn. Stat. 116.subd. 9, Title I Condition: 40 CFR pt. 52]
	5.26.13		Recordkeeping: Record and maintain records of each fuel combusted in the unit on a monthly basis. [Minn. R. 7007.0800, subp. 5]
	5.26.14		Fuel Flowrate: annually calibrate, operate and maintain Continuous Monitoring Systems (CMS)s that record the fuel flow rate at each fuel combustion device. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.26.15		Sulfur Dioxide Emissions: The Permittee shall use the combination of the fuel flowrate CMS and the H2S CEMS to measure sulfur dioxide emissions from STRU 15 (SV 005). [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.26.16		Sulfur Dioxide Emissions Recordkeeping: The Permittee shall maintain records of the calculated SO2 emissions in pounds per hour (lb/hr). [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.26.17		<p>CEMS Continuous Operation: CEMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A CEMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment.</p> <p>Acceptable monitor downtime includes reasonable periods due to the following causes:</p> <ul style="list-style-type: none"> A. damage to the monitoring system due to a Force Majeure such as lightning strikes, tornadoes, or floods which render the monitor inoperative; B. sudden and not reasonably preventable breakdowns; C. scheduled monitor maintenance based upon equipment manufacturer's recommended maintenance schedule which cannot reasonably be conducted when the emission unit is not operating; or D. unavoidable monitor downtime in order to conduct daily drift checks, calibration error audits, relative accuracy test audits, linearity checks, and cylinder gas audits required by a compliance document, applicable requirement, or by request of the Commissioner. [Minn. R. 7017.1090, subp. 1, Title I

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.26.18		NOx CEMS: The Permittee shall calibrate, operate and maintain a CEMS to measures NOx emissions. NOx emissions shall be recorded in units of pounds of NOx per million Btu of heat input. NOx emissions shall be monitored upon startup of the modified unit. [CAAA of 1990, Minn. R. 7007.0100, subps. 7(A) & 7(B), Minn. R. 7007.0800, subp. 2, Minn. R. 7007.0800, subps. 1-2, Minn. R. 7017.1006, Minn. Stat. 116.subd. 4a, Minn. Stat. 116.subd. 9, Title I Condition: 40 CFR pt. 52]
	5.26.19		CEMS Daily Calibration Drift (CD) Test: The CD shall be quantified and recorded at zero (low-level) and upscale (high-level) gas concentrations at least once daily. The CEMS shall be adjusted whenever the CD exceeds twice the specification of 40 CFR pt. 60, Appendix B. 40 CFR pt. 60, Appendix F, shall be used to determine out-of-control periods for CEMS. Follow the procedures in 40 CFR pt. 60, Appendix F. [CAAA of 1990, Minn. R. 7007.0100, subps. 7(A) & 7(B), Minn. R. 7007.0800, subp. 2, Minn. R. 7007.0800, subps. 1-2, Minn. R. 7007.1170, subp. 3, Minn. Stat. 116.subd. 4a, Minn. Stat. 116.subd. 9, Title I Condition: 40 CFR pt. 50]
EQUI 5	EU007	No. 1 Crude Vacuum Tower Heater 5-1-B-5	
	5.27.1		Sulfur Dioxide <= 1.2 pounds per hour 3-hour rolling average. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.27.2		THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. Sulfur Dioxide <= 0.030 pounds per million Btu heat input 3-hour rolling average. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.27.3		Hydrogen Sulfide (H2S) <= 162 parts per million Fuel Restriction: The company shall not burn refinery gas with a hydrogen sulfide content in excess of 162 ppm as an average for any consecutive 3-hour period. [40 CFR pt. 60, subp. J, Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.27.4		Hydrogen Sulfide (H2S) <= 230 milligrams per dscm 3-hour rolling average (H2S limit): for fuel gas combusted in a device subject to this subpart (0.10 gr/dscf); flare emergency reliefs are exempt. In place of the SO2 monitor in paragraph (a)(3) of 40 CFR Section 60.105, an instrument for continuously monitoring and recording the concentration (dry basis) of H2S in fuel gases before being burned in any fuel gas combustion device. [40 CFR 60.104(a)(1), 40 CFR 60.105(a)(4), Minn. R. 7011.1410,

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			subp. 2, Minn. R. 7011.1435]
	5.27.5		<p>For the purpose of reports under 40 CFR Section 60.7(c), periods of excess emissions that shall be determined and reported are defined as follows:</p> <p>Note: All averages, except for opacity, shall be determined as the arithmetic average of the applicable 1-hour averages, e.g., the rolling 3-hour average shall be determined as the arithmetic average of three contiguous 1-hour averages. All rolling 3-hour periods during which the average concentration of H2S as measured by the H2S continuous monitoring system under 40 CFR Section 60.105(a)(4) exceeds 230 mg/dscm (0.10 gr/dscf). [40 CFR 60.105(e)(3)(ii), Minn. R. 7011.1435]</p>
	5.27.6		Total Particulate Matter <= 0.40 pounds per million Btu heat input 3-hour average. Compliance with the fuel restriction requirement constitutes compliance with this limit. [Minn. R. 7011.1405, subp. 3(A)]
	5.27.7		Sulfur Dioxide <= 1.75 pounds per million Btu heat input 3-hour rolling average. Compliance with the fuel restriction requirement constitutes compliance with this limit. [Minn. R. 7011.1405, subp. 2]
	5.27.8		Opacity <= 20 percent opacity 6-minute average; except for one six-minute period per hour of not more than 60 percent opacity. [Minn. R. 7011.1405, subp. 3(B)]
	5.27.9		Fuel Restriction: authorized to burn refinery gas, and/or natural gas only. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.27.10		Recordkeeping: Record and maintain records of each fuel combusted in the unit on a monthly basis. [Minn. R. 7007.0800, subp. 2]
	5.27.11		Fuel Flowrate: annually calibrate, operate and maintain Continuous Monitoring Systems (CMS)s that record the fuel flow rate at each fuel combustion device. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.27.12		Sulfur Dioxide Emissions: The Permittee shall use the combination of the fuel flowrate CMS and the H2S CEMS to measure SO2 emissions from STRU 10 (SV 006). [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.27.13		Sulfur Dioxide Emissions Recordkeeping: The Permittee shall maintain records of the calculated SO2 emissions in pounds per hour (lb/hr). [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.27.14		CEMS Continuous Operation: CEMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>numerical emission limit applies during these periods. A CEMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment.</p> <p>Acceptable monitor downtime includes reasonable periods due to the following causes:</p> <ul style="list-style-type: none"> A. damage to the monitoring system due to a Force Majeure such as lightning strikes, tornadoes, or floods which render the monitor inoperative; B. sudden and not reasonably preventable breakdowns; C. scheduled monitor maintenance based upon equipment manufacturer's recommended maintenance schedule which cannot reasonably be conducted when the emission unit is not operating; or D. unavoidable monitor downtime in order to conduct daily drift checks, calibration error audits, relative accuracy test audits, linearity checks, and cylinder gas audits required by a compliance document, applicable requirement, or by request of the Commissioner. [Minn. R. 7017.1090, subp. 1, Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
EQUI 6	EU009	No. 1 Crude Charge Htr 5-1-B-7	
	5.28.1		THIS CONDITION WILL BECOME EFFECTIVE ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. Sulfur Dioxide <= 2.83 pounds per hour 3-hour rolling average. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.28.2		THIS LIMIT WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. Sulfur Dioxide <= 52.20 pounds per hour 3-hour rolling average. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.28.3		THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. Sulfur Dioxide <= 0.90 pounds per million Btu heat input 3-hour rolling average. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.28.4		Hydrogen Sulfide (H2S) <= 162 parts per million Fuel Restriction: The company shall not burn refinery gas with a hydrogen sulfide content in excess of 162 ppm as an average for any consecutive 3-hour period. [40 CFR pt. 60, subp. J, Title I Condition: 40 CFR 51.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.28.5		Hydrogen Sulfide (H2S) <= 230 milligrams per dscm 3-hour rolling average (H2S limit): for fuel gas combusted in a device subject to this subpart (0.10 gr/dscf); flare emergency reliefs are exempt.

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			In place of the SO2 monitor in paragraph (a)(3) of 40 CFR Section 60.105, an instrument for continuously monitoring and recording the concentration (dry basis) of H2S in fuel gases before being burned in any fuel gas combustion device. [40 CFR 60.104(a)(1), 40 CFR 60.105(a)(4), Minn. R. 7011.1410, subp. 2, Minn. R. 7011.1435]
	5.28.6		For the purpose of reports under 40 CFR Section 60.7(c), periods of excess emissions that shall be determined and reported are defined as follows: Note: All averages, except for opacity, shall be determined as the arithmetic average of the applicable 1-hour averages, e.g., the rolling 3-hour average shall be determined as the arithmetic average of three contiguous 1-hour averages. All rolling 3-hour periods during which the average concentration of H2S as measured by the H2S continuous monitoring system under 40 CFR Section 60.105(a)(4) exceeds 230 mg/dscm (0.10 gr/dscf). [40 CFR 60.105(e)(3)(ii), Minn. R. 7011.1435]
	5.28.7		Total Particulate Matter <= 0.40 pounds per million Btu heat input 3-hour average. Compliance with the fuel restriction requirement constitutes compliance with this limit. [Minn. R. 7011.1410, subp. 3(B)]
	5.28.8		Sulfur Dioxide <= 1.75 pounds per million Btu heat input 3-hour rolling average. Compliance with the fuel restriction requirement constitutes compliance with this limit. [Minn. R. 7011.1410, subp. 3(A)]
	5.28.9		Opacity <= 20 percent opacity 6-minute average; except for one six-minute period per hour of not more than 60 percent opacity. [Minn. R. 7011.1410, subp. 3(B)]
	5.28.10		THIS CONDITION WILL BECOME EFFECTIVE ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. Fuel Restriction: authorized to burn refinery gas and/or natural gas only. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.28.11		THIS LIMIT WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. Fuel Restriction: authorized to burn refinery gas, natural gas and/or refinery oil only. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.28.12		Recordkeeping: Record and maintain records of each fuel combusted in the unit on a monthly basis. [Minn. R. 7007.0800, subp. 2]
	5.28.13		THIS CONDITION WILL BECOME EFFECTIVE ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. Fuel Restrictions: authorized to burn refinery gas as long as the refinery gas complies with the lbs SO2/hr limit. The

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			company shall determine the sulfur dioxide emissions using the following calculation: $W > 1.88*(a)$ where; W = the emission limit (0.9 lbs SO ₂ /MMBtu) 1.88 = MW(SO ₂)/MW(H ₂ S) = 64.06/34.08 a = fraction of H ₂ S in refinery gas (lbs/Btu) = $(0.0898)*(ppmv)/(HHV-rg)$ $0.0898 = [(1\text{lb-mole H}_2\text{S})*(34.08 \text{ lb H}_2\text{S/lb-mole H}_2\text{S})*(1 \text{ atm})] / [(10^6 \text{ lb-mole rg})*(520 \text{ R})*(0.7302 \text{ ft}^3\text{-atm/lb-mole R}]$ ppmv = parts per million by volume of H ₂ S in refinery gas HHV-rg = high heating value for refinery gas (Btu/ft ³ @ 60 degrees F). [Title I Condition: 40 CFR 50.4(SO ₂ SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.28.14		THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. Fuel Restrictions: authorized to burn refinery gas and refinery oil as long as the combination (1) has a sulfur content and heating value less than or equal to that corresponding to SO ₂ emissions of 0.90 lb/MMBtu and (2) complies with the lbs SO ₂ /hr limit. The company shall determine the sulfur dioxide emissions using the following calculation: $W > [1.88*(a)*(x) + 2.00*(b)*(y)] / [x+y]$ where; W = the emission limit (0.90 lbs SO ₂ /MMBtu) 1.88 = MW(SO ₂)/MW(H ₂ S) = 64.06/34.08 a = fraction of H ₂ S in refinery gas (lbs/Btu) = (0.0898)*(ppmv)/(HHV-rg) where; $0.0898 = [(1\text{lb-mole H}_2\text{S})*(34.08 \text{ lb H}_2\text{S/lb-mole H}_2\text{S})*(1 \text{ atm})] / [(10^6 \text{ lb-mole rg})*(520 \text{ R})*(0.7302 \text{ ft}^3\text{-atm/lb-mole R}]$ ppmv = parts per million by volume of H ₂ S in refinery gas HHV-rg = high heating value for refinery gas (Btu/ft ³ @ 60 degrees F) x = flow rate of refinery gas (MMBtu) = (Q)*(HHV-rg)*(60) where; Q = volumetric flow rate of refinery gas (ft ³ /min @ 60 degrees F) HHV-rg = high heating value for refinery gas (Btu/ft ³ @ 60 degrees F) 60 = minutes/hour 2.00 = MW (SO ₂)/MW(S) = 64.06/32.06

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>b = fraction of S in refinery oil (bs/Btu) = (ppmv)*(density)/HHV-ro)</p> <p>where: ppmw = parts per million by weight of S in refinery oil (lb/lb) density = density of refinery oil (Btu/gal @ 60 degrees F) HHV-ro = high heating value for refinery oil (Btu/gal @ 60 degrees F) y = flow rate of refinery oil (MMBtuh) = (q)*(HHV-ro)*(60)</p> <p>where: q = volumetric flow rate of refinery oil (gal/min @ 60 degrees F) HHV-ro = high heating value for refinery oil (Btu/gal @ 60 degrees F) 60 = 60 minutes/hour. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]</p>
	5.28.15		<p>THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP.</p> <p>Recordkeeping of fuel: The Permittee shall record the time period when burning fuel oil. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]</p>
	5.28.16		<p>Fuel Flowrate: annually calibrate, operate and maintain Continuous Monitoring Systems (CMS)s that record the fuel flow rate at each fuel combustion device. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]</p>
	5.28.17		<p>Sulfur Dioxide Emissions: The Permittee shall use the combination of the fuel flowrate CMS and the H2S CEMS to measure sulfur dioxide emissions from STRU 69 (SV 007). [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]</p>
	5.28.18		<p>Sulfur Dioxide Emissions Recordkeeping: The Permittee shall maintain records of the calculated SO2 emissions in pounds per hour (lb/hr). [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]</p>
	5.28.19		<p>CEMS Continuous Operation: CEMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A CEMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment.</p> <p>Acceptable monitor downtime includes reasonable periods due to the following causes: A. damage to the monitoring system due to a Force Majeure</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>such as lightning strikes, tornadoes, or floods which render the monitor inoperative;</p> <p>B. sudden and not reasonably preventable breakdowns;</p> <p>C. scheduled monitor maintenance based upon equipment manufacturer's recommended maintenance schedule which cannot reasonably be conducted when the emission unit is not operating; or</p> <p>D. unavoidable monitor downtime in order to conduct daily drift checks, calibration error audits, relative accuracy test audits, linearity checks, and cylinder gas audits required by a compliance document, applicable requirement, or by request of the Commissioner. [Minn. R. 7017.1090, subp. 1, Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]</p>
	5.28.20		<p>THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP.</p> <p>Visible Emissions: The Permittee shall check STRU 69 (SV 007) for visible emissions during daylight hours, on a daily basis, while burning refinery oil. [Minn. R. 7007.0800, subp. 4]</p>
	5.28.21		<p>THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP.</p> <p>Record keeping of Visible Emissions(VE): The owner or operator shall keep records on the time and date of VE inspection, and whether or not any VEs were observed, and if corrective action was needed. [Minn. R. 7007.0800, subp. 5]</p>
	5.28.22		<p>THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP.</p> <p>Record keeping of corrective actions: If visible emissions are observed over 10% opacity instantaneously then take corrective actions to reduce emissions; if visible emissions continue over 10% opacity, the owner or operator shall perform Method 9 with a certified observer. The owner or operator shall keep a record of the corrective actions taken. If visible emissions exceed the permitted limit, report as a deviation in the owner or operator's semiannual report. [Minn. R. 7007.0800, subp. 5]</p>
EQUI 7	EU010	Distillate Unifiner Heater 5-29-B-1&2	
	5.29.1		<p>Sulfur Dioxide <= 1.41 pounds per hour 3-hour rolling average. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]</p>
	5.29.2		<p>THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. Sulfur Dioxide <= 0.030 pounds per million Btu heat input 3-hour rolling average.</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			[Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.29.3		Hydrogen Sulfide (H2S) <= 162 parts per million 3-hour average Fuel Restriction: The company shall not burn refinery gas with a hydrogen sulfide content in excess of 162 ppm as an average for any consecutive 3-hour period. [40 CFR pt. 60, subp. J, Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.29.4		Hydrogen Sulfide (H2S) <= 230 milligrams per dscm 3-hour rolling average (H2S limit): for fuel gas combusted in a device subject to this subpart (0.10 gr/dscf); flare emergency reliefs are exempt. In place of the SO2 monitor in paragraph (a)(3) of 40 CFR Section 60.105, an instrument for continuously monitoring and recording the concentration (dry basis) of H2S in fuel gases before being burned in any fuel gas combustion device. [40 CFR 60.104(a)(1), 40 CFR 60.105(a)(4), Minn. R. 7011.1410, subp. 2, Minn. R. 7011.1435]
	5.29.5		For the purpose of reports under 40 CFR Section 60.7(c), periods of excess emissions that shall be determined and reported are defined as follows: Note: All averages, except for opacity, shall be determined as the arithmetic average of the applicable 1-hour averages, e.g., the rolling 3-hour average shall be determined as the arithmetic average of three contiguous 1-hour averages. All rolling 3-hour periods during which the average concentration of H2S as measured by the H2S continuous monitoring system under 40 CFR Section 60.105(a)(4) exceeds 230 mg/dscm (0.10 gr/dscf). [40 CFR 60.105(e)(3)(ii), Minn. R. 7011.1435]
	5.29.6		Total Particulate Matter <= 0.40 pounds per million Btu heat input 3-hour average. Compliance with the fuel restriction requirement constitutes compliance with this limit. [Minn. R. 7011.1405, subp. 3(A)]
	5.29.7		Sulfur Dioxide <= 1.75 pounds per million Btu heat input 3-hour rolling average. Compliance with the fuel restriction requirement constitutes compliance with this limit. [Minn. R. 7011.1405, subp. 2]
	5.29.8		Opacity <= 20 percent opacity 6-minute average; except for one six-minute period per hour of not more than 60 percent opacity. [Minn. R. 7011.1405, subp. 3(B)]
	5.29.9		Fuel Restriction: Burn refinery gas and/or natural gas in the unit. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.29.10		Recordkeeping: Record and maintain records of each fuel combusted in the unit on a monthly basis. [Minn. R. 7007.0800, subp. 2]
	5.29.11		Fuel Flowrate: annually calibrate, operate and maintain Continuous Monitoring Systems (CMS)s that record the fuel

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			flow rate at each fuel combustion device. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.29.12		Sulfur Dioxide Emissions: The Permittee shall use the combination of the fuel flowrate CMS and the H2S CEMS to measure sulfur dioxide emissions from STRU 68 (SV 008). [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.29.13		Sulfur Dioxide Emissions Recordkeeping: The Permittee shall maintain records of the calculated SO2 emissions in pounds per hour (lb/hr). [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.29.14		<p>CEMS Continuous Operation: CEMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A CEMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment.</p> <p>Acceptable monitor downtime includes reasonable periods due to the following causes:</p> <ul style="list-style-type: none"> A. damage to the monitoring system due to a Force Majeure such as lightning strikes, tornadoes, or floods which render the monitor inoperative; B. sudden and not reasonably preventable breakdowns; C. scheduled monitor maintenance based upon equipment manufacturer's recommended maintenance schedule which cannot reasonably be conducted when the emission unit is not operating; or D. unavoidable monitor downtime in order to conduct daily drift checks, calibration error audits, relative accuracy test audits, linearity checks, and cylinder gas audits required by a compliance document, applicable requirement, or by request of the Commissioner. [Minn. R. 7017.1090, subp. 1, Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
EQUI 8	EU011	Naphtha Unifiner Heater 5-3-B-1,2&3	
	5.30.1		Sulfur Dioxide <= 1.95 pounds per hour 3-hour rolling average. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.30.2		THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. Sulfur Dioxide <= 0.030 pounds per million Btu heat input 3-hour rolling average.

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			[Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.30.3		Hydrogen Sulfide (H2S) <= 162 parts per million 3-hour average Fuel Restriction: The company shall not burn refinery gas with a hydrogen sulfide content in excess of 162 ppm as an average for any consecutive 3-hour period. [40 CFR pt. 60, subp. J, Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.30.4		Hydrogen Sulfide (H2S) <= 230 milligrams per dscm 3-hour rolling average (H2S limit): for fuel gas combusted in a device subject to this subpart (0.10 gr/dscf); flare emergency reliefs are exempt. In place of the SO2 monitor in paragraph (a)(3) of 40 CFR Section 60.105, an instrument for continuously monitoring and recording the concentration (dry basis) of H2S in fuel gases before being burned in any fuel gas combustion device. [40 CFR 60.104(a)(1), 40 CFR 60.105(a)(4), Minn. R. 7011.1410, subp. 2, Minn. R. 7011.1435]
	5.30.5		For the purpose of reports under 40 CFR Section 60.7(c), periods of excess emissions that shall be determined and reported are defined as follows: Note: All averages, except for opacity, shall be determined as the arithmetic average of the applicable 1-hour averages, e.g., the rolling 3-hour average shall be determined as the arithmetic average of three contiguous 1-hour averages. All rolling 3-hour periods during which the average concentration of H2S as measured by the H2S continuous monitoring system under 40 CFR Section 60.105(a)(4) exceeds 230 mg/dscm (0.10 gr/dscf). [40 CFR 60.105(e)(3)(ii), Minn. R. 7011.1435]
	5.30.6		Total Particulate Matter <= 0.40 pounds per million Btu heat input 3-hour average. Compliance with the fuel restriction requirement constitutes compliance with this limit. [Minn. R. 7011.1405, subp. 3(A)]
	5.30.7		Sulfur Dioxide <= 1.75 pounds per million Btu heat input 3-hour rolling average. Compliance with the fuel restriction requirement constitutes compliance with this limit. [Minn. R. 7011.1405, subp. 2]
	5.30.8		Opacity <= 20 percent opacity 6-minute average; except for one six-minute period per hour of not more than 60 percent opacity. [Minn. R. 7011.1405, subp. 3(B)]
	5.30.9		Fuel Restriction: Burn refinery gas and/or natural gas in the unit only. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.30.10		Recordkeeping: Record and maintain records of each fuel combusted in the unit on a monthly basis. [Minn. R. 7007.0800, subp. 2]
	5.30.11		Sulfur Dioxide Emissions: The Permittee shall use the combination of the fuel flowrate CMS and the H2S CEMS to

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			measure sulfur dioxide emissions from STRU 19 (SV 009). [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.30.12		Sulfur Dioxide Emissions Recordkeeping: The Permittee shall maintain records of the calculated SO2 emissions in pounds per hour (lb/hr). [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.30.13		Fuel Flowrate: annually calibrate, operate and maintain Continuous Monitoring Systems (CMS)s that record the fuel flow rate at each fuel combustion device. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.30.14		<p>CEMS Continuous Operation: CEMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A CEMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment.</p> <p>Acceptable monitor downtime includes reasonable periods due to the following causes:</p> <ul style="list-style-type: none"> A. damage to the monitoring system due to a Force Majeure such as lightning strikes, tornadoes, or floods which render the monitor inoperative; B. sudden and not reasonably preventable breakdowns; C. scheduled monitor maintenance based upon equipment manufacturer's recommended maintenance schedule which cannot reasonably be conducted when the emission unit is not operating; or D. unavoidable monitor downtime in order to conduct daily drift checks, calibration error audits, relative accuracy test audits, linearity checks, and cylinder gas audits required by a compliance document, applicable requirement, or by request of the Commissioner. [Minn. R. 7017.1090, subp. 1, Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
EQUI 9	EU012	Platformer Reactor Charge Heater 5-3-B-4	
	5.31.1		Sulfur Dioxide <= 1.95 pounds per hour 3-hour rolling average. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.31.2		THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. Sulfur Dioxide <= 0.030 pounds per million Btu heat input 3-hour rolling average. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			CFR pt. 52, subp. Y]
	5.31.3		Hydrogen Sulfide (H2S) <= 162 parts per million 3-hour average Fuel Restriction: The company shall not burn refinery gas with a hydrogen sulfide content in excess of 162 ppm as an average for any consecutive 3-hour period. [40 CFR pt. 60, subp. J, Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.31.4		Hydrogen Sulfide (H2S) <= 230 milligrams per dscm 3-hour rolling average (H2S limit): for fuel gas combusted in a device subject to this subpart (0.10 gr/dscf); flare emergency reliefs are exempt. In place of the SO2 monitor in paragraph (a)(3) of 40 CFR Section 60.105, an instrument for continuously monitoring and recording the concentration (dry basis) of H2S in fuel gases before being burned in any fuel gas combustion device. [40 CFR 60.104(a)(1), 40 CFR 60.105(a)(4), Minn. R. 7011.1410, subp. 2, Minn. R. 7011.1435]
	5.31.5		For the purpose of reports under 40 CFR Section 60.7(c), periods of excess emissions that shall be determined and reported are defined as follows: Note: All averages, except for opacity, shall be determined as the arithmetic average of the applicable 1-hour averages, e.g., the rolling 3-hour average shall be determined as the arithmetic average of three contiguous 1-hour averages. All rolling 3-hour periods during which the average concentration of H2S as measured by the H2S continuous monitoring system under 40 CFR Section 60.105(a)(4) exceeds 230 mg/dscm (0.10 gr/dscf). [40 CFR 60.105(e)(3)(ii), Minn. R. 7011.1435]
	5.31.6		Total Particulate Matter <= 0.40 pounds per million Btu heat input 3-hour average. Compliance with the fuel restriction requirement constitutes compliance with this limit. [Minn. R. 7011.1405, subp. 3(A)]
	5.31.7		Sulfur Dioxide <= 1.75 pounds per million Btu heat input 3-hour rolling average. Compliance with the fuel restriction requirement constitutes compliance with this limit. [Minn. R. 7011.1405, subp. 2]
	5.31.8		Opacity: less than or equal to 20 percent opacity using 6-minute Average ; except for one six-minute period per hour of not more than 60 percent opacity. [Minn. R. 7011.1405, subp. 3(B)]
	5.31.9		Fuel Restriction: Burn refinery gas and/or natural gas in the unit only. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.31.10		Recordkeeping: Record and maintain records of each fuel combusted in the unit on a monthly basis. [Minn. R. 7007.0800, subp. 2]
	5.31.11		Fuel Flowrate: annually calibrate, operate and maintain Continuous Monitoring Systems (CMS)s that record the fuel

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			flow rate at each fuel combustion device. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.31.12		Sulfur Dioxide Emissions: The Permittee shall use the combination of the fuel flowrate CMS and the H2S CEMS to measure sulfur dioxide emissions from STRU 67 (SV 010). [Title I Condition: 40 CFR 51.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.31.13		Sulfur Dioxide Emissions Recordkeeping: The Permittee shall maintain records of the calculated SO2 emissions in pounds per hour (lb/hr). [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.31.14		<p>CEMS Continuous Operation: CEMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A CEMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment.</p> <p>Acceptable monitor downtime includes reasonable periods due to the following causes:</p> <ul style="list-style-type: none"> A. damage to the monitoring system due to a Force Majeure such as lightning strikes, tornadoes, or floods which render the monitor inoperative; B. sudden and not reasonably preventable breakdowns; C. scheduled monitor maintenance based upon equipment manufacturer's recommended maintenance schedule which cannot reasonably be conducted when the emission unit is not operating; or D. unavoidable monitor downtime in order to conduct daily drift checks, calibration error audits, relative accuracy test audits, linearity checks, and cylinder gas audits required by a compliance document, applicable requirement, or by request of the Commissioner. [Minn. R. 7017.1090, subp. 1, Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
EQUI 10	EU013	Platformer Interheater No. 1 5-3-B-7	
	5.32.1		Sulfur Dioxide <= 1.68 pounds per hour 3-hour rolling average. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.32.2		THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. Sulfur Dioxide <= 0.030 pounds per million Btu heat input 3-hour rolling average. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			CFR pt. 52, subp. Y]
	5.32.3		Hydrogen Sulfide (H ₂ S) <= 162 parts per million 3-hour average Fuel Restriction: The company shall not burn refinery gas with a hydrogen sulfide content in excess of 162 ppm as an average for any consecutive 3-hour period. [40 CFR pt. 60, subp. J, Title I Condition: 40 CFR 50.4(SO ₂ SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.32.4		Hydrogen Sulfide (H ₂ S) <= 230 milligrams per dscm 3-hour rolling average (H ₂ S limit): for fuel gas combusted in a device subject to this subpart (0.10 gr/dscf); flare emergency reliefs are exempt. [40 CFR 60.1034(a)(1), Minn. R. 7011.1410, Minn. R. 7011.1410, subp. 2]
	5.32.5		Total Particulate Matter <= 0.40 pounds per million Btu heat input 3-hour average. Compliance with the fuel restriction requirement constitutes compliance with this limit. [Minn. R. 7011.1405, subp. 3(A)]
	5.32.6		Sulfur Dioxide <= 1.75 pounds per million Btu heat input 3-hour rolling average. Compliance with the fuel restriction requirement constitutes compliance with this limit. [Minn. R. 7011.1405, subp. 2]
	5.32.7		Opacity <= 20 percent opacity 6-minute average; except for one six-minute period per hour of not more than 60 percent opacity. [Minn. R. 7011.1405, subp. 3(B)]
	5.32.8		Fuel Restriction: Burn refinery gas and/or natural gas only in the unit. [Title I Condition: 40 CFR 50.4(SO ₂ SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.32.9		Recordkeeping: Record and maintain records of each fuel combusted in the unit on a monthly basis. [Minn. R. 7007.0800, subp. 2]
	5.32.10		Fuel Flowrate: annually calibrate, operate and maintain Continuous Monitoring Systems (CMS)s that record the fuel flow rate at each fuel combustion device. [Title I Condition: 40 CFR 50.4(SO ₂ SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.32.11		SO ₂ Emissions: The Permittee shall use the combination of the fuel flowrate CMS and the H ₂ S CEMS to measure sulfur dioxide emissions from STRU 66 (SV 011). [Title I Condition: 40 CFR 50.4(SO ₂ SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.32.12		SO ₂ Emissions Recordkeeping: The Permittee shall maintain records of the calculated SO ₂ emissions in pounds per hour (lb/hr). [Title I Condition: 40 CFR 50.4(SO ₂ SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.32.13		CEMS Continuous Operation: CEMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A CEMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			equipment. Acceptable monitor downtime includes reasonable periods due to the following causes: A. damage to the monitoring system due to a Force Majeure such as lightning strikes, tornadoes, or floods which render the monitor inoperative; B. sudden and not reasonably preventable breakdowns; C. scheduled monitor maintenance based upon equipment manufacturer's recommended maintenance schedule which cannot reasonably be conducted when the emission unit is not operating; or D. unavoidable monitor downtime in order to conduct daily drift checks, calibration error audits, relative accuracy test audits, linearity checks, and cylinder gas audits required by a compliance document, applicable requirement, or by request of the Commissioner. [Minn. R. 7017.1090, subp. 1, Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
EQUI 11	EU014	Platformer Interheater No. 2 5-3-B-8	
	5.33.1		Sulfur Dioxide <= 1.08 pounds per hour 3-hour rolling average. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.33.2		THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. Sulfur Dioxide <= 0.030 pounds per million Btu heat input 3-hour rolling average. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.33.3		Hydrogen Sulfide (H2S) <= 162 parts per million 3-hour average Fuel Restriction: The company shall not burn refinery gas with a hydrogen sulfide content in excess of 162 ppm as an average for any consecutive 3-hour period. [40 CFR pt. 60, subp. J, Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.33.4		Hydrogen Sulfide (H2S) <= 230 milligrams per dscm 3-hour rolling average (H2S limit): for fuel gas combusted in a device subject to this subpart (0.10 gr/dscf); flare emergency reliefs are exempt. [40 CFR 60.104(a)(1), Minn. R. 7011.1410, subp. 2, Minn. R. 7011.1435]
	5.33.5		Total Particulate Matter <= 0.40 pounds per million Btu heat input 3-hour average. Compliance with the fuel restriction requirement constitutes compliance with this limit. [Minn. R. 7011.1405, subp. 3(A)]
	5.33.6		Sulfur Dioxide <= 1.75 pounds per million Btu heat input 3-hour rolling average. Compliance with the fuel restriction requirement constitutes compliance with this limit. [Minn. R.

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			7011.1405, subp. 2]
	5.33.7		Opacity: less than or equal to 20 percent opacity using 6-minute Average ; except for one six-minute period per hour of not more than 60 percent opacity. [Minn. R. 7011.1405, subp. 3(B)]
	5.33.8		Fuel Restriction: Burn refinery gas and/or natural gas only in the unit. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.33.9		Recordkeeping: Record and maintain records of each fuel combusted in the unit on a monthly basis. [Minn. R. 7007.0800, subp. 2]
	5.33.10		Fuel Flowrate: annually calibrate, operate and maintain Continuous Monitoring Systems (CMS)s that record the fuel flow rate at each fuel combustion device. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.33.11		SO2 Emissions: The Permittee shall use the combination of the fuel flowrate CMS and the H2S CEMS to measure sulfur dioxide emissions from STRU 65 (SV 012). [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.33.12		SO2 Emissions Recordkeeping: The Permittee shall maintain records of the calculated SO2 emissions in pounds per hour (lb/hr). [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.33.13		<p>CEMS Continuous Operation: CEMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A CEMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment.</p> <p>Acceptable monitor downtime includes reasonable periods due to the following causes:</p> <ul style="list-style-type: none"> A. damage to the monitoring system due to a Force Majeure such as lightning strikes, tornadoes, or floods which render the monitor inoperative; B. sudden and not reasonably preventable breakdowns; C. scheduled monitor maintenance based upon equipment manufacturer's recommended maintenance schedule which cannot reasonably be conducted when the emission unit is not operating; or D. unavoidable monitor downtime in order to conduct daily drift checks, calibration error audits, relative accuracy test audits, linearity checks, and cylinder gas audits required by a compliance document, applicable requirement, or by request of the Commissioner. [Minn. R. 7017.1090, subp. 1, Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt.

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			52, subp. Y]
EQUI 12	EU015	Isom Desulf Charge Heater 5-34-B-1	
	5.34.1		Sulfur Dioxide <= 0.76 pounds per hour 3-hour rolling average (most stringent, meets the limits set by Minn. R. 7011.1410, subp. 3, item A). [CAAA of 1990, Minn. R. 7007.0800, subp. 2, Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.34.2		Sulfur Dioxide <= 0.030 pounds per million Btu heat input 3-hour rolling average (most stringent, meets the limits set by Minn. R. 7011.1410, subp. 3, item A). THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. [CAAA of 1990, Minn. R. 7007.0800, subp. 2, Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.34.3		Hydrogen Sulfide (H2S) <= 162 parts per million Fuel Restriction: The Permittee shall not burn refinery gas with a hydrogen sulfide content in excess of 162 ppm as an average for any consecutive 3-hour period. [40 CFR pt. 60, subp. J, Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.34.4		Hydrogen Sulfide (H2S) <= 230 milligrams per dscm 3-hour average (H2S limit): for fuel gas combusted in a device subject to this subpart (0.10 gr/dscf); flare emergency reliefs are exempt. [40 CFR 60.104(a)(1), Minn. R. 7011.1410, subp. 2]
	5.34.5		Total Particulate Matter <= 0.40 pounds per million Btu heat input 3-hour average. The PTE of this heater is 0.00745 lb/mmBtu heat input at maximum capacity. Compliance with the fuel restriction requirements constitutes compliance with this limit. [Minn. R. 7011.1410, subp. 3(B)(1)]
	5.34.6		Sulfur Dioxide <= 1.75 pounds per million Btu heat input 3-hour rolling average. Compliance with the fuel restriction and hydrogen sulfide requirements constitutes with this limit. [Minn. R. 7011.1410, subp. 3(A)]
	5.34.7		Opacity <= 20 percent opacity 6-minute average except for one six-minute period per hour of not more than 60 percent opacity. Compliance with the fuel restriction requirements constitutes compliance with this limit. [Minn. R. 7011.1410, subp. 3(B)(2)]
	5.34.8		Fuel Restriction: authorized to burn refinery gas and/or natural gas only. [CAAA of 1990, Minn. R. 7007.0800, subp. 2, Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.34.9		Recordkeeping: Record and maintain records of each fuel combusted in the unit on a monthly basis. [Minn. R. 7007.0800, subp. 2]

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
	5.34.10		Fuel Flowrate: calibrate, operate and maintain Continuous Monitoring Systems (CMS)s that record the fuel flow rate at each fuel combustion device. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.34.11		SO2 Emissions: The Permittee shall use the combination of the fuel flowrate CMS and the H2S CEMS to measure sulfur dioxide emissions for STRU 64 (SV 013). [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.34.12		SO2 Emissions Recordkeeping: The Permittee shall maintain records of the calculated SO2 emissions in pounds per hour (lb/hr). [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.34.13		<p>CEMS Continuous Operation: CEMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A CEMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment.</p> <p>Acceptable monitor downtime includes reasonable periods due to the following causes:</p> <ul style="list-style-type: none"> A. damage to the monitoring system due to a Force Majeure such as lightning strikes, tornadoes, or floods which render the monitor inoperative; B. sudden and not reasonably preventable breakdowns; C. scheduled monitor maintenance based upon equipment manufacturer's recommended maintenance schedule which cannot reasonably be conducted when the emission unit is not operating; or D. unavoidable monitor downtime in order to conduct daily drift checks, calibration error audits, relative accuracy test audits, linearity checks, and cylinder gas audits required by a compliance document, applicable requirement, or by request of the Commissioner. [Minn. R. 7017.1090, subp. 1, Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
EQUI 13	EU016	Hot Oil Heater 5-34-B-2	
	5.35.1		THIS CONDITION WILL BECOME EFFECTIVE ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. Sulfur Dioxide <= 2.62 pounds per hour 3-hour rolling average. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.35.2		THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. Sulfur Dioxide <= 76.50 pounds per hour 3-hour rolling average. [Title I

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.35.3		THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. Sulfur Dioxide <= 0.90 pounds per million Btu heat input 3-hour rolling average. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.35.4		Hydrogen Sulfide (H2S) <= 162 parts per million Fuel Restriction: The company shall not burn refinery gas with a hydrogen sulfide content in excess of 162 ppm as an average for any consecutive 3-hour period. [40 CFR pt. 60, subp. J, Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.35.5		Hydrogen Sulfide (H2S) <= 230 milligrams per dscm 3-hour rolling average (H2S limit): for fuel gas combusted in a device subject to this subpart (0.10 gr/dscf); flare emergency reliefs are exempt. [40 CFR 60.104(a)(1), Minn. R. 7011.1410, subp. 2, Minn. R. 7011.1435]
	5.35.6		Total Particulate Matter <= 0.40 pounds per million Btu heat input 3-hour average. [Minn. R. 7011.1410, subp. 3(B)]
	5.35.7		Sulfur Dioxide <= 1.75 pounds per million Btu heat input 3-hour rolling average. Compliance with the fuel restriction requirement constitutes compliance with this limit. [Minn. R. 7011.1410, subp. 3(A)]
	5.35.8		Opacity <= 20 percent opacity 6-minute average; except for one six-minute period per hour of not more than 60 percent opacity. Compliance with the fuel restriction requirements constitutes compliance with this limit. [Minn. R. 7011.1410, subp. 3(B)]
	5.35.9		THIS CONDITION WILL BECOME EFFECTIVE ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. Fuel Restriction: authorized to burn refinery gas and/or natural gas only. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.35.10		THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. Fuel Restriction: authorized to burn refinery gas, natural gas and/or refinery oil only. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.35.11		Recordkeeping: Record and maintain records of each fuel combusted in the unit on a monthly basis. [Minn. R. 7007.0800, subp. 2]
	5.35.12		THIS CONDITION WILL BECOME EFFECTIVE ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. Fuel Restrictions: authorized to burn refinery gas as long as the refinery gas complies with the lbs SO2/hr limit. The

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>company shall determine the sulfur dioxide emissions using the following calculation: $W > 1.88*(a)$</p> <p>where; W = the emission limit (0.9 lbs SO2/MMBtu) 1.88 = MW(SO2)/MW(H2S) = 64.06/34.08 a = fraction of H2S in refinery gas (lbs/Btu) = $(0.0898)*(ppmv)/(HHV-rg)$</p> <p>where; $0.0898 = [(1\text{lb-mole H2S})*(34.08 \text{ lb H2S/lb-mole H2S})*(1 \text{ atm})] / [(10^6 \text{ lb-mole rg})*(520 \text{ R})*(0.7302 \text{ ft}^3\text{-atm/lb-mole R})]$ ppmv = parts per million by volume of H2S in refinery gas HHV-rg = high heating value for refinery gas (Btu/ft³ @ 60 degrees F). [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]</p>
	5.35.13		<p>THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP.</p> <p>Fuel Restrictions: authorized to burn refinery gas and refinery oil as long as the combination (1) has a sulfur content and heating value less than or equal to that corresponding to SO2 emissions of 0.90 lb/MMBtu and (2) complies with the lbs SO2/hr limit. The company shall determine the sulfur dioxide emissions using the following calculation: $W > [1.88*(a)*(x) + 2.00*(b)*(y)] / [x+y]$</p> <p>where; W = the emission limit (0.90 lbs SO2/MMBtu) 1.88 = MW(SO2)/MW(H2S) = 64.06/34.08 a = fraction of H2S in refinery gas (lbs/Btu) = $(0.0898)*(ppmv)/(HHV-rg)$</p> <p>where; $0.0898 = [(1\text{lb-mole H2S})*(34.08 \text{ lb H2S/lb-mole H2S})*(1 \text{ atm})] / [(10^6 \text{ lb-mole rg})*(520 \text{ R})*(0.7302 \text{ ft}^3\text{-atm/lb-mole R})]$ ppmv = parts per million by volume of H2S in refinery gas HHV-rg = high heating value for refinery gas (Btu/ft³ @ 60 degrees F) x = flow rate of refinery gas (MMBtu) = $(Q)*(HHV-rg)*(60)$</p> <p>where; Q = volumetric flow rate of refinery gas (ft³/min @ 60 degrees F) HHV-rg = high heating value for refinery gas (Btu/ft³ @ 60 degrees F) 60 = minutes/hour</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>2.00 = MW (SO₂)/MW(S) = 64.06/32.06 b = fraction of S in refinery oil (bs/Btu) = (ppmv)*(density)/HHV-ro)</p> <p>where; ppmw = parts per million by weight of S in refinery oil (lb/lb) density = density of refinery oil (Btu/gal @ 60 degrees F) HHV-ro = high heating value for refinery oil (Btu/gal @ 60 degrees F) y = flow rate of refinery oil (MMBtuh) = (q)*(HHV-ro)*(60)</p> <p>where; q = volumetric flow rate of refinery oil (gal/min @ 60 degrees F) HHV-ro = high heating value for refinery oil (Btu/gal @ 60 degrees F) 60 = 60 minutes/hour. [Title I Condition: 40 CFR 50.4(SO₂ SIP), Title I Condition: 40 CFR pt. 52, subp. Y]</p>
	5.35.14		<p>THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP.</p> <p>Recordkeeping of fuel: The Permittee shall record the time period when burning fuel oil. [Title I Condition: 40 CFR 50.4(SO₂ SIP), Title I Condition: 40 CFR pt. 52, subp. Y]</p>
	5.35.15		<p>Fuel Flowrate: calibrate, operate and maintain Continuous Monitoring Systems (CMS)s that record the fuel flow rate at each fuel combustion device. [Title I Condition: 40 CFR 50.4(SO₂ SIP), Title I Condition: 40 CFR pt. 52, subp. Y]</p>
	5.35.16		<p>SO₂ Emissions: The Permittee shall use the combination of the fuel flowrate CMS and the H₂S CEMS to measure sulfur dioxide emissions from STRU 64 (SV 013). [Title I Condition: 40 CFR 50.4(SO₂ SIP), Title I Condition: 40 CFR pt. 52, subp. Y]</p>
	5.35.17		<p>SO₂ Emissions Recordkeeping: The Permittee shall maintain records of the calculated SO₂ emissions in pounds per hour (lb/hr). [Title I Condition: 40 CFR 50.4(SO₂ SIP), Title I Condition: 40 CFR pt. 52, subp. Y]</p>
	5.35.18		<p>CEMS Continuous Operation: CEMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A CEMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment.</p> <p>Acceptable monitor downtime includes reasonable periods due to the following causes: A. damage to the monitoring system due to a Force Majeure</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>such as lightning strikes, tornadoes, or floods which render the monitor inoperative;</p> <p>B. sudden and not reasonably preventable breakdowns;</p> <p>C. scheduled monitor maintenance based upon equipment manufacturer's recommended maintenance schedule which cannot reasonably be conducted when the emission unit is not operating; or</p> <p>D. unavoidable monitor downtime in order to conduct daily drift checks, calibration error audits, relative accuracy test audits, linearity checks, and cylinder gas audits required by a compliance document, applicable requirement, or by request of the Commissioner. [Minn. R. 7017.1090, subp. 1, Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]</p>
	5.35.19		<p>THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP.</p> <p>Visible Emissions: The Permittee shall check STRU 64 (SV 013) for visible emissions during daylight hours, on a daily basis, while burning refinery oil. [Minn. R. 7007.0800, subp. 4]</p>
	5.35.20		<p>THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP.</p> <p>Recordkeeping of Visible Emissions(VE): The owner or operator shall keep records on the time and date of VE inspection, and whether or not any VEs were observed, and if corrective action was needed. [Minn. R. 7007.0800, subp. 5]</p>
	5.35.21		<p>THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP.</p> <p>Recordkeeping of corrective actions: If visible emissions are observed over 10% opacity instantaneously then take corrective actions to reduce emissions; if visible emissions continue over 10% opacity, the owner or operator shall perform Method 9 with a certified observer. The owner or operator shall keep a record of the corrective actions taken. If visible emissions exceed the permitted limit, report as a deviation in the owner or operator's semiannual report. [Minn. R. 7007.0800, subp. 5]</p>
EQUI 14	EU017	HDH Charge heater 5-32-B-1	
	5.36.1		<p>Sulfur Dioxide <= 2.97 pounds per hour 3-hour rolling average. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]</p>
	5.36.2		<p>THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. Sulfur Dioxide <= 0.025 pounds per million Btu heat input. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
	5.36.3		<p>Nitrogen Oxides <= 0.050 pounds per million Btu heat input 365-day rolling average (August 31, 2005 First Revised Consent Decree US District Court Eastern District of Michigan).</p> <p>The 365-day rolling average is calculated by averaging the daily averages for the previous 365 calendar days including non-operating days. Daily NOx emissions are determined using hourly average NOx emissions. Hourly average NOx emissions are determined according to 40 CFR Section 60.13(h)(2) and 40 CFR pt. 60 Appendix A Method 19 Section 12.2.1 Equation 19-1 as shown below:</p> $\text{lb NOx/mmBtu} = \text{Cd} * 1.194\text{E-}07 * \text{Fd} * (20.9/[20.9\text{-}02])$ <p>where: Cd = dry concentration of NOx (lb/scf) Fd = dry F-factor (scf/mmBtu). [CAAA of 1990, Minn. R. 7007.0100, subps. 7(A) & 7(B), Minn. R. 7007.0800, subp. 2, Minn. R. 7007.0800, subps. 1-2, Minn. Stat. 116.subd. 4a, Minn. Stat. 116.subd. 9, Title I Condition: 40 CFR 50]</p>
	5.36.4		<p>Hydrogen Sulfide (H2S) <= 162 parts per million Fuel Restriction: The company shall not burn refinery gas with a hydrogen sulfide content in excess of 162 ppm as an average for any consecutive 3-hour period. [40 CFR pt. 60, subp. J, Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]</p>
	5.36.5		<p>Hydrogen Sulfide (H2S) <= 230 milligrams per dscm 3-hour rolling average (H2S limit): for fuel gas combusted in a device subject to this subpart (0.10 gr/dscf); flare emergency reliefs are exempt.</p> <p>In place of the SO2 monitor in paragraph (a)(3) of 40 CFR Section 60.105, an instrument for continuously monitoring and recording the concentration (dry basis) of H2S in fuel gases before being burned in any fuel gas combustion device. [40 CFR 60.104(a)(1), 40 CFR 60.105(a)(4), Minn. R. 7011.1410, subp. 2, Minn. R. 7011.1435]</p>
	5.36.6		<p>For the purpose of reports under 40 CFR Section 60.7(c), periods of excess emissions that shall be determined and reported are defined as follows:</p> <p>Note: All averages, except for opacity, shall be determined as the arithmetic average of the applicable 1-hour averages, e.g., the rolling 3-hour average shall be determined as the arithmetic average of three contiguous 1-hour averages.</p> <p>All rolling 3-hour periods during which the average concentration of H2S as measured by the H2S continuous monitoring system under 40 CFR Section 60.105(a)(4) exceeds 230 mg/dscm (0.10 gr/dscf). [40 CFR 60.105(e)(3)(ii), Minn. R. 7011.1435]</p>
	5.36.7		<p>Total Particulate Matter <= 0.40 pounds per million Btu heat</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			input 3-hour rolling average. [Minn. R. 7011.1410, subp. 3(B)]
	5.36.8		Sulfur Dioxide <= 1.75 pounds per million Btu heat input 3-hour rolling average. Compliance with the fuel restriction requirement constitutes compliance with this limit. [Minn. R. 7011.1410, subp. 3(A)]
	5.36.9		Opacity <= 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity. Compliance with the fuel restriction requirements constitutes compliance with this limit. [Minn. R. 7011.1410, subp. 3(B)]
	5.36.10		Fuel Restriction: authorized to burn only refinery gas and/or natural gas. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.36.11		Recordkeeping: Record and maintain records of each fuel combusted in the unit on a monthly basis. [Minn. R. 7007.0800, subp. 5]
	5.36.12		Heat Input <= 116.0 million Btu per hour 365-day rolling average on a High Heating Value (HHV) basis. [CAAA of 1990, Minn. R. 7007.0100, subps. 7(A) & 7(B), Minn. R. 7007.0800, subp. 2, Minn. R. 7007.0800, subps. 1-2, Minn. Stat. 116.subd. 4a, Minn. Stat. 116.subd. 9, Title I Condition: 40 CFR 52]
	5.36.13		Recordkeeping of Heat Input: The Permittee shall calculate and record the 365-day average in MMBtu using all of the 1-hour averages obtained during the previous 365-day period. [Minn. R. 7007.0800, subp. 5]
	5.36.14		Fuel Flowrate: calibrate, operate and maintain Continuous Monitoring Systems (CMS)s that record the fuel flow rate at each fuel combustion device. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.36.15		SO2 Emissions: The Permittee shall use the combination of the fuel flowrate CMS and the H2S CEMS to measure sulfur dioxide emissions from STRU 63 (SV 014). [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.36.16		SO2 Emissions Recordkeeping: The Permittee shall maintain records of the calculated SO2 emissions in pounds per hour (lb/hr). [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.36.17		<p>CEMS Continuous Operation: CEMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A CEMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment.</p> <p>Acceptable monitor downtime includes reasonable periods due to the following causes:</p> <p>A. damage to the monitoring system due to a Force Majeure</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			such as lightning strikes, tornadoes, or floods which render the monitor inoperative; B. sudden and not reasonably preventable breakdowns; C. scheduled monitor maintenance based upon equipment manufacturer's recommended maintenance schedule which cannot reasonably be conducted when the emission unit is not operating; or D. unavoidable monitor downtime in order to conduct daily drift checks, calibration error audits, relative accuracy test audits, linearity checks, and cylinder gas audits required by a compliance document, applicable requirement, or by request of the Commissioner. [Minn. R. 7017.1090, subp. 1, Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.36.18		NOx Emissions Monitoring: The Permittee shall calibrate, operate and maintain a Continuous Emissions Monitoring System (CEMS) which measures NOx emissions. NOx emissions shall be recorded in units of pounds of NOx per million Btu of heat input. NOx shall be monitored upon startup of the modified unit. [CAAA of 1990, Minn. R. 7007.0100, subps. 7(A) & 7(B), Minn. R. 7007.0800, subp. 2, Minn. R. 7007.0800, subps. 1-2, Minn. R. 7017.1006, Minn. Stat. 116.subd. 4a, Minn. Stat. 116.subd. 9, Title I Condition: 40 CFR 52]
	5.36.19		CEMS Daily Calibration Drift (CD) Test: The CD shall be quantified and recorded at zero (low-level) and upscale (high-level) gas concentrations at least once daily. The CEMS shall be adjusted whenever the CD exceeds twice the specification of 40 CFR pt. 60, Appendix B. 40 CFR pt. 60, Appendix F, shall be used to determine out-of-control periods for CEMS. Follow the procedures in 40 CFR pt. 60, Appendix F. [CAAA of 1990, Minn. R. 7007.0100, subps. 7(A) & 7(B), Minn. R. 7007.0800, subp. 2, Minn. R. 7007.0800, subps. 1-2, Minn. R. 7007.1170, subp. 3, Minn. Stat. 116.subd. 4a, Minn. Stat. 116.subd. 9, Title I Condition: 40 CFR 52]
	5.36.20		CEMS Cylinder Gas Audit (CGA): due before end of each calendar quarter following CEM Certification Test. [CAAA of 1990, Minn. R. 7007.0100, subps. 7(A) & 7(B), Minn. R. 7007.0800, subp. 2, Minn. R. 7007.0800, subps. 1-2, Minn. R. 7017.1170, subp. 4, Minn. Stat. 116.subd. 4a, Minn. Stat. 116.subd. 9, Title I Condition: 40 CFR 52]
	5.36.21		CEMS Relative Accuracy Test Audit (RATA): due before end of each year following CEM Certification Test. If the relative accuracy is 15% or less the next CEMS RATA is not due for 24 months. Follow the procedures in 40 CFR pt. 60, Appendix B and Appendix F. [CAAA of 1990, Minn. R. 7007.0100, subps. 7(A) & 7(B), Minn. R. 7007.0800, subp. 2, Minn. R. 7007.0800, subps. 1-2, Minn. R. 7017.1170, subp. 5, Minn. Stat. 116.subd. 4a, Minn. Stat. 116.subd. 9, Title I Condition: 40 CFR 52]

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
EQUI 15	EU018	SGP Dehexanizer Reboiler 5-10-B-1	
	5.37.1		THIS CONDITION WILL BECOME EFFECTIVE ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. Sulfur Dioxide <= 1.60 pounds per hour 3-hour rolling average. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.37.2		THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. Sulfur Dioxide <= 36.0 pounds per hour 3-hour rolling average. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.37.3		THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. Sulfur Dioxide <= 0.90 pounds per million Btu heat input 3-hour rolling average. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.37.4		Hydrogen Sulfide (H2S) <= 162 parts per million Fuel Restriction: The company shall not burn refinery gas with a hydrogen sulfide content in excess of 162 ppm as an average for any consecutive 3-hour period. [40 CFR pt. 60, subp. Ja, Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.37.5		Hydrogen Sulfide (H2S) <= 230 milligrams per dscm 3-hour rolling average (H2S limit): for fuel gas combusted in a device subject to this subpart (0.10 gr/dscf); flare emergency reliefs are exempt. [40 CFR 60.104(a)(1), Minn. R. 7011.1410, subp. 2, Minn. R. 7011.1435]
	5.37.6		Total Particulate Matter <= 0.40 pounds per million Btu heat input 3-hour rolling average. [Minn. R. 7011.1410, subp. 3(B)]
	5.37.7		Sulfur Dioxide <= 1.75 pounds per million Btu heat input 3-hour rolling average. Compliance with the fuel restriction requirement constitutes compliance with this limit. [Minn. R. 7011.1410, subp. 3(A)]
	5.37.8		Opacity <= 20 percent opacity 6-minute average; except for one six-minute period per hour of not more than 60 percent opacity. Compliance with the fuel restriction requirements constitutes compliance with this limit. [Minn. R. 7011.1410, subp. 3(B)]
	5.37.9		THIS CONDITION WILL BECOME EFFECTIVE ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. Fuel Restriction: authorized to burn refinery gas and/or natural gas only. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.37.10		THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. Fuel Restriction: authorized to burn refinery gas, natural gas and/or refinery oil only. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
	5.37.11		Recordkeeping: Record and maintain records of each fuel combusted in the unit on a monthly basis. [Minn. R. 7007.0800, subp. 2]
	5.37.12		<p>THIS CONDITION WILL BECOME EFFECTIVE ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP.</p> <p>Fuel Restrictions: authorized to burn refinery gas as long as the refinery gas complies with the lbs SO₂/hr limit. The company shall determine the sulfur dioxide emissions using the following calculation: $W > 1.88 * (a)$</p> <p>where; W = the emission limit (0.9 lbs SO₂/MMBtu) 1.88 = MW(SO₂)/MW(H₂S) = 64.06/34.08 a = fraction of H₂S in refinery gas (lbs/Btu) = (0.0898)*(ppmv)/(HHV-rg)</p> <p>where; $0.0898 = [(1\text{lb-mole H}_2\text{S}) * (34.08 \text{ lb H}_2\text{S/lb-mole H}_2\text{S}) * (1 \text{ atm})] / [(10^6 \text{ lb-mole rg}) * (520 \text{ R}) * (0.7302 \text{ ft}^3\text{-atm/lb-mole R})]$ ppmv = parts per million by volume of H₂S in refinery gas HHV-rg = high heating value for refinery gas (Btu/ft³ @ 60 degrees F). [Title I Condition: 40 CFR 50.4(SO₂ SIP), Title I Condition: 40 CFR pt. 52, subp. Y]</p>
	5.37.13		<p>THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP.</p> <p>Fuel Restrictions: authorized to burn refinery gas and refinery oil as long as the combination (1) has a sulfur content and heating value less than or equal to that corresponding to SO₂ emissions of 0.90 lb/MMBtu and (2) complies with the lbs SO₂/hr limit. The company shall determine the sulfur dioxide emissions using the following calculation: $W > [1.88 * (a) * (x) + 2.00 * (b) * (y)] / [x+y]$</p> <p>where; W = the emission limit (0.90 lbs SO₂/MMBtu) 1.88 = MW(SO₂)/MW(H₂S) = 64.06/34.08 a = fraction of H₂S in refinery gas (lbs/Btu) = (0.0898)*(ppmv)/(HHV-rg)</p> <p>where; $0.0898 = [(1\text{lb-mole H}_2\text{S}) * (34.08 \text{ lb H}_2\text{S/lb-mole H}_2\text{S}) * (1 \text{ atm})] / [(10^6 \text{ lb-mole rg}) * (520 \text{ R}) * (0.7302 \text{ ft}^3\text{-atm/lb-mole R})]$ ppmv = parts per million by volume of H₂S in refinery gas HHV-rg = high heating value for refinery gas (Btu/ft³ @ 60 degrees F)</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>$x = \text{flow rate of refinery gas (MMBtu)} = (Q) * (\text{HHV-rg}) * (60)$</p> <p>where;</p> <p>Q = volumetric flow rate of refinery gas (ft³/min @ 60 degrees F)</p> <p>HHV-rg = high heating value for refinery gas (Btu/ft³ @ 60 degrees F)</p> <p>60 = minutes/hour</p> <p>2.00 = MW (SO₂)/MW(S) = 64.06/32.06</p> <p>b = fraction of S in refinery oil (bs/Btu) = (ppmv)*(density)/HHV-ro). [Title I Condition: 40 CFR 50.4(SO₂ SIP), Title I Condition: 40 CFR pt. 52, subp. Y]</p>
	5.37.14		<p>THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP.</p> <p>Recordkeeping of fuel: The Permittee shall record the time period when burning fuel oil. [Title I Condition: 40 CFR 50.4(SO₂ SIP), Title I Condition: 40 CFR pt. 52, subp. Y]</p>
	5.37.15		<p>Fuel Flowrate: calibrate, operate and maintain Continuous Monitoring Systems (CMS)s that record the fuel flow rate at each fuel combustion device. [Title I Condition: 40 CFR 50.4(SO₂ SIP), Title I Condition: 40 CFR pt. 52, subp. Y]</p>
	5.37.16		<p>SO₂ Emissions: The Permittee shall use the combination of the fuel flowrate CMS and the H₂S CEMS to measure sulfur dioxide emissions from STRU 9 (SV 015). [Title I Condition: 40 CFR 50.4(SO₂ SIP), Title I Condition: 40 CFR pt. 52, subp. Y]</p>
	5.37.17		<p>SO₂ Emissions Recordkeeping: The Permittee shall maintain records of the calculated SO₂ emissions in pounds per hour (lb/hr). [Title I Condition: 40 CFR 50.4(SO₂ SIP), Title I Condition: 40 CFR pt. 52, subp. Y]</p>
	5.37.18		<p>CEMS Continuous Operation: CEMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A CEMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment.</p> <p>Acceptable monitor downtime includes reasonable periods due to the following causes:</p> <ul style="list-style-type: none"> A. damage to the monitoring system due to Force Majeure such as lightning strikes, tornadoes, or floods which render the monitor inoperative; B. sudden and not reasonably preventable breakdowns; C. scheduled monitor maintenance based upon equipment manufacturer's recommended maintenance schedule which cannot reasonably be conducted when the emission unit is not

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			operating; or D. unavoidable monitor downtime in order to conduct daily drift checks, calibration error audits, relative accuracy test audits, linearity checks, and cylinder gas audits required by a compliance document, applicable requirement, or by request of the Commissioner. [Minn. R. 7017.1090, subp. 1, Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.37.19		THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. Visible Emissions: The Permittee shall check STRU 9 (SV 015) for visible emissions during daylight hours, on a daily basis, while burning refinery oil. [Minn. R. 7007.0800, subp. 4]
	5.37.20		THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. Recordkeeping of Visible Emissions(VE): The owner or operator shall keep records on the time and date of VE inspection, and whether or not any VEs were observed, and if corrective action was needed. [Minn. R. 7007.0800, subp. 5]
	5.37.21		THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. Recordkeeping of corrective actions: If visible emissions are observed over 10% opacity instantaneously then take corrective actions to reduce emissions; if visible emissions continue over 10% opacity, the owner or operator shall perform Method 9 with a certified observer. The owner or operator shall keep a record of the corrective actions taken. If visible emissions exceed the permitted limit, report as a deviation in the owner or operator's semiannual report. [Minn. R. 7007.0800, subp. 5]
EQUI 16	EU019	Sulfur Recovery Unit (SRU 2)	
	5.38.1		Sulfur Dioxide <= 15.0 pounds per hour 3-hour rolling average. The company shall use the CEMS monitor the sulfur dioxide emissions in order to calculate pounds of sulfur dioxide per hour (lb/hr). [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.38.2		Sulfur Dioxide <= 45.0 pounds per hour. The company shall use the CEMS to monitor the sulfur dioxide emissions in order to calculate the pounds of sulfur dioxide per hour (lb/hr). [Minn. R. 7009.0020]
	5.38.3		Sulfur Dioxide <= 250 parts per million 12-hour average (dry basis, zero percent excess air) for an oxidation system followed by incineration. The company shall use the CEMS to monitor the SO2 emissions in order to calculate parts per million.

