Air Operating Permit – Final
AOP #016R3M1

Phillips 66 Company
Ferndale Refinery

Ferndale, Washington

March 26, 2025

northwest Clean Air agency
Serving Island, Skagit & Whatcom Counties

PERMIT INFORMATION

Phillips 66 Company, Ferndale Refinery
3901 Unick Road, Ferndale, WA 98248

SIC: 2911
NAICS: 324110
EPA AFS: 53-073-00005

NWCAA ID: 1004

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Air Operating Permit Number: 016R3M1

Issued: **March 26, 2025**

Expiration Date: **January 1, 2028**

Renewal Application Due: January 1, 2027

ATTEST

This permit is issued in accordance with the provisions of Section 322 of the Regulation of the Northwest Clean Air Agency and the provisions of Chapter 173-401 Washington Administrative Code.

Pursuant to Section 322 of the Regulation of the Northwest Clean Air Agency and Chapter 173-401 Washington Administrative Code, Phillips 66 Company is authorized to operate the Ferndale Refinery subject to the terms and conditions of this permit.

Northwest Clean Air Agency Approval:

Pamela Crooks

Date: 3/26/2025

Pamela Crooks
Chemical Engineer

Agata McIntyre

Date: 3/26/2025

Agata McIntyre, P.E.
Engineering Manager

TABLE OF CONTENTS

SECTION 1 EMISSIONS UNIT DESCRIPTIONS 5

SECTION 2 STANDARD TERMS AND CONDITIONS 18
2.1 Compliance Requirements 18
2.2 Permit Terms 23
2.3 Permit Shield 26
2.4 Recordkeeping and Reporting 27
2.5 Excess Emissions 34
2.6 Duty to Supplement or Correct Information 35
2.7 Prohibitions 35
2.8 Notice of Construction/New Source Review 38
2.9 Greenhouse Gas Regulation 39

SECTION 3 STANDARD TERMS AND CONDITIONS FOR NSPS AND NESHAP 40
3.1 Part 60 – New Source Performance Standards 40
3.2 Part 61 – National Emission Standard for Hazardous Air Pollutants 48
3.3 Part 63 – National Emission Standard for Hazardous Air Pollutants (MACT) .. 52

SECTION 4 GENERALLY APPLICABLE REQUIREMENTS 80

SECTION 5 SPECIFICALLY APPLICABLE REQUIREMENTS 93
5.1 Primary Crude Oil Process Area 94
5.2 Catalytic Cracking Process Area 96
5.3 Alkylation Process Area 109
5.4 Tier III/LSR Hydrotreater Process Area 117
5.5 Reformer/Diesel Hydrotreater Process Area 120
5.6 Sulfur Plant/Treaters Process Area 127
5.7 Utilities 138
5.8 Flare System 145
5.9 Transfer (Loading/Unloading) Terminals 152
5.10 Reciprocating Internal Combustion Engines (RICE), Refinery-Wide 163
5.11 Effluent Collection, Conveyance and Treatment Plant, Refinery-Wide 167
5.12 Storage Vessels 178

SECTION 6 COMMONLY REFERENCED REQUIREMENTS 198
6.1 Visible Emissions Monitoring 199
6.2 LDAR Requirements under 40 CFR 60 Subpart VV 200
6.3 LDAR Requirements under Modified 40 CFR 60 Subpart VV 211
6.4 LDAR Requirements under 40 CFR 60 Subpart VVa 214
6.5 LDAR Requirements of NWCAA 580.8 225
6.6 Effluent Drain System Requirements under 40 CFR 60 Subpart QQQ 225
6.7 40 CFR 63 Subpart DDDDD— National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters 227

SECTION 7 INAPPLICABLE REQUIREMENTS 229

SECTION 1 EMISSIONS UNIT DESCRIPTIONS

These tables list emission units and activities included in the AOP that are located at the Phillips 66 Ferndale Refinery, hereinafter referred to as Phillips 66, the facility, the refinery, owner or operator, or the permittee. The information presented here in Section 1 is for informational purposes only.

Table 1: Primary Crude Oil Process Area

Table 2: Catalytic Cracking Process Area

Table 3: Alkylation Process Area

Table 4: Tier III/LSR Hydrotreater Processing Area

Table 5: Reformer/Diesel Hydrotreater Process Area

Table 6: Sulfur Plant/Treaters Process Area

Table 7: Utilities Area

Table 8: Flare System

Table 9: Transfer (Loading/Unloading) Terminals

Table 10: Refinery-Wide, Reciprocating Internal Combustion Engines (RICE)

Table 11: Effluent Collection, Conveyance and Treatment

Table 12: Storage Vessels (Tanks)

Table 1: Primary Crude Oil Process Area

Emission Unit	Construction/ Modification	Notes
Crude Unit		
Crude Heater (1F-1)	1953/1979	191 MMBtu/hour, preheater installed in 1979, OAC 733f, 40 CFR 63 Subpart DDDDD
Supplemental Crude Heater (1F-1A)	1972	98 MMBtu/hour, OAC 733f, 40 CFR 63 Subpart DDDDD
MACT Maintenance Process Vents		40 CFR 63 Subpart CC
Equipment Components (VOC & HAP service)	1953/2012, 2016	40 CFR 60 Subpart GGGa, 40 CFR 63 Subpart CC

Table 2: Catalytic Cracking Process Area

Emission Unit	Construction/ Modification	Notes
Fluid Catalytic Cracking Unit (FCCU)		
FCCU Combustion Air Heater (4F-101)	2003	70 MMBtu/hour, FCCU exhausts through the CO Boiler and flue gas scrubber (FGS), 40 CFR 60 Subpart J, PSD-00-02 Amd 8 and OAC 733f.
FCCU Regenerator	2003/2010	The FCCU has a charge capacity of 36,500 BBL per day. The FCCU regenerator exhausts through the CO Boiler and flue gas scrubber (FGS). 40 CFR 60 Subpart J, 40 CFR 63 Subpart UUU, PSD-00-02 Amd 8, OAC 733f and NWCAA Compliance Order 13.
Carbon Monoxide Boiler (CO Boiler)	2003/2010	The total design heat input capacity of the CO Boiler is 167 MMBtu/hour. This includes 58 MMBtu/hour from CO combustion and 109 from supplemental firing on refinery fuel gas. Enhanced selective non-catalytic reduction (ESNCR) install on the CO Boiler in 2010 to control NOx. The CO Boiler is equipped with a flue gas scrubber (FGS). 40 CFR 60 Subpart J, PSD-00-02 Amd 8, OAC 733f, and OAC 1047a.
Vacuum Flasher Heater (4F-2)	1953/2009	189 MMBtu/hour, SCR installed in 2009, 40 CFR 60 Subpart J, 40 CFR 63 Subpart DDDDD, OAC 733f, and OAC 1012e
MACT Group 2 Miscellaneous Process Vents (5K-1 and 5K-1A)	1953	Secondary seal (N_2) vented to atmosphere. 40 CFR 63 Subpart CC. No specific requirements under Section 5 of the AOP.

MACT Group 1 Miscellaneous Process Vent (25-FV-007)	1953/2003	Vented to flare gas header. 40 CFR 63 Subpart CC
MACT Maintenance Process Vents		40 CFR 63 Subpart CC
Equipment Components (VOC & HAP service)	1953/2003	40 CFR 60 Subpart GGG, 40 CFR 63 Subpart CC, OAC 733f, and OAC 1047a

Table 3: Alkylation Process Area

Emissions Unit	Construction/ Modification	Notes
Alkylation Unit (Alky Unit)		
Alky Depropanizer Reboiler Heater (17F-1)	1953	106 MMBtu/hour, OAC 733f, 40 CFR 63 Subpart DDDDD
MACT Group 1 Miscellaneous process vent (17HC-1717)	1953	Manual vent located on olefin feed surge drum. 40 CFR 63 Subpart CC
MACT Maintenance Process Vents		40 CFR 63 Subpart CC
Equipment Components (VOC & HAP service)	1953/2003	40 CFR 60 Subpart GGG, 40 CFR 63 Subpart CC, NWCAA 580, OAC 733f, and OAC 795a
Effluent Drain Systems	2003	40 CFR 60 Subpart QQQ
Cat Gas Desulfurization Unit (CGD/S-Zorb Unit)		
Cat Gas Desulfurizer Feed Heater (38F-100) *Also referred to as the S-Zorb Heater*	2003	40 MMBtu/hour, low-NOx burners. 40 CFR 60 Subpart J, 40 CFR 63 Subpart DDDDD, PSD-00-02 Amd 8, and OAC 733f
MACT Maintenance Process Vents	2003	40 CFR 63 Subpart CC
Equipment Components (VOC & HAP service)	2003	40 CFR 60 Subpart GGG, 40 CFR 63 Subpart CC, and OAC 733f
Butane Isomerization Unit (Butamer)		
MACT Maintenance Process Vents	1997	40 CFR 63 Subpart CC
Equipment Components (VOC & HAP service)	1997	40 CFR 60 Subpart GGG, 40 CFR 63 Subpart CC, NWCAA 580, and OAC 564a (perchloroethylene)
Effluent Drain Systems	1997	40 CFR 60 Subpart QQQ