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			Limit does not apply during periods of startup, shutdown, or malfunction. [40 CFR 60.104(a)(2)(i), 40 CFR 60.105, 40 CFR 60.8, 40 CFR 63.1568(a)(1), 40 CFR 63.1568(c)(1), Minn. R. 7011.1435(A), Minn. R. 7011.7280]
	5.38.4		Hydrogen Sulfide (H ₂ S) ≤ 162 parts per million 3-hour average Fuel Restriction. The company shall not burn refinery gas with a hydrogen sulfide content in excess of 162 ppm as an average for any consecutive 3-hour period. [Minn. R. 7011.1410, subp. 2, Title I Condition: 40 CFR 50.4(SO ₂ SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.38.5		Opacity ≤ 20 percent opacity. [Minn. R. 7011.0715, subp. 1(B)]
	5.38.6		SO ₂ Emissions Calculation and Recordkeeping: The company shall maintain records and use the following equation to calculate SO ₂ emissions: $M(\text{SO}_2) = (3.545 \times 10^{-6} \times [1.098 \times A + 9.989 \times C] \times X) / (21 - E)$ where M(SO ₂) = mass flow of SO ₂ from the stack (lbs/hr) A = volumetric flow rate of SCOT tail gas (scf/hr) C = volumetric flow rate of fuel gas to the SCOT incinerator (scf/hr) E = excess oxygen in the stack gas (percent) X = concentration of SO ₂ in the stack gas (ppm, wet basis). [Minn. R. 7009.0800, Title I Condition: 40 CFR 50.4(SO ₂ SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.38.7		Compliance requirement: The Permittee must comply with the emission limitations set forth in 40 CFR Section 60.104 on and after the date on which the initial performance test is completed. [40 CFR 60.104, Minn. R. 7011.1435]
	5.38.8		Operation requirement: At all times, including periods of startup, shutdown, and malfunction, owners shall maintain and operate any affected facility in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. [40 CFR 60.11(d), Minn. R. 7017.2015]
	5.38.9		SRU 2 (EQUI 16) and SRU 3 (EQUI 33) shall not be bypassed at the same time except in the case of an emergency where the plant and personnel safety are at risk. If this occurs, the Permittee shall follow Minn. R. 7019.1000. [Title I Condition: 40 CFR 50.4(SO ₂ SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.38.10		The Permittee shall manage all Sulfur Recovery Plant sulfur pit emissions so that the sulfur pit emissions to the atmosphere are controlled or included and monitored as part of the applicable sulfur recover plant tail gas emission except during periods of startup, shutdown, malfunction, or process upset.

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			(NSPS, 40 CFR pt. 60, subp. J 40 CFR Section 60.104(a)(2)). [40 CFR 60.104(a)(2), CAAA of 1990, Minn. R. 7007.0100, subps. 7(A) & 7(B), Minn. R. 7007.0800, subp. 2, Minn. R. 7007.0800, subps. 1-2, Minn. R. 7011.1435, Minn. Stat. 116.subd. 4a, Minn. Stat. 116.subd. 9, Title I Condition: 40 CFR pt. 52]
	5.38.11		SO2 Emission Monitoring: The Permittee shall calibrate, operate and maintain Continuous Emissions Monitoring Systems (CEMS) which measures SO2 emissions and an oxygen CEMS to correct the data for excess air. [40 CFR 60.105(a)(5), 40 CFR 60.15(a), 40 CFR 63.1568(b)(1), Minn. R. 7011.1435, Minn. R. 7011.7280, Minn. R. 7017.1006, Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.38.12		Excess emissions definition: periods of excess emissions are to be defined as all 12 hour periods during which the average concentration of SO2 as measured by the SO2 CEMS exceeds 250 ppm (dry basis, 0% excess air). [40 CFR 60.105(e)(4)]
	5.38.13		CEMS Daily Calibration Drift (CD) Test: The CD shall be quantified and recorded at zero (low-level) and upscale (high-level) gas concentrations at least once daily. The CEMS shall be adjusted whenever the CD exceeds twice the specification of 40 CFR pt. 60, Appendix B. 40 CFR pt. 60, Appendix F, shall be used to determine out-of control periods for CEMS. Follow the procedures in 40 CFR pt. 60, Appendix F. [40 CFR 60.13(d)(1), Minn. R. 7017.1170, Minn. R. 7017.1170, subp. 3]
	5.38.14		<p>CEMS Continuous Operation: CEMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A CEMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment.</p> <p>Acceptable monitor downtime includes reasonable periods due to the following causes:</p> <ul style="list-style-type: none"> A. damage to the monitoring system due to a Force Majeure such as lightning strikes, tornadoes, or floods which render the monitor inoperative; B. sudden and not reasonably preventable breakdowns; C. scheduled monitor maintenance based upon equipment manufacturer's recommended maintenance schedule which cannot reasonably be conducted when the emission unit is not operating; or D. unavoidable monitor downtime in order to conduct daily drift checks, calibration error audits, relative accuracy test audits, linearity checks, and cylinder gas audits required by a compliance document, applicable requirement, or by request of the Commissioner. [Minn. R. 7017.1090, subp. 1, Title I

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.38.15		QA Plan: Develop and implement a written quality assurance plan that covers each CEMS. The plan shall be on site and available for inspection within 30 days after monitor certification. The plan shall contain all of the information required by 40 CFR pt. 60, Appendix F, Section 3. The plan shall include the manufacturer's spare parts list for each CEMS and require that those parts be kept at the facility unless the Commissioner gives written approval to exclude specific spare parts from the list. The Commissioner may approve requested exclusions if the Commissioner determines that is is not reasonable to keep a specific part on site after consideration of the consequences of a malfunction of the part, the likelihood of a malfunction, the time required to obtain the part, and other pertinent factors. [40 CFR pt. 60, Appendix F, Sec. 3, Minn. R. 7017.1170, subp. 2]
	5.38.16		Recordkeeping: The owner or operator must retain records of all CEMS monitoring data and support information for a period of five years from the date of the monitoring sample, measurement or report. Records shall be kept at the source. [40 CFR 60.7(f), Minn. R. 7017.1130, Minn. R. 7019.0100]
	5.38.17		All excess emissions shall be converted into units of the standard using the applicable conversion procedures specified in 40 CFR pt. 60, subp. J. After conversion into units of the standard, the data may be rounded to the same number of significant digits as used in the applicable subparts to specify the emission limit (e.g., rounded to the nearest 1 percent opacity). [40 CFR 60.13(h), Minn. R. 7017.1010]
	5.38.18		Oxygen monitor for correcting the data for excess air: The span values for this monitor are 500 ppm SO2 and 10 percent O2. [40 CFR 60.105(a)(5), Minn. R. 7011.1435]
	5.38.19		QA Plan: Develop and implement a written quality assurance plan that covers the O2 monitor. The plan shall be on site and available for inspection within 30 days after monitor certification. The plan shall contain all of the information required by 40 CFR pt. 60, Appendix F, Section 3. The plan shall include the manufacturer's spare parts list for each CEMS and require that those parts be kept at the facility unless the Commissioner gives written approval to exclude specific spare parts from the list. The Commissioner may approve requested exclusions if the Commissioner determines that is not reasonable to keep a specific part on site after consideration of the consequences of a malfunction of the part, the likelihood of a malfunction, the time required to obtain the part, and other pertinent factors. [Minn. R. 7007.0800, subp. 4]
	5.38.20		O2 QA/QC: The Permittee of an affected facility is subject to the performance specifications listed in 40 CFR pt. 60, Appendix B and shall operate, calibrate, and maintain O2

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			monitor according to the QA/QC procedures in 40 CFR pt. 60, Appendix F as amended and maintain a written QA/QC program available in a form suitable for inspection. [Minn. R. 7007.0800, subp. 4]
EQUI 17	EU022	Guard Case Reactor Heater 5-36-B-1	
	5.39.1		Sulfur Dioxide <= 1.70 pounds per hour 3-hour rolling average. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.39.2		THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. Sulfur Dioxide <= 0.030 pounds per million Btu heat input 3-hour rolling average. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.39.3		Hydrogen Sulfide (H2S) <= 162 parts per million 3-hour average Fuel Restriction: The company shall not burn refinery gas with a hydrogen sulfide content in excess of 162 ppm as an average for any consecutive 3-hour period. [40 CFR pt. 60, subp. Ja, Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.39.4		Hydrogen Sulfide (H2S) <= 230 milligrams per dscm 3-hour rolling average (H2S limit): for fuel gas combusted in a device subject to this subpart (0.10 gr/dscf); flare emergency reliefs are exempt. [40 CFR 60.104(a)(1), Minn. R. 7011.1410, subp. 2, Minn. R. 7011.1435]
	5.39.5		Total Particulate Matter <= 0.40 pounds per million Btu heat input 3-hour rolling average. Compliance with the fuel restriction requirement constitutes compliance with this limit. [Minn. R. 7011.1410, subp. 3(B)]
	5.39.6		Sulfur Dioxide <= 1.75 pounds per million Btu heat input 3-hour rolling average. Compliance with the fuel restriction requirement constitutes compliance with this limit. [Minn. R. 7011.1410, subp. 3(A)]
	5.39.7		Opacity <= 20 percent opacity 6-minute average; except for one six-minute period per hour of not more than 60 percent opacity. [Minn. R. 7011.1410, subp. 3(B)]
	5.39.8		Recordkeeping: Record and maintain records of each fuel combusted in the unit on a monthly basis. [Minn. R. 7007.0800, subp. 2]
	5.39.9		Fuel Restriction: Burn refinery gas and/or natural gas only in the unit only. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.39.10		Fuel Flowrate: calibrate, operate and maintain Continuous Monitoring Systems (CMS)s that record the fuel flow rate at each fuel combustion device. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.39.11		SO2 Emissions: The Permittee shall use the combination of the

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			fuel flowrate CMS and the H2S CEMS to measure sulfur dioxide emissions from STRU 62 (SV 017). [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.39.12		SO2 Emissions Recordkeeping: The Permittee shall maintain records of the calculated SO2 emissions in pounds per hour (lb/hr). [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.39.13		<p>CEMS Continuous Operation: CEMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A CEMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment.</p> <p>Acceptable monitor downtime includes reasonable periods due to the following causes:</p> <ul style="list-style-type: none"> A. damage to the monitoring system due to a Force Majeure such as lightning strikes, tornadoes, or floods which render the monitor inoperative; B. sudden and not reasonably preventable breakdowns; C. scheduled monitor maintenance based upon equipment manufacturer's recommended maintenance schedule which cannot reasonably be conducted when the emission unit is not operating; or D. unavoidable monitor downtime in order to conduct daily drift checks, calibration error audits, relative accuracy test audits, linearity checks, and cylinder gas audits required by a compliance document, applicable requirement, or by request of the Commissioner. [Minn. R. 7017.1090, subp. 1, Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
EQUI 18	EU023	Reformer Charge & No. 1 Interheaters 5-36-B-2,3,4	
	5.40.1		Sulfur Dioxide <= 2.10 pounds per hour 3-hour rolling average. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.40.2		THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. Sulfur Dioxide <= 0.030 pounds per million Btu heat input 3-hour rolling average. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.40.3		Hydrogen Sulfide (H2S) <= 162 parts per million 3-hour average Fuel Restriction: The company shall not burn refinery gas with

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			a hydrogen sulfide content in excess of 162 ppm as an average for any consecutive 3-hour period. [40 CFR pt. 60, subp. Ja, Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.40.4		Hydrogen Sulfide (H2S) <= 230 milligrams per dscm 3-hour rolling average (H2S limit): for fuel gas combusted in a device subject to this subpart (0.10 gr/dscf); flare emergency reliefs are exempt. [40 CFR 60.104(a)(1), Minn. R. 7011.1410, subp. 2, Minn. R. 7011.1435]
	5.40.5		Total Particulate Matter <= 0.40 pounds per million Btu heat input 3-hour rolling average. Compliance with the fuel restriction requirement constitutes compliance with this limit. [Minn. R. 7011.1410, subp. 3(B)]
	5.40.6		Sulfur Dioxide <= 1.75 pounds per million Btu heat input 3-hour rolling average. Compliance with the fuel restriction requirement constitutes compliance with this limit. [Minn. R. 7011.1410, subp. 3(A)]
	5.40.7		Opacity <= 20 percent opacity 6-minute average; except for one six-minute period per hour of not more than 60 percent opacity. [Minn. R. 7011.1410, subp. 3(B)]
	5.40.8		Fuel Restriction: Burn refinery gas and/or natural gas only in the unit only. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.40.9		Recordkeeping: Record and maintain records of each fuel combusted in the unit on a monthly basis. [Minn. R. 7007.0800, subp. 2]
	5.40.10		Fuel Flowrate: calibrate, operate and maintain Continuous Monitoring Systems (CMS)s that record the fuel flow rate at each fuel combustion device. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.40.11		SO2 Emissions: The Permittee shall use the combination of the fuel flowrate CMS and the H2S CEMS to measure sulfur dioxide emissions form STRU 12 (SV 018). [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.40.12		SO2 Emissions Recordkeeping: The Permittee shall maintain records of the calculated SO2 emissions in pounds per hour (lb/hr). [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.40.13		CEMS Continuous Operation: CEMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A CEMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment. Acceptable monitor downtime includes reasonable periods

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			due to the following causes: A. damage to the monitoring system due to a Force Majeure such as lightning strikes, tornadoes, or floods which render the monitor inoperative; B. sudden and not reasonably preventable breakdowns; C. scheduled monitor maintenance based upon equipment manufacturer's recommended maintenance schedule which cannot reasonably be conducted when the emission unit is not operating; or D. unavoidable monitor downtime in order to conduct daily drift checks, calibration error audits, relative accuracy test audits, linearity checks, and cylinder gas audits required by a compliance document, applicable requirement, or by request of the Commissioner. [Minn. R. 7017.1090, subp. 1, Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
EQUI 19	EU024	No. 3 Interheater 5-36-B-6E	
	5.41.1		Sulfur Dioxide <= 0.63 pounds per hour 3-hour rolling average. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.41.2		THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. Sulfur Dioxide <= 0.030 pounds per million Btu heat input 3-hour rolling average. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.41.3		Hydrogen Sulfide (H2S) <= 162 parts per million 3-hour average Fuel Restriction: The company shall not burn refinery gas with a hydrogen sulfide content in excess of 162 ppm as an average for any consecutive 3-hour period. [40 CFR pt. 60, subp. Ja, Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.41.4		Hydrogen Sulfide (H2S) <= 230 milligrams per dscm 3-hour rolling average (H2S limit): for fuel gas combusted in a device subject to this subpart (0.10 gr/dscf); flare emergency reliefs are exempt. [40 CFR 60.104(a)(1), Minn. R. 7011.1410, subp. 2, Minn. R. 7011.1435]
	5.41.5		Total Particulate Matter <= 0.40 pounds per million Btu heat input 3-hour rolling average. Compliance with the fuel restriction requirement constitutes compliance with this limit. [Minn. R. 7011.1410, subp. 3(B)]
	5.41.6		Sulfur Dioxide <= 1.75 pounds per million Btu heat input 3-hour rolling average. Compliance with the fuel restriction requirement constitutes compliance with this limit. [Minn. R. 7011.1410, subp. 3(A)]
	5.41.7		Opacity <= 20 percent opacity 6-minute average; except for one six-minute period per hour of not more than 60 percent opacity. [Minn. R. 7011.1410, subp. 3(B)]

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
	5.41.8		Fuel Restriction: Burn refinery gas and/or natural gas in the unit only. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.41.9		Recordkeeping: Record and maintain records of each fuel combusted in the unit on a monthly basis. [Minn. R. 7007.0800, subp. 2]
	5.41.10		Fuel Flowrate: calibrate, operate and maintain Continuous Monitoring Systems (CMS)s that record the fuel flow rate at each fuel combustion device. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.41.11		SO2 Emissions: The Permittee shall use the combination of the fuel flowrate CMS and the H2S CEMS to measure SO2 emissions from STRU 80 (SV 019). [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.41.12		SO2 Emissions Recordkeeping: The Permittee shall maintain records of the calculated SO2 emissions in pounds per hour (lb/hr). [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.41.13		<p>CEMS Continuous Operation: CEMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A CEMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment.</p> <p>Acceptable monitor downtime includes reasonable periods due to the following causes:</p> <ul style="list-style-type: none"> A. damage to the monitoring system due to a Force Majeure such as lightning strikes, tornadoes, or floods which render the monitor inoperative; B. sudden and not reasonably preventable breakdowns; C. scheduled monitor maintenance based upon equipment manufacturer's recommended maintenance schedule which cannot reasonably be conducted when the emission unit is not operating; or D. unavoidable monitor downtime in order to conduct daily drift checks, calibration error audits, relative accuracy test audits, linearity checks, and cylinder gas audits required by a compliance document, applicable requirement, or by request of the Commissioner. [Minn. R. 7017.1090, subp. 1, Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
EQUI 20	EU025	No. 2 Interheater 5-36-B-6W	
	5.42.1		Sulfur Dioxide <= 1.05 pounds per hour 3-hour rolling average.

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			[Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.42.2		THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. Sulfur Dioxide <= 0.030 pounds per million Btu heat input 3-hour rolling average. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.42.3		Hydrogen Sulfide (H2S) <= 162 parts per million 3-hour average Fuel Restriction: The company shall not burn refinery gas with a hydrogen sulfide content in excess of 162 ppm as an average for any consecutive 3-hour period. [40 CFR pt. 60, subp. Ja, Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.42.4		Hydrogen Sulfide (H2S) <= 230 milligrams per dscm 3-hour rolling average (H2S limit): for fuel gas combusted in a device subject to this subpart (0.10 gr/dscf); flare emergency reliefs are exempt. [40 CFR 60.104(a)(1), Minn. R. 7011.1410, subp. 2, Minn. R. 7011.1435]
	5.42.5		Total Particulate Matter <= 0.40 pounds per million Btu heat input 3-hour rolling average. Compliance with the fuel restriction requirement constitutes compliance with this limit. [Minn. R. 7011.1410, subp. 3(B)]
	5.42.6		Sulfur Dioxide <= 1.75 pounds per million Btu heat input 3-hour rolling average. Compliance with the fuel restriction requirement constitutes compliance with this limit. [Minn. R. 7011.1410, subp. 3(A)]
	5.42.7		Opacity <= 20 percent opacity 6-minute average; except for one six-minute period per hour of not more than 60 percent opacity. [Minn. R. 7011.1410, subp. 3(B)]
	5.42.8		Fuel Restriction: Burn refinery gas and/or natural gas only in the unit. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.42.9		Recordkeeping: Record and maintain records of each fuel combusted in the unit on a monthly basis. [Minn. R. 7007.0800, subp. 2]
	5.42.10		Fuel Flowrate: calibrate, operate and maintain Continuous Monitoring Systems (CMS)s that record the fuel flow rate at each fuel combustion device. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.42.11		SO2 Emissions: The Permittee shall use the combination of the fuel flowrate CMS and the H2S CEMS to measure SO2 emissions from STRU 79 (SV 020). [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.42.12		SO2 Emissions Recordkeeping: The Permittee shall maintain records of the calculated SO2 emissions in pounds per hour (lb/hr). [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.42.13		CEMS Continuous Operation: CEMS must be operated and data recorded during all periods of emission unit operation

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A CEMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment.</p> <p>Acceptable monitor downtime includes reasonable periods due to the following causes:</p> <ul style="list-style-type: none"> A. damage to the monitoring system due to a Force Majeure such as lightning strikes, tornadoes, or floods which render the monitor inoperative; B. sudden and not reasonably preventable breakdowns; C. scheduled monitor maintenance based upon equipment manufacturer's recommended maintenance schedule which cannot reasonably be conducted when the emission unit is not operating; or D. unavoidable monitor downtime in order to conduct daily drift checks, calibration error audits, relative accuracy test audits, linearity checks, and cylinder gas audits required by a compliance document, applicable requirement, or by request of the Commissioner. [Minn. R. 7017.1090, subp. 1, Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
EQUI 21	EU026	DDS Reactor Charge Heater 5-37-B-1	
	5.43.1		Sulfur Dioxide < 1.38 pounds per hour 3-hour rolling average. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.43.2		THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. Sulfur Dioxide <= 0.030 pounds per million Btu heat input 3-hour rolling average. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.43.3		Hydrogen Sulfide (H2S) <= 162 parts per million 3-hour average Fuel Restriction: The company shall not burn refinery gas with a hydrogen sulfide content in excess of 162 ppm as an average for any consecutive 3-hour period. [40 CFR pt. 60, subp. Ja, Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.43.4		Hydrogen Sulfide (H2S) <= 230 milligrams per dscm 3-hour rolling average (H2S limit): for fuel gas combusted in a device subject to this subpart (0.10 gr/dscf); flare emergency reliefs are exempt. [40 CFR 60.104(a)(1), Minn. R. 7011.1410, subp. 2, Minn. R. 7011.1435]
	5.43.5		Total Particulate Matter <= 0.40 pounds per million Btu heat

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			input 3-hour rolling average; maximum emissions are based on Fuel Restriction listed below. [Minn. R. 7011.1410, subp. 3(B)]
	5.43.6		Sulfur Dioxide <= 1.75 pounds per million Btu heat input 3-hour rolling average. Compliance with the fuel restriction requirement constitutes compliance with this limit. [Minn. R. 7011.1410, subp. 3(A)]
	5.43.7		Opacity <= 20 percent opacity 6-minute average; except for one six-minute period per hour of not more than 60 percent opacity. [Minn. R. 7011.1410, subp. 3(B)]
	5.43.8		Fuel Restriction: Burn refinery gas and/or natural gas only in the unit. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.43.9		Recordkeeping: Record and maintain records of each fuel combusted in the unit on a monthly basis. [Minn. R. 7007.0800, subp. 2]
	5.43.10		Fuel Flowrate: calibrate, operate and maintain Continuous Monitoring Systems (CMS)s that record the fuel flow rate at each fuel combustion device. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.43.11		Sulfur Dioxide Emissions: The Permittee shall use the combination of the fuel flowrate CMS and the H2S CEMS to measure sulfur dioxide emissions from STRU 89. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.43.12		Sulfur Dioxide Emissions Recordkeeping: The Permittee shall maintain records of the calculated SO2 emissions in pounds per hour (lb/hr). [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.43.13		<p>CEMS Continuous Operation: CEMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A CEMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment.</p> <p>Acceptable monitor downtime includes reasonable periods due to the following causes:</p> <ul style="list-style-type: none"> A. damage to the monitoring system due to a Force Majeure such as lightning strikes, tornadoes, or floods which render the monitor inoperative; B. sudden and not reasonably preventable breakdowns; C. scheduled monitor maintenance based upon equipment manufacturer's recommended maintenance schedule which cannot reasonably be conducted when the emission unit is not operating; or D. unavoidable monitor downtime in order to conduct daily

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			drift checks, calibration error audits, relative accuracy test audits, linearity checks, and cylinder gas audits required by a compliance document, applicable requirement, or by request of the Commissioner. [Minn. R. 7017.1090, subp. 1, Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
EQUI 25	EU056	Fire Hall Diesel Engine	
	5.44.1		Sulfur Dioxide <= 0.50 pounds per million Btu heat input 3-hour rolling average. [Minn. R. 7011.2300, subp. 2]
	5.44.2		Opacity <= 20 percent opacity once operating temperatures have been attained. (Visible air contaminants). [Minn. R. 7011.2300, subp. 1]
	5.44.3		Sulfur Content of Fuel <= 0.050 percent of diesel fuel. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.44.4		Diesel Fuel Certification: The Permittee shall retain written documentation of each shipment of diesel fuel oil received for the diesel engines. The written documentation shall include the following information: the sulfur content of the diesel fuel and the method used to determine the sulfur content. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.44.5		Existing stationary CI Rice less than 500 HP must comply with the applicable portions of 40 CFR pt. 63, subp. ZZZZ, Table 2c. [40 CFR 63.6602, 40 CFR pt. 63, Subp. ZZZZ(Table 2c), Minn. R. 7011.8150]
	5.44.6		(a) The Permittee must be in compliance with the emission limitations and operating limitations in 40 CFR pt. 63, subp. ZZZZ that apply to you at all times. (b) At all times you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.6605, Minn. R. 7011.8150]
	5.44.7		Monitoring, Installation, Collection, Operation, and Maintenance requirements:

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>If you own or operate any of the following stationary RICE, you must operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions: [40 CFR 63.6625(e), Minn. R. 7011.8150]</p>
	5.44.8		<p>If you own or operate an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, you must install a non-resettable hour meter if one is not already installed. [40 CFR 63.6625(f), Minn. R. 7011.8150]</p>
	5.44.9		<p>(i) If you own or operate a stationary CI engine that is subject to the work, operation or management practices in items 1 or 2 of Table 2c to this subpart or in items 1 or 4 of Table 2d to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5.</p> <p>If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine Permittee must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine Permittee must change the oil within 2 days or before commencing operation, whichever is later. The Permittee must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. [40 CFR 63.6625(i), Minn. R. 7011.8150]</p>
	5.44.10		<p>The Permittee must operate the emergency stationary RICE according to the requirements in 40 CFR Section 63.6640(f)(1)(i) through (iii). Any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described in 40 CFR Section 63.6640(f)(1)(i) through (iii), is</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>prohibited. If you do not operate the engine according to the requirements in 40 CFR Section 63.6640(f)(1)(i) through (iii), the engine will not be considered an emergency engine under this subpart and will need to meet all requirements for non-emergency engines.</p> <p>(i) There is no time limit on the use of emergency stationary RICE in emergency situations.</p> <p>(ii) You may operate your emergency stationary RICE for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. The Permittee may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the Permittee maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency RICE beyond 100 hours per year.</p> <p>(iii) You may operate your emergency stationary RICE up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity; except that Permittees may operate the emergency engine for a maximum of 15 hours per year as part of a demand response program if the regional transmission organization or equivalent balancing authority and transmission operator has determined there are emergency conditions that could lead to a potential electrical blackout, such as unusually low frequency, equipment overload, capacity or energy deficiency, or unacceptable voltage level.</p> <p>The engine may not be operated for more than 30 minutes prior to the time when the emergency condition is expected to occur, and the engine operation must be terminated immediately after the facility is notified that the emergency condition is no longer imminent. The 15 hours per year of demand response operation are counted as part of the 50 hours of operation per year provided for non-emergency situations. The supply of emergency power to another entity or entities pursuant to financial arrangement is not limited by 40 CFR Section 63.6640(f)(1)(iii), as long as the power provided by the financial arrangement is limited to emergency power. [40 CFR 63.6640(f), Minn. R. 7011.8150]</p>
	5.44.11		Notifications: Submit all applicable notifications as listed in 40

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			CFR Section 63.6645(a) according to applicable status of the RICE. [40 CFR 63.6445, Minn. R. 7011.8150]
	5.44.12		General Recordkeeping Requirements: The Permittee shall maintain files of all information (including all reports and notifications) required by 40 CFR pt. 63, subp. ZZZZ, recorded in a form suitable and readily available for expeditious inspection and review including all information required by 40 CFR Section 63.10(b). The files must be keep for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. [40 CFR 63.10(b), 40 CFR 63.6655, 40 CFR 63.6660, Minn. R. 7011.8150, Minn. R. 7019.0100]
EQUI 26	EU057	Lagoon Diesel Engine	
	5.45.1		Sulfur Dioxide <= 0.50 pounds per million Btu heat input 3-hour rolling average. [Minn. R. 7011.2300, subp. 2]
	5.45.2		Opacity <= 20 percent opacity once operating temperatures have been attained. (Visible air contaminants). [Minn. R. 7011.2300, subp. 1]
	5.45.3		Sulfur Content of Fuel <= 0.050 percent of diesel fuel. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.45.4		Diesel Fuel Certification: The owner or operator shall retain written documentation of each shipment of diesel fuel oil received for the diesel engines. The written documentation shall include the following information: the sulfur content of the diesel fuel and the method used to determine the sulfur content. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.45.5		Existing stationary CI Rice less than 500 HP must comply with the applicable portions of 40 CFR pt. 63, subp. ZZZZ, Table 2c. [40 CFR 63.6602, 40 CFR pt. 63, Subp. ZZZZ(Table 2c), Minn. R. 7011.8150]
	5.45.6		<p>(a) The Permittee must be in compliance with the emission limitations and operating limitations in 40 CFR pt. 63, subp. ZZZZ that apply to you at all times.</p> <p>(b) At all times you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.6605, Minn. R. 7011.8150]
	5.45.7		Monitoring, Installation, Collection, Operation, and Maintenance requirements: If you own or operate any of the following stationary RICE, you must operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions: [40 CFR 63.6625(e), Minn. R. 7011.8150]
	5.45.8		If you own or operate an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, you must install a non-resettable hour meter if one is not already installed. [40 CFR 63.6625(f), Minn. R. 7011.8150]
	5.45.9		(i) If you own or operate a stationary CI engine that is subject to the work, operation or management practices in items 1 or 2 of Table 2c to this subpart or in items 1 or 4 of Table 2d to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine Permittee is not required to change the oil. If any of the limits are exceeded, the engine Permittee must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine Permittee must change the oil within 2 days or before commencing operation, whichever is later. The Permittee must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. [40 CFR 63.6625(j), Minn. R. 7011.8150]
	5.45.10		The Permittee must operate the emergency stationary RICE

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>according to the requirements in 40 CFR Section 63.6640(f)(1)(i) through (iii). Any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described in 40 CFR Section 63.6640(f)(1)(i) through (iii), is prohibited. If you do not operate the engine according to the requirements in 40 CFR Section 63.6640(f)(1)(i) through (iii), the engine will not be considered an emergency engine under this subpart and will need to meet all requirements for non-emergency engines.</p> <p>(i) There is no time limit on the use of emergency stationary RICE in emergency situations.</p> <p>(ii) You may operate your emergency stationary RICE for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. The Permittee may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the Permittee maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency RICE beyond 100 hours per year.</p> <p>(iii) You may operate your emergency stationary RICE up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity; except that owners and operators may operate the emergency engine for a maximum of 15 hours per year as part of a demand response program if the regional transmission organization or equivalent balancing authority and transmission operator has determined there are emergency conditions that could lead to a potential electrical blackout, such as unusually low frequency, equipment overload, capacity or energy deficiency, or unacceptable voltage level.</p> <p>The engine may not be operated for more than 30 minutes prior to the time when the emergency condition is expected to occur, and the engine operation must be terminated immediately after the facility is notified that the emergency condition is no longer imminent. The 15 hours per year of demand response operation are counted as part of the 50 hours of operation per year provided for non-emergency situations. The supply of emergency power to another entity or entities pursuant to financial arrangement is not limited by</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			40 CFR Section 63.6640(f)(1)(iii), as long as the power provided by the financial arrangement is limited to emergency power. [40 CFR 63.6640(f), Minn. R. 7011.8150]
	5.45.11		Notifications: Submit all applicable notifications as listed in 40 CFR Section 63.6645(a) according to applicable status of the RICE. [40 CFR 63.6445, Minn. R. 7011.8150]
	5.45.12		General Recordkeeping Requirements: The Permittee shall maintain files of all information (including all reports and notifications) required by 40 CFR pt. 63, subp. ZZZZ, recorded in a form suitable and readily available for expeditious inspection and review including all information required by 40 CFR Section 63.10(b). The files must be keep for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. [40 CFR 63.10(b), 40 CFR 63.6655, 40 CFR 63.6660, Minn. R. 7011.8150]
EQUI 28	EU063	Lt Oil Truck Rack - Gasoline	
	5.46.1		Volatile Organic Compounds <= 10 milligrams per liter of total organic compounds of gasoline loaded. [40 CFR 63.422(b), Minn. R. 7011.7180]
	5.46.2		Process Throughput <= 900.0 million gallons per year 12-month rolling sum of gasoline loaded. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]
	5.46.3		Construction/Design Requirement: The Permittee shall discontinue loading light oil products at the existing loading rack. The Permittee shall apply for an amendment required by Minn. Rs. 7007.1150-7007.1500 prior to returning the existing loading rack in any service. [Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]
	5.46.4		Recordkeeping of Gasoline Loaded: Once each operating day, the Permittee shall record the amount of gasoline loaded. By the 15th day of each month, calculate and record the following: 1) The total amount of gasoline loaded for the previous month; 2) The 12-month rolling sum of gasoline loaded by summing the monthly gasoline loading totals for the previous 12-month period. [Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]
	5.46.5		Recordkeeping Requirement: Record each startup, shutdown or malfunction of the affected facility. [40 CFR 60.7(b), Minn. R. 7011.0050, Minn. R. 7019.0100]
	5.46.6		See Monitoring Requirements for CAM and Pollution Control Equipment under COMG 28. [Minn. R. 7007.0800, subp. 4]

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
EQUI 29	EU079	FCC Catalyst Hoppers (Fresh)	
	5.47.1		Total Particulate Matter <= 0.30 grains per dry standard cubic foot unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735. [Minn. R. 7011.0710, subp. 1(A)]
	5.47.2		Opacity <= 20 percent opacity; except for one six-minute period per hour of not more than 60 percent opacity. [Minn. R. 7011.0710, subp. 1(B)]
EQUI 30	EU080	Emergency Backup Diesel Pump	
	5.48.1		Sulfur Dioxide <= 0.50 pounds per million Btu heat input. [Minn. R. 7011.2300, subp. 2]
	5.48.2		Opacity <= 20 percent opacity once operating temperatures have been attained. (Visible air contaminants). [Minn. R. 7011.2300, subp. 1]
	5.48.3		Fuel Restrictions: Burn diesel only [Minn. R. 7007.0800, subp. 2]
	5.48.4		EQUI 30 is considered existing affected sources under 40 CFR pt. 63, subp. ZZZZ as defined at 40 CFR Section 63.6590(a)(1)(i) and (ii). However, this unit meets the criteria in 40 CFR Section 63.6590(b)(3), so no limits, recordkeeping, or notifications from 40 CFR pt, 63, subp. ZZZZ apply to this unit. [40 CFR 63.6590(a)(1)(i)&(ii),&(b)(3), Minn. R. 7011.8150]
EQUI 33	EU083	No. 3 Sulfur Recovery Unit	
	5.49.1		Sulfur Dioxide <= 15.0 pounds per hour 3-hour rolling average. The company shall use the CEMS to monitor the sulfur dioxide emissions in order to calculate pounds of sulfur dioxide per hour (lb/hr). [Minn. R. 7009.0020, Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.49.2		Sulfur Dioxide <= 45.0 pounds per hour. The company shall use the CEMS to monitor the sulfur dioxide emissions in order to calculate pounds of sulfur dioxide per hour (lb/hr). [Minn. R. 7009.0020]
	5.49.3		Sulfur Dioxide <= 39.0 tons per year 365-day rolling sum. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000]
	5.49.4		Sulfur Dioxide <= 250 parts per million 12-hour average (dry basis) at zero percent excess air. Limit does not apply during periods of startup, shutdown, or malfunction. [40 CFR 60.104(a)(2)(i), 40 CFR 63.1568(a)(1), 40 CFR 63.1568(c)(1), Minn. R. 7011.1435(A), Minn. R. 7011.7280]
	5.49.5		Hydrogen Sulfide (H2S) <= 0.10 grains per dry standard cubic foot 3-hour average (230 mg/dscm[162 ppm]). This limit

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			applies to the hydrogen sulfide content of the fuel gases burned. [40 CFR 60.104(a)(1), Minn. R. 7011.1410, subp. 2, Minn. R. 7011.1435]
	5.49.6		Opacity <= 20 percent opacity. [Minn. R. 7011.0715, subp. 1(B)]
	5.49.7		Sulfur Dioxide Emission Calculation and Recordkeeping: The company shall calculate and record sulfur dioxide emissions using the following equation: $M(\text{SO}_2) = (3.545 \times 10^{-6} \times [1.098 \times A + 9.989 \times C] \times X) / (21 - E)$ where: M(SO ₂) = mass flow rate of SO ₂ from stack (lb/hr) A = volumetric flow rate of No. 3 SCOT tail gas (scf/hr) C = volumetric flow rate of fuel gas to the No. 3 SCOT incinerator (scf/hr) X = concentration of SO ₂ in stack gas (ppm, wet basis) E = excess oxygen in the stack gas (percent). [Minn. R. 7009.0800, Title I Condition: 40 CFR 50.4(SO ₂ SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.49.8		Sulfur Dioxide: Once each operating day, the Permittee shall calculate and record the 365-day rolling sum of SO ₂ emissions by summing the daily SO ₂ emissions for the previous 365 days. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000]
	5.49.9		The Permittee shall manage all Sulfur Recovery Plant sulfur pit emissions so that the sulfur pit emissions to the atmosphere are controlled or included and monitored as part of the applicable sulfur recovery plant tail gas emission except during periods of startup, shutdown, malfunction, or process upset. [NSPS,40 CFR pt. 60,subp. J; 40 CFR Section 60.104(a)(2)]. [40 CFR 60.104(a)(2), CAAA of 1990, Minn. R. 7007.0100, subps. 7(A) & 7(B), Minn. R. 7007.0800, subp. 2, Minn. R. 7007.0800, subps. 1-2, Minn. R. 7011.1435, Minn. Stat. 116.subd. 4a, Minn. Stat. 116.subd. 9, Title I Condition: 40 CFR pt. 52]
	5.49.10		Compliance Requirement: The Permittee must comply with the emission limitations set forth in this section on and after the date on which the initial performance test is completed. [40 CFR 60.104]
	5.49.11		Operation requirement: At all times, including periods of startup, shutdown, and malfunction, the Permittee shall maintain and operate any affected facility in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. [40 CFR 60.11(d), Minn. R. 7017.2015]
	5.49.12		SO ₂ Emission and Oxygen Monitoring: The Permittee shall

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			calibrate, operate and maintain Continuous Emissions Monitoring Systems (CEMS) which measure SO ₂ emissions and an O ₂ CEMS to correct the data for excess air. The span values for the monitors are 500 ppm sulfur dioxide and 10 percent oxygen. [40 CFR 60.105(a)(5), 40 CFR 60.15(a), Minn. R. 7011.0050, Minn. R. 7011.1435, Minn. R. 7017.1006, Title I Condition: 40 CFR 50.4(SO ₂ SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.49.13		CEMS QA/QC: The Permittee of an affected facility is subject to the performance specifications listed in 40 CFR pt. 60, Appendix B and shall operate, calibrate, and maintain each CEMS according to the QA/QC procedures in 40 CFR pt. 60, Appendix F as amended and maintain a written QA/QC program available in a form suitable for inspection. [40 CFR 60.13(a), 40 CFR pt. 60, Appendix F, Minn. R. 7017.1010]
	5.49.14		CEMS Daily Calibration Drift (CD) Test: The CD shall be quantified and recorded at zero (low level value between 0 and 20 percent of span value) and span (50 to 100 percent of span value) gas concentrations at least once daily. The CEMS shall be adjusted whenever the CD exceeds twice the specification of 40 CFR pt. 60, Appendix B. 40 CFR pt. 60, Appendix F shall be used to determine out-of-control periods for CEMS. The span values are 500 ppm for the SO ₂ monitor and 10% for the oxygen monitor. [40 CFR 60.13(d)(1), 40 CFR pt. 60, Appendix F, Sec. 4.1, Minn. R. 7017.1010, Minn. R. 7017.1170, subp. 3]
	5.49.15		<p>CEMS Continuous Operation: CEMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A CEMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment.</p> <p>Acceptable monitor downtime includes reasonable periods due to the following causes:</p> <ul style="list-style-type: none"> A. damages to the monitoring system including Acts of God such as lightning strikes, tornadoes, or floods which render the monitor inoperative; B. sudden and not reasonably preventable breakdowns; C. scheduled monitor maintenance based upon equipment manufacturer's recommended maintenance schedule which cannot reasonably be conducted when the emission unit is not operating; or D. unavoidable monitor downtime in order to conduct daily drift checks, calibration error audits, relative accuracy test audits, linearity checks, and cylinder gas audits required by a

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			compliance document, applicable requirement, or by request of the Commissioner. [Minn. R. 7017.1090, subp. 1, Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.49.16		Excess emissions definition (SO2): periods of excess emissions are defined as all 12 hour periods during which the average concentration of SO2 as measured by the SO2 CEMS exceeds 250 ppm (dry basis, 0% excess air). [40 CFR 60.105(e)(4), Minn. R. 7017.1010]
	5.49.17		All excess emissions shall be converted into units of the standard using the applicable conversion procedures specified in the subparts. After conversion into units of the standard, the data may be rounded to the same number of significant digits as used in the applicable subparts to specify the emission limit (e.g., rounded to the nearest 1 percent opacity). [40 CFR 60.13(h), Minn. R. 7011.1435]
	5.49.18		Oxygen monitor for correcting the data for excess air: The span values for this monitor are 500 ppm SO2 and 10 percent O2. [40 CFR 60.105(a)(5), Minn. R. 7011.1435]
	5.49.19		QA Plan: Develop and implement a written quality assurance plan that covers the O2 monitor. The plan shall be on site and available for inspection within 30 days after monitor certification. The plan shall contain all of the information required by 40 CFR pt. 60, Appendix F, Section 3. The plan shall include the manufacturer's spare parts list for each CEMS and require that those parts be kept at the facility unless the Commissioner gives written approval to exclude specific spare parts from the list. The Commissioner may approve requested exclusions if the Commissioner determines that it is not reasonable to keep a specific part on site after consideration of the consequences of a malfunction of the part, the likelihood of a malfunction, the time required to obtain the part, and other pertinent factors. [Minn. R. 7007.0800, subp. 4]
	5.49.20		O2 QA/QC: The Permittee of an affected facility is subject to the performance specifications listed in 40 CFR pt. 60, Appendix B and shall operate, calibrate, and maintain O2 monitor according to the QA/QC procedures in 40 CFR pt. 60, Appendix F as amended and maintain a written QA/QC program available in a form suitable for inspection. [Minn. R. 7007.0800, subp. 4]
EQUI 34	EU084	NOx Catalyst Additive Hopper System	
	5.50.1		Total Particulate Matter <= 0.30 grains per dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735. [Minn. R. 7011.0715]

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
	5.50.2		Opacity <= 20 percent opacity 6-minute average. [Minn. R. 7011.0715]
	5.50.3		The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for PM < 10 micron >= 98.0 percent control efficiency. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2]
	5.50.4		The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for Total Particulate Matter >= 98.0 percent control efficiency. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2]
EQUI 35	EU085	SO2 Catalyst Additive Hopper System	
	5.51.1		Total Particulate Matter <= 0.30 grains per dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735. [Minn. R. 7011.0715]
	5.51.2		Opacity <= 20 percent opacity 6-minute average. [Minn. R. 7011.0715]
	5.51.3		The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for PM < 10 micron >= 98.0 percent control efficiency. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2]
	5.51.4		The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for Total Particulate Matter >= 98.0 percent control efficiency. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2]
EQUI 36	EU086	Temporary Boiler (Natural gas-fired)	
	5.52.1		Boiler Restrictions: The temporary boilers allowed under this subject item are subject to the following restrictions: 1) The rated heat input capacity of each temporary boiler shall not exceed 88.4 million Btu/hr; 2) Only one temporary boiler may be installed and operated at the facility at any one time; 3) Only pipeline natural gas may be combusted in the units. [Minn. R. 7007.0800, subp. 2]
	5.52.2		Total Particulate Matter <= 0.40 pounds per million Btu heat input. [Minn. R. 7011.0515, subp. 1]
	5.52.3		Opacity <= 20 percent opacity except for one six-minute period per hour of not more than 60% opacity. [Minn. R. 7011.0515, subp. 2]

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
	5.52.4		<p>Recordkeeping of Fuel Combusted: Record and maintain records of the amounts of each fuel combusted on a monthly basis for the previous calendar month.</p> <p>This condition applies if the temporary boiler is subject to the requirements of 40 CFR pt. 60, subp. Dc. [40 CFR 60.48c(g)(2), Minn. R. 7011.0570]</p>
	5.52.5		<p>Recordkeeping: When operating a temporary boiler at the facility as allowed under this permit item, record and maintain the following:</p> <ol style="list-style-type: none"> 1) The dates the temporary boiler was operated at the facility; 2) The rated heat input capacity of the boiler. 3) Whether the boiler is subject to the requirements of 40 CFR pt. 60, subp. Dc. [Minn. R. 7007.0800, subp. 2]
EQUI 37	EU087	Heater 1-B-6	
	5.53.1		<p>Hydrogen Sulfide (H₂S) ≤ 230 milligrams per dscm 3-hour rolling average (H₂S limit) or 162 ppm: for fuel gas combusted in a device subject to this subpart (0.10 gr/dscf); flare emergency reliefs are exempt.</p> <p>In place of the SO₂ monitor in paragraph (a)(3) of 40 CFR Section 60.105, an instrument for continuously monitoring and recording the concentration (dry basis) of H₂S in fuel gases before being burned in any fuel gas combustion device. [40 CFR 60.104(a)(1), 40 CFR 60.105(a)(4), Minn. R. 7011.1410, subp. 2, Minn. R. 7011.1435]</p>
	5.53.2		<p>Total Particulate Matter ≤ 0.40 pounds per million Btu heat input 3-hour average. The PTE for this heater is 0.00745 lb/mmBtu heat input at maximum capacity. Compliance with the fuel restriction requirement constitutes compliance with this limit. [Minn. R. 7011.1410, subp. 3(B)]</p>
	5.53.3		<p>Opacity ≤ 20 percent opacity 6-minute average; except for one six-minute period per hour of not more than 60 percent opacity. Compliance with the fuel restriction requirement constitutes compliance with this limit. [Minn. R. 7011.1410, subp. 3(B)]</p>
	5.53.4		<p>Sulfur Dioxide ≤ 1.75 pounds per million Btu heat input 3-hour rolling average. Compliance with the fuel restriction requirement constitutes compliance with this limit. [Minn. R. 7011.1410, subp. 3(A)]</p>
	5.53.5		<p>The Permittee shall continuously monitor the fuel gas H₂S concentration in lieu of continuously monitoring Sulfur Dioxide emissions. [Minn. R. 7011.1420, subp. 3]</p>
	5.53.6		<p>Fuel Restriction: Burn refinery gas and/or natural gas in the unit only. [Minn. R. 7007.0800, subp. 2]</p>
	5.53.7		<p>For the purpose of reports under 40 CFR Section 60.7(c),</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>periods of excess emissions that shall be determined and reported are defined as follows: Note: All averages, except for opacity, shall be determined as the arithmetic average of the applicable 1-hour averages, e.g., the rolling 3-hour average shall be determined as the arithmetic average of three contiguous 1-hour averages. All rolling 3-hour periods during which the average concentration of H2S as measured by the H2S continuous monitoring system under 40 CFR Section 60.105(a)(4) exceeds 230 mg/dscm (0.10 gr/dscf). [40 CFR 60.105(e)(3)(ii), Minn. R. 7011.1435]</p>
	5.53.8		<p>Recordkeeping: Record and maintain records of fuel combusted in the unit on a monthly basis. [Minn. R. 7007.0800, subp. 5]</p>
EQUI 38	EU088	NP VEPR Phase 1	
	5.54.1		<p>Hydrogen Sulfide (H2S) <= 230 milligrams per dscm 3-hour rolling average (H2S limit): for fuel gas combusted in a device subject to this subpart (0.10 gr/dscf); flare emergency reliefs are exempt. In place of the SO2 monitor in paragraph (a)(3) of 40 CFR Section 60.105, an instrument for continuously monitoring and recording the concentration (dry basis) of H2S in fuel gases before being burned in any fuel gas combustion device. [40 CFR 60.104(a)(1), Minn. R. 7011.1420, subp. 2(B), Minn. R. 7011.1435]</p>
	5.54.2		<p>The Permittee shall comply with the following monitoring requirements until the Alternative Monitoring Plan is approved by EPA.</p> <p>For fuel gas combustion devices subject to 40 CFR Section 60.104(a)(1), an instrument for continuously monitoring and recording the concentration by volume (dry basis, zero percent excess air) of SO2 emissions into the atmosphere (except where an H2S monitor is installed under paragraph (a)(4) of this section). The monitor shall include an oxygen monitor for correcting the data for excess air.</p> <p>(i) The span values for this monitor are 50 ppm SO2 and 25 percent oxygen (O2).</p> <p>(ii) The SO2 monitoring level equivalent to the H2S standard under 40 CFR Section 60.104(a)(1) shall be 20 ppm (dry basis, zero percent excess air). The Permittee shall comply with the following monitoring requirements until the Alternative Monitoring Plan is approved by EPA.</p> <p>iii) The performance evaluations for this SO2 monitor under 40 CFR Section 60.13(c) shall use Performance Specification 2.</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>Methods 6 or 6C and 3 or 3A shall be used for conducting the relative accuracy evaluations. Method 6 samples shall be taken at a flow rate of approximately 2 liters/min for at least 30 minutes. The relative accuracy limit shall be 20 percent or 4 ppm, whichever is greater, and the calibration drift limit shall be 5 percent of the established span value.</p> <p>(iv) Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location (i.e., after one of the combustion devices), if monitoring at this location accurately represents the SO₂ emissions into the atmosphere from each of the combustion devices. [40 CFR 60.105(a)(3), Minn. R. 7007.0800, subp. 4, Minn. R. 7011.1435]</p>
EQUI 39	EU089	NP VEPR Phase 2	
	5.55.1		<p>Hydrogen Sulfide (H₂S) <= 230 milligrams per dscm 3-hour rolling average (H₂S limit): for fuel gas combusted in a device subject to this subpart (0.10 gr/dscf); flare emergency reliefs are exempt.</p> <p>In place of the SO₂ monitor in paragraph (a)(3) of 40 CFR Section 60.105, an instrument for continuously monitoring and recording the concentration (dry basis) of H₂S in fuel gases before being burned in any fuel gas combustion device. [40 CFR 60.104(a)(1), Minn. R. 7011.1420, subp. 2(B), Minn. R. 7011.1435]</p>
	5.55.2		<p>The Permittee shall comply with the following monitoring requirements until the Alternative Monitoring Plan is approved by EPA.</p> <p>For fuel gas combustion devices subject to 40 CFR Section 60.104(a)(1), an instrument for continuously monitoring and recording the concentration by volume (dry basis, zero percent excess air) of SO₂ emissions into the atmosphere (except where an H₂S monitor is installed under paragraph (a)(4) of this section). The monitor shall include an oxygen monitor for correcting the data for excess air.</p> <p>(i) The span values for this monitor are 50 ppm SO₂ and 25 percent oxygen (O₂).</p> <p>(ii) The SO₂ monitoring level equivalent to the H₂S standard under 40 CFR Section 60.104(a)(1) shall be 20 ppm (dry basis, zero percent excess air).</p> <p>(iii) The performance evaluations for this SO₂ monitor under 40 CFR Section 60.13(c) shall use Performance Specification 2. Methods 6 or 6C and 3 or 3A shall be used for conducting the relative accuracy evaluations. Method 6 samples shall be taken at a flow rate of approximately 2 liters/min for at least 30</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>minutes. The relative accuracy limit shall be 20 percent or 4 ppm, whichever is greater, and the calibration drift limit shall be 5 percent of the established span value.</p> <p>(iv) Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location (i.e., after one of the combustion devices), if monitoring at this location accurately represents the SO₂ emissions into the atmosphere from each of the combustion devices. [40 CFR 60.105(a)(3), Minn. R. 7007.0800, subp. 4, Minn. R. 7011.1435]</p>
EQUI 44	EU094	FCC Charge Heater (8-B-1)	
	5.56.1		<p>Hydrogen Sulfide (H₂S) ≤ 230 milligrams per dscm 3-hour rolling average (H₂S limit) or 162 ppm: for fuel gas combusted in a device subject to this subpart (0.10 gr/dscf); flare emergency reliefs are exempt.</p> <p>In place of the SO₂ monitor in paragraph (a)(3) of 40 CFR section 60.105, an instrument for continuously monitoring and recording the concentration (dry basis) of H₂S in fuel gases before being burned in any fuel gas combustion device. [40 CFR 60.104(a)(1), 40 CFR 60.105(a)(4), Minn. R. 7011.1410, subp. 2]</p>
	5.56.2		<p>Total Particulate Matter ≤ 0.40 pounds per million Btu heat input 3-hour average. The PTE for this heater is 0.00745 lb/mmBtu heat input at maximum capacity. Compliance with the fuel restriction requirement constitutes compliance with this limit. [Minn. R. 7011.1410, subp. 3(B)]</p>
	5.56.3		<p>Opacity ≤ 20 percent opacity 6-minute average; except for one six-minute period per hour of not more than 60 percent opacity. Compliance with the fuel restriction requirement constitutes compliance with this limit. [Minn. R. 7011.1410, subp. 3(B)]</p>
	5.56.4		<p>Sulfur Dioxide ≤ 1.75 pounds per million Btu heat input 3-hour rolling average. Compliance with the fuel restriction requirement constitutes compliance with this limit. [Minn. R. 7011.1410, subp. 3(A)]</p>
	5.56.5		<p>The Permittee shall continuously monitor the fuel gas H₂S concentration in lieu of continuously monitoring Sulfur Dioxide emissions. [Minn. R. 7011.1420, subp. 3]</p>
	5.56.6		<p>Fuel Restriction: Burn refinery gas and/or natural gas in the unit only. [Minn. R. 7007.0800, subp. 2]</p>
	5.56.7		<p>For the purpose of reports under 40 CFR Section 60.7(c), periods of excess emissions that shall be determined and reported are defined as follows:</p> <p>Note: All averages, except for opacity, shall be determined as the arithmetic average of the applicable 1-hour averages, e.g., the rolling 3-hour average shall be determined as the arithmetic average of three contiguous 1-hour averages.</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			All rolling 3-hour periods during which the average concentration of H2S as measured by the H2S continuous monitoring system under 40 CFR Section 60.105(a)(4) exceeds 230 mg/dscm (0.10 gr/dscf). [40 CFR 60.105(e)(3)(ii), Minn. R. 7011.1435]
	5.56.8		Recordkeeping: Record and maintain records of fuel combusted in the unit on a monthly basis. [Minn. R. 7007.0800, subp. 5]
	5.56.9		40 CFR pt. 60, subp. Ja limits apply starting the date on which the initial performance test required by 40 CFR Section 60.8 is completed, but not later than 60 days after achieving maximum production rate at which the process heater will be operated, or 180 days after initial startup, whichever comes first. [40 CFR 60.102a(a)]
	5.56.10		Hydrogen Sulfide (H2S) <= 162 parts per million by volume (dry basis, corrected to 0 percent excess air) on an hourly-determined 3-hour rolling average basis, and 60 parts per million by volume (dry basis, corrected to 0 percent excess air), on a daily-determined 365-calendar day rolling average basis. These limits apply to fuel gas H2S content. [40 CFR 60.102a(g)(1)(ii)]
	5.56.11		The combustion in a portable generator of fuel gas released as a result of tank degassing and/or cleaning is exempt from the emissions limits in 40 CFR Section 60.102a (g)(1)(i) and (ii). [40 CFR 60.102a(g)(1)(iii)]
	5.56.12		For each natural draft process heater, the Permittee shall comply with the limit in either 40 CFR Section 60.102a(g)(2)(i)(A) or (B). The Permittee may comply with either limit at any time, provided that the appropriate parameters for each alternative are monitored as specified in 40 CFR Section 60.107a; if fuel gas composition is not monitored as specified in 40 CFR Section 60.107a(d), the Permittee must comply with the concentration limits in 40 CFR Section 60.102a(g)(2)(i)(A). [40 CFR 60.102a(g)(2)(i)]
	5.56.13		Nitrogen Oxides <= 0.040 pounds per million Btu heat input 30-day rolling average based on Higher Heating Value or (continued below). [40 CFR 60.102a(g)(2)(i)(A)]
	5.56.14		Nitrogen Oxides <= 40 parts per million (dry basis, corrected to 0 percent excess air) determined daily on a 30-day Rolling Average. [40 CFR 60.102a(g)(2)(i)(B)]
	5.56.15		For a process heater that meets any of the criteria of 40 CFR Section 60.102a(i)(1)(i) through (iv), an owner or operator may request approval from the Administrator for a NOX emissions limit which shall apply specifically to that affected facility. The request shall include information as described in 40 CFR Section 60.102a(i)(2). The request shall be submitted and followed as described in 40 CFR Section 60.102a(i)(3)

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>(1) A process heater that meets one of the criteria in 40 CFR Section 60.102a(i)(1)(i) through (iv) may apply for a site-specific NOX emissions limit:</p> <p>iv) A process heater operating at reduced firing conditions for an extended period of time (i.e., operating in turndown mode). The site-specific NOX emissions limit will only apply for those operating conditions. [40 CFR 60.102a(i)]</p>
	5.56.16		<p>The request shall include sufficient and appropriate data, as determined by the Administrator, to allow the Administrator to confirm that the process heater is unable to comply with the applicable NOX emissions limit in 40 CFR Section 60.102a(g)(2). At a minimum, the request shall contain the information described in 40 CFR Section 60.102a(i)(2)(i) through (iv) below.</p> <p>(i) The design and dimensions of the process heater, evaluation of available combustion modification-based technology, description of fuel gas and, if applicable, fuel oil characteristics, information regarding the combustion conditions (temperature, oxygen content, firing rates) and other information needed to demonstrate that the process heater meets one of the four classes of process heaters listed in 40 CFR Section 60.102a(i)(1).</p> <p>(ii) An explanation of how the data in 40 CFR Section 60.102a(i)(2)(i) demonstrate that ultra-low NOX burners, flue gas recirculation, control of excess air or other combustion modification-based technology (including combinations of these combustion modification-based technologies) cannot be used to meet the applicable emissions limit in 40 CFR Section 60.102a(g)(2).</p> <p>(iii) Results of a performance test conducted under representative conditions using the applicable methods specified in 40 CFR Section 60.104a(i) to demonstrate the performance of the technology the Permittee will use to minimize NOX emissions.</p> <p>(iv) The means by which the Permittee will document continuous compliance with the site-specific emissions limit. [40 CFR 60.102a(i)(2)]</p>
	5.56.17		<p>(3) The request shall be submitted and followed as described in 40 CFR Section 60.102a(i)(3)(i) through (iii)</p> <p>(i) The owner or operator of a process heater that meets one of the criteria in 40 CFR Section 60.102a(i)(1)(i) through (iv) may request approval from the Administrator within 180 days after initial startup of the process heater for a NOX emissions limit which shall apply specifically to that affected facility.</p> <p>(ii) The request must be submitted to the Administrator for approval. The owner or operator must comply with the request as submitted until it is approved.</p> <p>(iii) The request shall also be submitted to the following</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			address: U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Sector Policies and Programs Division, U.S. EPA Mailroom (E143-01), Attention: Refinery Sector Lead, 109 T.W. Alexander Drive, Research Triangle Park, NC 27711. Electronic copies in lieu of hard copies may also be submitted to refinerynsps@epa.gov . [40 CFR 60.102a(i)(3)]
	5.56.18		<p>(4) The approval process for a request for a facility-specific NOX emissions limit is described in 40 CFR Section 60.102a(i)(4)(i) through (iii)</p> <p>(i) Approval by the Administrator of a facility-specific NOX emissions limit request will be based on the completeness, accuracy and reasonableness of the request. Factors that the EPA will consider in reviewing the request for approval include, but are not limited to, the following:</p> <p>(A) A demonstration that the process heater meets one of the four classes of process heaters outlined in 40 CFR Section 60.102a(i)(1);</p> <p>(B) A description of the low-NOX burner designs and other combustion modifications considered for reducing NOX emissions;</p> <p>(C) The combustion modification option selected; and</p> <p>(D) The operating conditions (firing rate, heater box temperature and excess oxygen concentration) at which the NOX emission level was established.</p> <p>(ii) If the request is approved by the Administrator, a facility-specific NOX emissions limit will be established at the NOX emission level demonstrated in the approved request.</p> <p>(iii) If the Administrator finds any deficiencies in the request, the request must be revised to address the deficiencies and be re-submitted for approval. [40 CFR 60.102a(i)(4)]</p>
	5.56.19		<p>Work Practice or Operational Standards: The Permittee shall conduct a root cause analysis of any applicable short-term emissions limit in 40 CFR Section 60.101a(g)(1) that causes a discharge to the atmosphere in excess of 227 kilograms per day (kg/day) (500 lb per day (lb/day)) of SO2 that would have been emitted if the emission limits had been met during one or more consecutive periods of excess emissions or any 24-hour period, whichever is shorter.</p> <p>[40 CFR 60.103a(c)]</p>
	5.56.20		<p>(d) Except as provided in 40 CFR Section 60.103a(f) and (g), a root cause analysis and corrective action analysis must be completed as soon as possible, but no later than 45 days after a discharge meeting one of the conditions specified in 40 CFR Section 60.103a(c)(1) through (3). Special circumstances affecting the number of root cause analyses and/or corrective</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>action analyses are provided in 40 CFR Section 103a(d)(1) through (5) of this section.</p> <p>(1) If a single continuous discharge meets any of the conditions specified in paragraphs (c)(1) through (3) of this section for 2 or more consecutive 24-hour periods, a single root cause analysis and corrective action analysis may be conducted.</p> <p>(5) Except as provided in 40 CFR Section 60.103a(d)(4), if discharges occur that meet any of the conditions specified in 40 CFR Section 60.103a(c)(1) through (3) for more than one affected facility in the same 24-hour period, initial root cause analyses shall be conducted for each affected facility. If the initial root cause analyses indicate that the discharges have the same root cause(s), the initial root cause analyses can be recorded as a single root cause analysis and a single corrective action analysis may be conducted. [40 CFR 60.103a(d)]</p>
	5.56.21		<p>(e) Except as provided 40 CFR Section 60.103a(f) and (g) of this section, each owner or operator of a fuel gas combustion device, flare subject to this subpart shall implement the corrective action(s) identified in the corrective action analysis conducted pursuant to paragraph (d) of this section in accordance with the applicable requirements in 40 CFR Section 60.103a(e)(1) through (3).</p> <p>(1) All corrective action(s) must be implemented within 45 days of the discharge for which the root cause and corrective action analyses were required or as soon thereafter as practicable. If an owner or operator concludes that corrective action should not be conducted, the owner or operator shall record and explain the basis for that conclusion no later than 45 days following the discharge as specified in 40 CFR Section 60.108a(c)(6)(ix).</p> <p>(2) For corrective actions that cannot be fully implemented within 45 days following the discharge for which the root cause and corrective action analyses were required, the owner or operator shall develop an implementation schedule to complete the corrective action(s) as soon as practicable.</p> <p>(3) No later than 45 days following the discharge for which a root cause and corrective action analyses were required, the owner or operator shall record the corrective action(s) completed to date, and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates as specified in 40 CFR Section 60.108a(c)(6)(x). [40 CFR 60.103a(e)]</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
	5.56.22		<p>Alternative means of emission limitation:</p> <p>(1) Each Permittee subject to the provisions of this section may apply to the Administrator for a determination of equivalence for any means of emission limitation that achieves a reduction in emissions of a specified pollutant at least equivalent to the reduction in emissions of that pollutant achieved by the controls required.</p> <p>(2) Determination of equivalence to the design, equipment, work practice or operational requirements of this section will be evaluated by the following guidelines:</p> <p>(i) Each Permittee applying for a determination of equivalence shall be responsible for collecting and verifying test data to demonstrate the equivalence of the alternative means of emission limitation.</p> <p>(ii) For each affected facility for which a determination of equivalence is requested, the emission reduction achieved by the design, equipment, work practice or operational requirements shall be demonstrated.</p> <p>(iii) For each affected facility for which a determination of equivalence is requested, the emission reduction achieved by the alternative means of emission limitation shall be demonstrated.</p> <p>(iv) Each Permittee applying for a determination of equivalence to a work practice standard 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.</p> <p>(v) The Administrator will compare the demonstrated emission reduction for the alternative means of emission limitation to the demonstrated emission reduction for the design, equipment, work practice or operational requirements and, if applicable, will consider the commitment in 40 CFR Section 60.103a(j)(2)(iv).</p> <p>(vi) The Administrator may condition the approval of the alternative means of emission limitation on requirements that may be necessary to ensure operation and maintenance to achieve the same emissions reduction as the design, equipment, work practice or operational requirements.</p> <p>(3) A Permittee may offer a unique approach to demonstrate the equivalence of any equivalent means of emission limitation.</p> <p>(4) Approval of the application for equivalence to the design, equipment, work practice or operational requirements of this section will be evaluated by the following guidelines:</p> <p>(i) After a request for determination of equivalence is received, the Administrator will publish a notice in the Federal</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>Register and provide the opportunity for public hearing if the Administrator judges that the request may be approved.</p> <p>(ii) 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</p> <p>(iii) 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.</p> <p>5) Manufacturers of equipment used to control emissions may apply to the Administrator for determination of equivalence for any alternative means of emission limitation that achieves a reduction in emissions achieved by the equipment, design and operational requirements of this section. The Administrator will make an equivalence determination according to the provisions of 40 CFR Section 60.103a(j)(2) through (4) of this section. [40 CFR 60.103a(j)]</p>
	5.56.23		<p>The Permittee shall conduct a performance test for the heater to demonstrate initial compliance with each applicable emissions limit in 40 CFR Section 60.102a according to the requirements of 40 CFR Section 60.8. The notification requirements of 40 CFR Section 60.8(d) apply to the initial performance test and to subsequent performance tests required by 40 CFR Section 60.104a(b) (or as required by the Administrator), but does not apply to performance tests conducted for the purpose of obtaining supplemental data because of continuous monitoring system breakdowns, repairs, calibration checks and zero and span adjustments.</p> <p>(c) In conducting the performance tests required by this subpart (or as requested by the Administrator), the owner or operator shall use the test methods in 40 CFR pt. 60, Appendices A-1 through A-8 or other methods as specified in this section, except as provided in 40 CFR Section 60.8(b). [40 CFR 60.104a(a) and (c)]</p>
	5.56.24		<p>The Permittee shall determine compliance with the NOX emissions limits in 40 CFR Section 60.102a(g) for a fuel gas combustion device according to the following test methods and procedures:</p> <p>(1) Method 1 of appendix A-1 to Part 60 for sample and velocity traverses;</p> <p>(2) Method 2 of appendix A-1 to Part 60 for velocity and volumetric flow rate;</p> <p>(3) Method 3, 3A, or 3B of appendix A-2 to part 60 for gas analysis. The method ANSI/ASME PTC 19.10-1981, Flue and Exhaust Gas Analyses, (incorporated by reference-see 40 CFR Section 60.17) is an acceptable alternative to EPA Method 3B</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			of appendix A-2 to Part 60 (5) Method 7, 7A, 7C, 7D, or 7E of appendix A-4 to Part 60 for moisture content and for the concentration of NOX calculated as NO2 ; the duration of each test run must be no less than 4 hours. The method ANSI/ASME PTC 19.10-1981, Flue and Exhaust Gas Analyses, (incorporated by reference - see 40 CFR Section 60.17) is an acceptable alternative to EPA Method 7 or 7C of appendix A-4 to Part 60. [40 CFR 60.104a(i)]
	5.56.25		(6) For process heaters with a rated heat capacity between 40 and 100 MMBtu/hr that elect to demonstrate continuous compliance with a maximum excess oxygen limit as provided in 40 CFR Section 60.107a(c)(6) or (d)(8), the owner or operator shall establish the O2 operating limit or O2 operating curve based on the performance test results according to the requirements in 40 CFR Section 60.104a(i)(6)(i) or (ii), respectively. (i) If a single O2 operating limit will be used: (A) Conduct the performance test following the methods provided in 40 CFR Section 60.104a(i)(1), (2), (3) and (5) of this section when the process heater is firing at no less than 70 percent of the rated heat capacity. (B) Each test will consist of three test runs. Calculate the NOX concentration for the performance test as the average of the NOX concentrations from each of the three test runs. If the NOX concentration for the performance test is less than or equal to the numerical value of the applicable NOX emissions limit (regardless of averaging time), then the test is considered to be a valid test. (C) Determine the average O2 concentration for each test run of a valid test. (D) Calculate the O2 operating limit as the average O2 concentration of the three test runs from a valid test. (ii) If an O2 operating curve will be used: (A) Conduct a performance test following the methods provided in 40 CFR Section 60.104a(i)(1), (2), (3) and (5) of this section at a representative condition for each operating range for which different O2 operating limits will be established. Different operating conditions may be defined as different firing rates (e.g., above 50 percent of rated heat capacity and at or below 50 percent of rated heat capacity) and/or, for co-fired process heaters, different fuel mixtures (e.g., primarily gas fired, primarily oil fired, and equally co-fired, i.e., approximately 50 percent of the input heating value is from fuel gas and approximately 50 percent of the input heating value is from fuel oil). Performance tests for different operating ranges may be conducted at different times.

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>(B) Each test will consist of three test runs. Calculate the NOX concentration for the performance test as the average of the NOX concentrations from each of the three test runs. If the NOX concentration for the performance test is less than or equal to the numerical value of the applicable NOX emissions limit (regardless of averaging time), then the test is considered to be a valid test.</p> <p>(C) If an operating curve is developed for different firing rates, conduct at least one test when the process heater is firing at no less than 70 percent of the rated heat capacity and at least one test under turndown conditions (i.e., when the process heater is firing at 50 percent or less of the rated heat capacity). If O2 operating limits are developed for co-fired process heaters based only on overall firing rates (and not by fuel mixtures), conduct at least one of the test runs for each test while the process heater is being supplied by both fuel gas and fuel oil and conduct at least one of the test runs while the process heater is being supplied solely by fuel gas.</p> <p>(D) Determine the average O2 concentration for each test run of a valid test.</p> <p>(E) Calculate the O2 operating limit for each operating range as the average O2 concentration of the three test runs from a valid test conducted at the representative conditions for that given operating range. (continued below). [40 CFR 60.104a(i)]</p>
	5.56.26		<p>(continued from above)</p> <p>(F) Identify the firing rates for which the different operating limits apply. If only two operating limits are established based on firing rates, the O2 operating limits established when the process heater is firing at no less than 70 percent of the rated heat capacity must apply when the process heater is firing above 50 percent of the rated heat capacity and the O2 operating limits established for turndown conditions must apply when the process heater is firing at 50 percent or less of the rated heat capacity.</p> <p>(G) Operating limits associated with each interval will be valid for 2 years or until another operating limit is established for that interval based on a more recent performance test specific for that interval, whichever occurs first. Permittees must use the operating limits determined for a given interval based on the most recent performance test conducted for that interval.</p> <p>(7) The owner or operator of a process heater complying with a NOX limit in terms of lb/MMBtu as provided in 40 CFR Section 60.102a(g)(2)(i)(B), (g)(2)(ii)(B), (g)(2)(iii)(B) or (g)(2)(iv)(B) or a process heater with a rated heat capacity between 40 and 100 MMBtu/hr that elects to demonstrate continuous compliance with a maximum excess O2 limit, as</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>provided in 40 CFR Section 60.107a(c)(6) or (d)(8), shall determine heat input to the process heater in MMBtu/hr during each performance test run by measuring fuel gas flow rate, fuel oil flow rate (as applicable) and heating value content according to the methods provided in 40 CFR Section 60.107a(d)(5), (d)(6), and (d)(4) or (d)(7), respectively.</p> <p>(8) The Permittee shall use Equation 8 of this section to adjust pollutant concentrations to 0-percent O₂ or 0- percent excess air. [40 CFR 60.104a(i)]</p>
	5.56.27		<p>The Permittee of a fuel gas combustion device that is subject to 40 CFR Section 60.102a(g)(1) and elects to comply with the H₂S concentration limits in 40 CFR Section 60.102a(g)(1)(ii) shall comply with 40 CFR Section 60.107a(a)(2). [40 CFR 60.107a(a)]</p>
	5.56.28		<p>The Permittee of a fuel gas combustion device that elects to comply with the H₂S concentration limits in 40 CFR Section 60.102a(g)(1)(ii) that is subject to the H₂S concentration requirement in 40 CFR Section 60.103a(h) shall install, operate, calibrate and maintain an instrument for continuously monitoring and recording the concentration by volume (dry basis) of H₂S in the fuel gases before being burned in any fuel gas combustion device.</p> <p>(i) The Permittee shall install, operate and maintain each H₂S monitor according to Performance Specification 7 of Appendix B to Part 60. The span value for this instrument is 300 ppmv H₂S.</p> <p>(ii) The Permittee shall conduct performance evaluations for each H₂ S monitor according to the requirements of 40 CFR Section 60.13(c) and Performance Specification 7 of appendix B to Part 60. The Permittee shall use Method 11, 15, or 15A of appendix A-5 to part 60 or Method 16 of appendix A-6 to Part 60 for conducting the relative accuracy evaluations. The method ANSI/ASME PTC 19.10-1981, Flue and Exhaust Gas Analyses, (incorporated by reference - see 40 CFR Section 60.17) is an acceptable alternative to EPA Method 15A of appendix A-5 to Part 60.</p> <p>(iii) The Permittee shall comply with the applicable quality assurance procedures in Appendix F to Part 60 for each H₂S monitor.</p> <p>(iv) Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location, if monitoring at this location accurately represents the concentration of H₂S in the fuel gas being burned in the respective fuel gas combustion devices. [40 CFR 60.107a(a)(2)]</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
	5.56.29		<p>(3) The Permittee of a fuel gas combustion device is not required to comply with 40 CFR Section 60.107a(a)(1) or (2) for fuel gas streams that are exempt under 40 CFR Section 60.102a(g)(1)(iii) or 60.103a(h) or, for fuel gas streams combusted in a process heater, other fuel gas combustion device or flare that are inherently low in sulfur content. Fuel gas streams meeting one of the requirements in 40 CFR Section 60.017a(a)(3)(i) through (iv) of this section will be considered inherently low in sulfur content.</p> <p>(i) Pilot gas for heaters.</p> <p>(ii) Fuel gas streams that meet a commercial-grade product specification for sulfur content of 30 ppmv or less. In the case of a liquefied petroleum gas (LPG) product specification in the pressurized liquid state, the gas phase sulfur content should be evaluated assuming complete vaporization of the LPG and sulfur containing-compounds at the product specification concentration.</p> <p>(iii) Fuel gas streams produced in process units that are intolerant to sulfur contamination, such as fuel gas streams produced in the hydrogen plant, catalytic reforming unit, isomerization unit, and HF alkylation process units.</p> <p>(iv) Other fuel gas streams that an owner or operator demonstrates are low-sulfur according to the procedures in 40 CFR Section 60.107a(b).</p> <p>(4) If the composition of an exempt fuel gas stream changes, the Permittee must follow the procedures in 40 CFR Section 60.107a(b)(3) of this section. [40 CFR 60.107a(a)(3)]</p>
	5.56.30		<p>(b) Exemption from H2S monitoring requirements for low-sulfur fuel gas streams. The Permittee of a fuel gas combustion device may apply for an exemption from the H2S monitoring requirements in 40 CFR Section 60.107a(a)(2) for a fuel gas stream that is inherently low in sulfur content. A fuel gas stream that is demonstrated to be low-sulfur is exempt from the monitoring requirements of 40 CFR Section 60.107a(a)(1) and (2) until there are changes in operating conditions or stream composition.</p> <p>1) The Permittee shall submit to the Administrator a written application for an exemption from monitoring. The application must contain the following information:</p> <p>(i) A description of the fuel gas stream/system to be considered, including submission of a portion of the appropriate piping diagrams indicating the boundaries of the fuel gas stream/system and the affected fuel gas combustion device(s) or flare(s) to be considered;</p> <p>(ii) A statement that there are no crossover or entry points for sour gas (high H2S content) to be introduced into the fuel gas stream/system (this should be shown in the piping diagrams);</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>(iii) An explanation of the conditions that ensure low amounts of sulfur in the fuel gas stream (i.e., control equipment or product specifications) at all times;</p> <p>(iv) The supporting test results from sampling the requested fuel gas stream/system demonstrating that the sulfur content is less than 5 ppm H₂S. Sampling data must include, at minimum, 2 weeks of daily monitoring (14 grab samples) for frequently operated fuel gas streams/systems; for infrequently operated fuel gas streams/systems, seven grab samples must be collected unless other additional information would support reduced sampling. The Permittee shall use detector tubes (length-of-stain tube type measurement) following the Gas Processors Association Standard 2377-86, Test for Hydrogen Sulfide and Carbon Dioxide in Natural Gas Using Length of Stain Tubes, 1986 Revision (incorporated by reference, see 40 CFR Section 60.17), with ranges 0-10/0-100 ppm (N = 10/1) to test the applicant fuel gas stream for H₂S; and</p> <p>(v) A description of how the 2 weeks (or seven samples for infrequently operated fuel gas streams/systems) of monitoring results compares to the typical range of H₂S concentration (fuel quality) expected for the fuel gas stream/system going to the affected fuel gas combustion device or flare (e.g., the 2 weeks of daily detector tube results for a frequently operated loading rack included the entire range of products loaded out and, therefore, should be representative of typical operating conditions affecting H₂S content in the fuel gas stream going to the loading rack flare).</p> <p>(2) The effective date of the exemption is the date of submission of the information required in 40 CFR Section 60.107a(b)(1) of this section.</p> <p>(3) No further action is required unless refinery operating conditions change in such a way that affects the exempt fuel gas stream/system (e.g., the stream composition changes). If such a change occurs, the Permittee shall follow the procedures in 40 CFR Section 60.107a(b)(3)(i), (b)(3)(ii), or (b)(3)(iii).</p> <p>(i) If the operation change results in a sulfur content that is still within the range of concentrations included in the original application, the Permittee shall conduct an H₂S test on a grab sample and record the results as proof that the concentration is still within the range.</p> <p>(ii) If the operation change results in a sulfur content that is outside the range of concentrations included in the original application, the Permittee may submit new information following the procedures of 40 CFR Section 60.107a(b)(1) within 60 days (or within 30 days after the seventh grab</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			sample is tested for infrequently operated process units). (continued below). [40 CFR 60.107a(a)(3)]
	5.56.31		<p>(continued from above)</p> <p>(iii) If the operation change results in a sulfur content that is outside the range of concentrations included in the original application and the Permittee chooses not to submit new information to support an exemption, the Permittee must begin H2S monitoring using daily stain sampling to demonstrate compliance. The Permittee must begin monitoring according to the requirements in 40 CFR Section 60.107a(a)(1) or (a)(2) as soon as practicable, but in no case later than 180 days after the operation change. During daily stain tube sampling, a daily sample exceeding 162 ppmv is an exceedance of the 3-hour H2S concentration limit. The Permittee of a fuel gas combustion device must also determine a rolling 365-day average using the stain sampling results; an average H2S concentration of 5 ppmv must be used for days within the rolling 365-day period prior to the operation change.</p> <p>(c) Process heaters complying with the NOx concentration-based limit. The Permittee of a process heater subject to the NOx emissions limit in 40 CFR Section 60.102a(g)(2) and electing to comply with the applicable emissions limit in 40 CFR Section 60.102a(g)(2)(i)(A), (g)(2)(ii)(A), (g)(2)(iii)(A) or (g)(2)(iv)(A) shall install, operate, calibrate and maintain an instrument for continuously monitoring and recording the concentration (dry basis, 0-percent excess air) of NOx emissions into the atmosphere according to the requirements in 40 CFR Section 60.107a(c)(1) through (5) except as provided in 40 CFR Section 60.107a(c)(6) of this section. The monitor must include an O2 monitor for correcting the data for excess air.</p> <p>(1) Except as provided in 40 CFR Section 60.107a(c)(6), the Permittee shall install, operate and maintain each NOx monitor according to Performance Specification 2 of Appendix B to Part 60. The span value of this NOx monitor must be between 2 and 3 times the applicable emissions limit, inclusive.</p> <p>(2) The Permittee shall conduct performance evaluations of each NOx monitor according to the requirements in 40 CFR Section 60.13(c) and Performance Specification 2 of Appendix B to Part 60. The Permittee shall use Methods 7, 7A, 7C, 7D, or 7E of appendix A-4 to part 60 for conducting the relative accuracy evaluations. The method ANSI/ASME PTC 19.10-1981, Flue and Exhaust Gas Analyses, (incorporated by reference, see 40 CFR Section 60.17) is an acceptable alternative to EPA Method 7 or 7C of appendix A-4 to Part 60.</p> <p>(3) The Permittee shall install, operate, and maintain each O2</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>monitor according to Performance Specification 3 of Appendix B to Part 60. The span value of this O2 monitor must be selected between 10 and 25 percent, inclusive.</p> <p>(4) The Permittee shall conduct performance evaluations of each O2 monitor according to the requirements in 40 CFR Section 60.13(c) and Performance Specification 3 of appendix B to part 60. Method 3, 3A, or 3B of appendix A-2 to part 60 shall be used for conducting the relative accuracy evaluations. The method ANSI/ASME PTC 19.10-1981, Flue and Exhaust Gas Analyses, (incorporated by reference-see 40 CFR Section 60.17) is an acceptable alternative to EPA Method 3B of Appendix A-2 to Part 60.</p> <p>(5) The Permittee shall comply with the quality assurance requirements in Procedure 1 of Appendix F to Part 60 for each NOx and O2 monitor, including quarterly accuracy determinations for NOx monitors, annual accuracy determinations for O2 monitors, and daily calibration drift tests.</p> <p>(continued below). [40 CFR 60.107a(b)]</p>
	5.56.32		<p>(continued from above)</p> <p>(6) The Permittee of a process heater that has a rated heating capacity of less than 100 MMBtu and is equipped with combustion modification-based technology to reduce NOx emissions (i.e., low-NOX burners, ultra-low-NOx burners) may elect to comply with the monitoring requirements in 40 CFR Section 60.017a(c)1) through (5) or, alternatively, the owner or operator of such a process heater shall conduct biennial performance tests according to the requirements in 40 CFR Section 60.104a(i), establish a maximum excess O2 operating limit or operating curve according to the requirements in 40 CFR Section 60.104a(i)(6) and comply with the O2 monitoring requirements in 40 CFR Section 60.107a(c)(3) through (5) to demonstrate compliance.</p> <p>If an O2 operating curve is used (i.e., if different O2 operating limits are established for different operating ranges), the Permittee of the process heater must also monitor fuel gas flow rate, fuel oil flow rate (as applicable) and heating value content according to the methods provided in 40 CFR Section 60.107a(d)(5), (d)(6), and (d)(4) or (d)(7) of this section, respectively. [40 CFR 60.107a(c)]</p>
	5.56.33		<p>(d) Process heaters complying with the NOx heating value-based or mass-based limit. The Permittee of a process heater subject to the NOx emissions limit in 40 CFR Section 60.102a(g)(2) and electing to comply with the applicable emissions limit in 40 CFR Section 60.102a(g)(2)(i)(B) or (g)(2)(ii)(B) shall install, operate, calibrate and maintain an instrument for continuously monitoring and recording the concentration (dry basis, 0-percent excess air) of NOx</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>emissions into the atmosphere and shall determine the F factor of the fuel gas stream no less frequently than once per day according to the monitoring requirements in 40 CFR Section 60.107a(d)(1) through (4).</p> <p>(1) Except as provided in 40 CFR Section 60.107a(d)(8), the Permittee shall install, operate and maintain each NOx monitor according to the requirements in 40 CFR Section 60.107a(c)(1) through (5). The monitor must include an O2 monitor for correcting the data for excess air.</p> <p>(2) Except as provided in 40 CFR Section 60.107a(d)(3), the Permittee shall sample and analyze each fuel stream fed to the process heater using the methods and equations in section 12.3.2 of EPA Method 19 of Appendix A-7 to Part 60 to determine the F factor on a dry basis. If a single fuel gas system provides fuel gas to several process heaters, the F factor may be determined at a single location in the fuel gas system provided it is representative of the fuel gas fed to the affected process heater.</p> <p>(3) As an alternative to the requirements in 40 CFR Section 60.107a(d)(2), the Permittee of a gas-fired process heater shall install, operate and maintain a gas composition analyzer and determine the average F factor of the fuel gas using the factors in Table 1 of 40 CFR pt. 60, subp. Ja and Equation 10 of this section. If a single fuel gas system provides fuel gas to several process heaters, the F factor may be determined at a single location in the fuel gas system provided it is representative of the fuel gas fed to the affected process heater.</p> <p>$F_d = 1,000,000 \times \text{Summation } (X_i \times \text{MEV}_i) / \text{Summation } (X_i \times \text{MHC}_i)$</p> <p>Where: F_d = F factor on dry basis at 0-percent excess air, dscf/MMBtu. X_i = mole or volume fraction of each component in the fuel gas. MEV_i = molar exhaust volume, dry standard cubic feet per mole (dscf/mol). MHC_i = molar heat content, Btu per mole (Btu/mol). 1,000,000 = unit conversion, Btu per MMBtu.</p> <p>(4) The Permittee shall conduct performance evaluations of each compositional monitor according to the requirements in Performance Specification 9 of Appendix B to Part 60. Any of the following methods shall be used for conducting the relative accuracy evaluations: (i) EPA Method 18 of Appendix A-6 to Part 60;</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			(ii) ASTM D1945-03 (Reapproved 2010)(incorporated by reference, see 40 CFR Section 60.17); (iii) ASTM D1946-90 (Reapproved 2006)(incorporated by reference, see 40 CFR Section 60.17); (iv) ASTM D6420-99 (Reapproved 2004)(incorporated by reference, see 40 CFR Section 60.17); (v) GPA 2261-00 (incorporated by reference, see 40 CFR Section 60.17); or (vi) ASTM UOP539-97 (incorporated by reference, see 40 CFR 60.17). (continued below). [40 CFR 60.107a(d)]
	5.56.34		(continued from above) 8) The Permittee of a process heater that has a rated heating capacity of less than 100 MMBtu and is equipped with combustion modification based technology to reduce NOx emissions (i.e., low-NOx burners or ultra-low NOx burners) may elect to comply with the monitoring requirements in 40 CFR Section 60.107a(d)(1) through (7) or, alternatively, the owner or operator of such a process heater shall conduct biennial performance tests according to the requirements in 40 CFR Section 60.104a(i), establish a maximum excess O2 operating limit or operating curve according to the requirements in 40 CFR Section 60.104a(i)(6) and comply with the O2 monitoring requirements in 40 CFR Section 60.107a(c)(3) through (5) of this section to demonstrate compliance. If an O2 operating curve is used (i.e., if different O2 operating limits are established for different operating ranges), the owner or operator of the process heater must also monitor fuel gas flow rate, fuel oil flow rate (as applicable) and heating value content according to the methods provided in 40 CFR Section 60.107a(d)(5), (d)(6), and (d)(4) or (d)(7), respectively. [40 CFR 60.107a(d)]
	5.56.35		(i) Excess emissions. For the purpose of reports required by 40 CFR Section 60.7(c), periods of excess emissions for fuel gas combustion devices subject to the emissions limitations in 40 CFR Section 60.102a(g) are defined as specified in 40 CFR Section 60.107a(i)(1) through (5). Determine a rolling 3-hour or a rolling daily average as the arithmetic average of the applicable 1-hour averages (e.g., a rolling 3-hour average is the arithmetic average of three contiguous 1-hour averages). Determine a rolling 30-day or a rolling 365-day average as the arithmetic average of the applicable daily averages (e.g., a rolling 30-day average is the arithmetic average of 30 contiguous daily averages). ii) If the Permittee of a fuel gas combustion device elects to comply with the H2S concentration limits in 40 CFR Section

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>60.102a(g)(1)(ii), each rolling 3-hour period during which the average concentration of H2S as measured by the H2S continuous monitoring system required under 40 CFR Section 60.107a(a)(2) exceeds 162 ppmv and each rolling 365-day period during which the average concentration as measured by the H2S continuous monitoring system under 40 CFR Section 60.107a(a)(2) exceeds 60 ppmv.</p> <p>(iii) If the Permittee of a fuel gas combustion device becomes subject to the requirements of daily stain tube sampling in 40 CFR Section 60.107a(b)(3)(iii) each day during which the daily concentration of H2S exceeds 162 ppmv and each rolling 365-day period during which the average concentration of H2S exceeds 60 ppmv. [40 CFR 60.107a(i)]</p>
	5.56.36		<p>(3) Rolling 30-day average NOx limits for fuel gas combustion devices. Each rolling 30-day period during which the average concentration of NOx as measured by the NOx continuous monitoring system required under 40 CFR Section 60.107a(c) or (d) exceeds:</p> <p>(i) For a natural draft process heater, 40 ppmv and, if monitored according to 40 CFR Section 60.107a(d), 0.040 lb/MMBtu;</p> <p>(iv) The site-specific limit determined by the Administrator under 40 CFR Section 60.102a(i).</p> <p>(5) Daily O2 limits for fuel gas combustion devices. Each day during which the concentration of O2 as measured by the O2 continuous monitoring system required under 40 CFR Section 60.107a(c)(6) of this section exceeds the O2 operating limit or operating curve determined during the most recent biennial performance test. [40 CFR 60.107a(i)]</p>
	5.56.37		<p>(a) Each owner or operator subject to the emissions limitations in 40 CFR Section 60.102a shall comply with the notification, recordkeeping, and reporting requirements in 40 CFR Section 60.7 and other requirements as specified in this section. [40 CFR 60.108a(a)]</p>
	5.56.38		<p>(c) The Permittee shall maintain the following records:</p> <p>(5) For each fuel gas stream to which one of the exemptions listed in 40 CFR Section 60.107a(a)(3) applies, records of the specific exemption determined to apply for each fuel stream. If the Permittee applies for the exemption described in 40 CFR Section 60.107a(a)(3)(iv), the Permittee must keep a copy of the application as well as the letter from the Administrator granting approval of the application.(6) Records of discharges greater than 500 lb SO2 in excess of the allowable limits from a fuel gas combustion device in any 24-hour period as required by 40 CFR Section 60.103a(c). The following information shall be recorded no later than 45 days following the end of a discharge exceeding the thresholds:</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>(i) A description of the discharge.</p> <p>(ii) The date and time the discharge was first identified and the duration of the discharge.</p> <p>(iii) The measured or calculated cumulative quantity of gas discharged over the discharge duration. If the discharge duration exceeds 24 hours, record the discharge quantity for each 24-hour period. Engineering calculations are allowed for fuel gas combustion devices, but are not allowed for flares, except for those complying with the alternative monitoring requirements in 40 CFR Section 60.107a(g).</p> <p>(v) For each discharge greater than 500 lb SO₂ in excess of the applicable short-term emissions limit in 40 CFR Section 60.102a(g)(1) from a fuel gas combustion device, either the measured concentration of H₂S in the fuel gas or the measured concentration of SO₂ in the stream discharged to the atmosphere. Process knowledge can be used to make these estimates for fuel gas combustion devices, but cannot be used to make these estimates for flares, except as provided in 40 CFR Section 60.107a(e)(4).</p> <p>vii) For each discharge greater than 500 lb SO₂ in excess of the allowable limits from a fuel gas combustion device the cumulative quantity of H₂S and SO₂ released into the atmosphere. For fuel gas combustion devices, assume 99-percent conversion of H₂S to SO₂ .</p> <p>(viii) The steps that the Permittee took to limit the emissions during the discharge.</p> <p>(ix) The root cause analysis and corrective action analysis conducted as required in 40 CFR Section 60.103a(d), including an identification of the affected facility, the date and duration of the discharge, a statement noting whether the discharge resulted from the same root cause(s) identified in a previous analysis and either a description of the recommended corrective action(s) or an explanation of why corrective action is not necessary under 40 CFR Section 60.103a(e). [40 CFR 60.108a(c)]</p>
	5.56.39		<p>(d) Each Permittee subject to this subpart shall submit an excess emissions report for all periods of excess emissions according to the requirements of 40 CFR Section 60.7(c) except that the report shall contain the information specified in 40 CFR Section 60.108a(d)(1) through (7).</p> <p>(1) The date that the exceedance occurred;</p> <p>(2) An explanation of the exceedance;</p> <p>(3) Whether the exceedance was concurrent with a startup, shutdown, or malfunction of an affected facility or control system; and</p> <p>(4) A description of the action taken, if any.</p> <p>(5) The information described in 40 CFR Section 60.108a(c)(6) for all discharges listed in 40 CFR Section 60.108a(c)(6).</p> <p>(6) For any periods for which monitoring data are not</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>available, any changes made in operation of the emission control system during the period of data unavailability which could affect the ability of the system to meet the applicable emission limit. Operations of the control system and affected facility during periods of data unavailability are to be compared with operation of the control system and affected facility before and following the period of data unavailability.</p> <p>(7) A written statement, signed by a responsible official, certifying the accuracy and completeness of the information contained in the report. [40 CFR 60.108a(d)]</p>
	5.56.40		<p>The Permittee must comply with 40 CFR pt. 63, subp. DDDDD by the date of the final rule publication in the Federal Register. [40 CFR 63.7495(a)]</p>
	5.56.41		<p>The Permittee must demonstrate initial compliance with the applicable work practice standards in Table 3 to 40 CFR pt. 63, subp. DDDDD within the applicable annual, biennial, or 5-year schedule as specified in 40 CFR Section 63.7540(a) following the initial compliance date specified in 40 CFR Section 63.7495(a). Thereafter, you are required to complete the applicable annual, biennial, or 5-year tune-up as specified in 40 CFR Section 63.7540(a).</p> <p>[40 CFR 63.7510]</p>
	5.56.42		<p>The Permittee must conduct an annual, biennial, or 5- year performance tune-up according 40 CFR Sections 63.7540(a)(10), (a)(11), or (a)(12), respectively. Each annual tune-up specified in 40 CFR Section 63.7540(a)(10) must be no more than 13 months after the previous tune-up. The first annual, biennial, or 5-year tune-up must be no later than 13 months, 25 months, or 61 months, respectively, after the initial startup of the new or reconstructed affected source. [40 CFR 63.7515(d)]</p>
	5.56.43		<p>The Permittee must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in 40 CFR Section 63.7545(e).</p> <p>[40 CFR 63.7530(f)]</p>
	5.56.44		<p>The Permittee must demonstrate continuous compliance with the work practice standards in Table 3 of 40 CFR pt. 63, subp. DDDDD. [40 CFR 63.7540(a)]</p>
	5.56.45		<p>The Permittee must conduct an annual tune-up of the boiler or process heater to demonstrate continuous compliance as specified in 40 CFR Section 3.7540(a)(10)(i) through (a)(10)(vi) below.</p> <p>(i) As applicable, inspect the burner, and clean or replace any</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>components of the burner as necessary (you may delay the burner inspection until the next scheduled unit shutdown). At units where entry into a piece of process equipment or into a storage vessel is required to complete the tune-up inspections, inspections are required only during planned entries into the storage vessel or process equipment;</p> <p>(ii) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available;</p> <p>(iii) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (you may delay the inspection until the next scheduled unit shutdown). Units that produce electricity for sale may delay the inspection until the first outage, not to exceed 36 months from the previous inspection;</p> <p>(iv) Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any NOx requirement to which the unit is subject;</p> <p>(v) Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer; and</p> <p>(vi) Maintain on-site and submit, if requested by the Administrator, an annual report containing the information in (a)(10)(vi)(A) through (C) below. (A) The concentrations of CO in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler or process heater; (B) A description of any corrective actions taken as a part of the tune-up; and (C) The type and amount of fuel used over the 12 months prior to the tune-up, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel used by each unit. [40 CFR 63.7540(a)(10)]</p>
	5.56.46		If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			startup. [40 CFR 63.7540(a)(13)]
	5.56.47		<p>The Permittee must submit to the Administrator all of the notifications in 40 CFR Section 63.7(b) and (c), 40 CFR Section 63.8(e), (f)(4) and (6), and 40 CFR Section 63.9(b) through (h) that apply to you by the dates specified.</p> <p>(b) As specified in 40 CFR Section 63.9(b)(2), if you startup your affected source before the date of publication in the Federal Register, the Permittee must submit an Initial Notification not later than 120 days after the date the rule publication in the Federal Register. [40 CFR 63.7545(a)]</p>
	5.56.48		<p>If you are not required to conduct an initial compliance demonstration as specified in 40 CFR Section 63.7530(a), the Notification of Compliance Status must only contain the information.</p> <p>A description of the affected unit(s) including identification of which subcategories the unit is in, the design heat input capacity of the unit, a description of the add-on controls used on the unit to comply with this subpart, description of the fuel(s) burned, including whether the fuel(s) were a secondary material determined by you or the EPA through a petition process to be a non-waste under 40 CFR Section 241.3 of this chapter, whether the fuel(s) were a secondary material processed from discarded on-hazardous secondary materials within the meaning of 40 CFR Section 241.3 of this chapter, and justification for the selection of fuel(s) burned during the compliance demonstration.</p> <p>(i) This facility complies with the required initial tuneup according to the procedures 40 CFR Section 63.7540(a)(10)(i) through (vi). Except for units that burn only natural gas, refinery gas, or other gas 1 fuel, or units that qualify for a statutory exemption as provided in section 129(g)(1) of the Clean Air Act, include the following: No secondary materials that are solid waste were combusted in any affected unit. [40 CFR 63.7545(e)]</p>
	5.56.49		<p>The Permittee must submit only an annual, biennial, or 5-year compliance report, as applicable, as specified below, instead of a semi-annual compliance report.</p> <p>(1) The first compliance report must cover the period beginning on the compliance date that is specified for each boiler or process heater in 40 CFR Section 63.7495 and ending on July 31 or January 31, whichever date is the first date that occurs at least 180 days (or 1, 2, or 5 years, as applicable, if submitting an annual, biennial, or 5-year compliance report) after the compliance date that is specified for your source in</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			40 CFR Section 63.7495. (2) The first annual, biennial, or 5- year compliance report must be postmarked or submitted no later than January 31. (3) Annual, biennial, and 5-year compliance reports must cover the applicable 1-, 2-, or 5-year periods from January 1 to December 31. (4) Annual, biennial, and 5-year compliance reports must be postmarked or submitted no later than January 31 [40 CFR 63.7750(b)]
	5.56.50		(c) A compliance report must contain the following information depending on how the facility chooses to comply with the limits set in this rule. (1) If the facility is subject to a the requirements of a tune up they must submit a compliance report with the information in (c)(5)(i)-(iv), and (xiv). (5)(i) Company and Facility name and address. (ii) Process unit information, emissions limitations, and operating parameter limitations. (iii) Date of report and beginning and ending dates of the reporting period. (iv) The total operating time during the reporting period. (xiv) Include the date of the most recent tune-up for each unit subject to only the requirement to conduct an annual, biennial, or 5-year tune-up according to 40 CFR Section 63.7540(a)(10), (a)(11), or (a)(12) respectively. Include the date of the most recent burner inspection if it was not done annually, biennially, or on a 5-year period and was delayed until the next scheduled or unscheduled unit shutdown. [40 CFR 63.7750(c)]
	5.56.51		If there are no deviations from the requirements for work practice standards in Table 3 of 40 CFR pt. 63, subp. DDDDD that apply to you, a statement that there were no deviations from the emission limitations and work practice standards during the reporting period. If you have a deviation from a work practice standard during the reporting period, the report must contain the information in 40 CFR Section 63.7750(d). [40 CFR 63.7750]
	5.56.52		(a) Your records must be in a form suitable and readily available for expeditious review, according to 40 CFR Section 63.10(b)(1). (b) As specified in 40 CFR Section 63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. (c) You must keep each record on site, or they must be accessible from on site (for example, through a computer network), for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action,

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			report, or record, according to 40 CFR Section 63.10(b)(1). You can keep the records off site for the remaining 3 years. [40 CFR 63.7560]
EQUI 45	EU095	FCC Catalyst Hopper (Spent)	
	5.57.1		Total Particulate Matter <= 0.30 grains per dry standard cubic foot unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735. [Minn. R. 7011.0710, subp. 1(A)]
	5.57.2		Opacity <= 20 percent opacity; except for one six-minute period per hour of not more than 60 percent opacity. [Minn. R. 7011.0710, subp. 1(B)]
EQUI 46	EU096	Terminal Building Emergency Engine	
	5.58.1		Nitrogen Oxides <= 2.0 grams per horsepower-hour OR. [40 CFR 60.4233(e), Minn. R. 7011.2310]
	5.58.2		Nitrogen Oxides <= 160 grams per horsepower-hour or 150 ppmvd at 15% oxygen. [40 CFR 60.4233(e), Minn. R. 7011.2310]
	5.58.3		Carbon Monoxide <= 4.0 grams per horsepower-hour OR. [40 CFR 60.4233(e), Minn. R. 7011.2310]
	5.58.4		Carbon Monoxide <= 540 grams per horsepower-hour or 150 ppmvd at 15% oxygen. [40 CFR 60.4233(e), Minn. R. 7011.2310]
	5.58.5		Volatile Organic Compounds <= 1.0 grams per horsepower-hour OR. [40 CFR 60.4233(e), Minn. R. 7011.2310]
	5.58.6		Volatile Organic Compounds <= 86 grams per horsepower-hour or 150 ppmvd at 15% oxygen. [40 CFR 60.4233(e), Minn. R. 7011.2310]
	5.58.7		Monitoring: If the emergency stationary SI internal combustion engine that is greater than or equal to 130 HP and less than 500 HP that was built on or after January 1, 2011, the owner or operator must install a non-resettable hour meter. [40 CFR 60.4237(b), Minn. R. 7011.2310]
	5.58.8		Compliance Requirement: If the Permittee operates and maintains the certified stationary SI internal combustion engine and control device according to the manufacturer's emission-related written instructions, the Permittee must keep records of conducted maintenance to demonstrate compliance, but no performance testing is required if you are a Permittee. If the Permittee adjusts engine settings according to and consistent with the manufacturer's instructions, your stationary SI internal combustion engine will not be considered out of compliance. [40 CFR 60.4243(a)(1), Minn. R. 7011.2310]
	5.58.9		The Permittee may conduct maintenance checks and readiness testing of such units which is limited to 100 hours per year.