Table 4: Tier III/LSR Hydrotreater Processing Area

Emission Unit	Construction/ Modification	Notes
Tier III Hydrotreater Unit (41F-1)		
Tier III Hydrotreater Charge Heater	2017	18.7 MMBtu/hour, low-NOx burners, OAC 1223, 40 CFR 60 Subpart Ja, and 40 CFR 63 Subpart DDDDD
MACT Maintenance Process Vents	2017	40 CFR 63 Subpart CC
Equipment Components (VOC & HAP service)	2017	40 CFR 60 Subpart GGGa, 40 CFR 63 Subpart CC
Effluent Drain Systems	2003	40 CFR 60 Subpart QQQ

Table 5: Reformer/Diesel Hydrotreater Process Area

Emission Unit	Construction/ Modification	Notes
#3 Reformer Unit		
#3 Reformer Heater, passes 1 and 2 (18F-21 and 18F-22)	1972	47 MMBtu/hour each emitted through a combined stack. OAC 733f, 40 CFR 63 Subpart DDDDD
#3 Reformer Heater, passes 3 and 4 (18F-23 and 18F-24)	1972	47 MMBtu/hour each emitted through a combined stack. OAC 733f, 40 CFR 63 Subpart DDDDD
#3 Reformer Pretreater Heater (18F-1)	1972	41 MMBtu/hour, OAC 733f, 40 CFR 63 Subpart DDDDD
#3 Reformer Catalyst Regeneration Heater (18F-26)	1972	17 MMBtu/hour, OAC 733f, 40 CFR 63 Subpart DDDDD
#3 Reformer Catalyst Regeneration Vent	1972	Regen vent metal HAP (HCl) controlled with a dry chloride scrubber and that exhausts through the CO Boiler. Regen vent organic HAPs controlled by the flare system. 40 CFR 63 Subpart UUU
MACT Group 1 Miscellaneous Process Vents (RBV Body Vents, Reactor Shroud Vents and Reactor Dump Nozzle Vent)	1972	All vent to flare system. 40 CFR 63 Subpart CC
MACT Maintenance Process Vents	1972	40 CFR 63 Subpart CC
Equipment Components (HAP service)	1972	40 CFR 63 Subpart CC

Diesel Hydrotreater Unit (DHT)		
Diesel Hydrotreater (DHT) Heater (33F-1)	1992/ 1995, 2001	48 MMBtu/hour, low-NOx burners. OAC 780b, OAC 1245, 40 CFR 60 Subpart J, 40 CFR 63 Subpart DDDDD.
MACT Group 1 Miscellaneous Process Vent (sour water drain drum flash gas vent 33C-40)	1992	Vented to flare system, 40 CFR 63 Subpart CC
MACT Maintenance Process Vents	1992	40 CFR 63 Subpart CC
Equipment Components (VOC & HAP service)	1992/2005	40 CFR 60 Subpart GGG, 40 CFR 63 Subpart CC, OAC 886
Effluent Drain Systems	1992	40 CFR 60 Subpart QQQ

Table 6: Sulfur Plant/Treaters Process Area

Emission Unit	**Construction/ Modification**	**Notes**
Sulfur Recovery Plant		
Sulfur Recovery Unit #1 (SRU #1)	1978, 1990, 1998, 2003	Single train, 3-stage Claus Unit and SCOT Tail Gas Unit (TGU #1). Oxygen enrichment added in 1998. Oxygen injection added in 2003. 56 LTPD capacity. 40 CFR 60 Subpart J, 40 CFR 63 Subpart UUU, OAC 733f, and PSD-00-02 Amd 8.
Sulfur Recovery Unit #2 (SRU #2)	2007	Single train, 3-stage Claus Unit with oxygen injection and SCOT Tail Gas Unit (TGU #2). 60 LTPD capacity, 40 LTPD without oxygen injection. 40 CFR 60 Subpart J, 40 CFR 63 Subpart UUU, OAC 908c, OAC 733f, and PSD-05-01.
Sulfur pit		Elemental sulfur recovered at the sulfur recovery plant is stored in the sulfur pit with fugitive emissions from the pit captured and controlled. OAC 733f.
MACT Maintenance Process Vents		40 CFR 63 Subpart CC
Equipment Components (HAP service)	1978	40 CFR 63 Subpart CC
Merox Unit		
MACT Maintenance Process Vents		40 CFR 63 Subpart CC
Equipment Components (VOC & HAP service)	2000	40 CFR 60 Subpart GGG, 40 CFR 63 Subpart CC, and OAC 727a.