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>There is no time limit on the use of emergency stationary ICE in emergency situations. The Permittee may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the Permittee maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency ICE beyond 100 hours per year. Emergency stationary ICE may operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing.</p> <p>The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity. For Permittees of emergency engines, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as permitted in this section, is prohibited. [40 CFR 60.4243(d), Minn. R. 7011.2310]</p>
	5.58.10		<p>The Permittee of stationary SI natural gas fired engines may operate their engines using propane for a maximum of 100 hours per year as an alternative fuel solely during emergency operations, but must keep records of such use. [40 CFR 60.4243(e), Minn. R. 7011.2310]</p>
	5.58.11		<p>The Permittee must keep records of the following: Maintenance conducted on the engine and if the stationary SI internal combustion engine is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards and information as required in 40 CFR pts. 90, 1048, 1054, and 1060, as applicable. All stationary SI emergency ICE greater than or equal to 130 HP and less than 500 HP manufactured on or after July 1, 2011 that do not meet the standards applicable to non-emergency engines, the Permittee must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. [40 CFR 60.4245, Minn. R. 7011.2310]</p>
EQUI 47	EU097	#1 Reformer Vent	
	5.59.1		<p>Prepare an operation, maintenance, and monitoring plan according to the requirements in 40 CFR Section 63.1574(f) and operate at all times according to the procedures in the plan. [40 CFR 63.1566(a)(5), 40 CFR 63.1567(a)(3), Minn. R. 7011.7280]</p>
	5.59.2		<p>Operation and maintenance requirements: At all times, including periods of startup, shutdown, and malfunction, the</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			Permittee shall operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. [40 CFR 63.6(e)(3)(ii)&(iii), Minn. R. 7011.7000, Minn. R. 7011.7280, Minn. R. 7017.2015, subp. 3]
	5.59.3		Correct malfunctions as soon as practicable in accordance with the startup, shutdown, and malfunction plan (SSMP). [40 CFR 63.6(e)(3)(ii)&(iii), Minn. R. 7011.7000, Minn. R. 7011.7280]
	5.59.4		Record occurrence of startup, shutdown, or malfunction of process equipment or malfunction of air pollution control equipment. Document conformance with or deviation from SSMP. [40 CFR 63.6(e)(2), 40 CFR 63.6(e)(3)(i)&(ii), 40 CFR 63.6(e)(3)(v)-(vii), Minn. R. 7011.7000, Minn. R. 7011.7280]
	5.59.5		Maintain up-to-date SSMP. [40 CFR 63.6(e)(1)(iii), 40 CFR 63.6(e)(2), 40 CFR 63.6(e)(3)(ii)&(iii), 40 CFR 63.6(e)(3)(v)-(vii), Minn. R. 7011.7000, Minn. R. 7011.7280]
	5.59.6		If a malfunction occurs that was not addressed in the SSMP, revise the SSMP within 45 days after the event. [40 CFR 63.6(e)(3)(viii), Minn. R. 7011.7000, Minn. R. 7011.7280]
	5.59.7		Except as provided in paragraph (a)(4) of this section, the emission limitations in Tables 15 and 16 of 40 CFR pt. 63, subp. UUU, apply to emissions from catalytic reforming unit process vents associated with initial catalytic depressuring and catalyst purging operations that occur prior to the coke burn-off cycle. The emission limitations in Tables 15 and 16 of 40 CFR pt.63, subp. UUU do not apply to coke burn-off, catalyst rejuvenation, reduction or activation vents, or to the control systems used for these vents. The emission limitations in Tables 14 and 15 of 40 CFR pt. 63, subp. UUU do not apply to emissions from process vents during depressuring and purging operations when the reactor vent pressure in 5 pounds per square inch gauge (psig) or less. Vent emissions to a flare that meets the requirements for control devices in 40 CFR Section 63.11(b). Visible emissions from a flare must not exceed a total of 5 minutes during any 2-hour operating period for this source. [40 CFR 63.1566(a)(1), Minn. R. 7011.7280]
	5.59.8		The flare pilot light must be present at all times and the flare must be operating (in a ready status) at all times that emissions may be vented to it from this source. [40 CFR 63.1566(a)(2), Minn. R. 7011.7280]
	5.59.9		The Permittee must install and operate a monitoring device such as a thermocouple, an ultraviolet beam sensor, or infrared sensor to continuously detect the presence of a pilot flame. [40 CFR 63.1566(b)(1), Minn. R. 7011.7280]
	5.59.10		When emissions are vented to a flare for control, maintain visible emissions from a flare below a total of 5 minutes during any 2 consecutive hours. Collecting flare monitoring data according to 40 CFR Section 63.1572; and recording for each 1-

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			hour period whether the monitor was continuously operating and the pilot light was continuously present during each 1-hour period. [40 CFR 63.1566(c)(1), Minn. R. 7011.7280]
	5.59.11		You shall demonstrate continuous compliance during coke burn-off and catalyst rejuvenation by: reduce uncontrolled emissions of hydrogen chloride (HCl) by 92 percent by weight or to a concentration of 30 ppmv (dry basis), corrected to 3 percent oxygen. The Permittee shall demonstrate continuous compliance during coke burn-off and catalyst rejuvenation. [40 CFR 63.1567(a)(1), Minn. R. 7011.7280]
	5.59.12		The daily average HCl concentration in the catalyst regenerator exhaust gas must not exceed the limit established during the performance test. [40 CFR 63.1567(a)(2), Minn. R. 7011.7280]
	5.59.13		Colormetric tube sampling system to measure the HCl concentration in the catalyst regenerator exhaust gas during coke burn-off and catalyst rejuvenation. The colormetric tube sampling system must meet the requirements in Table 41 of 40 CFR pt. 63, subp. UUU. [40 CFR 63.1567(b)(1), Minn. R. 7011.7280]
	5.59.14		The Permittee shall maintain a 92 percent HCl emission reduction or an HCl concentration no more than 30 ppmv (dry basis), corrected to 3 percent oxygen. [40 CFR 63.1567(c)(1), Minn. R. 7011.7280]
	5.59.15		Continuous Compliance for HCl concentration: Measure and record the HCl concentration at least 4 times during a regeneration cycle (equally spaced in time) or every 4 hours, whichever is more frequent, using a colormetric tube sampling system; calculating the daily average HCl concentration as an arithmetic average of all samples collected in each 24-hour period from the start of the coke burn-off cycle or for the entire duration of the coke burn-off cycle if the coke burn-off cycle is less than 24 hours; and maintaining the daily average HCl concentration below the applicable operating limit. [40 CFR 63.1567(c)(1), Minn. R. 7011.7280]
	5.59.16		Use a colormetric tube sampling system with a printed numerical scale in ppmv, a standard measurement range of 1 to 10 ppmv (or 1 to 30 ppmv if applicable), and a standard deviation for measured values of no more than +/-15 percent. System must include a gas detection pump and hot air probe if needed for the measurement range. [40 CFR 63.1567(c)(1), Minn. R. 7011.7280]
	5.59.17		If there are no deviations to report, the compliance report must include a statement that there were no deviations from any emission limitation or work practice standards during the reporting period or the information in 40 CFR Section 63.1575(d) or (e), if applicable the Permittee may submit reports required by other regulations in place of as part of the compliance report if the report contains the required information. [40 CFR 63.1575, Minn. R. 7011.7280]

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
	5.59.18		Meet the requirements for bypass lines set forth in 40 CFR Section 63.1569. [40 CFR 63.1569(a)&(c), Minn. R. 7011.7280]
EQUI 48	EU098	#2 Reformer Vent	
	5.60.1		Prepare an operation, maintenance, and monitoring plan according to the requirements in 40 CFR Section 63.1574(f) and operate at all times according to the procedures in the plan. [40 CFR 63.1566(a)(5), 40 CFR 63.1567(a)(3), Minn. R. 7011.7280]
	5.60.2		Operation and maintenance requirements: At all times, including periods of startup, shutdown, and malfunction, the owner or operator must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. [40 CFR 63.6(e)(3)(ii)&(iii), Minn. R. 7011.7000, Minn. R. 7011.7280, Minn. R. 7017.2015, subp. 3]
	5.60.3		Correct malfunctions as soon as practicable in accordance with the startup, shutdown, and malfunction plan (SSMP). [40 CFR 63.6(e)(3)(ii)&(iii), Minn. R. 7011.7280, Minn. R. 7011.7000]
	5.60.4		Record occurrence of startup, shutdown, or malfunction of process equipment or malfunction of air pollution control equipment. Document conformance with or deviation from SSMP. [40 CFR 63.6(e)(2), 40 CFR 63.6(e)(3)(i)&(ii), 40 CFR 63.6(e)(3)(v)-(vii), Minn. R. 7011.7000, Minn. R. 7011.7280]
	5.60.5		Maintain up-to-date SSMP. [40 CFR 63.6(e)(1)(iii), 40 CFR 63.6(e)(2), 40 CFR 63.6(e)(3)(ii)&(iii), 40 CFR 63.6(e)(3)(v)-(vii), Minn. R. 7011.7000, Minn. R. 7011.7280]
	5.60.6		If a malfunction occurs that was not addressed in the SSMP, revise the SSMP within 45 days after the event. [40 CFR 63.6(e)(3)(viii), Minn. R. 7011.7000, Minn. R. 7011.7280]
	5.60.7		Except as provided in paragraph (a)(4) of this section, the emission limitations in Tables 15 and 16 of 40 CFR pt. 63, subp. UUU, apply to emissions from catalytic reforming unit process vents associated with initial catalytic depressuring and catalyst purging operations that occur prior to the coke burn-off cycle. The emission limitations in Tables 15 and 16 of 40 CFR pt.63, subp. UUU do not apply to coke burn-off, catalyst rejuvenation, reduction or activation vents, or to the control systems used for these vents. The emission limitations in Tables 14 and 15 of 40 CFR pt. 63, subp. UUU do not apply to emissions from process vents during depressuring and purging operations when the reactor vent pressure in 5 pounds per square inch gauge (psig) or less. Vent emissions to a flare that meets the requirements for control devices in 40 CFR Section 63.11(b). Visible emissions from a flare must not exceed a total of 5 minutes during any 2-hour operating period for this source. [40 CFR 63.1566(a)(1), Minn. R. 7011.7280]

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
	5.60.8		The flare pilot light must be present at all times and the flare must be operating (in a ready status) at all times that emissions may be vented to it from this source. [40 CFR 63.1566(a)(2), Minn. R. 7011.7280]
	5.60.9		The Permittee must install and operate a monitoring device such as a thermocouple, an ultraviolet beam sensor, or infrared sensor to continuously detect the presence of a pilot flame. [40 CFR 63.1566(b)(1), Minn. R. 7011.7280]
	5.60.10		When emissions are vented to a flare for control, maintain visible emissions from a flare below a total of 5 minutes during any 2 consecutive hours. Collecting flare monitoring data according to 40 CFR Section 63.1572; and recording for each 1-hour period whether the monitor was continuously operating and the pilot light was continuously present during each 1-hour period. [40 CFR 63.1566(c)(1), Minn. R. 7011.7280]
	5.60.11		The Permittee shall demonstrate continuous compliance during coke burn-off and catalyst rejuvenation by: reduce uncontrolled emissions of hydrogen chloride (HCl) by 92 percent by weight or to a concentration of 30 ppmv (dry basis), corrected to 3 percent oxygen. The Permittee shall demonstrate continuous compliance during coke burn-off and catalyst rejuvenation. [40 CFR 63.1567(a)(1), Minn. R. 7011.7280]
	5.60.12		The daily average HCl concentration in the catalyst regenerator exhaust gas must not exceed the limit established during the performance test. [40 CFR 63.1567(a)(2), Minn. R. 7011.7280]
	5.60.13		Colormetric tube sampling system to measure the HCl concentration in the catalyst regenerator exhaust gas during coke burn-off and catalyst rejuvenation. The colormetric tube sampling system must meet the requirements in Table 41 of 40 CFR pt. 63, subp. UUU. [40 CFR 63.1567(b)(1), Minn. R. 7011.7280]
	5.60.14		The Permittee shall maintain a 92 percent HCl emission reduction or an HCl concentration no more than 30 ppmv (dry basis), corrected to 3 percent oxygen. [40 CFR 63.1567(c)(1), Minn. R. 7011.7280]
	5.60.15		Continuous Compliance for HCl concentration: Measure and record the HCl concentration at least 4 times during a regeneration cycle (equally spaced in time) or every 4 hours, whichever is more frequent, using a colormetric tube sampling system; calculating the daily average HCl concentration as an arithmetic average of all samples collected in each 24-hour period from the start of the coke burn-off cycle or for the entire duration of the coke burn-off cycle if the coke burn-off cycle is less than 24 hours; and maintaining the daily average HCl concentration below the applicable operating limit. [40 CFR 63.1567(c)(1), Minn. R. 7011.7280]
	5.60.16		Use a colormetric tube sampling system with a printed numerical scale in ppmv, a standard measurement range of 1

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			to 10 ppmv (or 1 to 30 ppmv if applicable), and a standard deviation for measured values of no more than +/-15 percent. System must include a gas detection pump and hot air probe if needed for the measurement range. [40 CFR 63.1567(c)(1), Minn. R. 7011.7280]
	5.60.17		If there are no deviations to report, the compliance report must include a statement that there were no deviations from any emission limitation or work practice standards during the reporting period or the information in 40 CFR Section 63.1575(d) or (e), if applicable the Permittee may submit reports required by other regulations in place of as part of the compliance report if the report contains the required information. [40 CFR 63.1575, Minn. R. 7011.7280]
	5.60.18		Meet the requirements for bypass lines set forth in 40 CFR Section 63.1569. [40 CFR 63.1569(a)&(c), Minn. R. 7011.7280]
EQUI 49	EU101	New Alky Deluge System Pump Engine	
	5.61.1		Operate and maintain the engine according to the manufacturer's written instructions or procedures developed by the Permittee that are approved by the engine manufacturer, over the entire life of the engine. The Permittee may only change those settings that are permitted by the manufacturer. [40 CFR 60.4206, 40 CFR 60.4211(a), Minn. R. 7011.2305]
	5.61.2		Diesel fuel must meet the requirements of 40 CFR Section 80.510(a). All NRLM diesel fuel is subject to the following per-gallon standards: (1) Sulfur content: 500 parts per million (ppm) maximum; and (2) Cetane index or aromatic content: (i) a minimum cetane index of 40, or (ii) a maximum aromatic content of 35 volume percent. [40 CFR 60.4207(a), Minn. R. 7011.2305]
	5.61.3		Beginning June 1, 2010, diesel fuel must meet the requirements of 40 CFR Section 80.510(b). All NR and LM diesel fuel is subject to the following per-gallon standards: (1) Sulfur content: (i) 15 ppm maximum for NR diesel fuel and/or (ii) 500 ppm maximum for LM diesel fuel; and (2) Cetane index or aromatic content: (i) a minimum cetane index of 40, or (ii) a maximum aromatic content of 35 volume percent. [40 CFR 60.4207(b), Minn. R. 7011.2305]
	5.61.4		The Permittee must install a non-resettable hour meter prior to startup of the emergency engine. [40 CFR 60.4209(a), Minn. R. 7011.2305]
	5.61.5		The Permittee must comply with the emission standards specified in this subpart, you must do all of the following: (1) Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions;

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>(2) Change only those emission-related settings that are permitted by the manufacturer; and</p> <p>(3) Meet the requirements of 40 CFR pts. 89, 94 and/or 1068, as they apply to you. [40 CFR 60.4211(a), Minn. R. 7011.2305]</p>
	5.61.6		<p>If you are an owner or operator of a 2007 model year and later stationary CI internal combustion engine and must comply with the emission standards specified in 40 CFR Section 60.4205(b), you must comply by purchasing an engine certified to the emission standards in 40 CFR Section 60.4205(b) for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's emission-related specifications. [40 CFR 60.4211(c), Minn. R. 7011.2305]</p>
	5.61.7		<p>Emergency stationary ICE may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. There is no time limit on the use of emergency stationary ICE in emergency situations. The Permittee may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the Permittee maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency ICE beyond 100 hours per year. Emergency stationary ICE may operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing.</p> <p>The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. For Permittees of emergency engines, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as permitted in this section, is prohibited. [40 CFR 60.4211(f), Minn. R. 7011.2305]</p>
	5.61.8		<p>If the Permittee does not install, configure, operate, and maintain your engine and control device according to the manufacturer's emission-related written instructions, or the Permittee changes emission-related settings in a way that is not permitted by the manufacturer, you must demonstrate compliance as follows:</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>The Permittee must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, the Permittee must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer. The Permittee must conduct subsequent performance testing every 8,760 hours of engine operation or 3 years, whichever comes first, thereafter to demonstrate compliance with the applicable emission standards. [40 CFR 60.4211(g), Minn. R. 7011.2305]</p>
	5.61.9		<p>Starting with the model years shown in table 5 to 40 CFR pt. 60, subp. IIII (for engines greater than or equal to 25 hp but less than 75 hp, model year 2013; for engines greater than or equal to 75 hp but less than 175 hp, model year 2012; for engines greater than or equal to 175 hp, model year 2011), if the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the Permittee must keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The Permittee must record the time of operation of the engine and the reason the engine was in operation during that time. [40 CFR 60.4214(b), Minn. R. 7011.2305]</p>
EQUI 114	TK034	Isom Charge, Isomerate, Heavy Naphtha, Reformate (APC 141)	
	5.62.1		<p>(a) The Permittee of each storage vessel to which this subpart applies which contains a petroleum liquid which, as stored, has a true vapor pressure equal to or greater than 10.3 kPa (1.5 psia) but not greater than 76.6 kPa (11.1 psia) shall equip the storage vessel with one of the following:</p> <p>(1) An external floating roof, consisting of a pontoon type or double deck type cover that rests on the surface of the liquid contents and is equipped with a closure device between the tank wall and the roof edge. Except as provided in paragraph (a)(1)(ii)(D) of this section, the closure device is to consist of two seals, one above the other. The lower seal is referred to as the primary seal and the upper seal is referred to as the</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>secondary seal. The roof is to be floating on the liquid at all times (i.e., off the roof leg supports) except during initial fill and when the tank is completely emptied and subsequently refilled. The process of emptying and refilling when the roof is resting on the leg supports shall be continuous and shall be accomplished as rapidly as possible.</p> <p>(i) The primary seal is to be either a metallic shoe seal, a liquid mounted seal, or a vapor mounted seal. Each seal is to meet the following requirements:</p> <p>(A) The accumulated area of gaps between the tank wall and the metallic shoe seal or the liquid mounted seal shall not exceed 212 cm[2] per meter of tank diameter (10.0 in[2] per ft of tank diameter) and the width of any portion of any gap shall not exceed 3.81 cm (1 1/2 in).</p> <p>(B) The accumulated area of gaps between the tank wall and the vapor mounted seal shall not exceed 21.2 cm[2] per meter of tank diameter (1.0 in[2] per ft of tank diameter) and the width of any portion of any gap shall not exceed 1.27 cm (1/2 in).</p> <p>(C) One end of the metallic shoe is to extend into the stored liquid and the other end is to extend a minimum vertical distance of 61 cm (24 in) above the stored liquid surface.</p> <p>(D) There are to be no holes, tears, or other openings in the shoe, seal fabric, or seal envelope.</p> <p>(ii) The secondary seal is to meet the following requirements:</p> <p>(A) The secondary seal is to be installed above the primary seal so that it completely covers the space between the roof edge and the tank wall except as provided in paragraph (a)(1)(ii)(B) of this section.</p> <p>(B) The accumulated area of gaps between the tank wall and the secondary seal used in combination with a metallic shoe or liquid mounted primary seal shall not exceed 21.2 cm[2] per meter of tank diameter (1.0 in[2] per ft. of tank diameter) and the width of any portion of any gap shall not exceed 1.27 cm (1/2 in.). There shall be no gaps between the tank wall and the secondary seal used in combination with a vapor mounted primary seal.</p> <p>(C) There are to be no holes, tears or other openings in the seal or seal fabric.</p> <p>(D) The Permittee is exempted from the requirements for secondary seals and the secondary seal gap criteria when performing gap measurements or inspections of the primary seal.</p> <p>(iii) Each opening in the roof except for automatic bleeder vents and rim space vents is to provide a projection below the liquid surface. Each opening in the roof except for automatic</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>bleeder vents, rim space vents and leg sleeves is to be equipped with a cover, seal 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 or as described in paragraph (a)(1)(iv) of this section. Automatic bleeder vents 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. Rim vents are to be set to open when the roof is being floated off the roof legs supports or at the manufacturer's recommended setting.</p> <p>(iv) Each emergency roof drain is to be provided with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening. [40 CFR 60.112a(a), 40 CFR pt. 60, subp. Ka, Minn. R. 7011.15</p>
	5.62.2		<p>(2) A fixed roof with an internal floating type cover equipped with a continuous closure device between the tank wall and the cover edge. The cover is to be floating at all times, (i.e., off the leg supports) except during initial fill and when the tank is completely emptied and subsequently refilled. The process of emptying and refilling when the cover is resting on the leg supports shall be continuous and shall be accomplished as rapidly as possible. Each opening in the cover except for automatic bleeder vents and the rim space vents is to provide a projection below the liquid surface.</p> <p>Each opening in the cover except for automatic bleeder vents, rim space vents, stub drains and leg sleeves is to be equipped with a cover, seal, 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. Automatic bleeder vents are to be closed at all times when the cover is floating except when the cover is being floated off or is being landed on the leg supports. Rim vents are to be set to open only when the cover is being floated off the leg supports or at the manufacturer's recommended setting. [40 CFR 60.112a(a)(2), Minn. R. 7011.1520(A)]</p>
	5.62.3		<p>(3) A vapor recovery system which collects all VOC vapors and gases discharged from the storage vessel, and a vapor return or disposal system which is designed to process such VOC vapors and gases so as to reduce their emission to the atmosphere by at least 95 percent by weight. (4) A system equivalent to those described in paragraphs (a)(1), (a)(2), or (a)(3) of this section as provided in 40 CFR Section 60.114a. [40 CFR 60.112a, Minn. R. 7011.1520(C)]</p>
	5.62.4		<p>(a) Except as provided in 40 CFR Section 60.8(b) compliance with the standard prescribed in 40 CFR Section 60.112a shall be determined as follows or in accordance with an equivalent procedure as provided in 40 CFR Section 60.114a.</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>(1) The Permittee of each storage vessel to which this subpart applies which has an external floating roof shall meet the following requirements: (i) Determine the gap areas and maximum gap widths between the primary seal and the tank wall and between the secondary seal and the tank wall according to the following frequency:</p> <p>(A) For primary seals, gap measurements shall be performed within 60 days of the initial fill with petroleum liquid and at least once every five years thereafter. All primary seal inspections or gap measurements which require the removal or dislodging of the secondary seal shall be accomplished as rapidly as possible and the secondary seal shall be replaced as soon as possible.</p> <p>(B) For secondary seals, gap measurements shall be performed within 60 days of the initial fill with petroleum liquid and at least once every year thereafter.</p> <p>(C) If any storage vessel is out of service for a period of one year or more, subsequent refilling with petroleum liquid shall be considered initial fill for the purposes of paragraphs (a)(1)(i)(A) and (a)(1)(i)(B) of this section.</p> <p>(D) Keep records of each gap measurement at the plant for a period of at least 2 years following the date of measurement. Each record shall identify the vessel on which the measurement was performed and shall contain the date of the seal gap measurement, the raw data obtained in the measurement process required by paragraph (a)(1)(ii) of this section and the calculation required by paragraph (a)(1)(iii) of this section.</p> <p>(E) If either the seal gap calculated in accord with paragraph (a)(1)(iii) of this section or the measured maximum seal gap exceeds the limitations specified by 40 CFR Section 60.112a of this subpart, a report shall be furnished to the Administrator within 50 days of the date of measurements. The report shall identify the vessel and list each reason why the vessel did not meet the specifications of 40 CFR Section 60.112a. The report shall also describe the actions necessary to bring the storage vessel into compliance with the specifications of 40 CFR Section 60.112a.</p> <p>(ii) Determine gap widths in the primary and secondary seals individually by the following procedures:</p> <p>(A) Measure seal gaps, if any, at one or more floating roof levels when the roof is floating off the roof leg supports.</p> <p>(B) Measure seal gaps around the entire circumference of the tank in each place where a 1/8 diameter uniform probe passes freely (without forcing or binding against seal) between the seal and the tank wall and measure the circumferential distance of each such location.</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>(C) The total surface area of each gap described in paragraph (a)(1)(ii)(B) of this section shall be determined by using probes of various widths to accurately measure the actual distance from the tank wall to the seal and multiplying each such width by its respective circumferential distance.</p> <p>(iii) Add the gap surface area of each gap location for the primary seal and the secondary seal individually. Divide the sum for each seal by the nominal diameter of the tank and compare each ratio to the appropriate ratio in the standard in 40 CFR Section 60.112a(a)(1)(i) and 40 CFR Section 60.112a(a)(1)(ii).</p> <p>(iv) Provide the Administrator 30 days prior notice of the gap measurement to afford the Administrator the opportunity to have an observer present. [40 CFR 60.113a(a)(1), Minn. R. 7011.1520(C)]</p>
	5.62.5		<p>(2) The Permittee of each storage vessel to which this subpart applies which has a vapor recovery and return or disposal system shall provide the following information to the Administrator on or before the date on which construction of the storage vessel commences:</p> <p>(i) Emission data, if available, for a similar vapor recovery and return or disposal system used on the same type of storage vessel, which can be used to determine the efficiency of the system. A complete description of the emission measurement method used must be included.</p> <p>(ii) The manufacturer's design specifications and estimated emission reduction capability of the system.</p> <p>(iii) The operation and maintenance plan for the system.</p> <p>(iv) Any other information which will be useful to the Administrator in evaluating the effectiveness of the system in reducing VOC emissions. [40 CFR 60.113a(a)(2), Minn. R. 7011.1520(C)]</p>
	5.62.6		<p>(a) Except as provided in paragraph (d) of this section, the owner or operator subject to this subpart shall maintain a record of the petroleum liquid stored, the period of storage, and the maximum true vapor pressure of that liquid during the respective storage period. [40 CFR 60.115a(a), Minn. R. 7011.1520(C)]</p>
	5.62.7		<p>(a) Any owner or operator subject to the provisions of this part shall furnish the Administrator written notification as follows:</p> <p>(4) A notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies, unless that change is specifically exempted under an applicable subpart or in 40 CFR Section 60.14(e). This notice shall be postmarked 60 days or as soon as practicable before the change is commenced and shall</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change. The Administrator may request additional relevant information subsequent to this notice. [40 CFR 60.7(a)(4), Minn. R. 7019.0100]
	5.62.8		(b) Any owner or operator subject to the provisions of this part shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative. [40 CFR 60.7(b), Minn. R. 7019.0100]
	5.62.9		(b) Performance tests shall be conducted and data reduced in accordance with the test methods and procedures contained in each applicable subpart unless the Administrator (1) specifies or approves, in specific cases, the use of a reference method with minor changes in methodology, (2) approves the use of an equivalent method, (3) approves the use of an alternative method the results of which he has determined to be adequate for indicating whether a specific source is in compliance, (4) waives the requirement for performance tests because the owner or operator of a source has demonstrated by other means to the Administrator's satisfaction that the affected facility is in compliance with the standard, or (5) approves shorter sampling times and smaller sample volumes when necessitated by process variables or other factors. Nothing in this paragraph shall be construed to abrogate the Administrator's authority to require testing under section 114 of the Act. [40 CFR 60.8(b), Minn. R. 7017.2015]
	5.62.10		(c) Performance tests shall be conducted under such conditions as the Administrator shall specify to the plant operator based on representative performance of the affected facility. The owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of the performance tests. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard. [40 CFR 60.8(c), Minn. R. 7017.2015]
	5.62.11		(d) The owner or operator of an affected facility shall provide the Administrator at least 30 days prior notice of any performance test, except as specified under other subparts, to afford the Administrator the opportunity to have an observer

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			present. [40 CFR 60.8(d), Minn. R. 7017.2015]
	5.62.12		(d) At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. [40 CFR 60.11(d), Minn. R. 7017.2015]
	5.62.13		(a) Except as provided under paragraphs and (f) of this section, any physical or operational change to an existing facility which results in an increase in the emission rate to the atmosphere of any pollutant to which a standard applies shall be considered a modification within the meaning of section 111 of the Act. Upon modification, an existing facility shall become an affected facility for each pollutant to which a standard applies and for which there is an increase in the emission rate to the atmosphere. [40 CFR 60.14(a), Minn. R. 7011.0050]
	5.62.14		Except as provided in paragraph 40 CFR Section 63.640(h)(4), existing sources shall be in compliance no later than August 18, 1998, except as provided in 40 CFR Section 63.6(c) or unless an extension has been granted by the Administrator as provided in 40 CFR Section 63.6(i). [40 CFR 63.640(h)(2), 40 CFR pt. 63, subp. CC, Minn. R. 7011.7280(A)]
	5.62.15		Existing Group 1 floating roof storage vessels shall be in compliance with 40 CFR Section 63.646 at the next degassing and cleaning activity or within 10 years after [August 18, 1995], whichever is first. [40 CFR 63.640(h)(4), Minn. R. 7011.7280(A)]
	5.62.16		(5) After the compliance dates specified in paragraph (h) of this section [August 18, 1998], a Group 1 storage vessel that is also subject to the provisions of 40 CFR pt. 60, subp. K or Ka is required to only comply with the provisions of this subpart. [40 CFR 60.640(n)(5), 40 CFR pt. 60, subp. Ka, Minn. R. 7011.7280(A)]
	5.62.17		(1) An owner or operator may use good engineering judgment or test results to determine the stored liquid weight percent total organic HAP for purposes of group determination. Data, assumptions, and procedures used in the determination shall be documented. [40 CFR 63.646(b)(1), Minn. R. 7011.7280(A)]
	5.62.18		(1) If a cover or lid is installed on an opening on a floating roof, the cover or lid shall remain closed except when the cover or lid must be open for access. (2) Rim space vents are to be set to open only when the

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>floating roof is not floating or when the pressure beneath the rim seal exceeds the manufacturer's recommended setting.</p> <p>(3) Automatic bleeder vents 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. [40 CFR 63.646(f), Minn. R. 7011.7280(A)]</p>
	5.62.19		<p>Refers to 40 CFR pt. 63, subp. G (SOCMI NESHAP) 40 CFR Section 63.119-63.121. [40 CFR 63.646, Minn. R. 7011.7280(A)]</p>
	5.62.20		<p>(1) For each Group 1 storage vessel (as defined in table 5 of this subpart for existing sources and table 6 for new sources) storing a liquid for which the maximum true vapor pressure of the total organic hazardous air pollutants in the liquid is less than 76.6 kilopascals, the owner or operator shall reduce hazardous air pollutants emissions to the atmosphere either by operating and maintaining a fixed roof and internal floating roof, an external floating roof, an external floating roof converted to an internal floating roof, or a closed vent system and control device, or routing the emissions to a process or a fuel gas system in accordance with the requirements in paragraph (b), (c), (d), (e), or (f) of this section, or equivalent as provided in 40 CFR Section 63.121 of this subpart. [40 CFR 63.119(a)(1), Minn. R. 7011.7040]</p>
	5.62.21		<p>(b) The Permittee who elects to use a fixed roof and an internal floating roof, as defined in 40 CFR Section 63.111 of this subpart, to comply with the requirements of paragraph (a)(1) of this section shall comply with the requirements specified in paragraphs (b)(1) through (b)(6) of this section. [Note: The intent of paragraphs (b)(1) and (b)(2) of this section is to avoid having a vapor space between the floating roof and the stored liquid for extended periods. Storage vessels may be emptied for purposes such as routine storage vessel maintenance, inspections, petroleum liquid deliveries, or transfer operations. Storage vessels where liquid is left on walls, as bottom clingage, or in pools due to floor irregularity are considered completely empty.]</p> <p>(1) The internal floating roof shall be floating on the liquid surface at all times except when the floating roof must be supported by the leg supports during the periods specified in paragraphs (b)(1)(i) through (b)(1)(iii) of this section.</p> <p>(i) During the initial fill.</p> <p>(ii) After the vessel has been completely emptied and degassed.</p> <p>(iii) When the vessel is completely emptied before being subsequently refilled.</p> <p>(2) When the floating roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as soon as practical. [40 CFR 63.119(b)(1) - (2), Minn. R. 7011.7040]</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
	5.62.22		<p>(3) Each internal floating roof shall be equipped with a closure device between the wall of the storage vessel and the roof edge. Except as provided in paragraph (b)(3)(iv) of this section, the closure device shall consist of one of the devices listed in paragraph (b)(3)(i), (b)(3)(ii), or (b)(3)(iii) of this section.</p> <p>(i) A liquid mounted seal as defined in 40 CFR Section 63.111 of this subpart.</p> <p>(ii) A metallic shoe seal as defined in 40 CFR Section 63.111 of this subpart.</p> <p>(iii) 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 internal floating roof. The lower seal may be vapor mounted, but both must be continuous seals.</p> <p>(iv) If the internal floating roof is equipped with a vapor mounted seal as of [July 15, 1994], the requirement for one of the seal options specified in paragraphs (b)(3)(i), (b)(3)(ii), and (b)(3)(iii) of this section does not apply until the earlier of the dates specified in paragraphs (b)(3)(iv)(A) and (b)(3)(iv)(B) of this section.</p> <p>(A) The next time the storage vessel is emptied and degassed.</p> <p>(B) No later than 10 years after [August 15, 1995].</p> <p>(4) Automatic bleeder vents 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. [40 CFR 63.119(b)(3) - (4), Minn. R. 7011.7040]</p>
	5.62.23		<p>(c) The Permittee who elects to use an external floating roof, as defined in 40 CFR Section 63.111 of this subpart, to comply with the requirements of paragraph (a)(1) of this section shall comply with the requirements specified in paragraphs (c)(1) through (c)(4) of this section. [Paragraph 2 excepted per 63.646]</p> <p>(1) Each external floating roof shall be equipped with a closure device between the wall of the storage vessel and the roof edge.</p> <p>(i) Except as provided in paragraph (c)(1)(iv) of this section, the closure device is to consist of two seals, one above the other. The lower seal is referred to as the primary seal and the upper seal is referred to as the secondary seal.</p> <p>(ii) Except as provided in paragraph (c)(1)(v) of this section, the primary seal shall be either a metallic shoe seal or a liquid mounted seal.</p> <p>(iii) Except during the inspections required by 40 CFR Section 63.120(b) of this subpart, both the primary seal and the secondary seal shall completely cover the annular space between the external floating roof and the wall of the storage vessel in a continuous fashion.</p> <p>(iv) If the external floating roof is equipped with a liquid</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>mounted or metallic shoe primary seal as of [July 15, 1994], the requirement for a secondary seal in paragraph (c)(1)(i) of this section does not apply until the earlier of the dates specified in paragraphs (c)(1)(iv)(A) and (c)(1)(iv)(B) of this section.</p> <p>(A) The next time the storage vessel is emptied and degassed. (B) No later than 10 years after [August 18, 1995]. (v) If the external floating roof is equipped with a vapor mounted primary seal and a secondary seal as of [July 15, 1994], the requirement for a liquid mounted or metallic shoe primary seal in paragraph (c)(1)(ii) of this section does not apply until the earlier of the dates specified in paragraphs (c)(1)(v)(A) and (c)(1)(v)(B) of this section.</p> <p>(A) The next time the storage vessel is emptied and degassed. (B) No later than 10 years after [August 18, 1995].</p> <p>(3) The external floating roof shall be floating on the liquid surface at all times except when the floating roof must be supported by the leg supports during the periods specified in paragraphs (c)(3)(i) through (c)(3)(iii) of this section.</p> <p>(i) During the initial fill. (ii) After the vessel has been completely emptied and degassed. (iii) When the vessel is completely emptied before being subsequently refilled.</p> <p>(4) When the floating roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as soon as possible. [40 CFR 63.119(c)(1),(3),&(4), Minn. R. 7011.7040]</p>
	5.62.24		<p>(d) The Permittee who elects to use an external floating roof converted to an internal floating roof (i.e., fixed roof installed above external floating roof) to comply with paragraph (a)(1) of this section shall comply with paragraphs (d)(1) and (d)(2) of this section.</p> <p>(1) Comply with the requirements for internal floating roof vessels specified in paragraphs (b)(1), (2), and (3) of this section. [40 CFR 63.119(d)(1), Minn. R. 7011.7040]</p>
	5.62.25		<p>(e) The Permittee who elects to use a closed vent system and control device, as defined in 40 CFR Section 63.111 of this subpart, to comply with the requirements of paragraph (a)(1) or (a)(2) of this section shall comply with the requirements specified in paragraphs (e)(1) through (e)(5) of this section.</p> <p>(1) Except as provided in paragraph (e)(2) of this section, the control device shall be designed and operated to reduce inlet emissions of total organic HAP by 95 percent or greater. If a flare is used as the control device, it shall meet the specifications described in the general control device</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>requirements of 40 CFR Section 63.11(b) of subp. A of this part.</p> <p>(2) If the Permittee can demonstrate that a control device installed on a storage vessel on or before [July 15, 1994] is designed to reduce inlet emissions of total organic HAP by greater than or equal to 90 percent but less than 95 percent, then the control device is required to be operated to reduce inlet emissions of total organic HAP by 90 percent or greater.</p> <p>(3) Periods of planned routine maintenance of the control device, during which the control device does not meet the specifications of paragraph (e)(1) or (e)(2) of this section, as applicable, shall not exceed 240 hours per year.</p> <p>(4) The specifications and requirements in paragraphs (e)(1) and (e)(2) of this section for control devices do not apply during periods of planned routine maintenance.</p> <p>(5) The specifications and requirements in paragraphs (e)(1) and (e)(2) of this section for control devices do not apply during a control system malfunction.</p> <p>(6) The Permittee may use a combination of control devices to achieve the required reduction of total organic hazardous air pollutants specified in paragraph (e)(1) of this section. The Permittee may use a combination of control devices installed on a storage vessel on or before [July 15, 1994] to achieve the required reduction of total organic hazardous air pollutants specified in paragraph (e)(2) of this section. [40 CFR 63.119(e)(1) - (6), Minn. R. 7011.7040]</p>
	5.62.26		<p>(f) The Permittee who elects to route emissions to a fuel gas system or to a process, as defined in 40 CFR Section 63.111 of this subpart, to comply with the requirements of paragraph (a)(1) or (a)(2) of this section shall comply with the requirements in paragraphs (f)(1) through (f)(3) of this section, as applicable.</p> <p>(1) If emissions are routed to a fuel gas system, there is no requirement to conduct a performance test or design evaluation. If emissions are routed to a process, the organic hazardous air pollutants in the emissions shall predominantly meet one of, or a combination of, the ends specified in paragraphs (f)(1)(i) through (f)(1)(iv) of this section. The Permittee shall comply with the compliance demonstration requirements in 40 CFR Section 63.120(f).</p> <p>(i) Recycled and/or consumed in the same manner as a material that fulfills the same function in that process;</p> <p>(ii) Transformed by chemical reaction into materials that are</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>not organic hazardous air pollutants; (iii) Incorporated into a product; and/or (iv) Recovered.</p> <p>(2) If the emissions are conveyed by a system other than hard piping, any conveyance system operated under positive pressure shall be subject to the requirements of 40 CFR Section 63.148 of this subpart.</p> <p>(3) The fuel gas system or process shall be operating at all times when organic hazardous air pollutants emissions are routed to it except as provided in 40 CFR Section 63.102(a)(1) of subp. F of this part and in paragraphs (f)(3)(i) through (f)(3)(iii) of this section. Whenever the Permittee by passes the fuel gas system or process, the Permittee shall comply with the recordkeeping requirement in 40 CFR Section 63.123(h) of this subpart. Bypassing is permitted if the Permittee complies with one or more of the conditions specified in paragraphs (f)(3)(i) through (f)(3)(iii) of this section.</p> <p>(i) The liquid level in the storage vessel is not increased; (ii) The emissions are routed through a closed vent system to a control device complying with 40 CFR Section 63.119(e) of this subpart; or (iii) The total aggregate amount of time during which the emissions by bypass the fuel gas system or process during the calendar year without being routed to a control device, for all reasons (except start ups/shutdowns/malfunctions or product changeovers of flexible operation units and periods when the storage vessel has been emptied and degassed), does not exceed 240 hours. [40 CFR 63.119(f)(1) - (3), Minn. R. 7011.7040]</p>
	5.62.27		<p>(a) To demonstrate compliance with 40 CFR Section 63.119(b) of this subpart (storage vessel equipped with a fixed roof and internal floating roof) or with 40 CFR Section 63.119(d) of this subpart (storage vessel equipped with an external floating roof converted to an internal floating roof), the Permittee shall comply with the requirements in paragraphs (a)(1) through (a)(7) of this section.</p> <p>(1) The Permittee shall visually inspect the internal floating roof, the primary seal, and the secondary seal (if one is in service), according to the schedule specified in paragraphs (a)(2) and (a)(3) of this section.</p> <p>(2) For vessels equipped with a single seal system, the Permittee shall perform the inspections specified in paragraphs (a)(2)(i) and (a)(2)(ii) of this section.</p> <p>(i) Visually inspect the internal floating roof and the seal through manholes and roof hatches on the fixed roof at least once every 12 months after initial fill, or at least once every 12</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>months after the compliance date specified in 40 CFR Section 63.640(h) of subp. CC of this part.</p> <p>(ii) Visually inspect the internal floating roof and the seal each time the storage vessel is emptied and degassed, and at least once every 10 years after the compliance date specified in 40 CFR Section 63.640(h) of subp. CC of this part. [40 CFR 63.120(a)(1) - (2), Minn. R. 7011.7040]</p>
	5.62.28		<p>(3) For vessels equipped with a double seal system as specified in 40 CFR Section 63.119(b)(3)(iii) of this subpart, the Permittee shall perform either the inspection required in paragraph (a)(3)(i) of this section or the inspections required in both paragraphs (a)(3)(ii) and (a)(3)(iii) of this section.</p> <p>(i) The Permittee shall visually inspect the internal floating roof, the primary seal, and the secondary seal each time the storage vessel is emptied and degassed and at least once every 5 years after the compliance date specified in 40 CFR Section 63.640(h) of subp. CC of this part; or</p> <p>(ii) The Permittee shall visually inspect the internal floating roof and the secondary seal through manholes and roof hatches on the fixed roof at least once every 12 months after initial fill, or at least once every 12 months after the compliance date specified in 40 CFR Section 63.640(h) of subp. CC of this part, and</p> <p>(iii) Visually inspect the internal floating roof, the primary seal, and the secondary seal each time the vessel is emptied and degassed and at least once every 10 years after the compliance date specified in 40 CFR Section 63.640(h) of subp. CC of this part.</p> <p>(4) If during the inspections required by paragraph (a)(2)(i) or (a)(3)(ii) of this section, the internal floating roof is not resting on the surface of the liquid inside the storage vessel and is not resting on the leg supports; or there is liquid on the floating roof; or the seal is detached; or there are holes or tears in the seal fabric; or there are visible gaps between the seal and the wall of the storage vessel, the Permittee shall repair the items or empty and remove the storage vessel from service within 45 calendar days. If a failure that is detected during inspections required by paragraph (a)(2)(i) or (a)(3)(ii) of this section cannot be repaired within 45 calendar days and if the vessel cannot be emptied within 45 calendar days, the Permittee may utilize up to 2 extensions of up to 30 additional calendar days each.</p> <p>Documentation of a decision to utilize an extension shall include a description of the failure, shall document that alternate storage capacity is unavailable, and shall specify a schedule of actions that will ensure that the control equipment will be repaired or the vessel will be emptied as soon as</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>practical.</p> <p>(5) Except as provided in paragraph (a)(6) of this section, for all the inspections required by paragraphs (a)(2)(ii), (a)(3)(i), and (a)(3)(iii) of this section, the Permittee shall notify the Administrator in writing at least 30 calendar days prior to the refilling of each storage vessel to afford the Administrator the opportunity to have an observer present.</p> <p>(6) If the inspection required by paragraph (a)(2)(ii), (a)(3)(i), or (a)(3)(iii) of this section is not planned and the Permittee could not have known about the inspection 30 calendar days in advance of refilling the vessel, the Permittee shall notify the Administrator at least 7 calendar days prior to the refilling of the storage vessel. Notification may be made by telephone and immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, the notification including the written documentation may be made in writing and sent so that it is received by the Administrator at least 7 calendar days prior to refilling. [40 CFR 63.120(a)(3)-(6), Minn. R. 7011.7040]</p>
	5.62.29		<p>(7) If during the inspections required by paragraph (a)(2)(ii), (a)(3)(i), or (a)(3)(iii) of this section, the internal floating roof has defects; or the primary seal has holes, tears, or other openings in the seal or the seal fabric; or the secondary seal has holes, tears, or other openings in the seal or the seal fabric; or the gaskets no longer close off the liquid surface from the atmosphere; or the slotted membrane has more than 10 percent 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 organic HAP. [40 CFR 63.120(a)(7), Minn. R. 7011.7040]</p>
	5.62.30		<p>(b) To demonstrate compliance with 40 CFR Section 63.119(c) of this subpart (storage vessel equipped with an external floating roof), the Permittee shall comply with the requirements specified in paragraphs (b)(1) through (b)(10) of this section.</p> <p>(1) Except as provided in paragraph (b)(7) of this section, the Permittee shall determine the gap areas and maximum gap widths between the primary seal and the wall of the storage vessel, and the secondary seal and the wall of the storage vessel according to the frequency specified in paragraphs (b)(1)(i) through (b)(1)(iii) of this section.</p> <p>(i) For an external floating roof vessel equipped with primary and secondary seals, measurements of gaps between the vessel wall and the primary seal shall be performed during the hydrostatic testing of the vessel or by the compliance date specified in 40 CFR Section 63.640(h) of subp. CC of this part,</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>whichever occurs last, and at least once every 5 years thereafter.</p> <p>(ii) For an external floating roof vessel equipped with a liquid mounted or metallic shoe primary seal and without a secondary seal as provided for in 40 CFR Section 63.119(c)(1)(iv) of this subpart, measurements of gaps between the vessel wall and the primary seal shall be performed by the compliance date specified in 40 CFR Section 63.640(h) of subp. CC of this part and at least once per year thereafter, until a secondary seal is installed. When a secondary seal is installed above the primary seal, measurements of gaps between the vessel wall and both the primary and secondary seals shall be performed within 90 calendar days of installation of the secondary seal, and according to the frequency specified in paragraphs (b)(1)(i) and (b)(1)(iii) of this section thereafter.</p> <p>(iii) For an external floating roof vessel equipped with primary and secondary seals, measurements of gaps between the vessel wall and the secondary seal shall be performed by the compliance date specified in 40 CFR Section 63.640(h) of subp. CC of this part and at least once per year thereafter.</p> <p>(iv) If any storage vessel ceases to store organic HAP for a period of 1 year or more, or if the maximum true vapor pressure of the total organic HAP's in the stored liquid falls below the values defining Group 1 storage vessels specified in table 5 or table 6 of this subpart for a period of 1 year or more, measurements of gaps between the vessel wall and the primary seal, and gaps between the vessel wall and the secondary seal shall be performed within 90 calendar days of the vessel being refilled with organic HAP.</p> <p>(2) Except as provided in paragraph (b)(7) of this section, the Permittee shall determine gap widths and gap areas in the primary and secondary seals (seal gaps) individually by the procedures described in paragraphs (b)(2)(i) through (b)(2)(iii) of this section.</p> <p>(i) Seal gaps, if any, shall be measured at one or more floating roof levels when the roof is not resting on the roof leg supports.</p> <p>(ii) Seal gaps, if any, shall be measured around the entire circumference of the vessel in each place where a 0.32 centimeter diameter uniform probe passes freely (without forcing or binding against the seal) between the seal and the wall of the storage vessel. The circumferential distance of each such location shall also be measured.</p> <p>(iii) The total surface area of each gap described in paragraph (b)(2)(ii) of this section shall be determined by using probes of various widths to measure accurately the actual distance from the vessel wall to the seal and multiplying each such width by</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			its respective circumferential distance. (continued below). [40 CFR 63.120(b)(1) - (10), Minn. R. 7011.7040]
	5.62.31		(continued from above) (3) The Permittee shall add the gap surface area of each gap location for the primary seal and divide the sum by the nominal diameter of the vessel. The accumulated area of gaps between the vessel wall and the primary seal shall not exceed 212 square centimeters per meter of vessel diameter and the width of any portion of any gap shall not exceed 3.81 centimeters. (4) The Permittee shall add the gap surface area of each gap location for the secondary seal and divide the sum by the nominal diameter of the vessel. The accumulated area of gaps between the vessel wall and the secondary seal shall not exceed 21.2 square centimeters per meter of vessel diameter and the width of any portion of any gap shall not exceed 1.27 centimeters. These seal gap requirements may be exceeded during the measurement of primary seal gaps as required by paragraph (b)(1)(i) and (b)(1)(ii) of this section. (5) The primary seal shall meet the additional requirements specified in paragraphs (b)(5)(i) and (b)(5)(ii) of this section. (i) Where a metallic shoe seal is in use, one end of the metallic shoe shall extend into the stored liquid and the other end shall extend a minimum vertical distance of 61 centimeters above the stored liquid surface. (ii) There shall be no holes, tears, or other openings in the shoe, seal fabric, or seal envelope. (6) The secondary seal shall meet the additional requirements specified in paragraphs (b)(6)(i) and (b)(6)(ii) of this section. (i) The secondary seal shall be installed above the primary seal so that it completely covers the space between the roof edge and the vessel wall except as provided in paragraph (b)(4) of this section. (ii) There shall be no holes, tears, or other openings in the seal or seal fabric. (7) If the Permittee determines that it is unsafe to perform the seal gap measurements required in paragraphs (b)(1) and (b)(2) of this section or to inspect the vessel to determine compliance with paragraphs (b)(5) and (b)(6) of this section because the floating roof appears to be structurally unsound and poses an imminent or potential danger to inspecting personnel, the Permittee shall comply with the requirements in either paragraph (b)(7)(i) or (b)(7)(ii) of this section. (i) The Permittee shall measure the seal gaps or inspect the

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>storage vessel no later than 30 calendar days after the determination that the roof is unsafe, or</p> <p>(ii) The Permittee shall empty and remove the storage vessel from service no later than 45 calendar days after determining that the roof is unsafe. If the vessel cannot be emptied within 45 calendar days, the Permittee may utilize up to 2 extensions of up to 30 additional calendar days each. Documentation of a decision to utilize an extension shall include an explanation of why it was unsafe to perform the inspection or seal gap measurement, shall document that alternate storage capacity is unavailable, and shall specify a schedule of actions that will ensure that the vessel will be emptied as soon as possible. (continued below). [40 CFR 63.120(b)(1) - (10), Minn. R. 7011.7040]</p>
	5.62.32		<p>(continued from above)</p> <p>(8) The Permittee shall repair conditions that do not meet requirements listed in paragraphs (b)(3), (b)(4), (b)(5), and (b)(6) of this section (i.e., failures) no later than 45 calendar days after identification, or shall empty and remove the storage vessel from service no later than 45 calendar days after identification. If during seal gap measurements required in paragraph (b)(1) and (b)(2) of this section or during inspections necessary to determine compliance with paragraphs (b)(5) and (b)(6) of this section a failure is detected that cannot be repaired within 45 calendar days and if the vessel cannot be emptied within 45 calendar days, the Permittee may utilize up to 2 extensions of up to 30 additional calendar days each.</p> <p>Documentation of a decision to utilize an extension shall include a description of the failure, shall document that alternate storage capacity is unavailable, and shall specify a schedule of actions that will ensure that the control equipment will be repaired or the vessel will be emptied as soon as possible.</p> <p>(9) The Permittee shall notify the Administrator in writing 30 calendar days in advance of any gap measurements required by paragraph (b)(1) or (b)(2) of this section to afford the Administrator the opportunity to have an observer present.</p> <p>(10) The Permittee shall visually inspect the external floating roof, the primary seal, secondary seal, and fittings each time the vessel is emptied and degassed.</p> <p>(i) If the external floating roof has defects; the primary seal has holes, tears, or other openings in the seal or the seal fabric; or the secondary seal has holes, tears, or other openings in the seal or the seal fabric; or the gaskets no longer close off the liquid surface from the atmosphere; or the slotted membrane has more than 10 percent open area, the Permittee</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>shall repair the items as necessary so that none of the conditions specified in this paragraph exist before filling or refilling the storage vessel with organic HAP.</p> <p>(ii) Except as provided in paragraph (b)(10)(iii) of this section, for all the inspections required by paragraph (b)(10) of this section, the Permittee shall notify the Administrator in writing at least 30 calendar days prior to filling or refilling of each storage vessel with organic HAP to afford the Administrator the opportunity to inspect the storage vessel prior to refilling.</p> <p>(iii) If the inspection required by paragraph (b)(10) of this section is not planned and the Permittee could not have known about the inspection 30 calendar days in advance of refilling the vessel with organic HAP, the owner or operator shall notify the Administrator at least 7 calendar days prior to refilling of the storage vessel. Notification may be made by telephone and 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 so that it is received by the Administrator at least 7 calendar days prior to the refilling. [40 CFR 63.120(b)(1) - (10), Minn. R. 7011.7040]</p>
	5.62.33		<p>(d) To demonstrate compliance with 40 CFR Section 63.119(e) of this subpart (storage vessel equipped with a closed vent system and control device) using a control device other than a flare, the Permittee shall comply with the requirements in paragraphs (d)(1) through (d)(7) of this section, except as provided in paragraph (d)(8) of this section.</p> <p>(1) The Permittee shall either prepare a design evaluation, which includes the information specified in paragraph (d)(1)(i) of this section, or submit the results of a performance test as described in paragraph (d)(1)(ii) of this section.</p> <p>(i) The design evaluation shall include documentation demonstrating that the control device being used achieves the required control efficiency during reasonably expected maximum filling rate. This documentation is to include a description of the gas stream which enters the control device, including flow and organic HAP content under varying liquid level conditions, and the information specified in paragraphs (d)(1)(i)(A) through (d)(1)(i)(E) of this section, as applicable.</p> <p>(A) If the control device receives vapors, gases or liquids, other than fuels, from emission points other than storage vessels subject to this subpart, the efficiency demonstration is to include consideration of all vapors, gases, and liquids, other than fuels, received by the control device.</p> <p>(B) If an enclosed combustion device with a minimum residence time of 0.5 seconds and a minimum temperature of 760&deg;C is used to meet the emission reduction requirement specified in 40 CFR Section 63.119(e)(1) or (e)(2), as applicable, documentation that those conditions exist is</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>sufficient to meet the requirements of paragraph (d)(1)(i) of this section.</p> <p>(C) Except as provided in paragraph (d)(1)(i)(B) of this section, for thermal incinerators, the design evaluation shall include the autoignition temperature of the organic HAP, the flow rate of the organic HAP emission stream, the combustion temperature, and the residence time at the combustion temperature.</p> <p>(D) For carbon absorbers, the design evaluation shall include the affinity of the organic HAP vapors for carbon, the amount of carbon in each bed, the number of beds, the humidity of the feed gases, the temperature of the feed gases, the flow rate of the organic HAP emission stream, the desorption schedule, the regeneration stream pressure or temperature, and the flow rate of the regeneration stream. For vacuum desorption, pressure drop shall be included.</p> <p>(E) For condensers, the design evaluation shall include the final temperature of the organic HAP vapors, the type of condenser, and the design flow rate of the organic HAP emission stream.</p> <p>(ii) If the control device used to comply with 40 CFR Section 63.119(e) of this subpart is also used to comply with 40 CFR Section 63.113(a)(2), 40 CFR Section 63.126(b)(1), or 40 CFR Section 63.139(c) of this subpart, the performance test required by 40 CFR Section 63.116(c), 40 CFR Section 63.128(a), or 40 CFR Section 63.139(d)(1) of this subpart is acceptable to demonstrate compliance with 40 CFR Section 63.119(e) of this subpart. The Permittee is not required to prepare a design evaluation for the control device as described in paragraph (d)(1)(i) of this section, if the performance tests meets the criteria specified in paragraphs (d)(1)(ii)(A) and (d)(1)(ii)(B) of this section.</p> <p>(A) The performance test demonstrates that the control device achieves greater than or equal to the required control efficiency specified in 40 CFR Section 63.119(e)(1) or (e)(2) of this subpart, as applicable; and</p> <p>(B) The performance test is submitted as part of the Notification of Compliance Status required by 40 CFR Section 63.151(b) of this subpart. [40 CFR 63.120(d)(1), Minn. R. 7011.7040]</p>
	5.62.34		<p>(2) The Permittee shall submit, as part of the Notification of Compliance Status required by 40 CFR Section 63.151(b) of this subpart, a monitoring plan containing the information specified in paragraph (d)(2)(i) of this section and in either (d)(2)(ii) or (d)(2)(iii) of this section.</p> <p>(i) A description of the parameter or parameters to be monitored to ensure that the control device is being properly operated and maintained, an explanation of the criteria used for selection of that parameter (or parameters), and the</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			frequency with which monitoring will be performed (e.g., when the liquid level in the storage vessel is being raised); and either (ii) The documentation specified in paragraph (d)(1)(i) of this section, if the Permittee elects to prepare a design evaluation; or (iii) The information specified in paragraph (d)(2)(iii)(A) and (B) of this section if the Permittee elects to submit the results of a performance test. (A) Identification of the storage vessel and control device for which the performance test will be submitted, and (B) Identification of the emission point(s) that share the control device with the storage vessel and for which the performance test will be conducted. [40 CFR 63.120(d)(2), Minn. R. 7011.7040]
	5.62.35		(3) The Permittee shall submit, as part of the Notification of Compliance Status required by 40 CFR Section 63.152(b) of this subpart, the information specified in paragraphs (d)(3)(i) and, if applicable, (d)(3)(ii) of this section. (i) The operating range for each monitoring parameter identified in the monitoring plan. The specified operating range shall represent the conditions for which the control device is being properly operated and maintained. (ii) Results of the performance test described in paragraph (d)(1)(ii) of this section. (4) The Permittee shall demonstrate compliance with the requirements of 40 Section 63.119(e)(3) of this subpart (planned routine maintenance of a control device, during which the control device does not meet the specifications of 40 CFR Section 63.119(e)(1) or (e)(2) of this subpart, as applicable, shall not exceed 240 hours per year) by including in each Periodic Report required by 40 CFR Section 63.152(c) of this subpart the information specified in 40 CFR Section 63.122(g)(1) of this subpart. (5) The Permittee shall monitor the parameters specified in the Notification of Compliance Status required in 40 CFR Section 63.152(b) of this subpart or in the operating permit and shall operate and maintain the control device such that the monitored parameters remain within the ranges specified in the Notification of Compliance Status. (6) Except as provided in paragraph (d)(7) of this section, each closed vent system shall be inspected as specified in 40 CFR Section 63.148 of this subpart. The initial and annual inspections required by 40 CFR Section 63.148(b) of this subpart shall be done during filling of the storage vessel.