Table 7: Utilities Area

Emission Unit	Construction/ Modification	Notes
Utilities		
#1 Boiler (22F-1C)	1996	162 MMBtu/hour, low-NOx burners. OAC 578b, OAC 733e, 40 CFR 60 Subpart Db, 40 CFR 60 Subpart J, and 40 CFR 63 Subpart DDDDD.
#2 Boiler (22F-1A)	1953	91 MMBtu/hour, OAC 733f, 40 CFR 63 Subpart DDDDD
#3 Boiler (22F-1B)	1953	108 MMBtu/hour. OAC 733f, 40 CFR 63 Subpart DDDDD
#4 Boiler (22F-1E)	2004	164 MMBtu/hour, low-NOx burners. OAC 733f, OAC 877b, 40 CFR 60 Subpart Db, 40 CFR 60 Subpart J, and 40 CFR 63 Subpart DDDDD.
Cooling Tower #1 and associated heat exchangers	1953	Handles cooling water from the entire refinery except from the Alkylation Process Area. 40 CFR 63 Subpart CC.
Cooling Tower #2 and associated heat exchangers		Handles cooling water from Alkylation Process Area only. 40 CFR 63 Subpart CC.
Equipment Components (HAP service)	1953/1996, 2004	40 CFR 63 Subpart CC

Table 8: Flare System

Emission Unit	Construction/ Modification	Notes
Elevated Flare (13V-11)	2015	199’ high, steam-assisted flare, 40 CFR 60 Subpart Ja, 40 CFR 63 Subpart CC, and OAC 1174.
Flare Gas Recovery System	2011	40 CFR 60 Subpart Ja and OAC 1029
MACT Maintenance Process Vents		40 CFR 63 Subpart CC
Equipment Components (VOC & HAP service)		40 CFR 60 Subpart GGGa, 40 CFR 63 Subpart CC, and OAC 1029

Table 9: Transfer (Loading/Unloading) Terminals

Emission Unit	Construction/ Modification	Notes
Truck Loading Rack		
Gasoline/Diesel Truck Loading Rack with John Zink Vapor Combustor (11V-1)	1953/1990	Single island, bottom loading rack controlled by a John Zink Model GV-ZTOF-2400-1 Vapor Combustor, 40 CFR 60 Subpart J, 40 CFR 63 Subpart CC, and OAC 265a.
LPG Truck Loading Rack	1953	Propane/LPG loading section of the truck rack. No specific requirements under Section 5 of the AOP.
Equipment Components (VOC & HAP service)	1953/1990	40 CFR 63 Subpart CC (gasoline loading), NWCAA 580 (LPG loading)
LPG Railcar Loading Unit		
Equipment Components (VOC service)	1953/1990	NWCAA 580
Railcar Unloading Facility		
Railcar Unloading Facility	2014	Facility to unload crude oil from railcars, OAC 1152
Equipment Components (VOC & HAP service)	2014	40 CFR 63 Subpart CC, OAC 1152
Wastewater vents	2014	Controlled by closed vent system and control device in accordance with 40 CFR 61 Subpart FF. OAC 1152.
Ethanol Truck Unloading Facility		
Ethanol Truck Unloading Facility	2012	Ethanol transferred to IFR Tank 70x01. Ethanol is not a HAP. There are no specific requirements under Section 5 of the AOP.
Diesel Railcar Loading Rack		
Diesel Railcar Loading Rack	1953	No specific requirements under Section 5 of the AOP.
Marine Terminal		
Marine Terminal (Dock)	1953	Loading/unload facility for ships and barges. Submerged loading required under 40 CFR 63 Subpart CC. Annual loading capacity limited by OAC 733f.
Equipment Components (HAP service)	1953	40 CFR 63 Subpart CC

Table 10: Refinery-Wide, Reciprocating Internal Combustion Engines (RICE)