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>(7) For any fixed roof tank and closed vent system that are operated and maintained under negative pressure, the Permittee is not required to comply with the requirements specified in 40 CFR Section 63.148 of this subpart.</p> <p>(8) A design evaluation or performance test is not required, if the Permittee uses a combustion device meeting the criteria in paragraph (d)(8)(i), (d)(8)(ii), (d)(8)(iii), or (d)(8)(iv) of this section.</p> <p>(i) A boiler or process heater with a design heat input capacity of 44 megawatts or greater.</p> <p>(ii) A boiler or process heater burning hazardous waste for which the Permittee:</p> <p>(A) Has been issued a final permit under 40 CFR pt. 270 and complies with the requirements of 40 CFR pt. 266, subp. H, or</p> <p>(B) Has certified compliance with the interim status requirements of 40 CFR pt. 266, subp. H.</p> <p>(iii) A hazardous waste incinerator for which the Permittee has been issued a final permit under 40 CFR pt. 270 and complies with the requirements of 40 CFR pt. 264, subp. O or has certified compliance with the interim status requirements of 40 CFR pt. 265, subp. O.</p> <p>(iv) A boiler or process heater into which the vent stream is introduced with the primary fuel. [40 CFR 63.120(d)(3) - (4), Minn. R. 7011.7040]</p>
	5.62.36		<p>(e) To demonstrate compliance with 40 CFR Section 63.119(e) of this subpart (storage vessel equipped with a closed vent system and control device) using a flare, the Permittee shall comply with the requirements in paragraphs (e)(1) through (e)(6) of this section.</p> <p>(1) The Permittee shall perform the compliance determination specified in 40 CFR Section 63.11(b) of subp. A of this part.</p> <p>(2) The Permittee shall submit, as part of the Notification of Compliance Status required by 40 CFR Section 63.152(b) of this subpart, the information specified in paragraphs (e)(2)(i) through (e)(2)(iii) of this section.</p> <p>(i) Flare design (i.e., steam assisted, air assisted, or non assisted);</p> <p>(ii) All visible emission readings, heat content determinations, flow rate measurements, and exit velocity determinations made during the compliance determination required by paragraph (e)(1) of this section; and</p> <p>(iii) All periods during the compliance determination when the pilot flame is absent.</p> <p>(3) The Permittee shall demonstrate compliance with the</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>requirements of 40 CFR Section 63.119(e)(3) of this subpart (planned routine maintenance of a flare, during which the flare does not meet the specifications of 40 CFR Section 63.119(e)(1) of this subpart, shall not exceed 240 hours per year) by including in each Periodic Report required by 40 CFR Section 63.152(c) of this subpart the information specified in 40 CFR Section 63.122(g)(1).</p> <p>(4) The Permittee shall continue to meet the general control device requirements specified in 40 CFR Section 63.11(b) of subp. A of this part.</p> <p>(5) Except as provided in paragraph (e)(6) of this section, each closed vent system shall be inspected as specified in 40 CFR Section 63.148 of this subpart. The inspections required to be performed in accordance with 40 CFR Section 63.148(c) of this subpart shall be done during filling of the storage vessel.</p> <p>(6) For any fixed roof tank and closed vent system that is operated and maintained under negative pressure, the Permittee is not required to comply with the requirements specified in 40 CFR Section 63.148 of this subpart. [40 CFR 63.120(e)(1) - (6), Minn. R. 7011.7040]</p>
	5.62.37		<p>(f) To demonstrate compliance with 40 CFR Section 63.119(f) of this subpart (storage vessel routed to a process), the owner or operator shall prepare a design evaluation (or engineering assessment) that demonstrates the extent to which one or more of the ends specified in 40 CFR Section 63.119(f)(1)(i) through (f)(1)(iv) are being met. The owner or operator shall submit the design evaluation as part of the Notification of Compliance Status required by 40 CFR Section 63.152(b) of this subpart. [40 CFR 63.120(f), Minn. R. 7011.7040]</p>
	5.62.38		<p>(f) Submit a Notification of Compliance Status report within 150 days after the compliance dates specified in 40 CFR Section 63.640(h). This information may be submitted in an operating permit application, in an amendment to an operating permit application, in a separate submittal, or in any combination of the three. If the required information has been submitted before the date 150 days after the compliance date specified in 40 CFR Section 63.640(h), a separate Notification of Compliance Status report is not required within 150 days after the compliance dates specified in 40 CFR Section 63.640(h). If a Permittee submits the information specified in paragraphs (f)(1) through (f)(5) of this section at different times, and/or in different submittals, later submittals may refer to earlier submittals instead of duplicating and resubmitting the previously submitted information.</p> <p>(1) The Notification of Compliance Status report shall include</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>the information specified in paragraphs (f)(1)(i) through (f)(1)(v) of this section.</p> <p>(i) For storage vessels, this report shall include the information specified in paragraphs (f)(1)(i)(A) through (f)(1)(i)(D) of this section.</p> <p>(A) Identification of each storage vessel subject to this subpart, whether the vessel is Group 1 or Group 2, and the method of compliance for each Group 1 storage vessel that is not included in an emissions average (i.e., internal floating roof, external floating roof, or closed vent system and control device).</p> <p>(B) If a closed vent system and a control device other than a flare is used to comply with 40 CFR Section 63.646 the Permittee shall submit:</p> <p>(1) A description of the parameter or parameters to be monitored to ensure that the control device is being properly operated and maintained, an explanation of the criteria used for selection of that parameter (or parameters), and the frequency with which monitoring will be performed; and either</p> <p>(2) The design evaluation documentation specified in 40 CFR Section 63.120(d)(1)(i) of subp. G, if the Permittee elects to prepare a design evaluation; or</p> <p>(3) If the Permittee elects to submit the results of a performance test, identification of the storage vessel and control device for which the performance test will be submitted, and identification of the emission point(s) that share the control device with the storage vessel and for which the performance test will be conducted.</p> <p>(C) If a closed vent system and control device other than a flare is used, the Permittee shall submit:</p> <p>(1) The operating range for each monitoring parameter. The specified operating range shall represent the conditions for which the control device is being properly operated and maintained.</p> <p>(2) If a performance test is conducted instead of a design evaluation, results of the performance test demonstrating that the control device achieves greater than or equal to the required control efficiency. A performance test conducted prior to the compliance date of this subpart can be used to comply with this requirement, provided that the test was conducted using EPA methods and that the test conditions are representative of current operating practices.</p> <p>(D) If a closed vent system and a flare is used, the Permittee shall submit:</p> <p>(1) Flare design (e.g., steam assisted, air assisted, or nonassisted);</p> <p>(2) All visible emission readings, heat content determinations,</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			flow rate measurements, and exit velocity determinations made during the compliance determination required by 40 CFR Section 63.120(e) of subp. G of this part; and (3) All periods during the compliance determination when the pilot flame is absent. [40 CFR 63.654(f)(1)i, Minn. R. 7011.7280(A)]
	5.62.39		<p>(g) Submit Periodic Reports no later than 60 days after the end of each 6 month period when any of the compliance exceptions specified in paragraphs (g)(1) through (g)(6) of this section occur. The first 6 month period shall begin on the date the Notification of Compliance Status report is required to be submitted. A Periodic Report is not required if none of the compliance exceptions specified in paragraphs (g)(1) through (g)(6) of this section occurred during the 6 month period unless emissions averaging is utilized. Quarterly reports must be submitted for emission points included in emissions averages, as provided in paragraph (g)(8) of this section. An owner or operator may submit reports required by other regulations in place of or as part of the Periodic Report required by this paragraph if the reports contain the information required by paragraphs (g)(1) through (g)(8) of this section.</p> <p>(1) For storage vessels, Periodic Reports shall include the information specified for Periodic Reports in paragraph (g)(2) through (g)(5) of this section except that information related to gaskets, slotted membranes, and sleeve seals is not required for storage vessels that are part of an existing source.</p> <p>(2) A Permittee who elects to comply with 40 CFR Section 63.646 by using a fixed roof and an internal floating roof or by using an external floating roof converted to an internal floating roof shall submit the results of each inspection conducted in accordance with 40 CFR Section 63.120(a) of subp. G of this part in which a failure is detected in the control equipment.</p> <p>(i) For vessels for which annual inspections are required under 40 CFR Section 63.120(a)(2)(i) or (a)(3)(ii) of subp. G of this part, the specifications and requirements listed in (g)(2)(i)(A) through (g)(2)(i)(C) of this section apply.</p> <p>(A) A failure is defined as any time in which the internal floating roof is not resting on the surface of the liquid inside the storage vessel and is not resting on the leg supports; or there is liquid on the floating roof; or the seal is detached from the internal floating roof; or there are holes, tears, or other openings in the seal.</p> <p>(B) Except as provided in paragraph (g)(2)(i)(C) of this section, each Periodic Report shall include the date of the inspection, identification of each storage vessel in which a failure was</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>detected, and a description of the failure. The Periodic Report shall also describe the nature of and date the repair was made or the date the storage vessel was emptied.</p> <p>(C) If an extension is utilized in accordance with 40 CFR Section 63.120(a)(4) of subp. G of this part, the Permittee shall, in the next Periodic Report, identify the vessel; include the documentation specified in 40 CFR Section 63.120(a)(4) of subp. G of this part; and describe the date the storage vessel was emptied and the nature of and date the repair was made.</p> <p>(ii) For vessels for which inspections are required under 40 CFR Section 63.120(a)(2)(ii), (a)(3)(i), or (a)(3)(iii) of subp. G of this part (i.e., internal inspections), the specifications and requirements listed in paragraphs (g)(2)(ii)(A) and (g)(2)(ii)(B) of this section apply.</p> <p>(A) A failure is defined as any time in which the internal floating roof has defects; or the primary seal has holes, tears, or other openings in the seal or the seal fabric; or the secondary seal (if one has been installed) has holes, tears, or other openings in the seal or the seal fabric; or, for a storage vessel that is part of a new source, the gaskets no longer close off the liquid surface from the atmosphere; or, for a storage vessel that is part of a new source, the slotted membrane has more than a 10 percent open area.</p> <p>(B) Each Periodic Report shall include the date of the inspection, identification of each storage vessel in which a failure was detected, and a description of the failure. The Periodic Report shall also describe the nature of and date the repair was made. [40 CFR 63.654(g)</p>
	5.62.40		<p>(3) A Permittee who elects to comply with 40 CFR Section 63.646 by using an external floating roof shall meet the periodic reporting requirements specified in paragraphs (g)(3)(i) through (g)(3)(iii) of this section.</p> <p>(i) Submit, as part of the Periodic Report, documentation of the results of each seal gap measurement made in accordance with 40 CFR Section 63.120(b) of subp. G of this part in which the seal and seal gap requirements of 40 CFR Section 63.120(b)(3), (b)(4), (b)(5), or (b)(6) of subp. G of this part are not met. This documentation shall include the information specified in paragraphs (g)(3)(i)(A) through (g)(3)(i)(D) of this section.</p> <p>(A) The date of the seal gap measurement.</p> <p>(B) The raw data obtained in the seal gap measurement and the calculations described in 40 CFR Section 63.120(b)(3) and (b)(4) of subp. G of this part.</p> <p>(C) A description of any seal condition specified in 40 CFR Section 63.120(b)(5) or (b)(6) of subp. G of this part that is not met.</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>(D) A description of the nature of and date the repair was made, or the date the storage vessel was emptied.</p> <p>(ii) If an extension is utilized in accordance with 40 CFR Section 63.120(b)(7)(ii) or (b)(8) of subp. G of this part, the Permittee shall, in the next Periodic Report, identify the vessel; include the documentation specified in 40 CFR Section 63.120(b)(7)(ii) or (b)(8) of subp. G of this part, as applicable; and describe the date the vessel was emptied and the nature of and date the repair was made.</p> <p>(iii) Submit, as part of the Periodic Report, documentation of any failures that are identified during visual inspections required by 40 CFR Section 63.120(b)(10) of subp. G of this part. This documentation shall meet the specifications and requirements in paragraphs (g)(3)(iii)(A) and (g)(3)(iii)(B) of this section.</p> <p>(A) A failure is defined as any time in which the external floating roof has defects; or the primary seal has holes or other openings in the seal or the seal fabric; or the secondary seal has holes, tears, or other openings in the seal or the seal fabric; or, for a storage vessel that is part of a new source, the gaskets no longer close off the liquid surface from the atmosphere; or, for a storage vessel that is part of a new source, the slotted membrane has more than 10 percent open area.</p> <p>(B) Each Periodic Report shall include the date of the inspection, identification of each storage vessel in which a failure was detected, and a description of the failure. The Periodic Report shall also describe the nature of and date the repair was made. [40 CFR 63.654(g)(3), Minn. R. 7011.7280(A)]</p>
	5.62.41		<p>(4) A Permittee who elects to comply with 40 CFR Section 63.646 by using an external floating roof converted to an internal floating roof shall comply with the periodic reporting requirements of paragraph (g)(2) of this section. [40 CFR 63.654(g)(4), Minn. R. 7011.7280(A)]</p>
	5.62.42		<p>(5) A Permittee who elects to comply with 40 CFR Section 63.646 by installing a closed vent system and control device shall submit, as part of the next Periodic Report, the information specified in paragraphs (g)(5)(i) through (g)(5)(iii) of this section.</p> <p>(i) The Periodic Report shall include the information specified in paragraphs (g)(5)(i)(A) and (g)(5)(i)(B) of this section for those planned routine maintenance operations that would require the control device not to meet the requirements of 40 CFR Section 63.119(e)(1) or (e)(2) of subp. G of this part, as applicable.</p> <p>(A) A description of the planned routine maintenance that is</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>anticipated to be performed for the control device during the next 6 months. This description shall include the type of maintenance necessary, planned frequency of maintenance, and lengths of maintenance periods.</p> <p>(B) A description of the planned routine maintenance that was performed for the control device during the previous 6 months. This description shall include the type of maintenance performed and the total number of hours during those 6 months that the control device did not meet the requirements of 40 CFR Section 63.119(e)(1) or (e)(2) of subp. G of this part, as applicable, due to planned routine maintenance.</p> <p>(ii) If a control device other than a flare is used, the Periodic Report shall describe each occurrence when the monitored parameters were outside of the parameter ranges documented in the Notification of Compliance Status report. The description shall include: Identification of the control device for which the measured parameters were outside of the established ranges, and causes for the measured parameters to be outside of the established ranges.</p> <p>(iii) If a flare is used, the Periodic Report shall describe each occurrence when the flare does not meet the general control device requirements specified in 40 CFR Section 63.11(b) of subp. A of this part and shall include: Identification of the flare that does not meet the general requirements specified in 40 CFR Section 63.11(b) of subp. A of this part, and reasons the flare did not meet the general requirements specified in 40 CFR Section 63.11(b) of subp. A of this part. [40 CFR 63.654(g)(5), Minn. R. 7011.7280(A)]</p>
	5.62.43		<p>(h) Other reports shall be submitted as specified in subp. A of this part and as follows:</p> <p>(1) Reports of startup, shutdown, and malfunction required by 40 CFR Section 63.10(d)(5) of subp. A of this part [reports required by 63.10(d)(5)(i) may be submitted at the same time as periodic reports specified in 63.654(e)]; and</p> <p>(2) For storage vessels, notifications of inspections as specified in paragraphs (h)(2)(i) and (h)(2)(ii) of this section;</p> <p>(i) In order to afford the Administrator the opportunity to have an observer present, the owner or operator shall notify the Administrator of the refilling of each Group 1 storage vessel that has been emptied and degassed.</p> <p>(A) Except as provided in paragraphs (h)(2)(i)(B) and (C) of this section, the Permittee shall notify the Administrator in writing at least 30 calendar days prior to filling or refilling of each storage vessel with organic HAP's to afford the Administrator</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>the opportunity to inspect the storage vessel prior to refilling.</p> <p>(B) Except as provided in paragraph (h)(2)(i)(C) of this section, if the internal inspection required by 40 CFR Section 63.120(a)(2), 63.120(a)(3), or 63.120(b)(10) of subp. G of this part is not planned and the Permittee could not have known about the inspection 30 calendar days in advance of refilling the vessel with organic HAP's, the Permittee shall notify the Administrator at least 7 calendar days prior to refilling of the storage vessel. Notification may be made by telephone and immediately followed by written documentation demonstrating why the inspection was unplanned. This notification, including the written documentation, may also be made in writing and sent so that it is received by the Administrator at least 7 calendar days prior to the refilling.</p> <p>(C) The State or local permitting authority can waive the notification requirements of paragraphs (h)(2)(i)(A) and/or (h)(2)(i)(B) of this section for all or some storage vessels at petroleum refineries subject to this subpart. The State or local permitting authority may also grant permission to refill storage vessels sooner than 30 days after submitting the notification required by paragraph (h)(2)(i)(A) of this section, or sooner than 7 days after submitting the notification required by paragraph (h)(2)(i)(B) of this section for all storage vessels, or for individual storage vessels on a case by case basis.</p> <p>(ii) For a storage vessel equipped with an external floating roof, notify the Administrator of any seal gap measurements, in writing, at least 30 calendar days in advance of any gap measurements required by 40 CFR Section 63.120(b)(1) or (b)(2) of subp. G of this part. The State or local permitting authority can waive this notification requirement for all or some storage vessels subject to the rule or can allow less than 30 calendar days' notice. [40 CFR 63.654(h)(1)-(2), Minn. R. 7011.7280(A)]</p>
	5.62.44		<p>(6) Submit the information specified in paragraphs (h)(6)(i) through (h)(6)(iii) of this section, as applicable. For existing sources, this information shall be submitted no later than 18 months prior to the compliance date. For a new source, the information shall be submitted with the application for approval of construction or reconstruction required by 40 CFR Section 63.5(d) of subp. A of this part. The information may be submitted in an operating permit application, in an amendment to an operating permit application, or in a separate submittal.</p> <p>(i) The determination of applicability of this subpart to petroleum refining process units that are designed and operated as flexible operation units.</p> <p>(ii) The determination of applicability of this subpart to any storage vessel for which use varies from year to year.</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			(iii) The determination of applicability of this subpart to any distillation unit for which use varies from year to year. [40 CFR 63.654(g), Minn. R. 7011.7280(A)]
	5.62.45		(i) Recordkeeping. (1) Each Permittee subject to the storage vessel provisions in 40 CFR Section 63.646 shall keep the records specified in 40 CFR Section 63.123 of subp. G of this part except as specified in paragraphs (i)(1)(i) through (i)(1)(iv) of this section. (i) Records related to gaskets, slotted membranes, and sleeve seals are not required for storage vessels within existing sources. (ii) All references to 40 CFR Section 63.122 in 40 CFR Section 63.123 of subp. G of this part shall be replaced with 40 CFR Section 63.654(e), (iii) All references to 40 CFR Section 63.150 in 40 CFR Section 63.123 of subp. G of this part shall be replaced with 40 CFR Section 63.652. (iv) If a storage vessel is determined to be Group 2 because the weight percent total organic HAP of the stored liquid is less than or equal to 4 percent for existing sources or 2 percent for new sources, a record of any data, assumptions, and procedures used to make this determination shall be retained. (4) All other information required to be reported under paragraphs (a) through (h) of this section shall be retained for 5 years. [40 CFR 63.654(i)(1) & (4), Minn. R. 7011.7280(A)]
	5.62.46		C. The owner or operator of any storage vessel with a storage capacity of greater than 40,000 gallons (151,412 liters) for which construction was commenced on or after June 11, 1973, shall comply with the following requirements: (1) If the true vapor pressure of the petroleum liquid, as stored, is equal to or greater than 78 mm Hg (1.5 psia) but not greater than 570 mm Hg (11.1 psia), the storage vessel shall be equipped with a floating roof, a vapor recovery system, or their equivalents. [Minn. R. 7011.1505, subp. 3]
	5.62.47		Subpart 1. Records. The Permittee of any storage vessel, the construction or modification of which commenced on or after June 11, 1973, which has a storage capacity of greater than 40,000 gallons (151,412 liters) shall for each storage vessel: A. maintain a file of each type of petroleum liquid stored, of the typical Reid vapor pressure of each type of petroleum liquid stored, of the dates of storage and withdrawals, and of the date on which the storage vessel is empty; B. determine and record the average monthly storage temperature and true vapor pressure of the petroleum liquid stored at such temperature if:

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>(1) the petroleum liquid has a true vapor pressure, as stored, greater than 26 mm Hg (0.5 psia) but less than 78 mm Hg (1.5 psia) and is stored in a storage vessel other than one equipped with a floating roof, a vapor recovery system or their equivalents; or</p> <p>(2) the petroleum liquid has a true vapor pressure, as stored, greater than 470 mm Hg(9.1 psia) and is stored in a storage vessel other than one equipped with a vapor recovery system or its equivalent. [Minn. R. 7011.1510, subp. 1]</p>
	5.62.48		<p>Subp. 2. Calculation. The average monthly storage temperature is an arithmetic average calculated for each calendar month, or portion thereof if storage is for less than a month, from bulk liquid storage temperatures determined at least once every seven days. [Minn. R. 7011.1510, subp. 2]</p>
	5.62.49		<p>Subp. 3. Vapor Pressure Determination. The true vapor pressure shall be determined by the procedure in American Petroleum Institute Bulletin 2517. This procedure is dependent upon determination of the storage temperature and the Reid vapor pressure, which requires sampling of the petroleum liquids in the storage vessels. Unless the agency or the Commissioner requires in specific cases that the stored petroleum liquid be sampled, the true vapor pressure may be determined by using the average monthly storage temperature and the typical Reid vapor pressure. For those liquids for which certified specifications limiting the Reid vapor pressure exist, that Reid vapor pressure may be used. For other liquids, supporting analytical data must be made available on request of the agency or the commissioner when typical Reid vapor pressure is used. [Minn. R. 7011.1510, subp. 3]</p>
	5.62.50		<p>B. Code of Federal Regulations, title 40, pt. 60, subp. Ka, as amended, entitled "Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984," except that decisions made by the administrator under Code of Federal Regulations, title 40, pt. 60.114a, are not delegated to the commissioner and must be made by the administrator. [Minn. R. 7011.1520(B)]</p>
EQUI 209	MR049	H2S Monitor	
	5.63.1		<p>Hydrogen Sulfide Content in the Refinery Gas: calibrate, operate and maintain a CEMS to determine the hydrogen sulfide content of the refinery gas to the emission units. The CEMS shall provide a continuous record of hydrogen sulfide content in ppm. [Minn. R. 7017.1006, Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]</p>
	5.63.2		<p>CEMS Continuous Operation: CEMS must be operated and</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A CEMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment.</p> <p>Acceptable monitor downtime includes reasonable periods due to the following causes:</p> <ul style="list-style-type: none"> A. damage to the monitoring system due to a Force Majeure such as lightning strikes, tornadoes, or floods which render the monitor inoperative; B. sudden and not reasonably preventable breakdowns; C. scheduled monitor maintenance based upon equipment manufacturer's recommended maintenance schedule which cannot reasonably be conducted when the emission unit is not operating; or D. unavoidable monitor downtime in order to conduct daily drift checks, calibration error audits, relative accuracy test audits, linearity checks, and cylinder gas audits required by a compliance document, applicable requirement, or by request of the Commissioner. [40 CFR 60.13(e), Minn. R. 7017.1010, Minn. R. 7017.1090, subp. 1, Title I Condition: 40 CFR 50.4(SO₂ SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.63.3		<p>CEMS Daily Calibration Drift Test: Check the zero (low level value between 0 and 20 percent of span value) and span (50 to 100 percent of span value) calibration drifts at least once daily. The zero and span must, at a minimum, be adjusted whenever the drift exceeds two times the limit specified in 40 CFR pt. 60, Appendix B. 40 CFR pt. 60, Appendix F, Section 4.3.1 shall be used to determine out-of-control periods for CEMS. [40 CFR 60.13(d)(1), 40 CFR pt. 60, Appendix F(4.1), Minn. R. 7017.1170, subp. 3]</p>
	5.63.4		<p>CEMS Cylinder Gas Audit (CGA): Due before the end of each three of four calendar quarters following Permit Issuance but no more than three quarters in succession. A CGA is not required during any calendar quarter in which a RATA was performed. [40 CFR pt. 60, Appendix F(5.1.2), Minn. R. 7017.1170, subp. 4]</p>
	5.63.5		<p>CEMS Relative Accuracy Test Audit (RATA): due before end of each calendar year following CEM Certification Test. A RATA is not required in any calendar year if a RATA conducted in the previous year demonstrated a relative accuracy value of less than 15 percent or if the associated emissions unit operated less than 48 hours during the calendar year. If the exception is used, the next RATA shall be conducted during the first half of the following calendar year. RATAs shall be conducted at least</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			3 months apart and according to 40 CFR pt. 60, Appendix F, Section 5.1.1. [40 CFR pt. 60, Appendix F, Minn. R. 7017.subp. 5]
	5.63.6		QA Plan: Develop and implement a written quality assurance plan that covers each CEMS. The plan shall be on site and available for inspection within 30 days after monitor certification. The plan shall contain all of the information required by 40 CFR pt. 60, Appendix F, Section 3. The plan shall include the manufacturer's spare parts list for each CEMS and require that those parts be kept at the facility unless the Commissioner gives written approval to exclude specific spare parts from the list. [40 CFR pt. 60, Appendix F, Sec. 3, Minn. R. 7017.1170, subp. 2]
	5.63.7		Recordkeeping: The owner or operator must retain records of all CEMS monitoring data and support information for a period of five years from the date of the monitoring sample, measurement or report. Records shall be kept at the source. [40 CFR 60.7(f), Minn. R. 7017.1130, Minn. R. 7019.0100, subp. 1]
	5.63.8		Records of Startup, Shutdown, or Malfunction: Any owner or operator subject to the provisions of this part shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative. [40 CFR 60.7(b)]
EQUI 212	MR057	NOx CEMS blr 92	
	5.64.1		CEMS Monitor Design: Each CEMS shall be designed to complete a minimum of one cycle of sampling, analyzing, and data recording in each 15-minute period. [40 CFR 60.13(e)(2), Minn. R. 7017.1010]
	5.64.2		Continuous Operation: CEMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A CEMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment. [40 CFR 60.13(e), Minn. R. 7017.1010, Minn. R. 7017.1090, subp. 1]
	5.64.3		QA Plan: Develop and implement a written quality assurance plan that covers each CEMS. The plan shall be on site and available for inspection within 30 days after monitor certification. The plan shall contain all of the information required by 40 CFR pt. 60, Appendix F, Section 3. [40 CFR pt. 60, Appendix F(section 3), Minn. R. 7017.1010, Minn. R. 7017.1170, subp. 2]

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
	5.64.4		CEMS QA/QC: The owner or operator of an affected facility is subject to the performance specifications listed in 40 CFR pt. 60, Appendix B and shall operate, calibrate, and maintain each CEMS according to the QA/QC procedures in 40 CFR pt. 60, Appendix F as amended and maintain a written QA/QC program available in a form suitable for inspection. [40 CFR 60.13(a), 40 CFR pt. 60, Appendix F, Minn. R. 7017.1010]
	5.64.5		CEMS Daily Calibration Drift Check: Permittees must automatically check the zero (low level value between 0 and 20 percent of span value) and span (50 to 100 percent of span value) calibration drifts at least once daily. The zero and span must, at a minimum, be adjusted whenever the drift exceeds two times the limit specified in 40 CFR pt. 60, Appendix B. 40 CFR pt. 60, Appendix F shall be used to determine out-of-control periods for CEMS. [40 CFR 60.13(d)(1), 40 CFR pt. 60, Appendix F, Sec. 4.1, Minn. R. 7017.1170, subp. 3]
	5.64.6		Cylinder Gas Audit (CGA): due before end of each calendar quarter following CEMS certification test. A CGA is not required during any calendar quarter in which a RATA was performed. [40 CFR pt. 60, Appendix F(5.1.2), Minn. R. 7017.1170, subp. 4]
	5.64.7		CEMS Relative Accuracy Test Audit (RATA): due before end of each calendar year following CEMS Certification Test. Follow the procedures in 40 CFR pt. 60, Appendix F. [40 CFR pt. 60, App. F, Sec 5.1.1, Minn. R. 7017.1170, subp. 5]
	5.64.8		Recordkeeping: The Permittee shall retain records of all CEMS monitoring data and support information for a period of five years from the date of the monitoring sample, measurement or report. Records shall be kept at the source. [40 CFR 60.7(f), Minn. R. 7017.1130, Minn. R. 7019.0100]
	5.64.9		Monitoring Data: Reduce all NOx data to 1-hour averages, in accordance with 40 CFR Section 60.13(h). 1-hour averages shall be computed from four or more data points equally spaced over each 1-hour period. [40 CFR 60.13(h), Minn. R. 7017.1010]
EQUI 213	MR058	CO CEMS blr 92	
	5.65.1		CEMS Monitor Design: Each CEMS shall be designed to complete a minimum of one cycle of sampling, analyzing, and data recording in each 15-minute period. [40 CFR 60.13(e)(2), Minn. R. 7017.1010]
	5.65.2		Continuous Operation: CEMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A CEMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			equipment. [40 CFR 60.13(e), Minn. R. 7017.1010, Minn. R. 7017.1090, subp. 1]
	5.65.3		QA Plan: Develop and implement a written quality assurance plan that covers each CEMS. The plan shall be on site and available for inspection within 30 days after monitor certification. The plan shall contain all of the information required by 40 CFR pt. 60, Appendix F, Section 3. [40 CFR pt. 60, Appendix F(section 3), Minn. R. 7017.1010, Minn. R. 7017.1170, subp. 2]
	5.65.4		CEMS QA/QC: The owner or operator of an affected facility is subject to the performance specifications listed in 40 CFR pt. 60, Appendix B and shall operate, calibrate, and maintain each CEMS according to the QA/QC procedures in 40 CFR pt. 60, Appendix F as amended and maintain a written QA/QC program available in a form suitable for inspection. [40 CFR 60.13(a), 40 CFR pt. 60, Appendix F, Minn. R. 7017.1010]
	5.65.5		CEMS Daily Calibration Drift Check: Permittees must automatically check the zero (low level value between 0 and 20 percent of span value) and span (50 to 100 percent of span value) calibration drifts at least once daily. The zero and span must, at a minimum, be adjusted whenever the drift exceeds two times the limit specified in 40 CFR pt. 60, Appendix B. 40 CFR pt. 60, Appendix F shall be used to determine out-of-control periods for CEMS. [40 CFR 60.13(d)(1), 40 CFR pt. 60, Appendix F, Sec. 4.1, Minn. R. 7017.1170, subp. 3]
	5.65.6		Cylinder Gas Audit (CGA): due before end of each calendar quarter following CEMS certification test. A CGA is not required during any calendar quarter in which a RATA was performed. [40 CFR pt. 60, Appendix F(5.1.2), Minn. R. 7017.1170, subp. 4]
	5.65.7		CEMS Relative Accuracy Test Audit (RATA): due before end of each calendar year following CEMS Certification Test. Follow the procedures in 40 CFR pt. 60, Appendix F. [40 CFR pt. 60, Appendix F(5.1.1), Minn. R. 7017.1170, subp. 5]
	5.65.8		Recordkeeping: The Permittee must retain records of all CEMS monitoring data and support information for a period of five years from the date of the monitoring sample, measurement or report. Records shall be kept at the source. [40 CFR 60.7(f), Minn. R. 7017.1130, Minn. R. 7019.0100]
	5.65.9		CO CEMS Monitoring Data: All data points collected by the CO CEMS shall be used to calculate individual hourly emission averages. In order for an hour of data to be considered valid, it must contain the following minimum number of data points: A. four data points, equally spaced, if the emission unit operated during the entire hour; B. two data points, at least 15 minutes apart, during periods of monitor calibration or routine maintenance;

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			C. one data point if the emission unit operated for 15 minutes or less during the hour. [Minn. R. 7017.1160, subp. 1, Minn. R. 7019.0100, Minn. R. 7017.1160, subp. 2]
EQUI 214	MR059	O2 Monitor blr 92	
	5.66.1		CEMS Monitor Design: Each CEMS shall be designed to complete a minimum of one cycle of sampling, analyzing, and data recording in each 15-minute period. [40 CFR 60.13(e)(2), Minn. R. 7017.1010]
	5.66.2		Continuous Operation: CEMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A CEMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment. [40 CFR 60.13(e), Minn. R. 7017.1010, Minn. R. 7017.1090, subp. 1]
	5.66.3		QA Plan: Develop and implement a written quality assurance plan that covers each CEMS. The plan shall be on site and available for inspection within 30 days after monitor certification. The plan shall contain all of the information required by 40 CFR pt. 60, Appendix F, Section 3. [40 CFR pt. 60, Appendix F(Section 3), Minn. R. 7017.1010, Minn. R. 7017.1170, subp. 2]
	5.66.4		CEMS QA/QC: The Permittee of an affected facility is subject to the performance specifications listed in 40 CFR pt. 60, Appendix B and shall operate, calibrate, and maintain each CEMS according to the QA/QC procedures in 40 CFR pt. 60, Appendix F as amended and maintain a written QA/QC program available in a form suitable for inspection. [40 CFR 60.13(a), 40 CFR pt. 60, Appendix F, Minn. R. 7017.1010]
	5.66.5		CEMS Daily Calibration Drift Check: Permittees must automatically check the zero (low level value between 0 and 20 percent of span value) and span (50 to 100 percent of span value) calibration drifts at least once daily. The zero and span must, at a minimum, be adjusted whenever the drift exceeds two times the limit specified in 40 CFR pt. 60, Appendix B. 40 CFR pt. 60, Appendix F shall be used to determine out-of-control periods for CEMS. [40 CFR 60.13(d)(1), 40 CFR pt. 60, Appendix F, Sec. 4.1, Minn. R. 7017.1170, subp. 3]
	5.66.6		Cylinder Gas Audit (CGA): due before end of each calendar quarter following CEMS certification test. A CGA is not required during any calendar quarter in which a RATA was performed. [40 CFR pt. 60, Appendix F(5.1.2), Minn. R. 7017.1170, subp. 4]
	5.66.7		CEMS Relative Accuracy Test Audit (RATA): due before end of

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			each calendar year following CEMS Certification Test. Follow the procedures in 40 CFR pt. 60, Appendix F. [40 CFR pt. 60, App. F, Sec 5.1.1, Minn. R. 7017.1170, subp. 5]
	5.66.8		Recordkeeping: The Permittee must retain records of all CEMS monitoring data and support information for a period of five years from the date of the monitoring sample, measurement or report. Records shall be kept at the source. [40 CFR 60.7(f), Minn. R. 7017.1130, Minn. R. 7019.0100]
	5.66.9		<p>O2 CEMS Monitoring Data: All data points collected by the O2 CEMS shall be used to calculate individual hourly CO and NOx emission averages. In order for an hour of data to be considered valid, it must contain the following minimum number of data points:</p> <p>A. four data points, equally spaced, if the emission unit operated during the entire hour;</p> <p>B. two data points, at least 15 minutes apart, during periods of monitor calibration or routine maintenance;</p> <p>C. one data point if the emission unit operated for 15 minutes or less during the hour. [Minn. R. 7017.1160, subp. 2, Minn. R. 7017.1160, subp. 1]</p>
EQUI 215	MR060	NOx CEMS blr 93	
	5.67.1		CEMS Monitor Design: Each CEMS shall be designed to complete a minimum of one cycle of sampling, analyzing, and data recording in each 15-minute period. [40 CFR 60.13(e)(2), Minn. R. 7017.1010]
	5.67.2		Continuous Operation: CEMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A CEMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment. [40 CFR 60.13(e), Minn. R. 7017.1010, Minn. R. 7017.1090, subp. 1]
	5.67.3		QA Plan: Develop and implement a written quality assurance plan that covers each CEMS. The plan shall be on site and available for inspection within 30 days after monitor certification. The plan shall contain all of the information required by 40 CFR pt. 60, Appendix F, Section 3. [40 CFR pt. 60, Appendix F(3), Minn. R. 7017.1010, Minn. R. 7017.1170, subp. 2]
	5.67.4		CEMS QA/QC: The Permittee of an affected facility is subject to the performance specifications listed in 40 CFR pt. 60, Appendix B and shall operate, calibrate, and maintain each CEMS according to the QA/QC procedures in 40 CFR pt. 60,

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			Appendix F as amended and maintain a written QA/QC program available in a form suitable for inspection. [40 CFR 60.13(a), 40 CFR pt. 60, Appendix F, Minn. R. 7017.1010]
	5.67.5		CEMS Daily Calibration Drift Check: Permittees must automatically check the zero (low level value between 0 and 20 percent of span value) and span (50 to 100 percent of span value) calibration drifts at least once daily. The zero and span must, at a minimum, be adjusted whenever the drift exceeds two times the limit specified in 40 CFR pt. 60, Appendix B. 40 CFR pt. 60, Appendix F shall be used to determine out-of-control periods for CEMS. [40 CFR 60.13(d)(1), 40 CFR pt. 60, Appendix F, Sec. 4.1, Minn. R. 7017.1170, subp. 3]
	5.67.6		Cylinder Gas Audit (CGA): due before end of each calendar quarter following CEMS certification test. A CGA is not required during any calendar quarter in which a RATA was performed. [40 CFR pt. 60, Appendix F(5.1.2), Minn. R. 7017.1170, subp. 4]
	5.67.7		CEMS Relative Accuracy Test Audit (RATA): due before end of each calendar year following CEMS Certification Test. Follow the procedures in 40 CFR pt. 60, Appendix F. [40 CFR pt. 60, Appendix F(5.1.1), Minn. R. 7017.1170, subp. 5]
	5.67.8		Recordkeeping: The Permittee must retain records of all CEMS monitoring data and support information for a period of five years from the date of the monitoring sample, measurement or report. Records shall be kept at the source. [40 CFR 60.7(f), Minn. R. 7017.1130, Minn. R. 7019.0100]
	5.67.9		Monitoring Data: Reduce all NOx data to 1-hour averages, in accordance with 40 CFR Section 60.13(h). 1-hour averages shall be computed from four or more data points equally spaced over each 1-hour period. [40 CFR 60.13(h), Minn. R. 7017.1010]
EQUI 216	MR061	CO CEMS blr 93	
	5.68.1		CEMS Monitor Design: Each CEMS shall be designed to complete a minimum of one cycle of sampling, analyzing, and data recording in each 15-minute period. [40 CFR 60.13(e)(2), Minn. R. 7017.1010]
	5.68.2		Continuous Operation: CEMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A CEMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment. [40 CFR 60.13(e), Minn. R. 7017.1010, Minn. R. 7017.1090, subp. 1]
	5.68.3		QA Plan: Develop and implement a written quality assurance plan that covers each CEMS. The plan shall be on site and

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			available for inspection within 30 days after monitor certification. The plan shall contain all of the information required by 40 CFR pt. 60, Appendix F, Section 3. [40 CFR pt. 60, Appendix F(3), Minn. R. 7017.1010, Minn. R. 7017.1170, subp. 2]
	5.68.4		CEMS QA/QC: The Permittee of an affected facility is subject to the performance specifications listed in 40 CFR pt. 60, Appendix B and shall operate, calibrate, and maintain each CEMS according to the QA/QC procedures in 40 CFR pt. 60, Appendix F as amended and maintain a written QA/QC program available in a form suitable for inspection. [40 CFR 60.13(a), 40 CFR pt. 60, Appendix F, Minn. R. 7017.1010]
	5.68.5		CEMS Daily Calibration Drift Check: Permittees must automatically check the zero (low level value between 0 and 20 percent of span value) and span (50 to 100 percent of span value) calibration drifts at least once daily. The zero and span must, at a minimum, be adjusted whenever the drift exceeds two times the limit specified in 40 CFR pt. 60, Appendix B. 40 CFR pt. 60, Appendix F shall be used to determine out-of-control periods for CEMS. [40 CFR 60.13(d)(1), 40 CFR pt. 60, Appendix F, Sec. 4.1, Minn. R. 7017.1170, subp. 3]
	5.68.6		Cylinder Gas Audit (CGA): due before end of each calendar quarter following CEMS certification test. A CGA is not required during any calendar quarter in which a RATA was performed. [40 CFR pt. 60, Appendix(5.1.1), Minn. R. 7017.1170, subp. 5]
	5.68.7		CEMS Relative Accuracy Test Audit (RATA): due before end of each calendar year following CEMS Certification Test. Follow the procedures in 40 CFR pt. 60, Appendix F. [40 CFR pt. 60, Appendix F(5.1.1), Minn. R. 7017.1170, subp. 5]
	5.68.8		Recordkeeping: The Permittee must retain records of all CEMS monitoring data and support information for a period of five years from the date of the monitoring sample, measurement or report. Records shall be kept at the source. [40 CFR 60.7(f), Minn. R. 7017.1130, Minn. R. 7019.0100]
	5.68.9		CO CEMS Monitoring Data: All data points collected by the CO CEMS shall be used to calculate individual hourly emission averages. In order for an hour of data to be considered valid, it must contain the following minimum number of data points: A. four data points, equally spaced, if the emission unit operated during the entire hour; B. two data points, at least 15 minutes apart, during periods of monitor calibration or routine maintenance; C. one data point if the emission unit operated for 15 minutes or less during the hour. [Minn. R. 7017.1160, subp. 1, Minn. R. 7017.1160, subp. 2]

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
EQUI 217	MR062	O2 Monitor blr 93	
	5.69.1		CEMS Monitor Design: Each CEMS shall be designed to complete a minimum of one cycle of sampling, analyzing, and data recording in each 15-minute period. [40 CFR 60.13(e)(2), Minn. R. 7017.1010]
	5.69.2		Continuous Operation: CEMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A CEMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment. [40 CFR 60.13(e), Minn. R. 7017.1010, Minn. R. 7017.1090, subp. 1]
	5.69.3		QA Plan: Develop and implement a written quality assurance plan that covers each CEMS. The plan shall be on site and available for inspection within 30 days after monitor certification. The plan shall contain all of the information required by 40 CFR pt. 60, Appendix F, Section 3. [40 CFR pt. 60, Appendix F(3), Minn. R. 7017.1010, Minn. R. 7017.1170, subp. 2]
	5.69.4		CEMS QA/QC: The Permittee of an affected facility is subject to the performance specifications listed in 40 CFR pt. 60, Appendix B and shall operate, calibrate, and maintain each CEMS according to the QA/QC procedures in 40 CFR pt. 60, Appendix F as amended and maintain a written QA/QC program available in a form suitable for inspection. [40 CFR 60.13(a), 40 CFR pt. 60, Appendix F, Minn. R. 7017.1010]
	5.69.5		CEMS Daily Calibration Drift Check: Permittees must automatically check the zero (low level value between 0 and 20 percent of span value) and span (50 to 100 percent of span value) calibration drifts at least once daily. The zero and span must, at a minimum, be adjusted whenever the drift exceeds two times the limit specified in 40 CFR pt. 60, Appendix B. 40 CFR pt. 60, Appendix F shall be used to determine out-of-control periods for CEMS. [40 CFR 60.13(d)(1), 40 CFR pt. 60, Appendix F, Sec. 4.1, Minn. R. 7017.1170, subp. 3]
	5.69.6		Cylinder Gas Audit (CGA): due before end of each calendar quarter following CEMS certification test. A CGA is not required during any calendar quarter in which a RATA was performed. [40 CFR pt. 60, Appendix F(5.1.1), Minn. R. 7017.1170, subp. 4]
	5.69.7		CEMS Relative Accuracy Test Audit (RATA): due before end of each calendar year following CEMS Certification Test. Follow the procedures in 40 CFR pt. 60, Appendix F. [40 CFR pt. 60, Appendix F(5.1.1), Minn. R. 7017.1170, subp. 5]
	5.69.8		Recordkeeping: The Permittee must retain records of all CEMS

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			monitoring data and support information for a period of five years from the date of the monitoring sample, measurement or report. Records shall be kept at the source. [40 CFR 60.7(f), Minn. R. 7017.1130, Minn. R. 7019.0100]
	5.69.9		<p>O2 CEMS Monitoring Data: All data points collected by the O2 CEMS shall be used to calculate individual hourly CO and NOx emission averages. In order for an hour of data to be considered valid, it must contain the following minimum number of data points:</p> <p>A. four data points, equally spaced, if the emission unit operated during the entire hour;</p> <p>B. two data points, at least 15 minutes apart, during periods of monitor calibration or routine maintenance;</p> <p>C. one data point if the emission unit operated for 15 minutes or less during the hour. [Minn. R. 7017.1160, subp. 2, Minn. R. 7017.1160, subp. 1]</p>
EQUI 323	EU107	SDA Hot Oil Heater	
	5.70.1		Permitted Fuels: Limited to refinery fuel gas (also referred to as 'fuel gas') and pipeline natural gas only. [Minn. R. 7007.0800, subp. 2]
	5.70.2		Hydrogen Sulfide (H2S) <= 0.10 grains per dry standard cubic foot (230 mg/dscm) of fuel gas. This limit applies only when combusting fuel gas in EQUI 323. [Minn. R. 7011.1410, subp. 2]
	5.70.3		Total Particulate Matter <= 0.40 pounds per million Btu heat input. The maximum potential to emit of this unit is approximately 0.00413 lb/hr for Total Particulate Matter. [Minn. R. 7011.1410, subp. 3(A)]
	5.70.4		Opacity <= 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity. An exceedance of this opacity standard occurs whenever any one-hour period contains two or more six-minute periods during which the average opacity exceeds 20 percent or whenever any one-hour period contains one or more six-minute periods during which the average opacity exceeds 60 percent. [Minn. R. 7011.1410, subp. 3(B)]
	5.70.5		Hydrogen Sulfide (H2S) <= 162 parts per million 3-hour rolling average, determined hourly. This limit applies only when combusting fuel gas in EQUI 323. This limit does not apply during periods of startup, shutdown, or malfunction. [40 CFR 60.102a(g)(1)(ii)]
	5.70.6		Hydrogen Sulfide (H2S) <= 60 parts per million 365-day rolling average, determined daily. This limit applies only when combusting fuel gas in EQUI 323. This limit does not apply during periods of startup, shutdown, or malfunction. [40 CFR 60.102a(g)(1)(ii)]

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
	5.70.7		The combustion in a portable generator of fuel gas released as a result of tank degassing and/or cleaning is exempt from the emissions limits in 40 CFR Section 60.102a (g)(1)(i) and (ii). [40 CFR 60.102a(g)(1)(iii)]
	5.70.8		<p>The Permittee shall operate, calibrate and maintain EQUI 163 (MR 001, H2S Monitor), for continuously monitoring and recording the concentration by volume (dry basis) of H2S in the fuel gases before being burned in EQUI 323. The Permittee shall install, operate and maintain each H2S monitor according to Performance Specification 7 of Appendix B to 40 CFR pt. 60. The span value for this instrument is 300 ppmv H2S. The Permittee shall conduct performance evaluations for each H2S monitor according to the requirements of 40 CFR Section 60.13(c) and Performance Specification 7 of Appendix B to part 60. The Permittee shall use Method 11, 15, or 15A of Appendix A-5 to part 60 or Method 16 of Appendix A-6 to part 60 for conducting the relative accuracy evaluations. The method ANSI/ASME PTC 19.10-1981, "Flue and Exhaust Gas Analyses," (incorporated by reference-see 40 CFR Section 60.17) is an acceptable alternative to EPA Method 15A of Appendix A-5 to part 60.</p> <p>The Permittee shall comply with the applicable quality assurance procedures in Appendix F to part 60 for each H2S monitor.</p> <p>Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location, if monitoring at this location accurately represents the concentration of H2S in the fuel gas being burned in the respective fuel gas combustion devices.</p> <p>The Permittee may use the instrument required in paragraph (e)(1) of this section to demonstrate compliance with the H2S concentration requirement if the Permittee complies with the requirements of paragraph (e)(1)(i) through (iv) and if the instrument has a span (or dual span, if necessary) capable of accurately measuring concentrations between 20 and 300 ppmv. If the instrument required in paragraph (e)(1) of this section is used to demonstrate compliance with the H2S concentration requirement, the concentration directly measured by the instrument must be less than 162 ppmv using 3-hour Rolling Average. [40 CFR 60.107a(a)(2)]</p>
	5.70.9		The Permittee shall conduct a root cause analysis and a corrective action analysis for each exceedance of an applicable short-term emissions limit in 40 CFR Section 60.102a(g)(1) if the SO2 discharge to the atmosphere is 227 kg (500 lb) greater than the amount that would have been emitted if the emissions limits had been met during one or more consecutive

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>periods of excess emissions or any 24-hour period, whichever is shorter. [40 CFR 60.103a(c)]</p>
	5.70.10		<p>Except as provided in 40 CFR Section 60.103a(f) and (g), a root cause analysis and corrective action analysis must be completed as soon as possible, but no later than 45 days after a discharge meeting one of the conditions specified above. Special circumstances affecting the number of root cause analyses and/or corrective action analyses are provided below:</p> <p>(1) If a single continuous discharge meets any of the conditions specified in (c)(1) through (3) of this section for 2 or more consecutive 24-hour periods, a single root cause analysis and corrective action analysis may be conducted.</p> <p>(2) If discharges occur that meet any of the conditions specified in paragraphs (c)(1) through (3) of this section for more than one affected facility in the same 24-hour period, initial root cause analyses shall be conducted for each affected facility. If the initial root cause analyses indicate that the discharges have the same root cause(s), the initial root cause analyses can be recorded as a single root cause analysis and a single corrective action analysis may be conducted. [40 CFR 60.103a(d)]</p>
	5.70.11		<p>The Permittee shall implement the corrective action(s) identified in the corrective action analysis conducted pursuant to paragraph (d) of this section in accordance with the applicable requirements 1 - 3 below:</p> <p>(1) All corrective action(s) must be implemented within 45 days of the discharge for which the root cause and corrective action analyses were required or as soon thereafter as practicable. If the Permittee concludes that corrective action should not be conducted, the Permittee shall record and explain the basis for that conclusion no later than 45 days following the discharge as specified in 40 CFR Section 60.108a(c)(6)(ix).</p> <p>(2) For corrective actions that cannot be fully implemented within 45 days following the discharge for which the root cause and corrective action analyses were required, the Permittee shall develop an implementation schedule to complete the corrective action(s) as soon as practicable.</p> <p>(3) No later than 45 days following the discharge for which a root cause and corrective action analyses were required, the Permittee shall record the corrective action(s) completed to date, and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates as specified in 40 CFR Section</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>60.108a(c)(6)(x). [40 CFR 60.103a(e)]</p> <p>The Permittee of a fuel gas combustion device is not required to comply with 40 CFR Section 60.107a(a)(1) or (2) for fuel gas streams that are exempt under 40 CFR Section 60.102a(g)(1)(iii) or 60.103a(h) or, for fuel gas streams combusted in a process heater, other fuel gas combustion device or flare that are inherently low in sulfur content. Fuel gas streams meeting one of the requirements in 40 CFR Section 60.017a(a)(3)(i) through (iv) will be considered inherently low in sulfur content.</p> <p>(i) Pilot gas for heaters.</p> <p>(ii) Fuel gas streams that meet a commercial-grade product specification for sulfur content of 30 ppmv or less. In the case of a liquefied petroleum gas (LPG) product specification in the pressurized liquid state, the gas phase sulfur content should be evaluated assuming complete vaporization of the LPG and sulfur containing-compounds at the product specification concentration.</p> <p>(iii) Fuel gas streams produced in process units that are intolerant to sulfur contamination, such as fuel gas streams produced in the hydrogen plant, catalytic reforming unit, isomerization unit, and HF alkylation process units.</p> <p>(iv) Other fuel gas streams that the Permittee demonstrates are low-sulfur according to the procedures in 40 CFR Section 60.107a(b). [40 CFR 60.107a(a)(3)]</p>
	5.70.13		<p>If the composition of an exempt fuel gas stream changes, the Permittee shall follow the procedures in 40 CFR Section 60.107a(b)(3). [40 CFR 60.107a(a)(4)]</p>
	5.70.14		<p>For the purpose of reports required by 40 CFR Section 60.7(c), periods of excess emissions for EQUI 323 and other fuel gas combustion devices are defined as each rolling 3-hour period during which the average concentration of H₂S as measured by the H₂S continuous monitoring system required under 40 CFR Section 60.107a(a)(2) exceeds 162 ppmv and each rolling 365-day period during which the average concentration as measured by the H₂S continuous monitoring system under 40 CFR Section 60.107a(a)(2) exceeds 60 ppmv.</p> <p>If the Permittee becomes subject to the requirements of daily stain tube sampling in 40 CFR Section 60.107a(b)(3)(iii) of this section, excess emissions are defined as each day during which the daily concentration of H₂S exceeds 162 ppmv and each rolling 365-day period during which the average concentration of H₂S exceeds 60 ppmv. [40 CFR 60.107a(i)]</p>
	5.70.15		<p>The Permittee shall comply with the notification, recordkeeping, and reporting requirements in 40 CFR Section 60.7 and other requirements as specified in 40 CFR Section 60.108a. [40 CFR 60.108a(a)]</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
	5.70.16		<p>The Permittee shall maintain the following records:</p> <p>(1) For each fuel gas stream to which one of the exemptions listed in 40 CFR Section 60.107a(a)(3) applies, records of the specific exemption determined to apply for each fuel stream. If the Permittee applies for the exemption described in 40 CFR Section 60.107a(a)(3)(iv), the Permittee must keep a copy of the application as well as the letter from the Administrator granting approval of the application.</p> <p>(2) Records of discharges greater than 500 lb SO₂ in excess of the allowable limits from a fuel gas combustion device in any 24-hour period as required by 40 CFR Section 60.103a(c). The following information shall be recorded no later than 45 days following the end of a discharge exceeding the thresholds:</p> <p>(i) A description of the discharge.</p> <p>(ii) The date and time the discharge was first identified and the duration of the discharge.</p> <p>(iii) The measured or calculated cumulative quantity of gas discharged over the discharge duration. If the discharge duration exceeds 24 hours, record the discharge quantity for each 24-hour period. Engineering calculations are allowed for fuel gas combustion devices.</p> <p>(v) For each discharge greater than 500 lb SO₂ in excess of the applicable short-term emissions limit in 40 CFR Section 60.102a(g)(1) from a fuel gas combustion device, either the measured concentration of H₂S in the fuel gas or the measured concentration of SO₂ in the stream discharged to the atmosphere. Process knowledge can be used to make these estimates for fuel gas combustion devices.</p> <p>(vii) For each discharge greater than 500 lb SO₂ in excess of the allowable limits from a fuel gas combustion device the cumulative quantity of H₂S and SO₂ released into the atmosphere. For fuel gas combustion devices, assume 99-percent conversion of H₂S to SO₂.</p> <p>(viii) The steps that the Permittee took to limit the emissions during the discharge.</p> <p>(ix) The root cause analysis and corrective action analysis conducted as required in 40 CFR Section 60.103a(d), including an identification of the affected facility, the date and duration of the discharge, a statement noting whether the discharge resulted from the same root cause(s) identified in a previous analysis and either a description of the recommended corrective action(s) or an explanation of why corrective action is not necessary under 40 CFR Section 60.103a(e).</p> <p>(x) For any corrective action analysis for which corrective actions are required in 40 CFR Section 60.103a(e), a description of the corrective action(s) completed within the first 45 days following the discharge and, for action(s) not ready completed, a schedule for implementation, including</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			proposed commencement and completion dates. [40 CFR 60.108a(c)]
	5.70.17		<p>The Permittee shall submit an excess emissions report for all periods of excess emissions according to the requirements of 40 CFR Section 60.7(c) except that the report shall contain the information specified in 40 CFR Section 60.108a(d)(1) through (7):</p> <ul style="list-style-type: none"> (1) The date that the exceedance occurred; (2) An explanation of the exceedance; (3) Whether the exceedance was concurrent with a startup, shutdown, or malfunction of an affected facility or control system; and (4) A description of the action taken, if any. (5) The information described in 40 CFR Section 60.108a(c)(6) for all discharges listed in 40 CFR Section 60.108a(c)(6). (6) For any periods for which monitoring data are not available, any changes made in operation of the emission control system during the period of data unavailability which could affect the ability of the system to meet the applicable emission limit. Operations of the control system and affected facility during periods of data unavailability are to be compared with operation of the control system and affected facility before and following the period of data unavailability. (7) A written statement, signed by a responsible official, certifying the accuracy and completeness of the information contained in the report. [40 CFR 60.108a(d)]
	5.70.18		<p>STANDARDS OF PERFORMANCE FOR SMALL INDUSTRIAL-COMMERICAL-INSTITUTIONAL STEAM GENERATION UNITS (40 CFR pt. 60, subp. Dc Requirements)</p> <p>Monthly Recordkeeping of Fuel Combusted: By the 15th day of each month, the Permittee shall calculate and maintain record the following:</p> <ul style="list-style-type: none"> (1) The total amount of natural gas combusted in EQUI 323 during the previous month, measured in standard cubic feet. (2) The total amount of refinery gas combusted in EQUI 323 during the previous month, measured in standard cubic feet. [40 CFR 60.48c(g)(2), Minn. R. 7007.0800, subp. 4, Minn. R. 7007.0800, subp. 5, Minn. R. 7011.0570]
	5.70.19		<p>NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR INDUSTRIAL, COMMERCIAL AND INSTITUTIONAL BOILERS AND HEATERS (40 CFR pt. 63, subp. DDDDD Requirements)</p> <p>The Permittee shall comply with the following requirements no later than January 31, 2016, except as provided in 40 CFR Section 63.6(i). At that time, The Permittee shall be in</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>compliance with the emission limits, work practice standards, and operating limits in 40 CFR pt. 63, subp. DDDDD. These limits apply at all times the affected unit is operating except during periods of startup and shutdown during which time you must comply only with Table 3 to 40 CFR pt. 63, subp. DDDDD. [40 CFR 63.7495(b), 40 CFR 63.7505(a)]</p>
	5.70.20		<p>The Permittee shall demonstrate continuous compliance with the applicable work practice standards in Table 3 to 40 CFR pt. 63, subp. DDDDD annually, as specified in 40 CFR Section 63.7540(a) following the initial compliance date. Thereafter, the Permittee is required to complete the annual tune-up. If an oxygen trim system that maintains an optimum air to fuel ratio is installed on EQUI 323, the Permittee may conduct a tune-up of EQUI 323 every 5 years. [40 CFR 63.7510]</p>
	5.70.21		<p>The Permittee shall complete an initial tune-up by following the procedures described in 40 CFR Section 63.7540(a)(10)(i) through (vi) no later than 30 days after the re-start of EQUI 323. [40 CFR 63.7510(j), 40 CFR pt. 63, subp. DDDDD(Table 3)]</p>
	5.70.22		<p>The Permittee shall conduct an annual tune-up of EQUI 323 to demonstrate continuous compliance as specified in 40 CFR Section 63.7540(a)(10)(i) through (a)(10)(vi) below:</p> <ul style="list-style-type: none"> (i) As applicable, inspect the burner, and clean or replace any components of the burner as necessary (the Permittee may delay the burner inspection until the next scheduled unit shutdown). At units where entry into a piece of process equipment or into a storage vessel is required to complete the tune-up inspections, inspections are required only during planned entries into the storage vessel or process equipment; (ii) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available; (iii) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (the Permittee may delay the inspection until the next scheduled unit shutdown). (iv) Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any NOx requirement to which the unit is subject; (v) Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer; and</p> <p>(vi) Maintain on-site and submit, if requested by the Administrator, an annual report containing the information in (a)(10)(vi)(A) through (C) below.</p> <p>(A) The concentrations of CO in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler or process heater;</p> <p>(B) A description of any corrective actions taken as a part of the tune-up; and</p> <p>(C) The type and amount of fuel used over the 12 months prior to the tune-up, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel used by each unit. [40 CFR 63.7540(a)(10), 40 CFR pt. 63, subp. DDDDD(Table 3)]</p>
	5.70.23		<p>If EQUI 323 is not operating on the required date for a tune-up, the tune-up shall be conducted within 30 calendar days of startup. [40 CFR 63.7540(a)(13)]</p>
	5.70.24		<p>If EQUI 323 is not operating on the required date for a tune-up, the tune-up shall be conducted within 30 calendar days of startup. [40 CFR 63.7545(a)]</p>
	5.70.25		<p>The Permittee shall submit a compliance report with the information below:</p> <p>(i) Company and Facility name and address.</p> <p>(ii) Process unit information, emissions limitations, and operating parameter limitations.</p> <p>(iii) Date of report and beginning and ending dates of the reporting period.</p> <p>(iv) The total operating time during the reporting period.</p> <p>(v) Include the date of the most recent tune-up for each unit subject to only the requirement to conduct an annual, biennial, or 5-year tune-up according to 40 CFR Section 63.7540(a)(10), (a)(11), or (a)(12) respectively. Include the date of the most recent burner inspection if it was not done annually, biennially, or on a 5-year period and was delayed until the next scheduled or unscheduled unit shutdown.</p> <p>(vi) If there are no deviations from any emission or operating limit that applies and there are no deviations from the requirements for work practice standards that apply, a statement that there were no deviations from the emission limitations and work practice standards during the reporting period.</p> <p>If there is a deviation from an emission or operating limit or work practice standard during the reporting period, the report</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			must contain the information in 40 CFR Section 63.7550(d). [40 CFR 63.7550(c)]
	5.70.26		The Permittee shall maintain a copy of each notification and report that was submitted to comply with 40 CFR pt. 63, subp. DDDDD, including all documentation supporting any Initial Notification or Notification of Compliance Status or semiannual compliance report that was submitted. The Permittee shall maintain records of performance tests, fuel analyses, or other compliance demonstrations and performance evaluations as required in 40 CFR Section 63.10(b)(2)(viii). [40 CFR 63.7555(a)]
	5.70.27		The records shall be in a form suitable and readily available for expeditious review, according to 40 CFR Section 63.10(b)(1). As specified in 40 CFR Section 63.10(b)(1), the Permittee shall keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. The Permittee shall maintain each record on site, or they must be accessible from on site (for example, through a computer network), for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 40 CFR Section 63.10(b)(1). Records may be kept off site for the remaining 3 years. [40 CFR 63.7560]
EQUI 326	EU027	DDS Product Stripper Reboiler 5-37-B-2	
	5.71.1		Sulfur Dioxide < 0.78 pounds per hour 3-hour rolling average. [Title I Condition: 40 CFR pt. 50, 4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.71.2		THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP. Sulfur Dioxide <= 0.030 pounds per million Btu heat input 3-hour rolling average. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.71.3		Hydrogen Sulfide (H2S) <= 162 parts per million 3-hour average. Fuel Restriction: The company shall not burn refinery gas with a hydrogen sulfide content in excess of 162 ppm as an average for any consecutive 3-hour period. [40 CFR pt. 60, subp. Ja, Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.71.4		Hydrogen Sulfide (H2S) <= 230 milligram per dry std cubic meter 3-hour rolling average for fuel gas combusted in a device subject to this subpart (0.10 gr/dscf); flare emergency reliefs are exempt. [40 CFR 60.104(a)(1), Minn. R. 7011.1410, subp. 2, Minn. R. 7011.1435]
	5.71.5		Sulfur Dioxide <= 1.75 pounds per million Btu heat input 3-hour rolling average. Compliance with the fuel restriction requirement constitutes compliance with this limit. [Minn. R.