Emission Unit	Construction/ Modification	Notes
Spark Ignition Octane Test Engines (subject to 40 CFR 63 Subpart PPPPP with no requirements)		
Waukesha Model MON (949817)	1954	Inside lab, octane test engine
Waukesha Model Swing (354050)	1980	Inside lab, octane test engine
Waukesha Model RON (R-F5039)	1981	Inside lab, octane test engine
Emergency, Compression Ignition Engines ≤ 500 hp (subject to 40 CFR 63 Subpart ZZZZ "existing")		
Detroit Model 62402RA (26-GV-4)	1953	Beach area, 264 hp, firewater pump
Detroit Model 62402RA (26-GV-5)	1953	Beach area, 264 hp, firewater pump
Detroit Model 62402RA (26-GV-6)	1953	Beach area, 264 hp, firewater pump
Kohler Model 20R0274 (22-GEN-0164)	1986	Boiler area, 61 hp, emergency generator
Deutz BF6L914C (26G-0105A)	2007	Wastewater Treatment Plant, 174 hp, emergency generator
Deutz BF6L914C (26G-0105B)	2007	Wastewater Treatment Plant, 174 hp, emergency generator
Emergency, Compression Ignition Engines ≤ 500 hp (subject to 40 CFR 60 Subpart IIII & 40 CFR 63 Subpart ZZZZ "new")		
Cummins Model QSB5-63 NR3 (10G-100)	2009	Foam Building, 132 hp, emergency generator
Kubota Model C2203-EBG (24-GEN-0101)	2008	TEL area, 33 hp, emergency generator
Caterpillar Model C9 (29-GEN-01)	2007	ROC area, 398 hp, emergency generator
John Deere Model 4045TF150 (21GEN-201)	2012	Reformer, 115 hp, emergency generator
Generac 17922860200 (90GEN-0001)	2014	Radio Building, 85 hp, emergency generator
Emergency, Compression Ignition Engines > 500 hp (subject to 40 CFR 63 Subpart ZZZZ "existing" with no requirements)		
Caterpillar Model 3456 (24GEN-0103)	11/13/2002	Alky Unit, 800 hp, emergency generator
Cummins Model K11A19G2 (12-GCP-2701)	1991	Wastewater treatment plant, 750 hp, emergency generator
Cummins Model VT-1710-F (29GV-09)	1953	Cooling tower area, 685 hp, firewater pump
Emergency, Compression Ignition Engine > 500 hp (subject to 40 CFR 63 Subpart ZZZZ "new" with no requirements)		
Caterpillar Model 3412 (26G-103)	12/29/2004	Boiler area, 739 hp, firewater pump

Emergency, Compression Ignition Engine > 500 hp (subject to 40 CFR 60 Subpart IIII & 40 CFR 63 Subpart ZZZZ "new")		
Caterpillar C18 (26G-0106A)	2008	Wastewater treatment plant, 700 hp, emergency generator
Caterpillar C18 (26G-0106B)	2008	Wastewater treatment plant, 700 hp, emergency generator

Table 11: Effluent Collection, Conveyance and Treatment

Emission Unit	Construction/ Modification	Notes
Wastewater Treatment		
Induced Air Flotation (IAF) Unit (12S-204)		Sealed with no ventilation to the atmosphere.
API Oil/water Separator (12S-2)		Fixed roof with carbon adsorption and floating roof covers. 40 CFR 61 Subpart FF and 40 CFR 63 Subpart CC.
Vacuum trucks		Vacuum trucks operate at the wastewater treatment plant. 40 CFR 61 Subpart FF and 40 CFR 63 Subpart CC.
Equipment Components (HAP service)	1953	40 CFR 63 Subpart CC
Wastewater Conveyance		
Individual Drain Systems controlled by closed vent systems and control devices.		Oily wastewater drain systems throughout the refinery including the phenolic/oily water lift station. For drains handling wastewater with benzene; 40 CFR 61 Subpart FF and 40 CFR 63 Subpart CC. For drains not handling benzene and that were constructed, modified, or reconstructed after May 4, 1987; 40 CFR 60 Subpart QQQ.

Table 12: Storage Vessels (Tanks)

AOP Tank Category 1 - External Floating Roof Tanks storing High VP Liquids with HAPs

Subject to NWCAA 560, 580.3, 580.9, 40 CFR 63 Subpart CC - Group 1

AOP Tank Categories 1 – 6 (MACT Group 1 Tanks). Tanks subject to 40 CFR 60 Subpart Kb based on construction/modification date are required to comply with 40 CFR 63 Subpart WW instead of Subpart Kb per §63.660 of 40 CFR 63 Subpart CC.