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			7011.1410, subp. 3(A)]
	5.71.6		Opacity <= 20 percent opacity 6-minute average; except for one six-minute period per hour of not more than 60 percent opacity. [Minn. R. 7011.1410, subp. 3(B)]
	5.71.7		Fuel Restriction: Burn refinery gas and/or natural gas only in the unit. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.71.8		Recordkeeping: Record and maintain records of each fuel combusted in the unit on a monthly basis. [Minn. R. 7007.0800, subp. 2]
	5.71.9		Fuel Flowrate: calibrate, operate and maintain Continuous Monitoring Systems (CMSs) that record the fuel flow rate at each fuel combustion device. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.71.10		Sulfur Dioxide Emissions: The Permittee shall use the combination of the fuel flowrate CMS and the H2S CEMS to measure sulfur dioxide emissions from STRU 88 (SV 022). [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.71.11		Sulfur Dioxide Emissions Recordkeeping: The Permittee shall maintain records of the calculated SO2 emissions in pounds per hour (lb/hr). [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.71.12		<p>CEMS Continuous Operation: CEMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A CEMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment.</p> <p>Acceptable monitor downtime includes reasonable periods due to the following causes:</p> <ul style="list-style-type: none"> A. damage to the monitoring system due to a Force Majeure such as lightning strikes, tornadoes, or floods which render the monitor inoperative; B. sudden and not reasonably preventable breakdowns; C. scheduled monitor maintenance based upon equipment manufacturer's recommended maintenance schedule which cannot reasonably be conducted when the emission unit is not operating; or D. unavoidable monitor downtime in order to conduct daily drift checks, calibration error audits, relative accuracy test audits, linearity checks, and cylinder gas audits required by a compliance document, applicable requirement, or by request of the Commissioner. [Minn. R. 7017.1090, subp. 1, Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt.

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			52, subp. Y]
EQUI 327	EU060	Boiler House Diesel	
	5.72.1		Sulfur Dioxide <= 0.50 pounds per million Btu heat input 3-hour rolling average. [Minn. R. 7011.2300, subp. 2]
	5.72.2		Opacity <= 20 percent opacity once operating temperatures have been attained. (Visible air contaminants). [Minn. R. 7011.2300, subp. 1]
	5.72.3		Sulfur Content of Fuel <= 0.050 percent by weight of diesel fuel. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.72.4		Diesel Fuel Certification: The Permittee shall retain written documentation of each shipment of diesel fuel oil received for the diesel engines. The written documentation shall include the following information: the sulfur content of the diesel fuel and the method used to determine the sulfur content. [Title I Condition: 40 CFR pt. 50, 4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	5.72.5		Existing stationary CI RICE less than 500 HP must comply with the applicable portions of 40 CFR pt. 63, subp. ZZZZ, Table 2c. [40 CFR 63.6602, 40 CFR pt. 63, subp. ZZZZ(Table 2c), Minn. R. 7011.8150]
	5.72.6		(a) The Permittee must be in compliance with the emission limitations and operating limitations in 40 CFR pt. 63, subp. ZZZZ that apply to you at all times. (b) At all times you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.6605, Minn. R. 7011.8150]
	5.72.7		Monitoring, Installation, Collection, Operation, and Maintenance requirements: If you own or operate any of the following stationary RICE, you must operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			air pollution control practice for minimizing emissions. [40 CFR 63.6625(e), Minn. R. 7011.8150]
	5.72.8		If you own or operate an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, you must install a non-resettable hour meter if one is not already installed. [40 CFR 63.6625(f), Minn. R. 7011.8150]
	5.72.9		<p>(i) If you own or operate a stationary CI engine that is subject to the work, operation or management practices in items 1 or 2 of Table 2c to this subpart or in items 1 or 4 of Table 2d to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5.</p> <p>If all of these condemning limits are not exceeded, the engine Permittee is not required to change the oil. If any of the limits are exceeded, the engine Permittee must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine Permittee must change the oil within 2 days or before commencing operation, whichever is later. The Permittee must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. [40 CFR 63.6625(i), Minn. R. 7011.8150]</p>
	5.72.10		<p>The Permittee shall operate the emergency stationary RICE according to the requirements in 40 CFR Section 63.6640(f)(1)(i) through (iii). Any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described in 40 CFR Section 63.6640(f)(1)(i) through (iii), is prohibited. If you do not operate the engine according to the requirements in 40 CFR Section 63.6640(f)(1)(i) through (iii), the engine will not be considered an emergency engine under this subpart and will need to meet all requirements for non-emergency engines.</p> <p>(i) There is no time limit on the use of emergency stationary</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>RICE in emergency situations.</p> <p>(ii) You may operate your emergency stationary RICE for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. The Permittee may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the Permittee maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency RICE beyond 100 hours per year.</p> <p>(iii) You may operate your emergency stationary RICE up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity; except that Permittees may operate the emergency engine for a maximum of 15 hours per year as part of a demand response program if the regional transmission organization or equivalent balancing authority and transmission operator has determined there are emergency conditions that could lead to a potential electrical blackout, such as unusually low frequency, equipment overload, capacity or energy deficiency, or unacceptable voltage level.</p> <p>The engine may not be operated for more than 30 minutes prior to the time when the emergency condition is expected to occur, and the engine operation must be terminated immediately after the facility is notified that the emergency condition is no longer imminent. The 15 hours per year of demand response operation are counted as part of the 50 hours of operation per year provided for non-emergency situations. The supply of emergency power to another entity or entities pursuant to financial arrangement is not limited by 40 CFR Section 63.6640(f)(1)(iii), as long as the power provided by the financial arrangement is limited to emergency power. [40 CFR 63.6640(f), Minn. R. 7011.8150]</p>
	5.72.11		<p>Notifications: Submit all applicable notifications as listed in 40 CFR Section 63.6645(a) according to applicable status of the RICE. [40 CFR 63.6445, Minn. R. 7011.8150]</p>
	5.72.12		<p>General Recordkeeping Requirements: The Permittee shall maintain files of all information (including all reports and</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>notifications) required by 40 CFR pt. 63, subp. ZZZZ, recorded in a form suitable and readily available for expeditious inspection and review including all information required by 40 CFR Section 63.10(b). The files must be keep for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. [40 CFR 63.10(b), 40 CFR 63.6655, 40 CFR 63.6660, Minn. R. 7011.8150, Minn. R. 7019.0100]</p>
	5.72.13		<p>The Permittee must follow the requirements for Startup, Shutdown, Malfunction Plans, as applicable. [40 CFR 63.6(e), 40 CFR 63.6605, 40 CFR 63.8(c), Minn. R. 7011.7000, Minn. R. 7011.8150]</p>
FUGI 8	FS118	5-38 Tank 606 (Lab) - Equipment Leaks	
	5.73.1		<p>Follow the Carbon Canister requirements as identified in Paragraph 18.E. of the First Revised Consent Decree until either the Consent Decree is revised again or terminated. [CAA of 1990, Minn. R. 7007.0100, subps. 7(A) & 7(B), Minn. R. 7007.0800, subp. 2, Minn. R. 7007.0800, subps. 1-2, Minn. Stat. 116.subd. 4a, Minn. Stat. 116.subd. 9, Title I Condition: 40 CFR pt. 52]</p>
	5.73.2		<p>The closed vent system shall be designed to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background, as determined initially and thereafter at least once per year by the methods specified in 40 CFR Section 61.355(h). [40 CFR 61.349(a)(1), Minn. R. 7011.9930(E)]</p>
	5.73.3		<p>Each closed-vent system and control device used to comply with this subpart shall be operated at all times when waste is placed in the waste management until vented to the control device except when maintenance or repair of the waste management unit cannot be completed without a shutdown of the device. [40 CFR 61.349(b), 40 CFR 61.654(a), Minn. R. 7011.9930(E)]</p>
	5.73.4		<p>Control device must be designed to meet performance standards per NESHAP FF. [40 CFR 61.349(a)(2)(ii), Minn. R. 7011.9930(E)]</p>
	5.73.5		<p>At all times, including periods of startup, shutdown, and malfunction, operate and maintain equipment and associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operating and maintenance procedures and inspection of the source. [40 CFR 61.12(c), Minn. R. 7011.9900]</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
	5.73.6		Measure VOC or benzene concentration at outlet of 1st carbon canister in carbon adsorption system when the source is connected to the carbon canister, and during periods of normal operation in accordance with the frequency specified in 40 CFR Section 61.354(d). [40 CFR 61.349(h), 40 CFR 61.354(c), 40 CFR 61.354(d), 40 CFR 61.356(j)(10), CAAA of 1990, Minn. R. 7007.0100, subps. 7(A) & 7(B), Minn. R. 7007.0800, subp. 2, Minn. R. 7007.0800, subps. 1-2, Minn. R. 7011.9930(E), Minn. Stat. 116.subd. 4a, Minn. Stat. 116.subd. 9, Title I Condition: 40 CFR pt. 52]
	5.73.7		Record date of carbon containers change-outs. [40 CFR 61.356(j)(10), Minn. R. 7011.9930(E)]
	5.73.8		Per 40 CFR Section 61.349(f), conduct quarterly NESHAP visual inspection. The visual inspection shall include inspection of ductwork and piping and connections to covers and control devices for evidence of visible defects such as holes in ductwork or piping and loose connections. [40 CFR 61.346(a)(2), 40 CFR 61.349(f), 40 CFR 61.356(g), 40 CFR 61.357(d)(8), Minn. R. 7011.9930(E)]
	5.73.9		Per 40 CFR Section 61.356, maintain required records for NESHAP FF equipment. [40 CFR 61.356, Minn. R. 7011.9930(E)]
	5.73.10		Comply with the recordkeeping and reporting provisions in 40 CFR Sections 61.356 and 61.357 of 40 CFR pt. 61, subp. FF. [40 CFR 61.357(d)(7)(iv)(A), Minn. R. 7011.9930(E), Minn. R. 7017.1010, subp. 3]
	5.73.11		The Permittee shall submit annually to the Administrator a report that summarizes all inspections required by 40 CFR Section 61.342 through 61.354 during which detectable emissions are measured or a problem (such as a broken seal, gap or other problem) that could result in benzene emissions is identified, including information about the repairs or corrective action taken. [40 CFR 61.357(d)(8), Minn. R. 7011.9930(E), Minn. R. 7017.1010, subp. 3]
FUGI 86	FS039	WWTP - Submerged Biodisks - Other	
	5.74.1		Each opening shall be maintained in a closed, sealed position (e.g., covered by a lid that is gasketed and latched) at all times that waste is in the drain system except when it is necessary to use the opening for waste sampling or removal, or for equipment inspection, maintenance, or repair. [40 CFR 61.346(a)(1)i, Minn. R. 7011.9900, E]
	5.74.2		Maintain compliance with design, equipment, work practice, operational standards. [40 CFR 61.12(b), Minn. R. 7011.9900, E]
	5.74.3		Control device and closed vent system: shall be operated at all times when waste is placed in the waste management unit vented to the control device except when maintenance or

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			repair of the waste management unit cannot be completed without a shutdown of the control device. [40 CFR 61.349(b), Minn. R. 7011.9930, E]
	5.74.4		<p>The Permittee shall test equipment for compliance with no detectable emissions as required in accordance with the following requirements:</p> <p>(1) Annual monitoring shall comply with Method 21 from Appendix A of 40 CFR pt. 60;</p> <p>(2) The detection instrument shall meet the performance criteria of Method 21.</p> <p>(3) The instrument shall be calibrated before use on each day of its use by the procedures specified in Method 21.</p> <p>(4) Calibration gases shall be:</p> <p>(i) Zero air (less than 10 ppm of hydrocarbon in air); and</p> <p>(ii) A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppm methane or n-hexane.</p> <p>(5) The background level shall be determined as set forth in Method 21.</p> <p>(6) The instrument probe shall be traversed around all potential leak interfaces as close as possible to the interface as described in Method 21.</p> <p>(7) The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared to 500 ppm for determining compliance. [40 CFR 61.355(h), 40 CFR 61.356(h), Minn. R. 7011.9930, E]</p>
	5.74.5		Each closed-vent system and control device shall be visually inspected quarterly. The visual inspection shall include inspection of ductwork and piping and connections to covers and control devices for evidence of visible defects such as holes in ductwork or piping and loose connections. [40 CFR 61.349(f), 40 CFR 61.356(g), 40 CFR 61.357(d)(8), Minn. R. 7011.9930, E]
	5.74.6		<p>a) Delay of repair of facilities or units will be allowed if the repair is technically impossible without a complete or partial facility or unit shutdown.</p> <p>(b) Repair of such equipment shall occur before the end of the next facility or unit shutdown. [40 CFR 61.350(a), 40 CFR 61.350(b), Minn. R. 7011.9930, E]</p>
	5.74.7		If visible defects are observed during an inspection, or if other problems are identified, or if detectable emissions are measured, a first effort to repair the closed-vent system and

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			control device shall be made as soon as practicable but no later than 5 calendar days after detection. Repair shall be completed no later than 15 calendar days after the emissions are detected or the visible defect is observed. [40 CFR 61.349(g), 40 CFR 61.357(d)(8), Minn. R. 7011.9930, E]
	5.74.8		Retain at the source and make available, upon request, for inspection by the Administrator, for a minimum of 2 years, records of emission test results and other data needed to determine emissions. [40 CFR 61.13(g), 40 CFR 61.356, Minn. R. 7011.9930, E]
	5.74.9		The Permittee of a control device that is used to comply with the provisions of this section shall monitor the control device in accordance with 40 CFR Section 61.354(c). [40 CFR 61.349(h), 40 CFR 61.354(c), Minn. R. 7011.9930, E]
	5.74.10		Submit a report quarterly to the Administrator that includes: (i) If a treatment process or wastewater treatment system unit is monitored; then each period of operation during which the concentration of benzene in the monitored waste stream exiting the unit is equal to or greater than 10 ppmw. (ii) If a treatment process or wastewater treatment system unit is monitored, then each 3-hour period of operation during which the average value of the monitored parameter is outside the range of acceptable values or during which the unit is not operating as designed. (iii) If a treatment process or wastewater treatment system unit is monitored, then each period of operation during which the flow-weighted annual average concentration of benzene in the monitored waste stream entering the unit is equal to or greater than 10 ppmw and/or and/or the total annual benzene quantity is equal to or greater than 1.0 mg/yr. (iv) For a control device monitored in accordance with 40 CFR Section 61.354(c), each period of operation monitored during which any of the following condition: Each period in which the pilot flame of a flare is absent. [40 CFR 61.357(d)(7), Minn. R. 7011.9930, E, Minn. R. 7017.1010, subp. 3]
	5.74.11		The Permittee shall submit annually to the Administrator a report that summarizes all inspections required during which detectable emissions are measured or a problem (such as a broken seal, gap or other problem) that could result in benzene emissions is identified, including information about the repairs or corrective action taken. [40 CFR 61.357(d)(8), Minn. R. 7011.9930, E, Minn. R. 7017.1010, subp. 3]
FUGI 114	FS123	Water Seal for T-146 Overflow Line - Other	
	5.75.1		Follow the Carbon Canister requirements as identified in Paragraph 18.E. of the First Revised Consent Decree until either the Consent Decree is revised again or terminated.

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			[CAAA of 1990, Minn. R. 7007.0100, subp. 7(A), Minn. R. 7007.0800, subp. 1, Minn. R. 7007.0800, subp. 2, Minn. Stat. 116.07, subd. 4a, Minn. Stat. 116.07, subd. 9, Title I Condition: 40 CFR pt. 52]
	5.75.2		The closed vent system shall be designed to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background, as determined initially and thereafter at least once per year by the methods specified in 40 CFR Section 61.355(h). [40 CFR 61.349(a)(1), Minn. R. 7011.9930, E]
	5.75.3		Each closed-vent system and control device used to comply with this subpart shall be operated at all times when waste is placed in the waste management until vented to the control device except when maintenance or repair of the waste management unit cannot be completed without a shutdown of the device. [40 CFR 61.349(b), 40 CFR 61.654(a), Minn. R. 7011.9930, E]
	5.75.4		Control device must be designed to meet performance standards per NESHAP FF. [40 CFR 61.349(a)(2), Minn. R. 7011.9930, E]
	5.75.5		At all times, including periods of startup, shutdown, and malfunction, operate and maintain equipment and associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operating and maintenance procedures and inspection of the source. [40 CFR 61.12(c), Minn. R. 7011.9900]
	5.75.6		Measure VOC or benzene concentration at outlet of 1st carbon canister in carbon adsorption system when the source is connected to the carbon canister, and during periods of normal operation in accordance with the frequency specified in 40 CFR Section 61.354(d). [CAAA of 1990, Minn. R. 7007.0100, subp. 7(A), Minn. R. 7007.0800, subp. 1, Minn. R. 7007.0800, subp. 2, Minn. Stat. 116.07, subd. 4a, Title I Condition: 40 CFR pt. 52]
	5.75.7		Record date of carbon containers change-outs. [40 CFR 61.356(j)(10), Minn. R. 7011.9930, E]
	5.75.8		Per 40 CFR Section 61.349(f), conduct quarterly NESHAP visual inspection. The visual inspection shall include inspection of ductwork and piping and connections to covers and control devices for evidence of visible defects such as holes in ductwork or piping and loose connections. [40 CFR 61.346(a)(2), 40 CFR 61.349(f), 40 CFR 61.356(g), 40 CFR 61.357(d)(8), Minn. R. 7011.9930, E]
	5.75.9		Per 40 CFR Section 61.356, maintain required records for NESHAP FF equipment. [40 CFR 61.356, Minn. R. 7011.9930, E]

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
	5.75.10		Comply with the recordkeeping and reporting provisions in 40 CFR Sections 61.356 and 61.357 of 40 CFR pt. 61, subp. FF. [40 CFR 61.357(d)(7), Minn. R. 7011.9930, E, Minn. R. 7017.1010, subp. 3]
	5.75.11		The Permittee shall submit annually to the Administrator a report that summarizes all inspections required by 40 CFR Section 61.342 through 61.354 during which detectable emissions are measured or a problem (such as a broken seal, gap or other problem) that could result in benzene emissions is identified, including information about the repairs or corrective action taken. [40 CFR 61.357(d)(8), Minn. R. 7011.9930, E, Minn. R. 7017.1010, subp. 3]
FUGI 115	FS124	Controlled Vacuum Truck Off-loading Station Valves - Equipment Leaks	
	5.76.1		Standard: Maintain compliance with design, equipment, work practice, operational standards as specified in 40 CFR pt. subp. FF. [40 CFR 61.12(b), Minn. R. 7011.9900]
	5.76.2		<p>The Permittee shall test equipment for compliance with no detectable emissions as required in accordance with the following requirements:</p> <ul style="list-style-type: none"> (1) Monitoring shall comply with Method 21 from Appendix A of 40 CFR pt. 60; (2) The detection instrument shall meet the performance criteria of Method 21. (3) The instrument shall be calibrated before use on each day of its use by the procedures specified in Method 21. (4) Calibration gases shall be: <ul style="list-style-type: none"> (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 of approximately, but less than, 10,000 ppm methane or n-hexane. (5) The background level shall be determined as set forth in Method 21. (6) The instrument probe shall be traversed around all potential leak interfaces as close as possible to the interface as described in Method 21. (7) The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared to 500 ppm for determining compliance. [40 CFR 61.355(h), 40 CFR 61.356(h), Minn. R. 7011.9930, E]
	5.76.3		Delayed Repairs: Delay of repair of facilities or units that are subject to the provisions of this subpart will be allowed if the repair is technically impossible without a complete or partial facility or unit shutdown. Repair of such equipment shall occur

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			before the end of the next facility or unit shutdown. [40 CFR 61.350(a)-(b), Minn. R. 7011.9930, E]
	5.76.4		Monitoring: Each applicable potential leak point must be monitored using Method 21 on an annual basis per 40 CFR Section 61.347(a)(1)(i)(A). [40 CFR 61.354, Minn. R. 7011.9930, E]
	5.76.5		Each sewer line shall not be open to the atmosphere and shall be covered or enclosed in a manner so as to have no visual gaps or cracks in joints, seals, or other emission interfaces. [40 CFR 61.346(b)(3), Minn. R. 7011.9930, E]
	5.76.6		Each drain using water seal controls shall be visually inspected initially and thereafter quarterly for indications of low water levels or other conditions that would reduce the effectiveness of water seal controls. [40 CFR 61.346(b)(4)i, Minn. R. 7011.9930, E]
	5.76.7		Each drain using a tightly sealed cap or plug shall be visually inspected initially and thereafter quarterly to ensure caps or plugs are in place and properly installed. [40 CFR 61.346(b)(4)ii]
	5.76.8		The unburied portion of each sewer line shall be visually inspected initially and thereafter quarterly for indication of cracks, gaps, or other problems that could result in benzene emissions. [40 CFR 61.346(b)(4)iv, Minn. R. 7011.9930, E]
	5.76.9		Except as provided in 40 CFR Section 61.350 of this subpart, when a broken seal, gap, crack or other problem is identified, first efforts at repair shall be made as soon as practicable, but not later than 15 days after identification. [40 CFR 61.346(b)(5), Minn. R. 7011.9930, E]
FUGI 130	FS031	API - Oil/Water Separator	
	5.77.1		<p>As an alternative to the standards for oil-water separators specified in 40 CFR Section 61.347 of National Emission Standard for Benzene Waste Operations, the Permittee shall comply with:</p> <p>(1) A floating roof meeting the requirements in 40 CFR Section 60.693-2(a) of NSPS Subpart QQQ</p> <p>The applicable requirements per NSPS Subpart QQQ are listed under COMG 4 (GP 015). [40 CFR 61.352, Minn. R. 7011.9930(E)]</p>
	5.77.2		(a) Delay of repair of facilities or units that are subject to the provisions of this subpart will be allowed if the repair is technically impossible without a complete or partial facility or unit shutdown. (b) Repair of such equipment shall occur before the end of the next facility or unit shutdown. [40 CFR 61.350(a) - (b), Minn. R. 7011.9930(E)]
	5.77.3		Records required for visual inspections: The date, location, and

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			corrective action for each visual inspection during which a broken seal, gap, or other problem is identified that could result in benzene emissions. [40 CFR 61.356(l)(1), Minn. R. 7011.9930(E)]
	5.77.4		Record secondary seal measurements, location, date and corrective actions, if any, annually. [40 CFR 61.356(l)(2), Minn. R. 7011.9930(E)]
	5.77.5		Record primary seal measurements, location, date and corrective actions, if any, every 5 years. Maintain records for at least 10 years. [40 CFR 61.356(l)(2), Minn. R. 7011.9930(E)]
	5.77.6		Prepare and submit quarterly NESHAP inspection/certification report: Install and operate the control equipment, shall submit quarterly reports that identify all seal gap measurements, as required in 40 CFR Section 60.693-2(a), that are outside the prescribed limits. [40 CFR 61.357(g), Minn. R. 7011.9930(E)]
	5.77.7		Prepare and submit NESHAP annual corrective action report: the owner or operator shall submit annually to the Administrator a report that summarizes all inspections required during which detectable emissions are measured or a problem (such as a broken seal, gap or other problem) that could result in benzene emissions are identified, including information about the repairs or corrective action taken. [40 CFR 61.357(d)(8), Minn. R. 7011.9930(E)]
TREA 1	CE019	Fabric Filter - Low Temperature, i.e., T<180 Degrees F	
	5.78.1		The Permittee shall operate and maintain the fabric filter in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff. [Minn. R. 7007.0800, subp. 14]
	5.78.2		The Permittee shall operate and maintain the fabric filter at all times that any emission unit controlled by the fabric filter is in operation. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2]
	5.78.3		Pressure Drop ≥ 0.50 and ≤ 12.0 inches of water column. A new range may be set pursuant to Minn. R. 7017.2025, subp. 3, based on the values recorded during the most recent MPCA approved performance test where compliance was demonstrated. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2]
	5.78.4		Visible Emissions or Pressure Drop Readings: Once each day of operation, the Permittee shall either: a) check the fabric filter stack (STRU 14) for any visible emissions during daylight hours, or b) record the pressure drop across each fabric filter. [Minn. R. 7007.0800, subps. 4-5]

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
	5.78.5		Recordkeeping of Visible Emissions and Pressure Drop. The Permittee shall record the time and date of each visible emission inspection and pressure drop reading, and whether or not any visible emissions were observed, and whether or not the observed pressure drop was within the range specified in this permit. [Minn. R. 7007.0800, subps. 4-5]
	5.78.6		<p>Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur:</p> <ul style="list-style-type: none"> a. Visible emissions are observed over 10% opacity. If visible emissions continue to be over 10% opacity, perform a US EPA Method 9 test with a certified observer. If the visible emissions exceed the permitted limit, report as a deviation in the company's semiannual report. b. The recorded pressure drop is outside the required operating range. c. The fabric filter or any of its components are found during the inspections to need repair. <p>Corrective actions shall return the pressure drop to within the permitted range and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the fabric filter. The Permittee shall keep a record of the type and date of any corrective action taken for each filter. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subps. 4-5]</p>
	5.78.7		Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording pressure drop as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored fabric filter is in operation. [Minn. R. 7007.0800, subp. 4]
	5.78.8		Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections. [Minn. R. 7007.0800, subps. 4-5, Minn. R. 7007.0800, subp. 14]
TREA 2	CE020	Fabric Filter - Low Temperature, i.e., T<180 Degrees F	
	5.79.1		The Permittee shall operate and maintain the fabric filter in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			available onsite for use by staff and MPCA staff. [Minn. R. 7007.0800, subp. 14]
	5.79.2		The Permittee shall operate and maintain the fabric filter at all times that any emission unit controlled by the fabric filter is in operation. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2]
	5.79.3		Pressure Drop ≥ 0.50 and ≤ 12.0 inches of water column. A new range may be set pursuant to Minn. R. 7017.2025, subp. 3, based on the values recorded during the most recent MPCA approved performance test where compliance was demonstrated. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2]
	5.79.4		Visible Emissions or Pressure Drop Readings: Once each day of operation, the Permittee shall either: a) check the fabric filter stack (STRU 13) for any visible emissions during daylight hours, or b) record the pressure drop across each fabric filter. [Minn. R. 7007.0800, subps. 4-5]
	5.79.5		Recordkeeping of Visible Emissions and Pressure Drop. The Permittee shall record the time and date of each visible emission inspection and pressure drop reading, and whether or not any visible emissions were observed, and whether or not the observed pressure drop was within the range specified in this permit. [Minn. R. 7007.0800, subps. 4-5]
	5.79.6		<p>Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur:</p> <ul style="list-style-type: none"> a. Visible emissions are observed over 10% opacity. If visible emissions continue to be over 10% opacity, perform a US EPA Method 9 test with a certified observer. If the visible emissions exceed the permitted limit, report as a deviation in the company's semiannual report. b. The recorded pressure drop is outside the required operating range. c. The fabric filter or any of its components are found during the inspections to need repair. <p>Corrective actions shall return the pressure drop to within the permitted range and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the fabric filter. The Permittee shall keep a record of the type and date of any corrective action taken for each filter. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subps. 4-5]</p>
	5.79.7		Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording pressure drop as required by this permit. The monitoring equipment must be installed, in use, and properly

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			maintained when the monitored fabric filter is in operation. [Minn. R. 7007.0800, subp. 4]
	5.79.8		Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections. [Minn. R. 7007.0800, subps. 4-5, Minn. R. 7007.0800, subp. 14]
TREA 5	CE016	Thermal Oxidation	
	5.80.1		Hydrogen Sulfide (H2S) <= 150 parts per million 365-day rolling average. [Title I Condition: 40 CFR 52.21(b)(1) & Minn. R. 7007.3000]
	5.80.2		<p>Install, calibrate, maintain and operate an instrument for continuously monitoring and recording the concentration (dry basis) of hydrogen sulfide in fuel gases before being burned in any fuel gas combustion device.</p> <p>(i) The span value for this instrument is 425 mg/dscm H2S. (ii) Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location, if monitoring at this location accurately represents the concentration of H2S in the fuel gas being burned. (iii) The performance evaluations for this H2S monitor under 40 CFR Section 60.13(c) shall use Performance Specification 7. Method 15 or 15A of appendix A-5 to 40 CFR pt. 60 or Method 16 of appendix A-6 to 40 CFR pt. 60 or another method approved by MPCA shall be used for conducting the relative accuracy evaluations as identified in 40 CFR Section 60.104a(h)(5). [Minn. R. 7017.1004, Minn. R. 7017.1040, Minn. R. 7017.1070, Minn. R. 7017.1170]</p>
	5.80.3		The Permittee shall install, calibrate, maintain, and operate according to manufacturer's specifications a temperature monitoring device equipped with a continuous recorder. The device shall have an accuracy of +/- 1 percent of the temperature being monitored in degrees Celsius or +/- 0.5 degrees Celsius, whichever is greater. The temperature sensor shall be installed at a representative location in the combustion chamber. [Minn. R. 7007.0800, subps. 4 & 5]
	5.80.4		The Permittee shall operate and maintain the thermal oxidizer any time that any process equipment controlled by the thermal oxidizer is in operation, except during periods of natural gas curtailment by the supplier, scheduled maintenance activity, minor WWTP malfunctions where the oxidizer will be bypassed due to safety concerns, and malfunctions. Ninety days after startup of the oxidizer, when malfunctions occur, the Permittee shall complete an incident investigation and submit the findings to the MPCA. (Consent

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			Decree as amended). [CAAA of 1990, Minn. R. 7007.0100, subp., 7(B), Minn. R. 7007.0100, subp., 7 (A), Minn. R. 7007.0800, subps. 1 and 2, Minn. Stat. 116.07, subds. 4a & 9, Title I Condition: 40 CFR pt. 52]
	5.80.5		Temperature >= 1400 degrees Fahrenheit 3-hour rolling average. [Minn. R. 7007.0800, subp. 2, Minn. R. 7017.2025]
	5.80.6		Corrective Action: If the temperature is not greater than the value specified herein, the Permittee shall take corrective action as soon as possible to return the temperature to at or above the required operating value. Beginning 90 days after initial startup of the oxidizer, the Permittee shall keep a record of the type and date of all corrective actions taken. [Minn. R. 7007.0800, subps. 2 & 14]
	5.80.7		Inspect quarterly, or as required by manufacturing specifications, all components that are subject to wear or plugging. Maintain a written record of the inspection and any action resulting from the inspection. [Minn. R. 7007.0800, subps. 2 & 14]
	5.80.8		Once each operating day, calculate the average concentration of H2S in the flue gas for the preceding 365 days. Record the results. [Title I Condition: 40 CFR 52.21(b)(1) & Minn. R. 7007.3000]
TREA 6	CE022	Direct Flame Afterburner w/Heat Exchanger	
	5.81.1		The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for Volatile Organic Compounds >= 95.0 percent control efficiency. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2, Minn. R. 7011.0070, subp. 1]
	5.81.2		Temperature >= 1400 degrees Fahrenheit as a three-hour rolling average at the Combustion Chamber unless a new minimum temperature is required set pursuant to Minn. R. 7017.2025, subp. 3. If a new minimum temperature is required to be set, it will be based on the average temperature recorded during the most recent MPCA approved performance test where compliance for VOC emissions was demonstrated. If the three-hour rolling average temperature drops below the minimum temperature limit, the VOC used during that time shall be considered uncontrolled until the average minimum temperature limit is once again achieved. This shall be reported as a deviation. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2]
	5.81.3		The Permittee shall operate and maintain the thermal oxidizer any time that any process equipment controlled by the thermal oxidizer is in operation. The Permittee shall document periods of non-operation of the control equipment. [Minn. R.

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2]
	5.81.4		The Permittee shall maintain a continuous hard copy readout or computer disk file of the temperature readings and calculated three hour rolling average temperatures for the combustion chamber. [Minn. R. 7007.0800, subps. 4-5]
	5.81.5		Weekly Monitoring: The Permittee shall physically verify the operation of the temperature recording device at least once each operating week to verify that it is working and recording properly. The Permittee shall maintain a written record of the weekly verifications. [Minn. R. 7007.0800, subps. 4-5]
	5.81.6		Monitoring Equipment: The Permittee shall install and maintain thermocouples to conduct temperature monitoring required by this permit. The monitoring equipment must be installed, in use, and properly maintained whenever operation of the monitored control equipment is required. In addition, the Permittee shall install and maintain an alarm that will be triggered if the operating temperature falls below the minimum temperature stated above. [Minn. R. 7007.0800, subp. 4]
	5.81.7		The Permittee shall maintain and operate a thermocouple monitoring device that continuously indicates and records the combustion chamber temperature of the thermal oxidizer. The monitoring device shall have a margin of error less than the greater of +/- 0.75 percent of the temperature being measured or +/- 2.5 degrees Celsius. The recording device shall also calculate the three-hour rolling average combustion chamber temperature. [Minn. R. 7007.0800, subps. 4-5]
	5.81.8		Quarterly Inspections: At least once per calendar quarter, the Permittee shall inspect the control equipment internal and external system components. The Permittee shall maintain a written record of the inspection and any corrective actions taken resulting from the inspection. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subps. 4-5]
	5.81.9		Annual Calibration: The Permittee shall calibrate the temperature monitor at least annually and shall maintain a written record of the calibration and any action resulting from the calibration. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subps. 4-5]
	5.81.10		For periods when the thermal oxidizer is operated above the minimum combustion chamber temperature, the Permittee shall use either one of the following when completing calculations as required elsewhere in this permit: a. The overall control efficiency limit specified in this permit for this equipment (95%); or b. The overall control efficiency determined during the most recent MPCA approved performance test. If the tested efficiency is less than the efficiency limit in this permit, the Permittee must use the tested value in all calculations until the efficiency is demonstrated to be above the permit limit

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			through a new test. [Minn. R. 7007.0800, subp. 2, Minn. R. 7007.0800, subp. 14]
	5.81.11		Corrective Actions: If the temperature is below the minimum specified by this permit or if the thermal oxidizer or any of its components are found during the inspections to need repair, the Permittee shall take corrective action as soon as possible. Corrective actions shall return the temperature to at least the permitted minimum and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the thermal oxidizer. The Permittee shall keep a record of the type and date of any corrective action taken. [Minn. R. 7007.0800, subps. 4-5, Minn. R. 7007.0800, subp. 14]
	5.81.12		The Permittee shall operate and maintain the thermal oxidizer in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff. [Minn. R. 7007.0800, subp. 14]
TREA 7	CE023	Catalytic Afterburner w/Heat Exchanger	
	5.82.1		TREA 7 (CE 023) will replace TREA 10 (CE 021). Pollution Control Equipment requirements are applicable to either TREA 7 or TREA 10, and not both, at any time. [Minn. R. 7007.0800, subp. 14]
	5.82.2		The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for Volatile Organic Compounds \geq 95.0 percent control efficiency. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2, Minn. R. 7011.0070, subp. 1]
	5.82.3		Temperature \geq 550 degrees Fahrenheit as a three-hour rolling average at the Combustion Chamber unless a new minimum temperature is required set pursuant to Minn. R. 7017.2025, subp. 3. If a new minimum temperature is required to be set, it will be based on the average temperature recorded during the most recent MPCA approved performance test where compliance for VOC emissions was demonstrated. If the three-hour rolling average temperature drops below the minimum temperature limit, the VOC used during that time shall be considered uncontrolled until the average minimum temperature limit is once again achieved. This shall be reported as a deviation. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2]
	5.82.4		The Permittee shall operate and maintain the catalytic oxidizer any time that any process equipment controlled by the catalytic oxidizer is in operation. The Permittee shall document

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			periods of non-operation of the control equipment. [Minn. R. 7007.0800, subp. 2, Minn. R. 7007.0800, subp. 14]
	5.82.5		The Permittee shall maintain a continuous hard copy readout or computer disk file of the inlet and outlet temperatures and the calculated three-hour rolling average inlet temperature. [Minn. R. 7007.0800, subps. 4-5]
	5.82.6		Weekly Monitoring: The Permittee shall physically verify the operation of the temperature recording device at least once each operating week to verify that it is working and recording properly. The Permittee shall maintain a written record of the weekly verifications. [Minn. R. 7007.0800, subps. 4-5]
	5.82.7		Monitoring Equipment: The Permittee shall install and maintain thermocouples for measuring the temperatures as required by this permit. The monitoring equipment must be installed, in use, and properly maintained whenever the monitored control equipment is required to be operated. In addition, the Permittee shall install and maintain an alarm that will be triggered if the operating temperature falls below the minimum temperature stated above. [Minn. R. 7007.0800, subp. 4]
	5.82.8		The Permittee shall maintain and operate a thermocouple monitoring device that continuously indicates and records both the inlet and outlet temperatures of the catalytic oxidizer. The monitoring device shall have a margin of error less than the greater of +/- 0.75 percent of the temperature being measured or +/- 2.5 degrees Celsius. The recording device shall also calculate the three-hour rolling average inlet temperature. [Minn. R. 7007.0800, subps. 4-5]
	5.82.9		Monthly Monitoring: At least once each month during normal operation, the Permittee shall record the temperature rise across the catalyst (outlet temp. - inlet temp.) while the process is running. If it is determined that the catalyst reactivity has been impaired, by comparison of the observed temperature rise to the past temperature rise records, the Permittee shall follow the corrective actions in the Operation and Maintenance Plan. The Permittee shall maintain written records of the monitoring and any corrective actions taken. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subps. 4-5]
	5.82.10		Quarterly Inspections: At least once per calendar quarter, or more frequently if required by the manufacturer specifications, the Permittee shall inspect the control equipment internal and external system components. The Permittee shall maintain a written record of the inspection and any corrective actions taken resulting from the inspection. [Minn. R. 7007.0800, subps. 4-5, Minn. R. 7007.0800, subp. 14]
	5.82.11		Annual Calibration: The Permittee shall calibrate the temperature monitor at least annually and shall maintain a written record of the calibration and any action resulting from the calibration. [Minn. R. 7007.0800, subps. 4-5, Minn. R.

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			7007.0800, subp. 14]
	5.82.12		For periods when the catalytic oxidizer is operated above the minimum inlet temperature, the Permittee shall use either one of the following when completing calculations as required elsewhere in this permit: a. The overall control efficiency limit specified in this permit for this equipment (95%); or b. The overall control efficiency determined during the most recent MPCA approved performance test. If the tested efficiency is less than the efficiency limit in this permit, the Permittee must use the tested value in all calculations until the efficiency is demonstrated to be above the permit limit through a new test. [Minn. R. 7007.0800, subps. 4-5]
	5.82.13		Corrective Actions: If the temperature is below the minimum specified by this permit or if the catalytic oxidizer or any of its components are found during the inspections to need repair, the Permittee shall take corrective action as soon as possible. Corrective actions shall return the temperature to at least the permitted minimum and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the catalytic oxidizer. The Permittee shall keep a record of the type and date of any corrective action taken. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subps. 4-5]
	5.82.14		The Permittee shall operate and maintain the catalytic oxidizer in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff. [Minn. R. 7007.0800, subp. 14]
TREA 8	CE024	Catalytic Afterburner w/Heat Exchanger	
	5.83.1		TREA 8 (CE 024) will replace TREA 6 (CE 022). Pollution Control Equipment requirements are applicable to either TREA 8 or TREA 6, and not both, at any time. [Minn. R. 7007.0800, subp. 14]
	5.83.2		The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for Volatile Organic Compounds \geq 95.0 percent control efficiency. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2, Minn. R. 7011.0070, subp. 1]
	5.83.3		Temperature \geq 550 degrees Fahrenheit as a three-hour rolling average at the Combustion Chamber unless a new minimum temperature is required set pursuant to Minn. R. 7017.2025, subp. 3. If a new minimum temperature is required to be set, it

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			will be based on the average temperature recorded during the most recent MPCA approved performance test where compliance for VOC emissions was demonstrated. If the three-hour rolling average temperature drops below the minimum temperature limit, the VOC used during that time shall be considered uncontrolled until the average minimum temperature limit is once again achieved. This shall be reported as a deviation. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2]
	5.83.4		The Permittee shall operate and maintain the catalytic oxidizer any time that any process equipment controlled by the catalytic oxidizer is in operation. The Permittee shall document periods of non-operation of the control equipment. [Minn. R. 7007.0800, subp. 2, Minn. R. 7007.0800, subp. 14]
	5.83.5		The Permittee shall maintain a continuous hard copy readout or computer disk file of the inlet and outlet temperatures and the calculated three-hour rolling average inlet temperature. [Minn. R. 7007.0800, subps. 4-5]
	5.83.6		Weekly Monitoring: The Permittee shall physically verify the operation of the temperature recording device at least once each operating week to verify that it is working and recording properly. The Permittee shall maintain a written record of the weekly verifications. [Minn. R. 7007.0800, subps. 4-5]
	5.83.7		Monitoring Equipment: The Permittee shall install and maintain thermocouples for measuring the temperatures as required by this permit. The monitoring equipment must be installed, in use, and properly maintained whenever the monitored control equipment is required to be operated. In addition, the Permittee shall install and maintain an alarm that will be triggered if the operating temperature falls below the minimum temperature stated above. [Minn. R. 7007.0800, subp. 4]
	5.83.8		The Permittee shall maintain and operate a thermocouple monitoring device that continuously indicates and records both the inlet and outlet temperatures of the catalytic oxidizer. The monitoring device shall have a margin of error less than the greater of +/- 0.75 percent of the temperature being measured or +/- 2.5 degrees Celsius. The recording device shall also calculate the three-hour rolling average inlet temperature. [Minn. R. 7007.0800, subps. 4-5]
	5.83.9		Monthly Monitoring: At least once each month during normal operation, the Permittee shall record the temperature rise across the catalyst (outlet temp. - inlet temp.) while the process is running. If it is determined that the catalyst reactivity has been impaired, by comparison of the observed temperature rise to the past temperature rise records, the Permittee shall follow the corrective actions in the Operation and Maintenance Plan. The Permittee shall maintain written records of the monitoring and any corrective actions taken.

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			[Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subps. 4-5]
	5.83.10		Quarterly Inspections: At least once per calendar quarter, or more frequently if required by the manufacturer specifications, the Permittee shall inspect the control equipment internal and external system components. The Permittee shall maintain a written record of the inspection and any corrective actions taken resulting from the inspection. [Minn. R. 7007.0800, subps. 4-5, Minn. R. 7007.0800, subp. 14]
	5.83.11		Annual Calibration: The Permittee shall calibrate the temperature monitor at least annually and shall maintain a written record of the calibration and any action resulting from the calibration. [Minn. R. 7007.0800, subps. 4-5, Minn. R. 7007.0800, subp. 14]
	5.83.12		For periods when the catalytic oxidizer is operated above the minimum inlet temperature, the Permittee shall use either one of the following when completing calculations as required elsewhere in this permit: a. The overall control efficiency limit specified in this permit for this equipment (95%); or b. The overall control efficiency determined during the most recent MPCA approved performance test. If the tested efficiency is less than the efficiency limit in this permit, the Permittee must use the tested value in all calculations until the efficiency is demonstrated to be above the permit limit through a new test. [Minn. R. 7007.0800, subps. 4-5]
	5.83.13		Corrective Actions: If the temperature is below the minimum specified by this permit or if the catalytic oxidizer or any of its components are found during the inspections to need repair, the Permittee shall take corrective action as soon as possible. Corrective actions shall return the temperature to at least the permitted minimum and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the catalytic oxidizer. The Permittee shall keep a record of the type and date of any corrective action taken. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subps. 4-5]
	5.83.14		The Permittee shall operate and maintain the catalytic oxidizer in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff. [Minn. R. 7007.0800, subp. 14]
TREA 10	CE021	Direct Flame Afterburner w/Heat Exchanger	
	5.84.1		The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			for Volatile Organic Compounds \geq 95.0 percent control efficiency. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2, Minn. R. 7011.0070, subp. 1]
	5.84.2		Temperature \geq 1400 degrees Fahrenheit as a three-hour rolling average at the Combustion Chamber unless a new minimum temperature is required set pursuant to Minn. R. 7017.2025, subp. 3. If a new minimum temperature is required to be set, it will be based on the average temperature recorded during the most recent MPCA approved performance test where compliance for VOC emissions was demonstrated. If the three-hour rolling average temperature drops below the minimum temperature limit, the VOC used during that time shall be considered uncontrolled until the average minimum temperature limit is once again achieved. This shall be reported as a deviation. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2]
	5.84.3		The Permittee shall operate and maintain the thermal oxidizer any time that any process equipment controlled by the thermal oxidizer is in operation. The Permittee shall document periods of non-operation of the control equipment. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2]
	5.84.4		The Permittee shall maintain a continuous hard copy readout or computer disk file of the temperature readings and calculated three hour rolling average temperatures for the combustion chamber. [Minn. R. 7007.0800, subps. 4-5]
	5.84.5		Weekly Monitoring: The Permittee shall physically verify the operation of the temperature recording device at least once each week to verify that it is working and recording properly. The Permittee shall maintain a written record of the weekly verifications. [Minn. R. 7007.0800, subps. 4-5]
	5.84.6		Monitoring Equipment: The Permittee shall install and maintain thermocouples to conduct temperature monitoring required by this permit. The monitoring equipment must be installed, in use, and properly maintained whenever operation of the monitored control equipment is required. In addition, the Permittee shall install and maintain an alarm that will be triggered if the operating temperature falls below the minimum temperature stated above. [Minn. R. 7007.0800, subp. 4]
	5.84.7		The Permittee shall maintain and operate a thermocouple monitoring device that continuously indicates and records the combustion chamber temperature of the thermal oxidizer. The monitoring device shall have a margin of error less than the greater of +/- 0.75 percent of the temperature being measured or +/- 2.5 degrees Celsius. The recording device shall also calculate the three-hour rolling average combustion chamber temperature. [Minn. R. 7007.0800, subps. 4-5]
	5.84.8		Quarterly Inspections: At least once per calendar quarter, the Permittee shall inspect the control equipment internal and

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			external system components. The Permittee shall maintain a written record of the inspection and any corrective actions taken resulting from the inspection. [Minn. R. 7007.0800, subps. 4-5, Minn. R. 7007.0800, subp. 14]
	5.84.9		Annual Calibration: The Permittee shall calibrate the temperature monitor at least annually and shall maintain a written record of the calibration and any action resulting from the calibration. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subps. 4-5]
	5.84.10		For periods when the thermal oxidizer is operated above the minimum combustion chamber temperature, the Permittee shall use either one of the following when completing calculations as required elsewhere in this permit: a. The overall control efficiency limit specified in this permit for this equipment (95%); or b. The overall control efficiency determined during the most recent MPCA approved performance test. If the tested efficiency is less than the efficiency limit in this permit, the Permittee must use the tested value in all calculations until the efficiency is demonstrated to be above the permit limit through a new test. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2]
	5.84.11		Corrective Actions: If the temperature is below the minimum specified by this permit or if the thermal oxidizer or any of its components are found during the inspections to need repair, the Permittee shall take corrective action as soon as possible. Corrective actions shall return the temperature to at least the permitted minimum and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the thermal oxidizer. The Permittee shall keep a record of the type and date of any corrective action taken. [Minn. R. 7007.0800, subps. 4-5, Minn. R. 7007.0800, subp. 14]
	5.84.12		The Permittee shall operate and maintain the thermal oxidizer in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff. [Minn. R. 7007.0800, subp. 14]
TREA 13	CE005	Flaring	
	5.85.1		The Permittee shall comply with the following requirements for investigative and corrective action procedures as they relate to Acid Gas flaring incidents, tail gas incidents, and hydrocarbon flaring incidents. i. The Permittee shall investigate the root cause and all contributing causes of all Acid Gas flaring incidents, tail gas incidents, and hydrocarbon flaring incidents. The Permittee

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>shall take reasonable steps to correct the conditions that have caused or contributed to such incidents, and to minimize such incidents. The Permittee shall evaluate whether Acid Gas flaring incidents, tail gas incidents, and hydrocarbon flaring incidents are due to malfunctions.</p> <p>ii. In response to any Acid Gas flaring incident, tail gas incident, or hydrocarbon flaring incident, the Permittee shall take, as expeditiously as practicable, such interim and/or long term corrective actions, if any, as are consistent with good engineering practice to minimize the likelihood of a recurrence of the root cause and all contributing causes of the Acid Gas flaring incident, tail gas incident, or hydrocarbon flaring incident.</p> <p>iii. As it relates to hydrocarbon flaring incidents, the purpose of these requirements is to ensure the flare system is operated in a manner consistent with good air pollution control practices (40 CFR Section 60.11(d)) and to ensure that hydrocarbon flaring resulting from startup, shutdown, malfunction, or process upset is not subject to the emission limitations, monitoring, or other requirements for refinery fuel gas found in 40 CFR Sections 60.100 through 60.109. [CAAA of 1990, Minn. R. 7007.0100, subps. 7(A) & 7(B), Minn. R. 7007.0800, subp. 2, Minn. R. 7007.0800, subps. 1-2, Minn. Stat. 116.subd. 4a, Minn. Stat. 116.subd. 9, Title I Condition: 40 CFR pt. 52]</p>
	5.85.2		<p>Opacity <= 0 percent opacity from the flare except a total of 5 minutes within any 2 consecutive hours; limit does not apply during the periods of startup, shutdown, or malfunction. [40 CFR 60.18(c)(1), 40 CFR 63.11(b)(4), Minn. R. 7011.0050, Minn. R. 7011.7000, Minn. R. 7011.7280, A]</p>
	5.85.3		<p>The flare shall be steam-assisted, air-assisted, or non-assisted. [40 CFR 60.18(c)(3), 40 CFR 63.11(b)(2), Minn. R. 7011.0050, Minn. R. 7011.7000, Minn. R. 7011.7280, A]</p>
	5.85.4		<p>The flare shall be operated with a pilot flame present at all times when emissions are vented to it. [40 CFR 60.18(c)(2), 40 CFR 60.18(e), 40 CFR 63.11(b)(3) & (5), Minn. R. 7011.0050, Minn. R. 7011.7000, Minn. R. 7011.7280, A]</p>
	5.85.5		<p>Monitor existence of flare pilot flame with thermocouple or equivalent device to detect the presence of a flame. [40 CFR 60.18(f)(2), 40 CFR 63.11, Minn. R. 7011.0050, Minn. R. 7011.7000, Minn. R. 7011.7280, A]</p>
	5.85.6		<p>Heating value of the gas being combusted: 1. Steam-assisted or air-assisted flare shall be used only with the heating value of the gas being combusted at 11.2 MJ/scm (300 Btu/scf) or greater; or with the net heating value of the gas being combusted at 7.45 MJ/scm (200 Btu/scf) or greater if the flare is non-assisted.</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			2. Heating value calculation method is specified in 40 CFR Section 63.11(b)(6). [40 CFR 60.18(c)(3), 40 CFR 63.11(b)(6), Minn. R. 7011.0050, Minn. R. 7011.7000, Minn. R. 7011.7280, A]
	5.85.7		Exit velocity requirements: 1. The steam-assisted and nonassisted flares shall be operated with an exit velocity less than 18.3 m/sec (60 ft/sec), except as provided in 40 CFR Sections 63.11(b)(7)(ii) and (b)(7)(iii). 2. The steam-assisted and nonassisted flares shall be designed and operated with an exit velocity equal to or greater than 18.3 m/sec (60 ft/sec) but less than 122 m/sec (400 ft/sec) if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf). 3. The steam-assisted and non-assisted flares shall be designed and operated with an exit velocity equal to or less than Vmax (calculated according to 40 CFR Section 63.11(b)(7)(iii)) but less than 122 m/sec (400 ft/sec). [40 CFR 60.18(c)(4), Minn. R. 7011.0050, Minn. R. 7011.11, b(7), Minn. R. 7011.7000, Minn. R. 7011.7280, A]
	5.85.8		Emission of organic HAPs from all Group 1 sources shall be reduced using a flare that meets the requirements of 40 CFR Section 63.11(b). [40 CFR 63.643, Minn. R. 7011.7280(A)]
	5.85.9		(a)(2) Install, calibrate, maintain, and operate (according to manufacturer's specifications) a device (including but not limited to a thermocouple, an ultraviolet beam sensor, or an infrared sensor) capable of continuously detecting the presence of a pilot flame. (b) Alternative monitoring parameter plan may be requested for approval according to 40 CFR Section 63.654(h). (c) The Permittee of a Group 1 miscellaneous process vent using a vent system that contains bypass lines that could divert a vent stream away from the control device used to comply with paragraph (a) shall: (1) Install, calibrate, maintain, and operate a flow indicator that determines whether a vent stream flow is present at least once every hour. Records shall be generated as specified in 40 CFR Section 63.654(h) and (i). The flow indicator shall be installed at the entrance to any bypass line that could divert the vent stream away from the control device to the atmosphere; or (2) Secure the bypass line valve in the closed position with a car seal or a lock and key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure that the valve is maintained in the closed position and the vent stream is not diverted through the bypass line.

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>(d) The Permittee shall establish a range of monitored parameter for the pilot flame monitor or other approved monitored parameter that ensures compliance by submitting the information required in 40 CFR Section 63.654(f)(1)(ii) in the Notification of Compliance Status Report.</p> <p>(e) The flare shall be operated in a manner consistent with the range of monitored operating parameter values required to be monitored. Operation of the control device in a manner that constitutes a period of excess emissions, as defined in 40 CFR Section 63.654(g)(6), or failure to perform procedures required by this section shall constitute a violation of the applicable emission standard of this subpart. [40 CFR 63.644, Minn. R. 7011.7280(A)]</p>
	5.85.10		<p>The Permittee shall comply with the flare provisions in 40 CFR Section 63.11(b) as follows:</p> <p>Compliance determination required by 40 CFR Section 63.6(h) shall be conducted using Method 22 of 40 CFR pt. 60, Appendix A to determine visible emissions.</p> <p>The Permittee is not required to conduct a performance test to determine percent emission reduction or outlet organic HAP or TOC concentration. [40 CFR 63.645, Minn. R. 7011.7280(A)]</p>
	5.85.11		<p>Submit Periodic Reports: no later than 60 days after the end of each 6 month period when any of the compliance exceptions specified in paragraphs (g)(1) through (g)(6) of 40 CFR pt. 63, subp. CC. The first 6 month period shall begin on the date the Notification of Compliance Status report is required to be submitted. A Periodic Report is not required if none of the compliance exceptions specified in paragraphs (g)(1) through (g)(6) occurred during the 6 month period unless emissions averaging is utilized. Quarterly reports must be submitted for emission points included in emissions averages, as provided in paragraph (g)(8) of this section. The Permittee may submit reports required by other regulations in place of or as part of the Periodic Report required by this paragraph if the reports contain the information required by paragraphs (g)(1) through (g)(8) of 40 CFR pt. 63, subp. CC.</p> <p>(6) For miscellaneous process vents for which continuous parameter monitors are required by this subpart, periods of excess emissions shall be identified in the Periodic Reports and shall be used to determine compliance with the emission standards.</p> <p>(i) Period of excess emission means any of the following conditions:</p> <p>(A) An operating day when the daily average value of a monitored parameter, except presence of a flare pilot flame, is</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>outside the range specified in the Notification of Compliance Status report. Monitoring data recorded during periods of monitoring system breakdown, repairs, calibration checks and zero (low level) and high level adjustments shall not be used in computing daily average values of monitored parameters.</p> <p>(B) An operating day when all pilot flames of a flare are absent.</p> <p>(C) An operating day when monitoring data required to be recorded in paragraphs (i)(3) (i) and (ii) of this section are available for less than 75 percent of the operating hours.</p> <p>(D) For data compression systems approved under paragraph (h)(5)(iii) of this section, an operating day when the monitor operated for less than 75 percent of the operating hours or a day when less than 18 monitoring values were recorded.</p> <p>(ii) For miscellaneous process vents, excess emissions shall be reported for the operating parameters specified in Table 10 of this subpart unless other site specific parameter(s) have been approved by the operating permit authority.</p> <p>(iii) Periods of startup, shutdown, and malfunction that meet the definitions in 40 CFR Section 63.2 of subp. A and periods of performance testing and monitoring system calibration shall not be considered periods of excess emissions. Malfunctions may include process unit, control device, or monitoring system malfunctions.</p> <p>(7) If a performance test for determination of compliance for a new emission point subject to this subpart or for an emission point that has changed from Group 2 to Group 1 is conducted during the period covered by a Periodic Report, the results of the performance test shall be included in the Periodic Report.</p> <p>(i) Results of the performance test shall include the percentage of emissions reduction or outlet pollutant concentration reduction (whichever is needed to determine compliance) and the values of the monitored operating parameters.</p> <p>(ii) The complete test report shall be maintained onsite. (continued below). [40 CFR 63.654(g), Minn. R. 7011.7280(A)]</p>
	5.85.12		<p>(continued from above)</p> <p>(8) The Permittee shall submit quarterly reports for all emission points included in an emissions average.</p> <p>(i) The quarterly reports shall be submitted no later than 60 calendar days after the end of each quarter. The first report shall be submitted with the Notification of Compliance Status report no later than 150 days after the compliance date specified in 40 CFR Section 63.640.</p> <p>(ii) The quarterly reports shall include:</p> <p>(A) The information specified in this paragraph and in paragraphs (g)(2) through (g)(7) for all storage vessels and miscellaneous process vents included in an emissions average;</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>B) The information required to be reported by 40 CFR Section 63.428(h)(1) of subp. R for each gasoline loading rack included in an emissions average, unless this information has already been submitted in a separate report;</p> <p>(C) The information required to be included in quarterly reports by 40 CFR Sections 63.567(f) and 63.567(i)(2) of subp. Y for each marine tank vessel loading operation included in an emissions average, unless the information has already been submitted in a separate report;</p> <p>(D) Any information pertaining to each wastewater stream included in an emissions average that the source is required to report under the Implementation Plan for the source;</p> <p>(E) The credits and debits calculated each month during the quarter;</p> <p>(F) A demonstration that debits calculated for the quarter are not more than 1.30 times the credits calculated for the quarter, as required under 40 CFR Section 63.652(e)(4);</p> <p>(G) The values of any inputs to the credit and debit equations in 40 CFR Section 63.652(g) and (h) that change from month to month during the quarter or that have changed since the previous quarter; and</p> <p>(H) Any other information the source is required to report under the Implementation Plan for the source.</p> <p>(iii) Every fourth quarterly report shall include the following:</p> <p>(A) A demonstration that annual credits are greater than or equal to annual debits as required by 40 CFR Section 63.652(e)(3); and</p> <p>(B) A certification of compliance with all the emissions averaging provisions in 40 CFR Section 63.652. [40 CFR 63.654(g), Minn. R. 7011.7280(A)]</p>
	5.85.13		<p>(4) The Permittee who requests approval to monitor a different parameter than those listed in 40 CFR Section 63.644 for miscellaneous process vents or who is required by 40 CFR Section 63.653(a)(8) to establish a site specific monitoring parameter for a point in an emissions average shall submit the information specified in paragraphs (h)(4)(i) through (h)(4)(iii) of this section. For new or reconstructed sources, the information shall be submitted with the application for approval of construction or reconstruction required by 40 CFR Section 63.5(d) of subp. A and for existing sources, and the information shall be submitted no later than 18 months prior to the compliance date. The information may be submitted in an operating permit application, in an amendment to an operating permit application, or in a separate submittal.</p> <p>(i) A description of the parameter(s) to be monitored to determine whether excess emissions occur and an explanation of the criteria used to select the parameter(s).</p> <p>(ii) A description of the methods and procedures that will be used to demonstrate that the parameter can be used to</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>determine excess emissions and the schedule for this demonstration. The Permittee shall certify that they will establish a range for the monitored parameter as part of the Notification of Compliance Status report required in paragraphs (e) and (f) of this section.</p> <p>(iii) Frequency and content of monitoring, recording, and reporting if: monitoring and recording are not continuous; or if periods of excess emissions, as defined in paragraph (g)(6) of this section, will not be identified in Periodic Reports required under paragraphs (e) and (g) of this section. The rationale for the proposed monitoring, recording, and reporting system shall be included.</p> <p>(5) The Permittee may request approval to use alternatives to the continuous operating parameter monitoring and recordkeeping provisions listed in paragraph (i) of this section.</p> <p>(i) Requests shall be submitted with the Application for Approval of Construction or Reconstruction for new sources and no later than 18 months prior to the compliance date for existing sources. The information may be submitted in an operating permit application, amendment to an operating permit application, or separate submittal. Requests shall contain the information specified in paragraphs (h)(5)(iii) through (h)(5)(iv) of this section, as applicable.</p> <p>(ii) The provisions in 40 CFR Section 63.8(f)(5)(i) of subp. A of this part shall govern the review and approval of requests.</p> <p>(iii) The Permittee may request approval to use an automated data compression recording system that does not record monitored operating parameter values at a set frequency (for example, once every hour) but records all values that meet set criteria for variation from previously recorded values.</p> <p>(A) The requested system shall be designed to:</p> <ol style="list-style-type: none"> (1) Measure the operating parameter value at least once every hour. (2) Record at least 24 values each day during periods of operation. (3) Record the date and time when monitors are turned off or on. (4) Recognize unchanging data that may indicate the monitor is not functioning properly, alert the operator, and record the incident. (5) Compute daily average values of the monitored operating parameter based on recorded data. <p>(B) The request shall contain a description of the monitoring system and data compression recording system including the criteria used to determine which monitored values are recorded and retained, the method for calculating daily averages, and a demonstration that the system meets all criteria of paragraph (h)(5)(iii)(A) of this section.</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			(iv) The Permittee may request approval to use other alternative monitoring systems according to the procedures specified in 40 CFR Section 63.8(f) of subp. A. (continued below). [40 CFR 63.654(g), Minn. R. 7011.7280(A)]
	5.85.14		(continued from above) (6) The Permittee shall submit the information specified in paragraphs (h)(6)(i) through (h)(6)(iii) of this section, as applicable. For existing sources, this information shall be submitted no later than 18 months prior to the compliance date. For a new source, the information shall be submitted with the application for approval of construction or reconstruction required by 40 CFR Section 63.5(d) of subp. A. The information may be submitted in an operating permit application, in an amendment to an operating permit application, or in a separate submittal. (i) The determination of applicability of this subpart to petroleum refining process units that are designed and operated as flexible operation units. (ii) The determination of applicability of this subpart to any storage vessel for which use varies from year to year. (iii) The determination of applicability of this subpart to any distillation unit for which use varies from year to year. [40 CFR 63.654(g), Minn. R. 7011.7280(A)]
	5.85.15		Records shall be kept of the times and durations of all periods during process or flare operation when the pilot flame monitor is not operating. [40 CFR 63.654(g), Minn. R. 7011.7280(A)]
	5.85.16		All information required to be reported in 40 CFR Section 63.654 shall be retained for 5 years. [40 CFR 63.654(g), Minn. R. 7011.7280(A)]
	5.85.17		Records requirement: keep a record of any startup, shutdown, or malfunction in the affected facility or malfunction of the air pollution control equipment. [40 CFR 60.7(b), Minn. R. 7019.0100]
	5.85.18		Summary report: submit report quarterly, postmarked by the 30th day following the end of each calendar quarter. Summary report content and format is defined in 40 CFR Section 60.7(d). [40 CFR 60.7(c), Minn. R. 7019.0100]
	5.85.19		Summary report submittal frequency may be reduced according to compliance status and notification procedures defined in 40 CFR Section 60.7(e). [40 CFR 60.7(e), Minn. R. 7019.0100]
	5.85.20		Recordkeeping: maintain a file of all measurements, CMS performance evaluations, calibration checks, adjustments and maintenance, and all other information required by this part in permanent form, suitable for inspection for at least two years following the date of such measurements, maintenance, and records. [40 CFR 60.7(f)]
	5.85.21		Compliance requirement: for opacity standards, use Reference Method 9 to determine initial compliance, the minimum total

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			time of observations shall be 3 hours (30 6 minute averages) for the performance test or other set of observations (meaning those fugitive type emission sources subject only to an opacity standard). [40 CFR 60.11(b), Minn. R. 7017.2015]
	5.85.22		Operation requirement: at all times, including periods of startup, shutdown, and malfunction, the Permittee shall maintain and operate any affected facility in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. [40 CFR 60.11(d)]
	5.85.23		Hydrogen Sulfide (H2S) <= 230 milligrams per dscm 3-hour rolling average (H2S limit): for fuel gas combusted in a device subject to this subpart (0.10 gr/dscf); flare emergency reliefs are exempt. Compliance is determined using the appropriate procedures outlined in Alternate Monitoring Plan approved by EPA on February 18, 2005. [40 CFR 60.104(a)(1), 40 CFR 60.105(a)(4), Minn. R. 7011.1410, subp. 2, Minn. R. 7011.1435]
	5.85.24		For the purpose of reports under 40 CFR Section 60.7(c), periods of excess emissions that shall be determined and reported are defined as follows: Note: All averages, except for opacity, shall be determined as the arithmetic average of the applicable 1-hour averages, e.g., the rolling 3-hour average shall be determined as the arithmetic average of three contiguous 1-hour averages. All rolling 3-hour periods during which the average concentration of H2S as measured by the H2S continuous monitoring system under 40 CFR Section 60.105(a)(4) exceeds 230 mg/dscm (0.10 gr/dscf). [40 CFR 60.105(e)(3)(ii), Minn. R. 7011.1435]
	5.85.25		The following requirements apply November 11, 2015, or upon startup of the modified flare. [40 CFR 60.103a(f)]
	5.85.26		Hydrogen Sulfide (H2S) <= 162 parts per million 3-hour rolling average, determined hourly. The Permittee shall not burn in the affected flare any fuel gas that contains H2S in excess of 162 ppmv. The combustion in a flare of process upset gases or fuel gas that is released to the flare as a result of relief valve leakage or other emergency malfunctions is exempt from this limit. [40 CFR 60.103a(h)]
	5.85.27		The Permittee shall develop and implement a written flare management plan no later than November 11, 2015. The flare management plan shall include the following information (described in 40 CFR Section 60.103a(a)(1) through (7)): 1) A listing of all refinery process units, ancillary equipment, and fuel gas systems connected to the flare for each affected

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>flare.</p> <p>2) An assessment of whether discharges to affected flares from these process units, ancillary equipment and fuel gas systems can be minimized. The flare minimization assessment must (at a minimum) consider the items listed below, i - iv. The assessment must provide clear rationale in terms of costs (capital and annual operating), natural gas offset credits (if applicable), technical feasibility, secondary environmental impacts and safety considerations for the selected minimization alternative(s) or a statement, with justifications, that flow reduction could not be achieved.</p> <p>Based upon the assessment, the Permittee shall identify the minimization alternatives that it has implemented by the due date of the flare management plan and shall include a schedule for the prompt implementation of any selected measures that cannot reasonably be completed as of that date.</p> <p>(i) Elimination of process gas discharge to the flare through process operating changes or gas recovery at the source. (ii) Reduction of the volume of process gas to the flare through process operating changes. (iii) Installation of a flare gas recovery system or, for facilities that are fuel gas rich, a flare gas recovery system and a co-generation unit or combined heat and power unit. (iv) Minimization of sweep gas flow rates and, for flares with water seals, purge gas flow rates.</p> <p>3) A description of each affected flare containing the information in 40 CFR Section 60.103a(a)(3)(i) through (vii).</p> <p>4) An evaluation of the baseline flow to the flare. The baseline flow to the flare must be determined after implementing the minimization assessment described above. Baseline flows do not include pilot gas flow or purge gas flow (i.e., gas introduced after the flare's water seal) provided these gas flows remain reasonably constant (i.e., separate flow monitors for these streams are not required). Separate baseline flow rates may be established for different operating conditions provided that the management plan includes:</p> <p>i) A primary baseline flow rate that will be used as the default baseline for all conditions except those specifically delineated in the plan; ii) A description of each special condition for which an alternate baseline is established, including the rationale for each alternate baseline, the daily flow for each alternate baseline and the expected duration of the special conditions for each alternate baseline; and</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			iii) Procedures to minimize discharges to the affected flare during each special condition described above unless procedures are already developed for these cases as described below. [40 CFR 60.103a(a)(1)-(4)]
	5.85.28		5) Procedures to minimize or eliminate discharges to the flare during the planned startup and shutdown of the refinery process units and ancillary equipment that are connected to the affected flare, together with a schedule for the prompt implementation of any procedures that cannot reasonably be implemented as of the date of the submission of the flare management plan. 6) Procedures to reduce flaring in cases of fuel gas imbalance (i.e., excess fuel gas for the refinery's energy needs), together with a schedule for the prompt implementation of any procedures that cannot reasonably be implemented as of the date of the submission of the flare management plan. 7) For flares equipped with flare gas recovery systems, procedures to minimize the frequency and duration of outages of the flare gas recovery system and procedures to minimize the volume of gas flared during such outages, together with a schedule for the prompt implementation of any procedures that cannot reasonably be implemented as of the date of the submission of the flare management plan. [40 CFR 60.103a(a)(5)-(7)]
	5.85.29		The Permittee shall submit the written flare management plan as described above to the Administrator no later than November 11, 2015. The plan should be updated periodically to account for changes in the operation of the flare, such as new connections to the flare or the installation of a flare gas recovery system, but the plan need be re-submitted to the Administrator only if the Permittee adds an alternative baseline flow rate, revises an existing baseline, installs a flare gas recovery system or is required to change flare designations and monitoring methods. The Permittee shall comply with the updated plan as submitted. All versions of the plan submitted to the Administrator shall also be submitted to the following address: U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Sector Policies and Programs Division, U.S. EPA Mailroom (E143-01), Attention: Refinery Sector Lead, 109 T.W. Alexander Drive, Research Triangle Park, NC 27711. Electronic copies in lieu of hard copies may also be submitted to refinerynsps@epa.gov . [40 CFR 60.103a(b)(1)-(3)]
	5.85.30		The Permittee shall conduct a root cause analysis and a corrective action analysis for each of the conditions specified below:

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>i) Any time the SO2 emissions exceed 227 kilograms (500 lb) in any 24-hour period; or</p> <p>ii) Any discharge to the flare in excess of 14,160 standard cubic meters (500,000 standard cubic feet (scf)) above the baseline, determined above, in any 24-hour period; or</p> <p>iii) If the monitoring alternative in 40 CFR Section 60.107a(g) is elected, any period when the flare gas line pressure exceeds the water seal liquid depth, except for periods attributable to compressor staging that do not exceed the staging time.</p> <p>A root cause analysis and corrective action analysis must be completed as soon as possible, but no later than 45 days after a discharge meeting one of the conditions specified above. Special circumstances affecting the number of root cause analyses and/or corrective action analyses are provided in 40 CFR Section 60.103a(d)(1) - (5). [40 CFR 60.103a(c)(1)]</p>
	5.85.31		<p>All corrective action(s) must be implemented within 45 days of the discharge for which the root cause and corrective action analyses were required or as soon thereafter as practicable. If the Permittee concludes that corrective action should not be conducted, the Permittee shall record and explain the basis for that conclusion no later than 45 days following the discharge as specified in 40 CFR Section 60.108a(c)(6)(ix).</p> <p>For corrective actions that cannot be fully implemented within 45 days following the discharge, the Permittee shall develop an implementation schedule to complete the corrective action(s) as soon as practicable.</p> <p>No later than 45 days following the discharge, the Permittee shall record the corrective action(s) completed to date, and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates as specified in 40 CFR Section 60.108a(c)(6)(x). [40 CFR 60.103a(e)]</p>
	5.85.32		<p>The Permittee shall determine the total reduced sulfur concentration for each gas line directed to the affected flare in accordance with either options (1), (2), or (3) in 40 CFR Section 60.107a(e)(1). Different options may be elected for different gas lines. If a monitoring system is in place that is capable of complying with the requirements related to options (1), (2), or (3), the Permittee shall comply with the requirements upon startup of the modified flare. If a monitoring system is not in place that is capable of complying with the requirements related to either options (1), (2), or (3) the Permittee shall comply with the requirements no later than November 11, 2015 or upon startup of the modified flare, whichever is later. [40 CFR 60.107a(e)]</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
	5.85.33		Exemptions from sulfur monitoring requirements: Flares identified in paragraphs (e)(4)(i) through (iv) of 40 CFR Section 60.107a(e) are exempt from the requirements in paragraphs (e)(1) through (3) of this section. For each such flare, except as provided in paragraph (e)(4)(iv), engineering calculations shall be used to calculate the SO ₂ emissions in the event of a discharge that may trigger a root cause analysis under 40 CFR Section 60.103a(c)(1). [40 CFR 60.107a(e)(4)]
	5.85.34		<p>The Permittee shall install, operate, calibrate and maintain, in accordance with the specifications in paragraph (f)(1) of this section, a CPMS to measure and record the flow rate of gas discharged to the flare. The Permittee shall install, calibrate, operate and maintain each flow monitor according to the manufacturer's procedures and specifications and the following requirements:</p> <ul style="list-style-type: none"> i) Locate the monitor in a position that provides a representative measurement of the total gas flow rate. ii) Use a flow sensor with a measurement sensitivity of no more than 5 percent of the flow rate or 10 cubic feet per minute, whichever is greater. iii) Use a flow monitor that is maintainable online, is able to continuously correct for temperature and pressure and is able to record flow in standard conditions over one-minute averages. (iv) At least quarterly, perform a visual inspection of all components of the monitor for physical and operational integrity and all electrical connections for oxidation and galvanic corrosion if the flow monitor is not equipped with a redundant flow sensor. (v) Recalibrate the flow monitor in accordance with the manufacturer's procedures and specifications biennially (every two years) or at the frequency specified by the manufacturer. [40 CFR 60.107a(f)]
	5.85.35		An affected flare that can be classified as either an emergency flare, a secondary flare or a flare equipped with a flare gas recovery system designed, sized and operated to capture all flows except those resulting from startup, shutdown or malfunction may, as an alternative to the sulfur and flow monitoring requirements, install, operate, calibrate and maintain, in accordance with the requirements in 40 CFR Section 60.107a(g)(1) through (7), a CPMS to measure and record the pressure in the flare gas header between the knock-out pot and water seal and to measure and record the water seal liquid level. [40 CFR 60.107a(g)(1 - 7)]
	5.85.36		For the purpose of reports required by 40 CFR Section 60.7(c), periods of excess emissions for flares subject to the H ₂ S concentration requirement are defined in 40 CFR Section 60.107a(i)(1 - 5). Determine a rolling 3-hour or a rolling daily

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			average as the arithmetic average of the applicable 1-hour averages (e.g., a rolling 3-hour average is the arithmetic average of three contiguous 1-hour averages). Determine a rolling 30-day or a rolling 365-day average as the arithmetic average of the applicable daily averages (e.g., a rolling 30-day average is the arithmetic average of 30 contiguous daily averages). [40 CFR 60.107a(i)]
	5.85.37		<p>The Permittee shall maintain the following records:</p> <ol style="list-style-type: none"> 1) A copy of the flare management plan. 2) For each fuel gas stream to which one of the exemptions listed in 40 CFR Section 60.107a(a)(3) applies, records of the specific exemption determined to apply for each fuel stream. If the Permittee applies for the exemption described in 40 CFR Section 60.107a(a)(3)(iv), the Permittee must keep a copy of the application as well as the letter from the Administrator granting approval of the application. 3) Records of discharges to an affected flare in excess of 500,000 scf above baseline in any 24-hour period as required by 40 CFR Section 60.103a(c). If the monitoring alternative provided in 40 CFR Section 60.107a(g) is selected, the Permittee shall record any instance when the flare gas line pressure exceeds the water seal liquid depth, except for periods attributable to compressor staging that do not exceed the staging time specified in 40 CFR Section 60.103a(a)(3)(vii)(C). The information required in 40 CFR Section 60.108a(c)(6)(i - xi) shall be recorded no later than 45 days following the end of a discharge exceeding the thresholds. <p>If the Permittee elects to comply with 40 CFR Section 60.107a(e)(2) for a flare (continuous H2S monitoring), records of the H2S and total sulfur analyses of each grab or integrated sample, the calculated daily total sulfur-to-H2S ratios, the calculated 10-day average total sulfur-to-H2S ratios and the 95-percent confidence intervals for each 10-day average total sulfur-to-H2S ratio. [40 CFR 60.108a(c)]</p>
TREA 18	CE014	Vapor Recovery System- Condensers, Hoods, & Other Enclosures	
	5.86.1		Construction/Design Requirement: each vapor collection system shall be designed to prevent any total organic compound vapors from passing to another loading rack. [40 CFR 60.502(d), Minn. R. 7011.1550]

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
	5.86.2		Compliance Requirement: loadings of liquid product into gasoline tank trucks shall be limited to vapor tight gasoline tank trucks using the procedures in 40 Section 60.502(e)(1)-(5): [40 CFR 60.502(e), Minn. R. 7011.1550]
	5.86.3		Recordkeeping Requirement: the Permittee shall obtain documentation that states that the truck to be gasoline loaded is vapor tight. [40 CFR 60.502(e)(1), Minn. R. 7011.1550]
	5.86.4		Recordkeeping Requirement: the Permittee shall require the tank ID number to be recorded as each gasoline tank truck is loaded at the affected facility. [40 CFR 60.502(e)(2), Minn. R. 7011.1550]
	5.86.5		Compliance Requirement: the Permittee shall cross check each tank ID number obtained in paragraph (e)(2) with the file of tank vapor tightness documentation within 2 weeks after the corresponding tank is loaded. [40 CFR 60.502(e)(3), Minn. R. 7011.1550]
	5.86.6		Reporting Requirement: the Permittee shall notify the owner or operator of each non-vapor-tight gasoline tank truck within 3 weeks after the loading has occurred. [40 CFR 60.502(e)(4), Minn. R. 7011.1550]
	5.86.7		Compliance Requirement: the Permittee shall take steps assuring that the non-vapor-tight gasoline tank truck will not be reloaded until vapor tightness documentation for that tank is obtained. [40 CFR 60.502(e)(5), Minn. R. 7011.1550]
	5.86.8		Compliance Requirement: The above requirement is replaced with the requirements of 40 CFR Section 63.422(c). Effective on the compliance date required by 40 CFR pt. 63, subp. CC. [40 CFR 63.422(c), Minn. R. 7011.7180]
	5.86.9		Operation Requirement: the Permittee shall act to assure that loadings of gasoline tank trucks at the affected facility are made into tanks equipped with vapor collection equipment that is compatible with the terminal's vapor collection system. [40 CFR 60.502(f), Minn. R. 7011.1550]
	5.86.10		Operation Requirement: the Permittee shall act to assure that the terminal's and the tank truck's vapor collection systems are connected during each loading of a gasoline tank truck at the affected facility. [40 CFR 60.502(g), Minn. R. 7011.1550]
	5.86.11		Design/Construction Requirement: the vapor collection and liquid loading equipment shall be designed and operated to prevent gauge pressure in the delivery tank from exceeding 450 mm of water during product loading. [40 CFR 60.502(h), Minn. R. 7011.1550]
	5.86.12		Design/Construction Requirement: no pressure-vacuum vent in the bulk gasoline terminal's vapor collection system shall begin to open at a system pressure less than 450 mm of water. [40 CFR 60.502(i), Minn. R. 7011.1550]
	5.86.13		Performance Test Requirement: in conducting the performance tests required by this subpart, the Permittee shall use the test methods in Appendix A of this part, except as

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			provided in 60.8(b); the three-run requirement of 60.8(f) does not apply to this subpart. [40 CFR 60.503(a), Minn. R. 7011.1550]
	5.86.14		Compliance Requirement: Each Permittee subject to the emission standard in 40 CFR Section 63.422(b) shall conduct a performance test on the vapor processing system according to the test methods and procedures of 40 CFR Section 60.503 except that a reading of 500 ppm shall be used to determine the level of leaks to be repaired under 40 CFR Section 60.503(b). [40 CFR 63.425(a), Minn. R. 7011.7180, Minn. R. 7011.7280, A]
	5.86.15		Recordkeeping Requirement: Record each startup, shutdown or malfunction of the air pollution control equipment. [40 CFR 60.7(b), Minn. R. 7011.0050, Minn. R. 7019.0100]
	5.86.16		Performance Test Requirement: For each performance test conducted under 40 CFR Section 63.425(a), the Permittee shall determine a monitored operating parameter value for the vapor processing system by continuously recording the operating parameter during the performance test and determining operating parameter values based on the results of the test; a rationale for selecting the parameter values shall be provided to the Administrator. [40 CFR 63.425(b), Minn. R. 7011.7180, Minn. R. 7011.7280, A]
	5.86.17		Recordkeeping Requirement: For performance tests performed after the initial test, the Permittee shall document the reasons for any change in the operating parameter value since the previous performance test. [40 CFR 63.425(c), Minn. R. 7011.7180, Minn. R. 7011.7280, C]
	5.86.18		Operation Requirement: Operation of air pollution control system to achieve emission limit or operational parameter. [40 CFR 63.427(b), Minn. R. 7011.7180]
	5.86.19		Recordkeeping Requirement: Records of the annual tests of gasoline cargo tanks to be conducted as specified in 40 CFR Section 63.425(e)-(h). [40 CFR 63.428(b), Minn. R. 7011.7180, Minn. R. 7011.7280, C]
	5.86.20		Recordkeeping Requirement: Records of continuous monitoring data required by 40 CFR Section 63.427(a), or of the alternative parameter if approved under 40 CFR Section 63.427(b) shall be kept in a readily accessible location. [40 CFR 63.428(c), Minn. R. 7011.7180, Minn. R. 7011.7280, A]
	5.86.21		Monitoring Requirement: Install, calibrate, certify, operate and maintain according to the manufacturer's specification a CEMS capable of measuring organic compounds concentration. [40 CFR 63.427(a)(1), Minn. R. 7011.7180]
	5.86.22		Startup, Shutdown, and Malfunction Plan: The Permittee shall develop and implement a written startup, shutdown, and malfunction plan that describes, in detail, procedures for operating and maintaining the source during periods of startup, shutdown, and malfunction and a program of

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			corrective action for malfunctioning process and air pollution control equipment used to comply with the relevant standard. As required under 40 CFR Section 63.8(c)(1)(i), the plan shall identify all routine or otherwise predictable CMS malfunctions. The plan shall be developed by the compliance date and shall meet the purposes specified in 40 CFR Section 63.6(e)(3)(i)(A) through (C). [40 CFR 63.6(e)(3)(i), Minn. R. 7011.7000]
	5.86.23		Operation and maintenance of continuous monitoring systems: The Permittee shall ensure the immediate repair or replacement of CMS parts to correct "routine" or otherwise predictable CMS malfunctions as defined in the source's startup, shutdown, and malfunction plan required by 40 CFR Section 63.6(e)(3). The Permittee shall keep the necessary parts for routine repairs of the affected equipment readily available. If the plan is followed and the CMS is repaired immediately, this action shall be reported in the semiannual startup, shutdown, and malfunction report required under 40 CFR Section 63.10(d)(5)(i). [40 CFR 63.8(c)(1)(i), Minn. R. 7011.0050, Minn. R. 7011.1010]
	5.86.24		Operation and maintenance of continuous monitoring systems: For those malfunctions or other events that affect the CMS and are not addressed by the startup, shutdown, and malfunction plan, the Permittee shall report actions that are not consistent with the startup, shutdown, and malfunction plan within 24 hours after commencing such actions. The Permittee shall send a follow-up report within two (2) weeks after commencing actions inconsistent with the plan that either certifies that corrections have been made or includes a corrective action plan and schedule. The Permittee shall provide proof that repair parts have been ordered or any other records that would indicate that the delay in making repairs is beyond his or her control. [40 CFR 63.8(c)(1)(ii), Minn. R. 7011.1010]
	5.86.25		Operation and maintenance of continuous monitoring systems: All CMS shall be installed such that representative measurements of emissions or process parameters from the affected source are obtained. In addition, CEMS shall be located according to procedures contained in the applicable performance specification(s). [40 CFR 63.8(c)(2), Minn. R. 7011.1010]
	5.86.26		Operation and maintenance of continuous monitoring systems: All CMS shall be installed, operational, and the data verified as specified in the relevant standard either prior to or in conjunction with conducting performance tests under 40 CFR Section 63.7. Verification of operational status shall, at a minimum, include completion of the manufacturer's written specifications or recommendations for installation, operation, and calibration of the system. [40 CFR 63.8(c)(3), Minn. R. 7011.1010]

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
	5.86.27		Operation and maintenance of continuous monitoring systems: Except for system breakdowns, out-of-control periods, repairs, maintenance periods, calibration checks, and zero (low-level) and high-level calibration drift adjustments, the CEMS, shall be in continuous operation and shall meet minimum frequency of operation requirements by completing a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period. [40 CFR 63.8(c)(4), Minn. R. 7011.1010]
	5.86.28		Quality Control Program: The Permittee shall develop a quality control program meeting the requirements of 40 CFR Section 63.8(d)(2) and (3) within 60 days of the effective date. The program shall follow the procedures of 40 CFR pt. 60, Appendix F. [Minn. R. 7007.0800, subp. 2]
	5.86.29		General Recordkeeping Requirements: The Permittee shall maintain files of all information (including all reports and notifications) required by 40 CFR pt. 63 recorded in a form suitable and readily available for expeditious inspection and review including all information required by 40 CFR Section 63.10(b). The files shall be kept for at least five (5) years following the date of each occurrence, measurement, maintenance, corrective action, report or record. [40 CFR 63.10(b), Minn. R. 7011.1010]
	5.86.30		Additional Recordkeeping Requirements for Sources with Continuous Monitoring Systems: In addition to the requirements of 40 CFR Section 63.10(b)(1) and (2), the Permittee shall maintain the records required by 40 CFR Section 63.10(c). [40 CFR 63.10(c), Minn. R. 7011.1010, Minn. R. 7011.7000, Minn. R. 7019.0100]
	5.86.31		Gaseous CEMS Daily Calibration Drift (CD) Test: CEMS shall be checked at least once daily and CD quantified and recorded at zero (low-level) and upscale (high-level) gas concentrations. The CEMS shall be adjusted whenever the CD exceeds twice the specifications of 40 CFR pt. 60, Appendix B. 40 CFR pt. 60, Appendix F, shall be used to determine out-of-control periods. [40 CFR 63.8(c)(6), Minn. R. 7011.1010, Minn. R. 7017.1170, subp. 3]
TREA 25	CE018	Portable Vapor Burner System	
	5.87.1		Hydrogen Sulfide (H ₂ S) ≤ 0.10 grains per dry standard cubic foot 3-hour rolling average (230 mg/dscm[162 ppm]). This limit applies to the hydrogen sulfide content of fuel gases burned in the thermal oxidizer or the Process Vapor Burner System. [40 CFR 60.104(a)(1), Minn. R. 7011.1410, subp. 2, Minn. R. 7011.1435]
	5.87.2		The Permittee requested a waiver from the testing and monitoring requirements of 40 CFR 60, Subpart XX and 40 CFR Part 63, Subpart R in a letter to US EPA Region 5 dated August

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			21, 2001. If a waiver from the applicable testing and monitoring requirements is not received prior to initial startup of the portable thermal oxidizer (TREA 25), the Permittee must comply with all applicable testing and monitoring requirements of the above subparts. [40 CFR 60.7(h)(2), 40 CFR 60.8(b)(4), Minn. R. 7017.2015]
	5.87.3		When operating the temporary portable thermal oxidizer or the Process Vapor Burner System to control emissions from the loading rack, the Permittee shall follow the alternative monitoring plan submitted to US EPA Region 5 on July 31, 2001 to demonstrate compliance with the hydrogen sulfide emission limit established in 40 CFR Section 60.104(a)(1) and Minn. R. 7011.1490, subp. 2. Under the alternative monitoring plan, no further analysis of the hydrogen sulfide content of the loading rack off gas is required. This alternative monitoring plan was approved by US EPA Region 5 in an August 20, 2001 letter to Marathon Ashland Petroleum. Approval of the alternative monitoring plan is contingent upon only gasoline, diesel, fuel oil, ethanol and kerosene being loaded at the loading rack. [40 CFR 60.7(h)(2), 40 CFR 60.8(b)(4), Minn. R. 7011.1010, Minn. R. 7011.2015]
	5.87.4		Temperature >= 1000 degrees Fahrenheit 3-hour rolling average at the combustion chamber (firebox). Temperature monitoring requirements are applicable when the control equipment is combusting vapors from gasoline loading operations. [Minn. R. 7007.0800, subp. 2]
	5.87.5		The Permittee shall operate and maintain the thermal oxidizer or the Process Vapor Burner System any time that the vapor recovery system (TREA 18) is not being operated (due to maintenance, repair, or malfunctions, etc.) to control emissions from the light oil truck rack (EQUI 28). The thermal oxidizer or the Process Vapor Burner System may be removed from the facility and re-installed at the facility at any time during the term of this permit. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2]
	5.87.6		The Permittee shall record all times during which the portable thermal oxidizer or the Process Vapor Burner System is operated. These records shall be retained for a period of 5 years. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2]
	5.87.7		The Permittee shall maintain a continuous hard copy readout or computer disk file of the temperature readings and calculated three hour rolling average temperatures for the combustion chamber. [Minn. R. 7007.0800, subp. 2]
	5.87.8		Daily Monitoring: The Permittee shall physically check the temperature recording device at least once each operating day to verify that it is working and recording properly. [Minn. R. 7007.0800, subps. 4-5]
	5.87.9		Monitoring Equipment: The Permittee shall install and

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			maintain thermocouples to conduct temperature monitoring required by this permit. The monitoring equipment must be installed, in use, and properly maintained whenever operation of the monitored control equipment is required. [40 CFR 63.427(a)(3), Minn. R. 7007.0800, subp. 4-5, Minn. R. 7011.1820]
	5.87.10		The Permittee shall maintain and operate a thermocouple monitoring device that continuously indicates and records the combustion chamber temperature of the thermal oxidizer or the Process Vapor Burner System. The monitoring device shall have a margin of error less than the greater of +/- 0.75 percent of the temperature being measured or +/- 2.5 degrees Celsius. The recording device shall also calculate the three-hour rolling average combustion chamber temperature. [Minn. R. 7007.0800, subps. 4-5]
	5.87.11		Corrective Actions: If the temperature is below the minimum specified by this permit or if the thermal oxidizer (or Process Vapor Burner System) or any of its components are found during the inspections to need repair, the Permittee shall take corrective action as soon as possible. Corrective actions shall return the temperature to at least the permitted minimum and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the thermal oxidizer or the Process Vapor Burner System. The Permittee shall keep a record of the type and date of any corrective action taken. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subps. 4-5]
TREA 26	CE026	Permanent Vapor Combustor Un	
	5.88.1		For applicable requirements, please see the listed permit conditions under COMG 28 (GP 031). [Minn. R. 7007.0800, subp. 2]

6. Submittal/action requirements

This section lists most of the submittals required by this permit. Please note that some submittal requirements may appear in the Limits and Other Requirements section, or, if applicable, within a Compliance Schedule section.

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
TFAC 1	16300003	Saint Paul Park Refining Co LLC	
	6.1.1		The Permittee shall submit a semiannual deviations report : Due

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			by the end of each calendar half-year. State Implementation Plan for SO2 shall be reported semiannually with the Semiannual Deviations Report as required in this permit. Reporting for these conditions shall occur even if there were no deviations for the reporting period. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	6.1.2		The Permittee shall submit a quarterly report : Due by the end of each calendar quarter. The report shall include any exceedances of SO2 and H2S emission limits occurred during the calendar quarter. If there are no exceedances of the SO2 and H2S emission limits recorded, the report should state that there are no exceedances recorded. [Title I Condition: 40 CFR 50.4(SO2 SIP), Title I Condition: 40 CFR pt. 52, subp. Y]
	6.1.3		The Permittee shall submit a semiannual deviations report : Due by 30 days after end of each calendar half-year. The first semiannual report submitted by the Permittee shall cover the calendar half-year in which the permit is issued. The first report of each calendar year covers January 1 - June 30. The second report of each calendar year covers July 1 - December 31. If no deviations have occurred, the Permittee shall submit the report stating no deviations. [Minn. R. 7007.0800, subp. 6(A)2]
	6.1.4		The Permittee shall submit a report : Due by 30 days after end of each calendar half-year starting 04/10/2013 for LDAR Semiannual Report. This report is due January 30 and July 30 of each year. [40 CFR pt. 60, subps. A, GGG & GGGa, 40 CFR pt. 63, subp. A & CC, Minn. R. 7007.0800, subp. 6]
	6.1.5		The Permittee shall submit a report : Due by 30 days after end of each calendar half-year starting 04/10/2013 for MACT Semiannual Periodic Reports. Reports are due January 31 for the July 1- December 31 reporting period and due July 31 for January 1- June 30 reporting period. [40 CFR 63.10(d)(5)(i)-(ii), 40 CFR 63.6(e)(3)(iii)-(iv), 40 CFR 63.6545(g), 40 CFR 63.655(h)(1), 40 CFR pt. 63, subp. UUU(Table 43), 40 CFR pt. 63, subps. A & CC(Table 6)]
	6.1.6		The Permittee shall submit an annual report : Due annually, by the 30th of January. The annual report applies to all annual reports. [Minn. R. 7007.0800, subp. 6]
	6.1.7		The Permittee shall submit an application for permit reissuance : Due by 180 days prior to permit expiration. [Minn. R. 7007.0400, subp. 2]
	6.1.8		The Permittee shall submit a compliance certification : Due by January 31 of each calendar year (for the previous calendar year). The Permittee shall submit this on a form approved by the Commissioner, both to the Commissioner and to the US EPA regional office in Chicago. This report covers all deviations experienced during the calendar year. [Minn. R. 7007.0800, subp. 6(C)]
COMG 6	GP033	FUGI Subject to	

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
		NSPS GGGa	
	6.2.1		The Permittee shall submit an LDAR report : Due by the end of each calendar half-year. [40 CFR 60.487(a)]
	6.2.2		The Permittee shall submit a notification of the date construction began : Due 30 calendar days after Construction began. This requirement shall not apply in the case of mass-produced facilities which are purchased in completed form. [40 CFR 60.7(a)(1), Minn. R. 7019.0100, subp. 1]
	6.2.3		The Permittee shall submit a notification of the actual date of initial startup : Due 15 calendar days after Initial Startup Date of an affected facility. [40 CFR 60.7(a)(3), Minn. R. 7019.0100, subp. 1]
COMG 7	GP004	H2S CEMS assoc. w/ all process heaters	
	6.3.1		The Permittee shall submit a relative accuracy test audit (RATA) notification : Due 30 working days before CEMS Relative Accuracy Test Audit Date. The notification may be made by facsimile, mail, electronic mail or hand-delivered document. [Minn. R. 7017.1180, subp. 2]
	6.3.2		The Permittee shall submit a relative accuracy test audit (RATA) results summary : Due annually, by the 30th of January after each calendar year following CEMS Relative Accuracy Test Audit (RATA) was conducted. [Minn. R. 7017.1180, subp. 3]
	6.3.3		The Permittee shall conduct CEMS cylinder gas audit (CGA) : Due by the end of each calendar quarter following CEM Certification Test except in quarters in which a RATA is performed. [40 CFR pt. 60, Appendix F, Minn. R. 7017.subp. 4]
	6.3.4		The Permittee shall submit a cylinder gas audit (CGA) results summary : Due within 30 days after end of each calendar quarter following end of the calendar quarter in which the Audit was performed. [Minn. R. 7017.1180, subp. 1]
	6.3.5		The Permittee shall submit an excess emission/downtime report (EER) : Due within 30 days after end of each calendar quarter. The EER must contain all of the information requested in 40 CFR Section 60.7 (c). The EER shall indicate all periods of exceedances of the limit including monitor bypass and exceedances allowed by an applicable standard, (i.e. during startup, shutdown, and malfunctions). During periods where the CEMS is bypassed, actual emission levels shall be calculated. The calculated emission values shall be used to fill in the gap in the CEMS data set. The CEMS and the calculated emissions data shall be integrated in order to determine compliance in terms of the applicable averaging period. [40 CFR 60.7(c), Minn. R. 7007.0800, subp. 2, Minn. R. 7017.1110, subps. 1-2]
COMG 11	GP019	Wastewater Treatment Plant	

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
		System	
	6.4.1		The Permittee shall submit an annual report : Due annually, by the 30th of January following Annual Report of the regulatory status of each waste stream containing benzene as specified in 40 CFR Section 61.357 (d)(2). [40 CFR 61.357, Minn. R. 7011.9930(E)]
COMG 26	GP005	Hydrogen Plant Heaters	
	6.5.1		<p>The Permittee shall conduct performance test : Due within 30 days after end of each calendar year starting 04/10/2013 (annual test must be completed no more than 13 calendar months after the previous test) NOX testing on STRU 87 (SV 023) to determine average NOX lb/mmBtu emission rate.</p> <p>NOX testing may be performed by either formal performance testing following approved EPA test methods or by using a portable NOX analyzer (following the requirements of Conditional Test Method 22). Each test will be comprised of (3) 1-hour test runs.</p> <p>For each annual test, the Permittee shall submit to the MPCA the following:</p> <ul style="list-style-type: none"> i. A Pretest Notification 30 days before the test; ii. A Performance Test Plan 30 days before the test; iii. A Performance Test Report 45 days after the test; iv. A microfiche copy of the test report 105 days after the test. <p>[CAAA of 1990, Minn. R. 7007.0100, subps. 7(A) & 7(B), Minn. R. 7007.0800, subps. 1-2, Minn. Stat. 116.subd. 4a, Minn. Stat. 116.subd. 9, Title I Condition: 40 CFR pt. 52]</p>
EQUI 2	EU004	FCC Regenerator 5-8-F-5	
	6.6.1		<p>The Permittee shall conduct performance test : Due by the end of each calendar five years following permit issuance (01/20/2014) to measure PM emissions. The test shall be conducted at an interval not to exceed 60 months between dates, and the next test is due before 01/20/2019.</p> <p>For additional applicable performance test requirements see "General Performance Requirements" in Section 5 of this permit (Limits and other requirements), subject item "Total Facility" (TFAC). [Minn. R. 7017.2020, subp. 1]</p>
	6.6.2		The Permittee shall submit an excess emission/downtime report (EER) : Due within 30 days after end of each calendar quarter starting 07/24/2002. The EER shall indicate all periods of exceedances of the limit including monitor bypass and exceedances allowed by an applicable standard,(i.e. during startup, shutdown, and malfunctions). During periods where

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			the SO2 CEMS is bypassed, actual emission levels shall be calculated. The calculated emission values shall be used to fill in the gap in the CEMS data set. The CEMS and the calculated emissions data shall be integrated in order to determine compliance in terms of the applicable averaging period. [Minn. R. 7017.1110, subp. 1, Minn. R. 7017.1110, subp. 2]
	6.6.3		The Permittee shall conduct CEMS cylinder gas audit (CGA) : Due by the end of each calendar quarter quarter following CEM Certification Test. A CGA is not required during any calendar quarter in which a RATA was performed. [40 CFR pt. 60, App. F, Sec 5.1.2, Minn. R. 7017.1170, subp. 4]
	6.6.4		The Permittee shall conduct CEMS relative accuracy test audit (RATA) : Due by the end of each calendar year following CEM Certification Test. Follow the procedures in 40 CFR pt. 60, Appendix F. [40 CFR pt. 60, App. F, Sec 5.1.1, Minn. R. 7017.1170, subp. 5]
	6.6.5		The Permittee shall submit a relative accuracy test audit (RATA) notification : Due 30 calendar days before CEMS Relative Accuracy Test Audit Date. [Minn. R. 7017.1180, subp. 2]
	6.6.6		The Permittee shall submit a relative accuracy test audit (RATA) results summary : Due within 30 days after end of each quarter following CEMS Relative Accuracy Test Audit (RATA). [Minn. R. 7017.1180, subp. 3]
	6.6.7		The Permittee shall submit a cylinder gas audit (CGA) results summary : Due within 30 days after end of each calendar quarter starting 12/31/2005 in which a CGA was conducted. [Minn. R. 7017.1180, subp. 1]
	6.6.8		The Permittee shall conduct COMS calibration error audit : Due by the end of each calendar half-year starting 01/31/2003. Audits are to be at least three months apart but no more than eight months apart except that a calibration error audit need not be conducted during any semiannual period in which the emission unit operated less than 24 hours. The calibration error audit shall be conducted according to the procedures in 40 CFR pt. 60, Appendix B, PS. 1. [40 CFR pt. 60, Appendix B, Sec. 7, Minn. R. 7017.1210, subp. 3]
	6.6.9		The Permittee shall submit a COMS calibration error audit results summary : Due within 30 days after end of each calendar quarter starting 01/31/2003 in which a Calibration Error Audit was conducted. [Minn. R. 7017.1220]
EQUI 4	EU006	No. 2 Crude Charge Heater 5-2-B-3	
	6.7.1		The Permittee shall conduct CEMS cylinder gas audit (CGA) : Due by the end of each calendar quarter following CEM Certification Test. [CAAA of 1990, Minn. R. 7007.0100, subps. 7(A) & 7(B), Minn. R. 7007.0800, subp. 2, Minn. R. 7007.0800, subps. 1-2, Minn. R. 7017.1170, subp. 4, Minn. Stat. 116.07,

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			subds. 4a & 9, Title I Condition: 40 CFR pt. 52]
	6.7.2		The Permittee shall submit a cylinder gas audit (CGA) results summary : Due within 30 days after end of each calendar quarter following end of the calendar quarter in which the Audit was performed. [Minn. R. 7017.1180, subp. 1]
	6.7.3		CEMS Relative Accuracy Test Audit (RATA): due before end of each year following CEM Certification Test. If the relative accuracy is 15% or less the next CEMS RATA is not due for 24 months. Follow the procedures in 40 CFR pt. 60, Appendix B and Appendix F. conduct CEMS relative accuracy test audit (RATA) : Due annually, by the 31st of January. [CAAA of 1990, Minn. R. 7007.0100, subps. 7(A) & 7(B), Minn. R. 7007.0800, subp. 2, Minn. R. 7007.0800, subps. 1-2, Minn. R. 7017.1170, subp. 5, Minn. Stat. 116.subd. 4a, Minn. Stat. 116.subd. 9, Title I Condition: 40 CFR pt. 50]
	6.7.4		The Permittee shall submit a relative accuracy test audit (RATA) notification : Due 30 calendar days before CEMS Relative Accuracy Test Audit Date. [Minn. R. 7017.1180, subp. 2]
	6.7.5		The Permittee shall submit a relative accuracy test audit (RATA) results summary : Due 30 calendar days after CEMS Relative Accuracy Test Audit Date. [Minn. R. 7017.1180, subp. 3]
EQUI 16	EU019	Sulfur Recovery Unit (SRU 2)	
	6.8.1		The Permittee shall conduct CEMS cylinder gas audit (CGA) : Due by the end of each calendar quarter following CEM Certification Test except in a quarter in which a RATA is performed. [40 CFR pt. 60, App. F, Sec 5.1.2, Minn. R. 7017.1170, subp. 4]
	6.8.2		The Permittee shall conduct CEMS relative accuracy test audit (RATA) : Due by the end of each calendar year starting 01/31/2003. Follow the procedures in 40 CFR pt. 60, Appendix B and Appendix F. [40 CFR pt. 60, Appendix B, 40 CFR pt. 60, Appendix F, Minn. R. 7017.1170, subp. 5]
	6.8.3		The Permittee shall submit a cylinder gas audit (CGA) results summary : Due within 30 days after end of each calendar quarter following end of the calendar quarter in which the Audit was performed. [Minn. R. 7017.1180, subp. 1]
	6.8.4		The Permittee shall submit a relative accuracy test audit (RATA) results summary : Due within 30 days after end of each calendar quarter following CEMS Relative Accuracy Test Audit (RATA). This report consists of a results summary of the RATA on a form approved by the Commissioner. [Minn. R. 7017.1180, subp. 3]
	6.8.5		The Permittee shall submit a relative accuracy test audit (RATA) notification : Due 30 working days before CEMS Relative Accuracy Test Audit Date. The notification may be by facsimile, mail, electronic mail or hand-delivered document. [Minn. R. 7017.1180, subp. 2]

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
EQUI 28	EU063	Lt Oil Truck Rack - Gasoline	
	6.9.1		The Permittee shall conduct performance test : Due by the end of each calendar five years following permit issuance starting 09/27/2013 for the VOC emission limit in 40 CFR Sections 63.650(a) and 63.422(b). The test shall be conducted at an interval not to exceed 60 months between dates. The next scheduled test is on or before 09/27/2018. For additional applicable performance test requirements see "General Performance Test Requirements" in Section 5 of this permit (Limits and other requirements), subject Item "Total Facility" (TFAC). [Minn. R. 7017.2020, subp. 1]
EQUI 33	EU083	No. 3 Sulfur Recovery Unit	
	6.10.1		The Permittee shall conduct CEMS relative accuracy test audit (RATA) : Due by the end of each calendar year following CEM Certification Test. [40 CFR pt. 60, App. F, Sec 5.1.1, Minn. R. 7017.1170, subp. 5]
	6.10.2		The Permittee shall submit a relative accuracy test audit (RATA) notification : Due 30 calendar days before CEMS Relative Accuracy Test Audit Date. [Minn. R. 7017.1180, subp. 2]
	6.10.3		The Permittee shall submit a relative accuracy test audit (RATA) results summary : Due within 30 days after end of each quarter following CEMS Relative Accuracy Test Audit (RATA). [Minn. R. 7017.1180, subp. 3]
	6.10.4		The Permittee shall conduct CEMS cylinder gas audit (CGA) : Due by the end of each calendar quarter following CEM Certification Test except in a quarter in which a RATA is performed. [40 CFR pt. 60, App. F, Sec 5.1.2, Minn. R. 7017.1170, subp. 4]
	6.10.5		The Permittee shall submit a cylinder gas audit (CGA) results summary : Due within 30 days after end of each calendar quarter following end of the calendar quarter in which the Audit was performed. [Minn. R. 7017.1180, subp. 1]
	6.10.6		The Permittee shall submit an excess emission/downtime report (EER) : Due within 30 days after end of each calendar quarter following Initial Startup of the Monitor. The EER shall indicate all periods of monitor bypass and all periods of exceedances of the limit including exceedances allowed by an applicable standard, i.e. during startup, shutdown, and malfunctions. [40 CFR 60.7(c), Minn. R. 7017.1110, subps. 1-2, Minn. R. 7019.0100]
EQUI 209	MR049	H2S Monitor	
	6.11.1		The Permittee shall submit a relative accuracy test audit (RATA) notification : Due 30 calendar days before CEMS Relative Accuracy Test Audit Date. [Minn. R. 7017.1180, subp. 2]
	6.11.2		The Permittee shall submit a relative accuracy test audit (RATA)

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			results summary : Due within 30 days after end of each calendar year following CEMS Relative Accuracy Test Audit (RATA) was conducted. [Minn. R. 7017.1180, subp. 3]
EQUI 212	MR057	NOx CEMS blr 92	
	6.12.1		The Permittee shall submit a cylinder gas audit (CGA) results summary : Due within 30 days after end of each calendar quarter following CGA. [Minn. R. 7017.1180, subp. 1]
	6.12.2		The Permittee shall submit a relative accuracy test audit (RATA) results summary : Due 30 working days before CEMS Relative Accuracy Test Audit Date. [Minn. R. 7017.1180, subp. 2]
	6.12.3		The Permittee shall submit a relative accuracy test audit (RATA) results summary : Due within 30 days after end of each calendar quarter in which the CEMS RATA was conducted. [Minn. R. 7017.1180, subp. 3]
EQUI 213	MR058	CO CEMS blr 92	
	6.13.1		The Permittee shall submit a cylinder gas audit (CGA) results summary : Due within 30 days after end of each calendar quarter following CGA. [Minn. R. 7017.1180, subp. 1]
	6.13.2		The Permittee shall submit a relative accuracy test audit (RATA) notification : Due 30 working days before CEMS Relative Accuracy Test Audit Date. [Minn. R. 7017.1180, subp. 2]
	6.13.3		The Permittee shall submit a relative accuracy test audit (RATA) results summary : Due within 30 days after end of each calendar quarter in which the CEMS RATA was conducted. [Minn. R. 7017.1180, subp. 3]
EQUI 214	MR059	O2 Monitor blr 92	
	6.14.1		The Permittee shall submit a cylinder gas audit (CGA) results summary : Due within 30 days after end of each calendar quarter following CGA. [Minn. R. 7017.1180, subp. 1]
	6.14.2		The Permittee shall submit a relative accuracy test audit (RATA) notification : Due 30 working days before CEMS Relative Accuracy Test Audit Date. [Minn. R. 7017.1180, subp. 2]
	6.14.3		The Permittee shall submit a relative accuracy test audit (RATA) results summary : Due within 30 days after end of each calendar quarter in which the CEMS RATA was conducted. [Minn. R. 7017.1180, subp. 3]
EQUI 215	MR060	NOx CEMS blr 93	
	6.15.1		The Permittee shall submit a cylinder gas audit (CGA) results summary : Due within 30 days after end of each calendar quarter following CGA. [Minn. R. 7017.1180, subp. 1]
	6.15.2		The Permittee shall submit a relative accuracy test audit (RATA) notification : Due 30 working days before CEMS Relative Accuracy Test Audit Date. [Minn. R. 7017.1180, subp. 2]
	6.15.3		The Permittee shall submit a relative accuracy test audit (RATA)

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			results summary : Due within 30 days after end of each calendar quarter in which the CEMS RATA was conducted. [Minn. R. 7017.1180, subp. 3]
EQUI 216	MR061	CO CEMS blr 93	
	6.16.1		The Permittee shall submit a cylinder gas audit (CGA) results summary : Due within 30 days after end of each calendar quarter following CGA. [Minn. R. 7017.1180, subp. 1]
	6.16.2		The Permittee shall submit a relative accuracy test audit (RATA) notification : Due 30 working days before CEMS Relative Accuracy Test Audit Date. [Minn. R. 7017.1180, subp. 2]
	6.16.3		The Permittee shall submit a relative accuracy test audit (RATA) results summary : Due within 30 days after end of each calendar quarter in which the CEMS RATA was conducted. [Minn. R. 7017.1180, subp. 3]
EQUI 217	MR062	O2 Monitor blr 93	
	6.17.1		The Permittee shall submit a cylinder gas audit (CGA) results summary : Due within 30 days after end of each calendar quarter following CGA. [Minn. R. 7017.1180, subp. 1]
	6.17.2		The Permittee shall submit a relative accuracy test audit (RATA) notification : Due 30 working days before CEMS Relative Accuracy Test Audit Date. [Minn. R. 7017.1180, subp. 2]
	6.17.3		The Permittee shall submit a relative accuracy test audit (RATA) results summary : Due within 30 days after end of each calendar quarter in which the CEMS RATA was conducted. [Minn. R. 7017.1180, subp. 3]
EQUI 323	EU107	SDA Hot Oil Heater	
	6.18.1		The Permittee shall submit a notification of compliance status : Due 60 calendar days after Initial Performance Test Date, i.e. tune-up of EQUI 323. The Notification of Compliance Status shall contain the information required in 40 CFR Section 63.7545(e) and 40 CFR Section 63.9(h)(2). [40 CFR 63.7545(e), 40 CFR 63.9]
	6.18.2		The Permittee shall submit a compliance status report : Due annually starting 1/31/2016. The first compliance report must cover the period beginning on the compliance date, January 31, 2016 and ending on December 31, 2016. The first annual report must be postmarked or submitted no later than January 31, 2017. Annual or 5-year compliance reports must cover the applicable 1-, or 5-year periods from January 1 to December 31. 5-year compliance reports may only be submitted if an oxygen trim system is installed. (4) Annual, biennial, and 5-year compliance reports must be postmarked or submitted no later than January 31. [40 CFR 63.7550(b)]

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
FUGI 115	FS124	Controlled Vacuum Truck Off-loading Station Valves - Equipment Leaks	
	6.19.1		The Permittee shall submit an annual report : Due annually, 30 days after year starting 04/08/2010. The Permittee shall submit annually to the Administrator a report that summarizes all inspections required during which detectable emissions are measured or a problem (such as a broken seal, gap or other problem) that could result in benzene emissions is identified, including information about the repairs or corrective action taken. [40 CFR 61.357(d)(8), Minn. R. 7011.9930, E, Minn. R. 7017.1010, subp. 3]
FUGI 130	FS031	API - Oil/Water Separator	
	6.20.1		The Permittee shall submit a certification statement : Due within 30 days after each half-year starting 04/08/2010. Submit to the Administrator semiannually a certification that all of the required inspections have been carried out in accordance with 40 CFR Section 60.698 (b)(1) standards. [40 CFR 60.698(b)(1), Minn. R. 7011.1435]
TREA 7	CE023	Catalytic Afterburner w/Heat Exchanger	
	6.21.1		The Permittee shall conduct performance test : Due 20 calendar days after Startup Date with Catalytic Oxidizer for VOC Control Efficiency. Follow MPCA guidance for "Air Emission Controls for Soil Venting Systems and Air Strippers". [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2, Minn. R. 7011.0070, subp. 1, Minn. R. 7017.2020, subp. 1]
TREA 8	CE024	Catalytic Afterburner w/Heat Exchanger	
	6.22.1		The Permittee shall conduct performance test : Due 20 calendar days after Startup Date with Catalytic Oxidizer for VOC Control Efficiency. Follow MPCA guidance for "Air Emission Controls for Soil Venting Systems and Air Strippers". [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2, Minn. R. 7011.0070, subp. 1, Minn. R. 7017.2020, subp. 1]
TREA 18	CE014	Vapor Recovery System- Condensers,	

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
		Hoods, & Other Enclosures	
	6.23.1		The Permittee shall submit an excess emission/downtime report (EER) : Due within 30 days after end of each calendar quarter starting 01/31/2003. The EER shall indicate all periods of exceedances of the limit including monitor bypass and exceedances allowed by an applicable standard, (i.e. during startup, shutdown, and malfunctions). During periods where the CEMS is bypassed, actual emission levels shall be calculated. The calculated emission values shall be used to fill in the gap in the CEMS data set. The CEMS and the calculated emissions data shall be integrated in order to determine compliance in terms of the applicable averaging period. [40 CFR 63.10(e), 40 CFR 63.c(8), Minn. R. 7007.0800, subp. 2, Minn. R. 7017.1110, subps. 1&2]
	6.23.2		The Permittee shall conduct CEMS cylinder gas audit (CGA) : Due by the end of each calendar quarter quarter following CEM Certification Test except in quarters in which a RATA is performed. [40 CFR pt. 60, Appendix F, Minn. R. 7017.1170, subp. 4]
	6.23.3		The Permittee shall submit a cylinder gas audit (CGA) results summary : Due within 30 days after end of each calendar quarter following end of the calendar quarter in which the Audit was performed. [Minn. R. 7017.1180, subp. 1]
	6.23.4		CEMS Relative Accuracy Test Audit (RATA): due before end of each calendar year following CEM Certification Test. Conduct the RATA according to the procedures in 40 CFR pt. 60, Appendix F. conduct CEMS relative accuracy test audit (RATA) : Due by the end of each calendar year year following CEM Certification Test. Conduct the RATA according to the procedures in 40 CFR pt. 60, Appendix F. [40 CFR pt. 60, App. F, Sec 5.1.1, Minn. R. 7007.0800, subp. 2, Minn. R. 7017.1170, subp. 5]
	6.23.5		The Permittee shall submit a relative accuracy test audit (RATA) notification : Due 30 calendar days before CEMS Relative Accuracy Test Audit Date. [Minn. R. 7017.1180, subp. 2]
	6.23.6		The Permittee shall submit a relative accuracy test audit (RATA) results summary : Due within 30 days after end of each year following CEMS Relative Accuracy Test Audit (RATA) was conducted. [Minn. R. 7017.1180, subp. 3]