Tank ID	Primary Service	Capacity (gallons)	Constructed /Modified	Notes
6000X1	Crude oil	24,600,000	1978	Construction approved under OAC 163 (no requirements)
3000X1	Crude oil	11,620,000	1953	
1340X110	Crude oil	5,000,000	1953	
1340X111	Crude oil	5,000,000	1953	

1340X112	Crude oil	5,000,000	1953	
1340X113	Crude oil	5,000,000	1953	
1340X114	Crude oil	5,000,000	1953	
1340X115	Gasoline	5,000,000	1953/ Change in service 2000	Change in service approved under OAC 715a (no requirements)
1340X116	Crude oil	5,000,000	1953	
1340X117	Gasoline	5,000,000	1971	Construction approved under OAC 34 (no requirements)
800X141	Gasoline	3,000,000	1953	
800X142	Gasoline	3,000,000	1953	
800X143	Gasoline	3,000,000	1953	
800X144	Gasoline	3,000,000	1953	
800X145	Gasoline	3,000,000	1953	
800X151	Gasoline	3,000,000	1953	
550X101	Gasoline	2,080,000	1953/ Change in service 2000	Change in service approved under OAC 715a (no requirements)
550X102	Gasoline	2,080,000	1953	
550X106	Gasoline	2,080,000	1953	
300X41	Gasoline	1,120,000	1953	
300X42	Gasoline	1,120,000	1953	
300X43	Gasoline	1,120,000	1953	
300X44	Gasoline	1,120,000	1953/ Change in service 2000	Change in service approved under OAC 715a (no requirements)
300X45	Naphtha	1,120,000	1953	
AOP Tank Category 2 - External Floating Roof Tanks storing High VP Liquids with HAPs and Subject to BWON Subject to NWCAA 560, 580.3, 580.9, 40 CFR 63 Subpart CC – Group 1, 40 CFR 61 Subpart FF (BWON)				
Tank ID	**Primary Service**	**Capacity** (gallons)	**Constructed /Modified**	**Notes**
900X1	Oily wastewater	4,000,000	1991	Construction approved under OAC 314a (no requirements)
900X2	Oily wastewater	4,000,000	1991	Construction approved under OAC 314a (no requirements)

900X3	Oily wastewater	4,000,000	1991	Construction approved under OAC 314a (no requirements)
300X35	Recovered oil	1,120,000	1953	
300X46	Sour water	1,120,000	1953	
AOP Tank Category 3 - External Floating Roof Tanks storing High VP Liquids with HAPs and Subject to OAC 314a Subject to NWCAA 560, 580.3, 580.9, 40 CFR 63 Subpart CC – Group 1, OAC 314a				
Tank ID	**Primary Service**	**Capacity** (gallons)	**Constructed /Modified**	**Notes**
100X92	Recovered oil	370,000	1953/Secondary seal installed 1991	Secondary seal installation approved under OAC 314a (requires Subpart Kb)
100X95	Recovered oil	370,000	1953/Secondary seal installed 1991	Secondary seal installation approved under OAC 314a (requires Subpart Kb)
AOP Tank Category 4 – Internal Floating Roof Tanks storing High VP Liquids with HAPs Subject to NWCAA 560, 580.3, 40 CFR 63 Subpart CC – Group 1				
Tank ID	**Primary Service**	**Capacity** (gallons)	**Constructed /Modified**	**Notes**
400X1	Naphtha	1,680,000	2001	Construction approved under OAC 736a (no requirements)
550x100	Gasoline	2,257,000	1953/ Change in service 2020	Change in service approved under OAC 1356 (addition of secondary seal)
50X304	Recovered oil	414,000	1953	
AOP Tank Category 5 – Internal Floating Roof Tanks storing High VP Liquids with HAPs and Subject to BWON Subject to NWCAA 560, 580.3, 40 CFR 63 Subpart CC – Group 1, 40 CFR 61 Subpart FF (BWON)				
Tank ID	**Primary Service**	**Capacity** (gallons)	**Constructed /Modified**	**Notes**
100X94	Recovered oil	370,000	1953/Retrofit to IFR 1975	IFR retrofit approved under OAC 161 (no requirements)
100X99	Recovered oil	370,000	1953/Retrofit to IFR 1977	IFR retrofit approved under OAC 196 (no requirements)
AOP Tank Category 6 – Internal Floating Roof Tanks storing High VP Liquids with HAPs and Subject to BWON and OAC 314a Subject to NWCAA 560, 580.3, 40 CFR 63 Subpart CC – Group 1, 40 CFR 61 Subpart FF (BWON), OAC 314a				
Tank ID	**Primary Service**	**Capacity** (gallons)	**Constructed /Modified**	**Notes**
300X40	Oily wastewater	1,008,000	1953/Retrofit to IFR 1991[1]	IFR retrofit approved under OAC 314a (requires Subpart Kb)

100X98	Recovered oil	370,000	1953/Retrofit to IFR 1991[1]	IFR retrofit approved under OAC 314a (requires Subpart Kb)
AOP Tank Category 7 – Internal Floating Roof Tanks storing High VP Liquids, Subject to 40 CFR 60 Subpart Kb and OAC 1111, and not in HAP Service. Subject to NWCAA 560, 580.3, 40 CFR 60 Subpart Kb, OAC 1111 and 40 CFR 63 Subpart CC – Group 2				
Tank ID	**Primary Service**	**Capacity** (gallons)	**Constructed /Modified**	**Notes**
70x1	Ethanol	265,000	Constructed 2012[1]	Construction approved under OAC 1111 (requires primary and secondary seals). NSPS Subpart Kb direct.
AOP Tank Category 8 - Tanks storing Low VP Liquids and not in HAP service. Subject to 40 CFR 63 Subpart CC – Group 2				
Tank ID	**Primary Service**	**Capacity** (gallons)	**Constructed /Modified**	**Notes**
960X1	Diesel	3,700,000	1953	Internal floating roof with no secondary seals
800X140	Vacuum gas oil	3,296,000	1953	Fix roof tank
800X146	Diesel	3,279,000	1953	Fix roof tank
800X147	Diesel	3,284,000	1953	Fix roof tank
800X148	Marine fuel oil	3,286,000	1953	Fix roof tank
800X149	Marine fuel oil	3,282,000	1953	Fix roof tank
800X150	Kerosene	3,296,000	1953	Fix roof tank
550X103	Cutter stock	2,283,000	1953	Fix roof tank
550X104	Cutter stock	2,283,000	1953	Fix roof tank
550X105	Diesel	2,266,000	1953	Fix roof tank
300X36	Diesel	1,229,000	1953	Fix roof tank
300X37	Diesel	1,229,000	1953	Fix roof tank
300X38	Diesel	1,229,000	1953	Fix roof tank
300X39	Diesel	1,229,000	1953	Fix roof tank
100X91	#6 Fuel Oil	413,000	1953	Fix roof tank
50X300	Sulfides	208,000	1953	Fix roof tank
50X301	Sulfides	208,000	1953	Fix roof tank
50X302	Marine fuel oil	208,000	1953	Fix roof tank
50X303	Marine fuel oil	208,000	1953	Fix roof tank
6X10	Additives	22,000	1953	Fix roof tank
6X11	Additives	22,000	1953	Fix roof tank

Storage Vessels/Tank Farm – Equipment Components		
Equipment Components (HAP service)		40 CFR 63 Subpart CC

SECTION 2 STANDARD TERMS AND CONDITIONS

Standard terms and conditions are administrative and/or other requirements that typically have no ongoing compliance monitoring requirements. The permittee must comply with the requirements listed below. Some requirements from the regulations have been paraphrased for brevity.

All terms and conditions of this permit are enforceable by the Environmental Protection Agency (EPA) Administrator and by citizens under the Federal Clean Air Act (FCAA), except for those terms and conditions designated in the permit as "State Only". In accordance with WAC 173-401-625(2) (11/4/1993), a requirement designated "State Only" is enforceable only by the NWCAA, and not by EPA or through citizen suits. "State only" WAC citations are enforceable by the NWCAA because they are adopted by reference in NWCAA 104.1 as amended February 10, 2022.

The requirements labeled as "***Directly Enforceable***" are legally enforceable requirements added under either the NWCAA's "gap-filling" authority (WAC 173-401-615(1)(b) & (c), (10/17/2002)), or the NWCAA's "sufficiency monitoring" authority (WAC 173-401-630(1), (3/5/2016)), as cited in each permit term. Unless the text of the term is specifically identified to be "***Directly Enforceable***", the language of the cited regulation takes precedence over a paraphrased requirement.