7. Appendices

Appendix B - Title I Condition: Stack Parameters Relied Upon in the SIP Modeling to Demonstrate Compliance with the National Ambient Air Quality Standards (NAAQS) for Sulfur Dioxide (SO₂)

Stack ID	EU ID	Description	MAP ID	NAD 83 Easting (X) (m)	NAD 83 Northing (Y) (m)	Base Elevation (m)	Stack Height (m)	Temp. (K)	Exit Velocity (m/s)	Stack Diameter (m)	Short Term (g/s)	Annual (g/s)
STRU 47	EQUI 1	Alkylation Isostripper Reboiler (Heater)	5-28-B-1	499726.49	4966560.4	225.41	31.36	666.5	8.15	1.34	0.181	0.181
STRU 7	EQUI 2	FCC Regenerator	5-8-F-5	499659.31	4966592.5	222.49	65	477.6	26.68	1.19	99.998	99.998
STRU 70	EQUI 3	No. 2 Crude Unit Vacuum Heater	5-5-B-1	499518.69	4966401.5	217.36	48.78	633.2	13.13	1.07	0.328	0.328
STRU 15	EQUI 6	No. 2 Crude Unit Charge Heater	5-2-B-3	499517.41	4966432.5	217.4	56.44	477.6	7.13	2.29	0.518	0.518
STRU 10	EQUI 5	No. 1 Crude Vacuum Tower Heater	5-1-B-5	499587.91	4966420.5	220.15	30.49	810.9	17.1	1.01	0.151	0.151
STRU 69	EQUI 6	No. 1 Crude Charge Heater	5-1-B-7	499592.5	4966369.5	219.79	65	449.8	3.41	2.29	0.353	0.353
STRU 68	EQUI 7	Distillate Unifier Heater	5-29-B-1&2	499787.09	4966582	225.99	30.49	810.9	17.1	1.01	0.178	0.178
STRU 19	EQUI 8	Naphtha Unifier Heater	5-3-B-1, 2 & 3	499765.31	4966584	225.8	30.49	616.5	5.36	1.92	0.246	0.246
STRU 67	EQUI 9	Platform Reactor Charge Heater	5-3-B-4	499771.19	4966585.5	225.84	30.49	544.3	4.66	1.92	0.246	0.246
STRU 66	EQUI 10	Platform Interheater No. 1	5-3-B-7	499781.59	4966585.5	226.04	30.49	549.8	4.05	1.92	0.212	0.212
STRU 65	EQUI 11	Platform Interheater No. 2	5-3-B-8	499792.69	4966582.5	225.83	36.59	477.6	4.36	1.52	0.136	0.136
STRU 64	EQUI 12	Isom Desulfurizer Charge Heater	5-34-B-1	499879.41	4966582.5	225.6	60.67	422	3.51	2.13	0.423	0.423
	EQUI 13	Hot Oil Heater	5-34-B-2									
STRU 63	EQUI 14	HDH Charge Heater	5-32-B-1	499843.5	4966584	225.5	45.73	477.6	5.43	1.68	0.374	0.374
STRU 9	EQUI 15	SGP Dehexanizer Reboiler	5-10-B-1	499848.81	4966517.5	225.6	45.73	616.5	4.42	1.62	0.199	0.199
STRU 62	EQUI 17	Guard Case Reactor Heater	5-36-B-1	499886.69	4966491.5	225.6	22.56	560.9	8.39	1.4	0.214	0.214
STRU 12	EQUI 18	Reformer Charge & No. 1 Interheaters	5-36-B-2, 3,4	499886.5	4966485	225.6	22.56	505.4	12.31	1.22	0.265	0.265
STRU 80	EQUI 19	No. 3 Interheater	5-36-B-6E	499890.19	4966498.5	225.6	30.49	552.6	4.02	1.22	0.079	0.079
STRU 79	EQUI 20	No. 2 Interheater	5-36-B-6W	499885	4966498.5	225.6	30.49	552.6	6.71	1.22	0.132	0.132
STRU 89	EQUI 21	DDS Reactor Charge Heater	5-37-B-1	499956.31	4966593	225.5	53.35	522	3.75	1.73	0.174	0.174
STRU 88	EQUI 326	DDS Product Stripper Reboiler	5-37-B-2	499946.09	4966593	225.57	53.35	522	2.32	1.65	0.098	0.098
STRU 87	EQUI 23	Hydrogen Plant Heaters	5-38-B-1	499759.69	4966501	225.92	30.49	477.6	13.72	1.37	0.438	0.438

				NAD 83 Easting (X)	NAD 83 Northing (Y)	Base Elevation	Stack Height	Temp.	Exit Velocity	Stack Diameter	Short Term	Annual
Stack ID	EU ID	Description	MAP ID	(m)	(m)	(m)	(m)	(K)	(m/s)	(m)	(g/s)	(g/s)
	EQUI 24	Hydrogen s Plant Heaters	5-38-B-2									
STRU 86A	EQUI 297	Asphalt Storage Tank (TK027) Heater	5-999-B-62-A	499723.41	4966368.5	223.11	13.11	588.7	0.001	0.25	0.0025	0.0025
STRU 86B	EQUI 297	Asphalt Storage Tank (TK027) Heater	5-999-B-62-B	499724.5	4966364	223.13	13.11	588.7	0.001	0.25	0.0025	0.0025
STRU 86C	EQUI 297	Asphalt Storage Tank (TK027) Heater	5-999-B-62-C	499727.41	4966360.5	223.19	13.11	588.7	0.001	0.25	0.0025	0.0025
STRU 4A	EQUI 298	Asphalt Storage Tank (TK025) Heater	5-999-B-75-A	499699.41	4966121	222.12	14.02	588.7	0.001	0.25	0.0025	0.0025
STRU 4B	EQUI 298	Asphalt Storage Tank (TK025) Heater	5-999-B-75-B	499706.09	4966120	222.39	14.02	588.7	0.001	0.25	0.0025	0.0025
STRU 85A	EQUI 299	Asphalt Storage Tank (TK026) Heater	5-999-B-76-A	499647.19	4966121	220.68	14.02	588.7	0.001	0.25	0.0025	0.0025
STRU 85B	EQUI 299	Asphalt Storage Tank (TK026) Heater	5-999-B-76-B	499654.19	4966118	220.83	14.02	588.7	0.001	0.25	0.0025	0.0025
STRU 84	EQUI 300	Reduced Crude Storage Tank (TK008) Heater	5-999-B-82	499661.91	4966372.5	222.04	9.76	588.7	0.001	0.25	0.0025	0.0025
STRU 78	EQUI 301	Asphalt Storage Tank (TK007) Heater	5-999-B-83	499623.31	4966388	220.81	9.45	588.7	0.001	0.25	0.0025	0.0025
STRU 77	EQUI 302	Slurry Storage Tank (TK046) Heater	5-999-B-118	499961.91	4966229	226.05	14.02	588.7	0.001	0.25	0.0025	0.0025
STRU 76A	EQUI 303	Asphalt Storage Tank (TK049) Heater	5-999-B-120-A	499970.31	4966146.5	226.14	13.11	588.7	0.001	0.25	0.0025	0.0025
STRU 76B	EQUI 303	Asphalt Storage Tank (TK049) Heater	5-999-B-120-B	499977.91	4966143	226.1	13.11	588.7	0.001	0.25	0.0025	0.0025
STRU 76C	EQUI 303	Asphalt Storage Tank (TK049) Heater	5-999-B-120-C	499984	4966143	226.1	13.11	588.7	0.001	0.25	0.0025	0.0025
STRU 75A	EQUI 304	Asphalt Storage Tank (TK047) Heater	5-999-B-127-A	500020.59	4966226.5	226.65	14.02	588.7	0.001	0.25	0.0025	0.0025
STRU 75B	EQUI 304	Asphalt Storage Tank (TK047) Heater	5-999-B-127-B	500022	4966223.5	226.6	14.02	588.7	0.001	0.25	0.0025	0.0025
STRU 75C	EQUI 304	Asphalt Storage Tank (TK047) Heater	5-999-B-127-C	500025	4966219	226.69	14.02	588.7	0.001	0.25	0.0025	0.0025
STRU 74	EQUI 305	Asphalt Storage Tank (TK050) Heater	5-999-B-129a	500056.69	4966173.5	226.56	14.02	588.7	0.001	0.25	0.0025	0.0025
STRU 11	EQUI 306	Asphalt Storage Tank (TK050) Heater	5-999-B-129b	500026.09	4966147	226.3	15.24	810.9	0.001	0.36	0.0038	0.0038
STRU 2	EQUI 307	Fuel Oil Storage Tank (TK051) Heater	5-999-B-131	500079.5	4966153.5	226.3	12.8	588.7	0.001	0.25	0.0025	0.0025
STRU 59A	EQUI 308	Asphalt Storage Tank (TK028) Heater	5-999-B-132-A	499723.31	4966326	223	13.11	588.7	0.001	0.25	0.0025	0.0025
STRU 59B	EQUI 308	Asphalt Storage Tank (TK028) Heater	5-999-B-132-B	499727.59	4966315.5	223.12	13.11	588.7	0.001	0.25	0.0025	0.0025
STRU 59C	EQUI 308	Asphalt Storage Tank (TK028) Heater	5-999-B-132-C	499725.41	4966318.5	223.05	13.11	588.7	0.001	0.25	0.0025	0.0025

Stack ID	EU ID	Description	MAP ID	NAD 83 Easting (X) (m)	NAD 83 Northing (Y) (m)	Base Elevation (m)	Stack Height (m)	Temp. (K)	Exit Velocity (m/s)	Stack Diameter (m)	Short Term (g/s)	Annual (g/s)
STRU 58A	EQUI 309	Asphalt Storage Tank (TK030) Heater	5-999-B-133-A	499721.09	4966238.5	222.76	14.02	588.7	0.001	0.25	0.0025	0.0025
STRU 58B	EQUI 309	Asphalt Storage Tank (TK030) Heater	5-999-B-133-B	499723.69	4966230.5	222.82	14.02	588.7	0.001	0.25	0.0025	0.0025
STRU 58C	EQUI 309	Asphalt Storage Tank (TK030) Heater	5-999-B-133-C	499726.31	4966227.5	222.9	14.02	588.7	0.001	0.25	0.0025	0.0025
STRU 57C	EQUI 310	Asphalt Storage Tank (TK032) Heater	5-999-B-143-A	499721.19	4966142	222.76	16.46	588.7	0.001	0.36	0.0025	0.0025
STRU 57A	EQUI 310	Asphalt Storage Tank (TK032) Heater	5-999-B-143-B	499722.69	4966138.5	222.79	16.46	588.7	0.001	0.36	0.0025	0.0025
STRU 57B	EQUI 310	Asphalt Storage Tank (TK032) Heater	5-999-B-143-C	499725.5	4966135.5	222.87	16.46	588.7	0.001	0.36	0.0025	0.0025
STRU 56	EQUI 311	Asphalt Storage Tank Heater	5-999-B-147	499623.81	4966411.5	220.7	16.46	588.7	0.001	0.25	0.0025	0.0025
STRU 8	EQUI 312	Asphalt Storage Tank (TK048) Heater	5-999-B-148a	500118.5	4966239.5	226.69	12.5	588.7	0.001	0.25	0.0038	0.0038
STRU 55	EQUI 313	Asphalt Storage Tank (TK048) Heater	5-999-B-148b	500082.31	4966219	226.6	14.02	588.7	0.001	0.3	0.0025	0.0025
STRU 54	EQUI 314	Asphalt Storage Tank Heater	5-999-B-149	499623	4966318	220.3	14.02	588.7	0.001	0.3	0.0025	0.0025
STRU 53	EQUI 315	Asphalt Storage Tank Heater	5-999-B-150	499670.19	4966365	222.03	14.02	588.7	0.001	0.3	0.0025	0.0025
STRU 73	EQUI 316	Asphalt Storage Tank Heater	5-999-B-152	499683.19	4966388.5	222.8	7.93	588.7	0.001	0.3	0.0025	0.0025
STRU 72	EQUI 317	Asphalt Storage Tank (TK011) Heater	5-999-B-156	499659.91	4966412.5	221.95	7.93	588.7	0.001	0.3	0.0025	0.0025
STRU 71	EQUI 318	Hot Oil Tracing B	5-999-B-Econotherm	499668.59	4966421	222.14	7.93	588.7	0.001	0.3	0.0113	0.0113
STRU 61	EQUI 319	Hot Oil Tracing D	5-999-B-Hiway	499956.19	4966222	226.12	7.93	500.4	0.001	0.15	0.0025	0.0025
STRU 60	EQUI 320	Hot Oil Tracing C	5-999-B-Econotherm	499953.81	4966193	226.29	3.96	500.4	0.001	0.15	0.0113	0.0113
STRU 91	EQUI 25	Fire Hall Diesel		499841.5	4966672.5	225.6	4.57	500.4	0.001	0.1	0.0176	0.0010
STRU 90	EQUI 26	Lagoon Diesel		499446.41	4966052.5	212.65	4.57	500.4	0.001	0.1	0.0176	0.0010
STRU 51	EQUI 327	Boiler House Diesel Engine		499623.69	4966449.5	220.82	4.57	500.4	0.001	0.1	0.0176	0.0010
N/A	N/A	Ford Boiler House Engine (Gasoline)		499640.09	4966455	221.24	4.57	500.0	0.001	0.1	0.0126	0.0007
STRU 81	EQUI 16	SRU/SCOT Incinerator	5-31-B-4	499654	4966440	221.46	45.73	810.9	4.4	1.22	5.670	5.670
STRU 18	EQUI 30	Alky Mitigation Backup Diesel		499886.31	4966677.5	225.6	9.14	677.6	65.3	0.25	0.0605	0.0030
STRU 22	TREA 5	Wastewater Treatment Plant Thermal Oxidizer		499448.19	4966462.5	210.58	27.43	1033.2	8.55	1.07	1.129	1.129
STRU 6	EQUI 33	#3 SRU/#3 SCOT		499587.19	4966492	220.53	45.73	810.9	4.4	1.22	5.670	1.136

Permit Issued: November 25, 2015

Permit Expires: April 10, 2018

16300003- 021

Page 410 of 423

Stack ID	EU ID	Description	MAP ID	NAD 83 Easting (X) (m)	NAD 83 Northing (Y) (m)	Base Elevation (m)	Stack Height (m)	Temp. (K)	Exit Velocity (m/s)	Stack Diameter (m)	Short Term (g/s)	Annual (g/s)
STRU 16		Loadrack (EQUI 28) Portable Oxidizer (TREA 25)		499835.5	4966840	225.6	3.86	699.8	0.73	2.13	0.227	0.227
STRU 21	EQUI 36	Temporary Boiler		499653.91	4966458.5	221.57	3.05	422.0	10	0.6096	0.0066	0.0066
STRU 48	EQUI 37	New Heater 1-B-6		499570.19	4966372.5	219.2	42.37	588.7	4.015	1.829	0.252	0.252
STRU 32	EQUI 41	Loadrack (EU063) John Zink VCU (TREA 26)		499832.30	4966842.77	225.6	18.29	1255.4	17.22	2.934	0.146	0.146
STRU 44	EQUI 42	New Boiler 7 (Listed as MPC091)		499689.53	4966428.50	222.8	21.36	417.0	11.5	1.524	0.466	0.466
STRU 45	EQUI 43	New Boiler 8 (Listed as MPC092)		499691.06	4966430.02	222.8	21.36	417.0	11.5	1.524	0.466	0.466
STRU 34	EQUI 44	FCCU Charge Heater	5-8-B-1	499746.65	4966559.7	225.41	47.24	505.4	7.02	1.34	0.190	0.190
IACS1		Instrument Air, Unit 1		499645.31	4966541	222.06	2.74	620.9	60	0.15	0.0227	0.0011
IACS2		Instrument Air, Unit 2		499645.09	4966546	222.08	2.74	620.9	60	0.15	0.0227	0.0011
FCCBS1		FCC Unit Blower, Unit No. 1		499634.81	4966547	221.84	10.36	620.9	60	0.15	0.0365	0.0072
FCCBS2		FCC Unit Blower, Unit No. 2		499635.31	4966542	221.84	10.36	620.9	60	0.15	0.0365	0.0072
FCCBS3		FCC Unit Blower, Unit No. 3		499635.5	4966536	221.85	10.36	620.9	60	0.15	0.0365	0.0072
FCCBS4		FCC Unit Blower, Unit No. 4		499635.59	4966530	221.78	10.36	620.9	60	0.15	0.0365	0.0075
FCCBS5		FCC Unit Blower, Unit No. 5		499635.59	4966523	221.65	10.36	620.9	60	0.15	0.0365	0.0072
FCCBS6		FCC Unit Blower, Unit No. 6		499635.41	4966517	221.65	10.36	620.9	60	0.15	0.0365	0.0072
FCCBS7		FCC Unit Blower, Unit No. 7		499635.59	4966512	221.64	10.36	620.9	60	0.15	0.0365	0.0072
FCCBS8		FCC Unit Blower, Unit No. 8		499635.59	4966508	221.62	10.36	620.9	60	0.15	0.0365	0.0072
FCCBS9		FCC Unit Blower, Unit No. 9		499636.09	4966504	221.6	10.36	620.9	60	0.15	0.0365	0.0072
FCCBS10		FCC Unit Blower, Unit No. 10		499636.41	4966500	221.53	10.36	620.9	60	0.15	0.0365	0.0072
SASSWOE 1		No. 1 and No. 2 SRU Blower, Unit No. 1		499643.09	4966499	221.6	2.74	620.9	60	0.15	0.0227	0.0006
SASSWOE 2		No. 1 and No. 2 SRU Blower, Unit No. 2		499648.59	4966499	221.71	2.74	620.9	60	0.15	0.0227	0.0006
SASSWOE 3		No. 2 SRU Blower, Unit No. 3		499653.5	4966499	221.81	2.74	620.9	60	0.15	0.0227	0.0006
SASSWOE 4		No. 2 SRU Blower, Unit No. 4		499660	4966499	221.94	2.74	620.9	60	0.15	0.0227	0.0006
BARR1S1		Reformer Generator No. 1 Backup Air, Unit 1		499762	4966591	225.78	2.74	620.9	60	0.15	0.0227	0.0011

Permit Issued: November 25, 2015

Permit Expires: April 10, 2018

16300003- 021

Page 411 of 423

Stack ID	EU ID	Description	MAP ID	NAD 83 Easting (X) (m)	NAD 83 Northing (Y) (m)	Base Elevation (m)	Stack Height (m)	Temp. (K)	Exit Velocity (m/s)	Stack Diameter (m)	Short Term (g/s)	Annual (g/s)
BARR1S2		Reformer Generator No. 1 Backup Air, Unit 2		499762.09	4966585	225.78	2.74	620.9	60	0.15	0.0227	0.0011
BARR2S1		Reformer Generator No. 2 Backup Air, Unit 1		499913.5	4966465	224.83	2.74	620.9	60	0.15	0.0227	0.0011
BARR2S2		Reformer Generator No. 2 Backup Air, Unit 2		499901	4966483	225.51	2.74	620.9	60	0.15	0.0227	0.0011
G1		Wastewater Treatment Facility – Fire Pump House		499438.59	4966053	212.27	2.08	620.9	60	0.064	0.0920	0.0030
G2		Wastewater Treatment Facility – Tertiary Lagoon		499354.59	4966102	210.34	2.08	620.9	60	0.064	0.0920	0.0030
G3		South Tank Farm		499637	4965972	219.27	2.08	620.9	60	0.064	0.0920	0.0030
G4		Marketing Annex		499765.59	4966070	223.8	2.08	620.9	60	0.064	0.0239	0.0006
G5		East Tank Farm		500390.09	4966259	228.92	2.08	620.9	60	0.064	0.0920	0.0030
G6		(Outdoor Power Center) OPC 15		499610.09	4966202	219.88	9.7	620.9	60	0.15	0.2759	0.0065
G7		OPC 14		499812.31	4966302	224.1	9.7	620.9	60	0.15	0.2759	0.0065
G8		OPC 20		499929.59	4966323	225.24	9.7	620.9	60	0.15	0.2759	0.0065
G10		OPC 3		499515.5	4966342	216.92	9.7	620.9	60	0.064	0.2759	0.0079
G11		Wastewater Treatment Facility – Primary Lagoon		499420.31	4966435	210.08	9.7	620.9	60	0.064	0.0920	0.0030
G12		OPC 16		499509	4966480	217.27	9.7	620.9	60	0.064	0.2759	0.0079
G13		Sub station 4		499629.41	4966537	221.73	9.7	620.9	60	0.15	0.2759	0.0065
G14WSE		OPC 6 – without stack extension		499619.19	4966454	220.74	9.7	620.9	60	0.15	0.2759	0.0029
G14WOE		OPC 6 – with stack extension		499619	4966455	220.75	2.08	620.9	60	0.15	0.0920	0.0029
G15		OPC 12		499598.5	4966441	220.38	9.7	620.9	60	0.15	0.2759	0.0065
G16		MCC 17C		499632.09	4966443	221.06	9.7	620.9	60	0.15	0.2759	0.0065
G17		OPC 19/MCC 19A		499741.41	4966426	224.84	9.7	620.9	60	0.15	0.2759	0.0065
G18		MCC 19A/MCC 19B		499758.31	4966426	224.7	9.7	620.9	60	0.15	0.2759	0.0065
G19		OPC 2		499721.81	4966449	224.46	9.7	620.9	60	0.15	0.2759	0.0065
G20		OPC 7, 11, 13		499818.41	4966459	225.56	9.7	620.9	60	0.15	0.2759	0.0065
G21		Auxiliary Blower House		499624.31	4966577	221.8	9.7	620.9	60	0.15	0.2759	0.0065
G23		MCC 17A/MCC 17B/OPC 17		499632.31	4966516	221.59	9.7	620.9	60	0.15	0.2759	0.0065
G24		OPC 1/8		499732.19	4966597	225.07	9.7	620.9	60	0.15	0.2759	0.0065
G25		OPC 10		499866.91	4966630	225.54	2.08	620.9	60	0.15	0.0076	0.0009

Permit Issued: November 25, 2015

Permit Expires: April 10, 2018

16300003- 021

Page 412 of 423

Stack ID	EU ID	Description	MAP ID	NAD 83 Easting (X) (m)	NAD 83 Northing (Y) (m)	Base Elevation (m)	Stack Height (m)	Temp. (K)	Exit Velocity (m/s)	Stack Diameter (m)	Short Term (g/s)	Annual (g/s)
G27		Sub station 2/switch gear		499842.69	4966622	225.59	9.7	620.9	60	0.15	0.2759	0.0065
G28		OPC 4		499865	4966628	225.52	9.7	620.9	60	0.15	0.2759	0.0065
G29		OPC 10		499874.09	4966629	225.6	9.7	620.9	60	0.15	0.2759	0.0065
G31		MCC 18C & 18D/MCC 18A & 18B		499947.59	4966631	225.6	9.7	620.9	60	0.15	0.2759	0.0065
G32		East of MCC 18A & 18B		499957	4966631	225.6	9.7	620.9	60	0.15	0.2759	0.0065
G33		West of Fire House		499830.31	4966676	225.54	9.7	620.9	60	0.15	0.2759	0.0065
G34		Center of Loading Rack Area		499875.09	4966910	225.6	9.7	620.9	60	0.15	0.2759	0.0065
ROAMA1		Miscellaneous Roaming Units - Unit 1		499609	4966564	221.56	1.37	620.9	40	0.064	0.0151	0.0004
ROAMA2		Miscellaneous Roaming Units - Unit 2		499754.69	4966414	224.57	1.37	620.9	40	0.064	0.0151	0.0004
ROAMA3		Miscellaneous Roaming Units - Unit 3		499873.59	4966244	225.11	1.37	620.9	40	0.064	0.0151	0.0004
ROAMA4		Miscellaneous Roaming Units - Unit 4		499568.09	4966367	219.02	1.37	620.9	40	0.064	0.0151	0.0004
ROAMA5		Miscellaneous Roaming Units - Unit 5		499683.81	4966202	221.63	1.37	620.9	40	0.064	0.0151	0.0004
ROAMA6		Miscellaneous Roaming Units - Unit 6		499489.69	4966148	215.85	1.37	620.9	40	0.064	0.0151	0.0004
ROAMA7		Miscellaneous Roaming Units - Unit 7		499589.5	4966009	219.63	1.37	620.9	40	0.064	0.0151	0.0004
ROAMA8		Miscellaneous Roaming Units - Unit 8		499727.31	4965858	222.84	1.37	620.9	40	0.064	0.0151	0.0004
ROAMA9		Miscellaneous Roaming Units - Unit 9		499795.59	4966610	225.95	1.37	620.9	40	0.064	0.0151	0.0004
ROAMA10		Miscellaneous Roaming Units - Unit 10		499949.19	4966471	225.22	1.37	620.9	40	0.064	0.0151	0.0004
ROAMA11		Miscellaneous Roaming Units - Unit 11		500031.81	4966636	225.6	1.37	620.9	40	0.064	0.0151	0.0004
ROAMA12		Miscellaneous Roaming Units - Unit 12		500065.69	4966292	226.6	1.37	620.9	40	0.064	0.0151	0.0004
ROAMA13		Miscellaneous Roaming Units - Unit 13		500395.59	4966254	229.08	1.37	620.9	40	0.064	0.0151	0.0004
ROAMA14		Miscellaneous Roaming Units - Unit 14		500347.5	4966466	228.69	1.37	620.9	40	0.064	0.0151	0.0004
ROAMA15		Miscellaneous Roaming Units - Unit 15		499721.59	4966778	225.22	1.37	620.9	40	0.064	0.0151	0.0004
ROAMA16		Miscellaneous Roaming Units - Unit 16		499782.19	4966943	225.6	1.37	620.9	40	0.064	0.0151	0.0004
ROAMA17		Miscellaneous Roaming Units - Unit 17		499949.19	4967023	225.5	1.37	620.9	40	0.064	0.0151	0.0004
ROAMA18		Miscellaneous Roaming Units - Unit 18		499925.5	4966783	225.6	1.37	620.9	40	0.064	0.0151	0.0004

Appendix C - Insignificant Emission Units and Likely Applicable Requirements

Under Minn. R. 7007.1250, subp. 1(A), the Permittee may add insignificant activities to the stationary source throughout the term of the permit without getting permit amendments. Certain exclusions apply and are listed in Minn. R. 7007.1250, subp.2. The following table is a listing of the insignificant activities that the Permittee is somewhat likely to add and their associated applicable requirements.

Minn. R. 7007.1300, subpart	Description of the Activity	Likely Applicable Requirement
3(A)	Space Heaters: There are 50 space heaters distributed around the refinery to heat various buildings, shops and warehouses. The maximum heat input of the space heater is 170,000 Btu/hr	Minn. R. 7011.0510
3(B)	Fabrication Operations: Welding/burning of metals is a routine maintenance activity. Approximately eight portable diesel welders are used at the facility. The horsepower ranges from 18.8 to 61 for these units	Minn. R. 7011.0710
3(E)	Storage tanks: There are small storage containers located throughout the facility (less than 200 gallons)	Minn. R. 7011.1505
3(F)	Cleaning operations: There are miscellaneous cleaning activities that support equipment maintenance, welding and other manual maintenance activities	Minn. R. 7011.0150
3(G)	Emissions from laboratory(ies): The facility operates a laboratory at the site.	Minn. R. 7011.0710
3(H)	Hydraulic or hydrostatic testing equipment - Jetting riggs	Minn. R. 7011.0710
3(H)	Brazing, soldering or welding equipment - Maintenance use daily.	Minn. R. 7011.0150
3(I)	MWCC Sewer Manhole - sewer vapor buildup venting;	Minn. R. 7011.0150
3(I)	Plant upkeep equipment activities including tank or unit painting	Minn. R. 7011.0150
3(I)	Portable heater for tank hydrotesting	Minn. R. 7011.0150
3(I)	Exchanger bundle jetting	Minn. R. 7011.0150

Minn. R. 7007.1300, subpart	Description of the Activity	Likely Applicable Requirement
3(I)	Tank bottoms cleaning	Minn. R. 7011.0150
3(I)	Fire training activities	Minn. R. 7011.0150
3(I)	Groundwater monitoring and remediation wells and piping.	Minn. R. 7011.0150
3(J)	FS 033: Fugitive emissions from roads and parking lots which includes: <ul style="list-style-type: none"> • There are paved and unpaved roads throughout the facility; • Administrative /Operations parking; • Gasoline loading roadway; • Construction parking; and • Unpaved tank farms and Access Roads, and propane loading roadway 	Minn. R. 7011.0150
3(I)	Heavy Oil Truck Rack - Asphalt	Minn. R. 7011.0150
3(I)	Heavy Oil Truck Rack - Diesel Heavy Oil Rail Rack - Asphalt Heavy Oil Rail Rack - Fuel Oil Heavy Oil Rail Rack - Propane Octane Knock Engine No. 1 Octane Knock Engine No. 2 Maintenance Shop degreaser (A) Electrical Shop degreaser (A) Electrical Shop degreaser (B) Truck Shop degreaser Tool Shop degreaser Maintenance Shop degreaser (B) Maintenance Shop degreaser (C)	Minn. R. 7011.0150 Minn. R. 7011.0150 Minn. R. 7011.0150 Minn. R. 7011.0150 Minn. R. 7011.2300 Minn. R. 7011.2300 Minn. R. 7011.0710 Minn. R. 7011.0710 Minn. R. 7011.0710 Minn. R. 7011.0710 Minn. R. 7011.0710 Minn. R. 7011.0710 Minn. R. 7011.0710
3(I)	Fuel oil system	Minn. R. 7011.0150

Permit Issued: November 25, 2015

Permit Expires: April 10, 2018

16300003- 021

Page 415 of 423

Minn. R. 7007.1300, subpart	Description of the Activity	Likely Applicable Requirement
4	Storage tanks, VOC potential = 3.55 tons	Minn. R. 7011.1505
4	Diesel Fuel Pumps, VOC potential =0.61 tons	Minn. R. 7011.2300
4	Storage heater upgrades, VOC potential = 0.18 tons	Minn. R. 7011.0610
4	Penberthy Valves, VOC potential = 9.9 tons	40 CFR pt. 60, subp. GGG, 40 CFR pt. 63, subp. CC, or State LDAR program

Appendix D – Stack Parameters Relied Upon in the Modeling to Demonstrate Compliance with the National Ambient Air Quality Standards (NAAQS) for Particulate Matter less than 10 microns (PM₁₀)

Stack ID	EU ID	Description	MAP ID	NAD 83 Easting (X) (m)	NAD 83 Northing (Y) (m)	Base Elevation (m)	Stack Height (m)	Temperature (K)	Exit Velocity (m/s)	Stack Diameter (m)	Short Term (g/s) (lb/hr)	
STRU 47	EQUI 1	Alkylation Iso stripper Reboiler (Heater)	5-28-B-1	499740.91	4966562.5	225.41	30.49	790.9	8.11	1.83	5.027	39.9
STRU 7	EQUI 2	FCC Regenerator	5-8-F-5	499659.31	4966592.5	222.49	65	477.6	26.68	1.19	21.546	171
STRU 70	EQUI 3	No. 2 Crude Unit Vacuum Heater	5-5-B-1	499518.69	4966401.5	217.36	48.78	633.2	13.13	1.07	4.763	37.8
STRU 15	EQUI 4	No. 2 Crude Unit Charge Heater	5-2-B-3	499517.41	4966432.5	217.4	56.44	477.6	7.13	2.29	2.079	16.5
STRU 10	EQUI 5	No. 1 Crude Vacuum Tower Heater	5-1-B-5	499587.91	4966420.5	220.15	30.49	810.9	17.1	1.01	0.662	5.25
STRU 69	EQUI 6	No. 1 Crude Charge Heater	5-1-B-7	499592.5	4966369.5	219.79	65	449.8	3.41	2.29	5.141	40.8
STRU 68	EQUI 7	Distillate Unifier Heater	5-29-B-1&2	499787.09	4966582	225.99	30.49	810.9	17.1	1.01	0.592	4.70
STRU 19	EQUI 8	Naphtha Unifier Heater	5-3-B-1, 2 & 3	499765.31	4966584	225.8	30.49	616.5	5.36	1.92	0.819	6.50
STRU 67	EQUI 9	Platform Reactor Charge Heater	5-3-B-4	499771.19	4966585.5	225.84	30.49	544.3	4.66	1.92	0.819	6.50
STRU 66	EQUI 10	Platform Interheater No. 1	5-3-B-7	499781.59	4966585.5	226.04	30.49	549.8	4.05	1.92	0.706	5.60
STRU 65	EQUI 11	Platform Interheater No. 2	5-3-B-8	499792.69	4966582.5	225.83	36.59	477.6	4.36	1.52	0.454	3.60
STRU 64	EQUI 12	Isom Desulfurizer Charge Heater	5-34-B-1	499879.41	4966582.5	225.6	60.67	422	3.51	2.13	1.27	10.1
	EQUI 13	Hot Oil Heater	5-34-B-2									
STRU 63	EQUI 14	HDH Charge Heater	5-32-B-1	499843.5	4966584	225.5	45.73	477.6	5.43	1.68	5.292	42.0
STRU 9	EQUI 15	SGP Dehexanizer Reboiler	5-10-B-1	499848.81	4966517.5	225.6	45.73	616.5	4.42	1.62	2.911	23.1
STRU 62	EQUI 17	Guard Case Reactor Heater	5-36-B-1	499886.69	4966491.5	225.6	22.56	560.9	8.39	1.4	0.714	5.67
STRU 12	EQUI 18	Reformer Charge & No. 1 Interheaters	5-36-B-2, 3,4	499886.5	4966485	225.6	22.56	505.4	12.31	1.22	0.882	7.00
STRU 80	EQUI 19	No. 3 Interheater	5-36-B-6E	499890.19	4966498.5	225.6	30.49	552.6	4.02	1.22	0.265	2.10
STRU 79	EQUI 20	No. 2 Interheater	5-36-B-6W	499885	4966498.5	225.6	30.49	552.6	6.71	1.22	0.441	3.50
STRU 89	EQUI 21	DDS Reactor Charge Heater	5-37-B-1	499956.31	4966593	225.5	53.35	522	3.75	1.73	0.580	4.60
STRU 88	EQUI 326	DDS Product Stripper Reboiler	5-37-B-2	499946.09	4966593	225.57	53.35	522	2.32	1.65	0.328	2.60
STRU 87	EQUI 23	Hydrogen Plant Heaters	5-38-B-1	499759.69	4966501	225.92	30.49	477.6	13.72	1.37	1.462	11.60
	EQUI 24	Hydrogen s Plant Heaters	5-38-B-2									
STRU 86A	EQUI 297	Asphalt Storage Tank (TK027) Heater	5-999-B-62-A	499723.41	4966368.5	223.11	13.11	588.7	0.001	0.25	0.0016	0.0127

Stack ID	EU ID	Description	MAP ID	NAD 83 Easting (X) (m)	NAD 83 Northing (Y) (m)	Base Elevation (m)	Stack Height (m)	Temperature (K)	Exit Velocity (m/s)	Stack Diameter (m)	Short Term (g/s) (lb/hr)	
STRU 86B	EQUI 297	Asphalt Storage Tank (TK027) Heater	5-999-B-62-B	499724.5	4966364	223.13	13.11	588.7	0.001	0.25	0.0016	0.0127
STRU 86C	EQUI 297	Asphalt Storage Tank (TK027) Heater	5-999-B-62-C	499727.41	4966360.5	223.19	13.11	588.7	0.001	0.25	0.0016	0.0127
STRU 4A	EQUI 298	Asphalt Storage Tank (TK025) Heater	5-999-B-75-A	499699.41	4966121	222.12	14.02	588.7	0.001	0.25	0.0016	0.0127
STRU 4B	EQUI 298	Asphalt Storage Tank (TK025) Heater	5-999-B-75-B	499706.09	4966120	222.39	14.02	588.7	0.001	0.25	0.0016	0.0127
STRU 85A	EQUI 299	Asphalt Storage Tank (TK026) Heater	5-999-B-76-A	499647.19	4966121	220.68	14.02	588.7	0.001	0.25	0.0016	0.0127
STRU 85B	EQUI 299	Asphalt Storage Tank (TK026) Heater	5-999-B-76-B	499654.19	4966118	220.83	14.02	588.7	0.001	0.25	0.0016	0.0127
STRU 84	EQUI 300	Reduced Crude Storage Tank (TK008) Heater	5-999-B-82	499661.91	4966372.5	222.04	9.76	588.7	0.001	0.25	0.0016	0.0127
STRU 78	EQUI 301	Asphalt Storage Tank (TK007) Heater	5-999-B-83	499623.31	4966388	220.81	9.45	588.7	0.001	0.25	0.0016	0.0127
STRU 77	EQUI 302	Slurry Storage Tank (TK046) Heater	5-999-B-118	499961.91	4966229	226.05	14.02	588.7	0.001	0.25	0.0016	0.0127
STRU 76A	EQUI 303	Asphalt Storage Tank (TK049) Heater	5-999-B-120-A	499970.31	4966146.5	226.14	13.11	588.7	0.001	0.25	0.0016	0.0127
STRU 76B	EQUI 303	Asphalt Storage Tank (TK049) Heater	5-999-B-120-B	499977.91	4966143	226.1	13.11	588.7	0.001	0.25	0.0016	0.0127
STRU 76C	EQUI 303	Asphalt Storage Tank (TK049) Heater	5-999-B-120-C	499984	4966143	226.1	13.11	588.7	0.001	0.25	0.0016	0.0127
STRU 75A	EQUI 304	Asphalt Storage Tank (TK047) Heater	5-999-B-127-A	500020.59	4966226.5	226.65	14.02	588.7	0.001	0.25	0.0016	0.0127
STRU 75B	EQUI 304	Asphalt Storage Tank (TK047) Heater	5-999-B-127-B	500022	4966223.5	226.6	14.02	588.7	0.001	0.25	0.0016	0.0127
STRU 75C	EQUI 304	Asphalt Storage Tank (TK047) Heater	5-999-B-127-C	500025	4966219	226.69	14.02	588.7	0.001	0.25	0.0016	0.0127
STRU 74	EQUI 305	Asphalt Storage Tank (TK050) Heater	5-999-B-129a	500056.69	4966173.5	226.56	14.02	588.7	0.001	0.25	0.0016	0.0127
STRU 11	EQUI 306	Asphalt Storage Tank (TK050) Heater	5-999-B-129b	500026.09	4966147	226.3	15.24	810.9	0.001	0.36	0.0025	0.0198
STRU 2	EQUI 307	Fuel Oil Storage Tank (TK051) Heater	5-999-B-131	500079.5	4966153.5	226.3	12.8	588.7	0.001	0.25	0.0016	0.0127

Stack ID	EU ID	Description	MAP ID	NAD 83 Easting (X) (m)	NAD 83 Northing (Y) (m)	Base Elevation (m)	Stack Height (m)	Temperature (K)	Exit Velocity (m/s)	Stack Diameter (m)	Short Term (g/s) (lb/hr)	
STRU 59A	EQUI 308	Asphalt Storage Tank (TK028) Heater	5-999-B-132-A	499723.31	4966326	223	13.11	588.7	0.001	0.25	0.0016	0.0127
STRU 59B	EQUI 308	Asphalt Storage Tank (TK028) Heater	5-999-B-132-B	499727.59	4966315.5	223.12	13.11	588.7	0.001	0.25	0.0016	0.0127
STRU 59C	EQUI 308	Asphalt Storage Tank (TK028) Heater	5-999-B-132-C	499725.41	4966318.5	223.05	13.11	588.7	0.001	0.25	0.0016	0.0127
STRU 58A	EQUI 309	Asphalt Storage Tank (TK030) Heater	5-999-B-133-A	499721.09	4966238.5	222.76	14.02	588.7	0.001	0.25	0.0016	0.0127
STRU 58B	EQUI 309	Asphalt Storage Tank (TK030) Heater	5-999-B-133-B	499723.69	4966230.5	222.82	14.02	588.7	0.001	0.25	0.0016	0.0127
STRU 58A	EQUI 309	Asphalt Storage Tank (TK030) Heater	5-999-B-133-C	499726.31	4966227.5	222.9	14.02	588.7	0.001	0.25	0.0016	0.0127
STRU 57C	EQUI 310	Asphalt Storage Tank (TK032) Heater	5-999-B-143-A	499721.19	4966142	222.76	16.46	588.7	0.001	0.36	0.0016	0.0127
STRU 57B	EQUI 310	Asphalt Storage Tank (TK032) Heater	5-999-B-143-B	499722.69	4966138.5	222.79	16.46	588.7	0.001	0.36	0.0016	0.0127
STRU 57A	EQUI 310	Asphalt Storage Tank (TK032) Heater	5-999-B-143-C	499725.5	4966135.5	222.87	16.46	588.7	0.001	0.36	0.0016	0.0127
STRU 56	EQUI 311	Asphalt Storage Tank Heater	5-999-B-147	499623.81	4966411.5	220.7	16.46	588.7	0.001	0.25	0.0016	0.0127
STRU 8	EQUI 312	Asphalt Storage Tank (TK048) Heater	5-999-B-148a	500118.5	4966239.5	226.69	12.5	588.7	0.001	0.25	0.0025	0.0198
STRU 55	EQUI 313	Asphalt Storage Tank (TK048) Heater	5-999-B-148b	500082.31	4966219	226.6	14.02	588.7	0.001	0.3	0.0016	0.0127
STRU 54	EQUI 314	Asphalt Storage Tank Heater	5-999-B-149	499623	4966318	220.3	14.02	588.7	0.001	0.3	0.0016	0.0127
STRU 53	EQUI 315	Asphalt Storage Tank Heater	5-999-B-150	499670.19	4966365	222.03	14.02	588.7	0.001	0.3	0.0016	0.0127
STRU 73	EQUI 316	Asphalt Storage Tank Heater	5-999-B-152	499683.19	4966388.5	222.8	7.93	588.7	0.001	0.3	0.0016	0.0127
STRU 72	EQUI 317	Asphalt Storage Tank (TK011) Heater	5-999-B-156	499659.91	4966412.5	221.95	7.93	588.7	0.001	0.3	0.0016	0.0127
STRU 71	EQUI 318	Hot Oil Tracing B	5-999-B-Econotherm	499668.59	4966421	222.14	7.93	588.7	0.001	0.3	0.0069	0.0548
STRU 61	EQUI 319	Hot Oil Tracing D	5-999-B-Hiway	499956.19	4966222	226.12	7.93	500.4	0.001	0.15	0.0025	0.0198

Stack ID	EU ID	Description	MAP ID	NAD 83 Easting (X) (m)	NAD 83 Northing (Y) (m)	Base Elevation (m)	Stack Height (m)	Temperature (K)	Exit Velocity (m/s)	Stack Diameter (m)	Short Term (g/s) (lb/hr)	
STRU 60	EQUI 320	Hot Oil Tracing C	5-999-B-Econotherm	499953.81	4966193	226.29	3.96	500.4	0.001	0.15	0.0069	0.0548
STRU 91	EQUI 25	Fire Hall Diesel		499841.5	4966672.5	225.6	4.57	500.4	0.001	0.1	0.1110	0.881
STRU 90	EQUI 26	Lagoon Diesel		499446.41	4966052.5	212.65	4.57	500.4	0.001	0.1	0.1110	0.881
STRU 51	EU058	Boiler House Diesel Engine		499623.69	4966449.5	220.82	4.57	500.4	0.001	0.1	0.1110	0.881
SV056	EU075	Ford Boiler House Engine (Gasoline)		499640.09	4966455	221.24	4.57	500.0	0.001	0.1	0.0150	0.119
SV062	EQUI 16	SRU/SCOT Incinerator	5-31-B-4	499654	4966440	221.46	45.73	810.9	4.4	1.22	0.2270	1.80
SV064	EQUI 30	Alky Mitigation Backup Diesel		499886.31	4966677.5	225.6	9.14	677.6	65.3	0.25	0.0540	0.429
SV065	TREA 5	Wastewater Treatment Plant Thermal Oxidizer		499448.19	4966462.5	210.58	27.43	1033.2	8.55	1.07	0.016	0.127
SV071	EQUI 33	#3 SRU/#3 SCOT		499587.19	4966492	220.53	45.73	810.9	4.4	1.22	0.227	1.80
SV074		Loadrack (EU063) Portable Oxidizer (CE018)		499835.5	4966840	225.6	3.86	699.8	0.73	2.13	0.0380	0.302
STRU 21	EQUI 36	Temporary Boiler		499653.91	4966458.5	221.57	3.05	422.0	10	0.6096	0.0830	0.659
STRU 48	EQUI 37	New Heater 1-B-6		499570.19	4966372.5	219.2	42.37	588.7	4.015	1.829	3.380	26.8
STRU 32	EQUI 41	Loadrack (EU063) John Zink VCU (CE026)		499832.30	4966842.77	225.6	18.29	1255.4	17.22	2.934	0.110	0.873
STRU 44	EQUI 42	New Boiler 7 (Listed as MPC091)		499689.53	4966428.50	222.8	18.53	435.9	9.44	1.676	7.310	58.0
STRU 45	EQUI 43	New Boiler 8 (Listed as MPC092)		499691.06	4966430.02	222.8	18.53	435.9	9.44	1.676	7.310	58.0
IACS1		Instrument Air, Unit 1		499645.31	4966541	222.06	2.74	620.9	60	0.15	0.132	1.05
IACS2		Instrument Air, Unit 2		499645.09	4966546	222.08	2.74	620.9	60	0.15	0.132	1.05
FCCBS1		FCC Unit Blower, Unit No. 1		499634.81	4966547	221.84	10.36	620.9	60	0.15	0.0350	0.278
FCCBS2		FCC Unit Blower, Unit No. 2		499635.31	4966542	221.84	10.36	620.9	60	0.15	0.0350	0.278
FCCBS3		FCC Unit Blower, Unit No. 3		499635.5	4966536	221.85	10.36	620.9	60	0.15	0.0350	0.278
FCCBS4		FCC Unit Blower, Unit No. 4		499635.59	4966530	221.78	10.36	620.9	60	0.15	0.0350	0.278
FCCBS5		FCC Unit Blower, Unit No. 5		499635.59	4966523	221.65	10.36	620.9	60	0.15	0.0350	0.278
FCCBS6		FCC Unit Blower, Unit No. 6		499635.41	4966517	221.65	10.36	620.9	60	0.15	0.0350	0.278
FCCBS7		FCC Unit Blower, Unit No. 7		499635.59	4966512	221.64	10.36	620.9	60	0.15	0.0350	0.278
FCCBS8		FCC Unit Blower, Unit No. 8		499635.59	4966508	221.62	10.36	620.9	60	0.15	0.0350	0.278
FCCBS9		FCC Unit Blower, Unit No. 9		499636.09	4966504	221.6	10.36	620.9	60	0.15	0.0350	0.278
FCCBS10		FCC Unit Blower, Unit No. 10		499636.41	4966500	221.53	10.36	620.9	60	0.15	0.0350	0.278

Stack ID	EU ID	Description	MAP ID	NAD 83 Easting (X) (m)	NAD 83 Northing (Y) (m)	Base Elevation (m)	Stack Height (m)	Temperature (K)	Exit Velocity (m/s)	Stack Diameter (m)	Short Term (g/s) (lb/hr)	
SASSWOE 1		No. 1 and No. 2 SRU Blower, Unit No. 1		499643.09	4966499	221.6	2.74	620.9	60	0.15	0.1320	1.05
SASSWOE 2		No. 1 and No. 2 SRU Blower, Unit No. 2		499648.59	4966499	221.71	2.74	620.9	60	0.15	0.1320	1.05
SASSWOE 3		No. 1 and No. 2 SRU Blower, Unit No. 3		499653.5	4966499	221.81	2.74	620.9	60	0.15	0.1320	1.05
SASSWOE 4		No. 1 and No. 2 SRU Blower, Unit No. 4		499660	4966499	221.94	2.74	620.9	60	0.15	0.1320	1.05
BARR1S1		Reformer Generator No. 1 Backup Air, Unit 1		499762	4966591	225.78	2.74	620.9	60	0.15	0.1320	1.05
BARR1S2		Reformer Generator No. 1 Backup Air, Unit 2		499762.09	4966585	225.78	2.74	620.9	60	0.15	0.1320	1.05
BARR2S1		Reformer Generator No. 2 Backup Air, Unit 1		499913.5	4966465	224.83	2.74	620.9	60	0.15	0.1320	1.05
BARR2S2		Reformer Generator No. 2 Backup Air, Unit 2		499901	4966483	225.51	2.74	620.9	60	0.15	0.1320	1.05
G1		Wastewater Treatment Facility – Fire Pump House		499438.59	4966053	212.27	2.08	620.9	60	0.064	0.0940	0.746
G2		Wastewater Treatment Facility – Tertiary Lagoon		499354.59	4966102	210.34	2.08	620.9	60	0.064	0.0940	0.746
G3		South Tank Farm		499637	4965972	219.27	2.08	620.9	60	0.064	0.0940	0.746
G4		Marketing Annex		499765.59	4966070	223.8	2.08	620.9	60	0.064	0.1360	1.08
G5		East Tank Farm		500390.09	4966259	228.92	2.08	620.9	60	0.064	0.0940	0.746
G6		(Outdoor Power Center) OPC 15		499610.09	4966202	219.88	9.7	620.9	60	0.15	0.2730	2.17
G7		OPC 14		499812.31	4966302	224.1	9.7	620.9	60	0.15	0.2730	2.17
G8		OPC 20		499929.59	4966323	225.24	9.7	620.9	60	0.15	0.2730	2.17
G10		OPC 3		499515.5	4966342	216.92	9.7	620.9	60	0.064	0.2730	2.17
G11		Wastewater Treatment Facility – Primary Lagoon		499420.31	4966435	210.08	9.7	620.9	60	0.064	0.0940	0.746
G12		OPC 16		499509	4966480	217.27	9.7	620.9	60	0.064	0.2730	2.17
G13		Sub station 4		499629.41	4966537	221.73	9.7	620.9	60	0.15	0.2730	2.17
G14WSE		OPC 6 – without stack extension		499619.19	4966454	220.74	9.7	620.9	60	0.15	0.0940	0.746
G14WOE		OPC 6 – with stack extension		499619	4966455	220.75	2.08	620.9	60	0.15	0.2730	2.17

Permit Issued: November 25, 2015

Permit Expires: April 10, 2018

16300003- 021

Page 421 of 423

Stack ID	EU ID	Description	MAP ID	NAD 83 Easting (X) (m)	NAD 83 Northing (Y) (m)	Base Elevation (m)	Stack Height (m)	Temperature (K)	Exit Velocity (m/s)	Stack Diameter (m)	Short Term (g/s) (lb/hr)	
G15		OPC 12		499598.5	4966441	220.38	9.7	620.9	60	0.15	0.2730	2.17
G16		MCC 17C		499632.09	4966443	221.06	9.7	620.9	60	0.15	0.2730	2.17
G17		OPC 19/MCC 19A		499741.41	4966426	224.84	9.7	620.9	60	0.15	0.2730	2.17
G18		MCC 19A/MCC 19B		499758.31	4966426	224.7	9.7	620.9	60	0.15	0.2730	2.17
G19		OPC 2		499721.81	4966449	224.46	9.7	620.9	60	0.15	0.2730	2.17
G20		OPC 7, 11, 13		499818.41	4966459	225.56	9.7	620.9	60	0.15	0.2730	2.17
G21		Auxiliary Blower House		499624.31	4966577	221.8	9.7	620.9	60	0.15	0.2730	2.17
G23		MCC 17A/MCC 17B/OPC 17		499632.31	4966516	221.59	9.7	620.9	60	0.15	0.2730	2.17
G24		OPC 1/8		499732.19	4966597	225.07	9.7	620.9	60	0.15	0.2730	2.17
G25		OPC 10		499866.91	4966630	225.54	2.08	620.9	60	0.15	0.0416	0.33
G27		Sub station 2/switch gear		499842.69	4966622	225.59	9.7	620.9	60	0.15	0.2730	2.17
G28		OPC 4		499865	4966628	225.52	9.7	620.9	60	0.15	0.2730	2.17
G29		OPC 10		499874.09	4966629	225.6	9.7	620.9	60	0.15	0.2730	2.17
G31		MCC 18C & 18D/MCC 18A & 18B		499947.59	4966631	225.6	9.7	620.9	60	0.15	0.2730	2.17
G32		East of MCC 18A & 18B		499957	4966631	225.6	9.7	620.9	60	0.15	0.2730	2.17
G33		West of Fire House		499830.31	4966676	225.54	9.7	620.9	60	0.15	0.2730	2.17
G34		Center of Loading Rack Area		499875.09	4966910	225.6	9.7	620.9	60	0.15	0.2730	2.17
ROAMA1		Miscellaneous Roaming Units - Unit 1		499609	4966564	221.56	1.37	620.9	40	0.064	0.0830	0.659
ROAMA2		Miscellaneous Roaming Units - Unit 2		499754.69	4966414	224.57	1.37	620.9	40	0.064	0.0830	0.659
ROAMA3		Miscellaneous Roaming Units - Unit 3		499873.59	4966244	225.11	1.37	620.9	40	0.064	0.0830	0.659
ROAMA4		Miscellaneous Roaming Units - Unit 4		499568.09	4966367	219.02	1.37	620.9	40	0.064	0.0830	0.659
ROAMA5		Miscellaneous Roaming Units - Unit 5		499683.81	4966202	221.63	1.37	620.9	40	0.064	0.0830	0.659
ROAMA6		Miscellaneous Roaming Units - Unit 6		499489.69	4966148	215.85	1.37	620.9	40	0.064	0.0830	0.659
ROAMA7		Miscellaneous Roaming Units - Unit 7		499589.5	4966009	219.63	1.37	620.9	40	0.064	0.0830	0.659
ROAMA8		Miscellaneous Roaming Units - Unit 8		499727.31	4965858	222.84	1.37	620.9	40	0.064	0.0830	0.659
ROAMA9		Miscellaneous Roaming Units - Unit 9		499795.59	4966610	225.95	1.37	620.9	40	0.064	0.0830	0.659
ROAMA10		Miscellaneous Roaming Units - Unit 10		499949.19	4966471	225.22	1.37	620.9	40	0.064	0.0830	0.659
ROAMA11		Miscellaneous Roaming Units - Unit 11		500031.81	4966636	225.6	1.37	620.9	40	0.064	0.0830	0.659
ROAMA12		Miscellaneous Roaming Units - Unit 12		500065.69	4966292	226.6	1.37	620.9	40	0.064	0.0830	0.659

Permit Issued: November 25, 2015

Permit Expires: April 10, 2018

16300003- 021

Page 422 of 423

Stack ID	EU ID	Description	MAP ID	NAD 83 Easting (X) (m)	NAD 83 Northing (Y) (m)	Base Elevation (m)	Stack Height (m)	Temperature (K)	Exit Velocity (m/s)	Stack Diameter (m)	Short Term	
											(g/s)	(lb/hr)
ROAMA13		Miscellaneous Roaming Units - Unit 13		500395.59	4966254	229.08	1.37	620.9	40	0.064	0.0830	0.659
ROAMA14		Miscellaneous Roaming Units - Unit 14		500347.5	4966466	228.69	1.37	620.9	40	0.064	0.0830	0.659
ROAMA15		Miscellaneous Roaming Units - Unit 15		499721.59	4966778	225.22	1.37	620.9	40	0.064	0.0830	0.659
ROAMA16		Miscellaneous Roaming Units - Unit 16		499782.19	4966943	225.6	1.37	620.9	40	0.064	0.0830	0.659
ROAMA17		Miscellaneous Roaming Units - Unit 17		499949.19	4967023	225.5	1.37	620.9	40	0.064	0.0830	0.659
ROAMA18		Miscellaneous Roaming Units - Unit 18		499925.5	4966783	225.6	1.37	620.9	40	0.064	0.0830	0.659

**Appendix E – Stack Parameters Relied Upon in Modeling to Demonstrate Compliance with
 NAAQS and PSD for Nitrogen Oxides (NO_x)**

Source Name	Grouped Number	Stack Height (feet)	Stack Height (m)	Stack Dia. (feet)	Stack Dia. (m)	Flow Rate (acfm)	Exit Temp (F)	Comments
Instrument Air Diesel Engines	001	9.0	2.74	0.492	0.15	2775	658	
FCC Unit Blower Diesel Engines	002	34.0	10.36	0.492	0.15	2775	658	
No. 2 SRU Blower Diesel Engines	003	9.0	2.74	0.492	0.15	2775	658	First 5.01 TPY
		34.0	10.36	0.492	0.15	2775	658	Add'l 15.01 TPY
Reformer Regenerator. No. 1 Backup Air Diesel Engines	004	9.0	2.74	0.492	0.15	2775	658	
Reformer Regenerator. No. 2 Backup Air Diesel Engines	005	9.0	2.74	0.492	0.15	2775	658	
Outlying Area Diesel Engines	06	31.82	9.70	0.197	0.0635	438	770	G10,G11,G12
		6.8	9.70	0.197	0.0635	438	770	G1,G2,G3,G4,G5
Main Refinery Area Diesel Engines	007	31.82	9.70	0.492	0.15	2775	658	Except Y2K Generators
Y2K Diesel Engines	008	6.82	2.08	0.492	0.15	2775	658	As part of the Main Refinery Generators
Roaming Units	009	4.49	1.37	0.197	0.0635	438	770	