2.1 Compliance Requirements

2.1.1 Duty to Comply

2.1.1.1 WAC 173-401-620(2)(a) (11/4/1993)

The permittee shall comply with all terms and conditions of this permit. Any permit noncompliance constitutes a violation of RCW 70.94 and, for federally enforceable provisions, a violation of the Federal Clean Air Act (FCAA). Such violations are grounds for enforcement action; for permit termination, revocation and re-issuance, or modification; or for denial of a permit renewal application.

2.1.1.2 State Only: NWCAA Section 322.3 (11/17/2011)

It shall be unlawful for any person to operate a source that is subject to the requirements of chapter 173-401 WAC without complying with the provisions of chapter 173-401 WAC and any permit issued under its authority.

2.1.2 Civil and Criminal Penalties

2.1.2.1 State Only: WAC 173-400-230(2) (3/20/1993), WAC 173-400-240 (3/22/1991), NWCAA Section 131 (3/14/2013), NWCAA Sections 132 & 133 (8/13/2015), and Section 113 of the FCAA

Any person who violates any of the provisions of RCW 70A.15 or 70A.25, violates any of the rules in force under such chapters, including the Regulation of the NWCAA, fails to take action as specified by an order issued pursuant to this chapter, or who commits or omits an act which procures, aids, or abets in the violation may incur a civil penalty in an amount as set forth in RCW 70A.15.3160 and NWCAA Section 133.

Persons in violation of RCW 70A.15, or any ordinance, resolution, or regulation in force pursuant thereto, may be subject to the criminal penalty provisions of RCW 70A.15.3150 and NWCAA Section 132.

At least 30 days prior to commencement of any formal enforcement action under RCW 70A.15.3150, RCW 70A.15.3160, or NWCAA Sections 132 or 133, the NWCAA shall serve written

notice of violation to the alleged violator. The notice shall specify the provisions, orders, rules, or regulations alleged to be violated, and the facts alleged to constitute a violation thereof. The notice may also include an order pursuant to NWCAA Section 121 directing that necessary corrective action be taken within a reasonable time, or the NWCAA may require the alleged violator appear before the Pollution Control Hearings Board (PCHB) for a hearing pursuant to NWCAA Section 120. The notice shall offer the opportunity to meet with the NWCAA prior to commencement of enforcement action.

The NWCAA may require the alleged violator to respond in writing or in person within 30 days of the notice and specify the corrective action being taken. Failure to respond shall constitute a prima facie violation of this Regulation and the NWCAA may initiate action pursuant to NWCAA Sections 132, 133, 134, and 135.

2.1.2.2 WAC 173-400-250 (9/20/1993) and NWCAA Section 133.2 (8/13/2015) State Only: NWCAA Section 133.2 (8/13/15)

Penalties issued may be appealed to the pollution control hearings board within 30 days after notice is served.

2.1.3 Need to Halt or Reduce Activity Not a Defense

WAC 173-401-620(2)(b) (11/4/93)

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the terms and conditions of this permit.

2.1.4 Duty to Provide Information

WAC 173-401-620(2)(e) (11/4/1993)

The permittee shall furnish to the NWCAA, within a reasonable time, any information that the NWCAA may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the NWCAA copies of records required to be kept by the permit or, for information claimed to be confidential, the permittee may furnish such records directly to the EPA Administrator along with a claim of confidentiality. The NWCAA shall maintain confidentiality of such information in accordance with RCW 70.94.205 and the NWCAA Regulation.

2.1.5 Confidential Information

NWCAA 114.1 (4/14/1993)

Whenever any records or other information other than ambient air quality data or emission data furnished to or obtained by the Agency, relates to processes or production unique to the owner or operator, or are likely to affect adversely the competitive position of such owner or operator if released to the public or to a competitor, and the owner or operator of such processes or production so certifies, such records or information shall be only for the confidential use of the NWCAA.

Nothing herein shall be construed to prevent the use of records or information by the NWCAA in compiling or publishing analyses or summaries relating to the general condition of the outdoor atmosphere: provided, that such analyses or summaries do not reveal any information otherwise confidential under the provisions of this section: provided further, that emission data furnished to or obtained by the Board shall be correlated with applicable emission limitations and other control measures and shall be available for public inspection during normal business hours at the office of the NWCAA.

2.1.6 Inspection and Entry

WAC 173-400-105(3) (9/20/1993) and WAC 173-401-630(2) (3/5/2016)
State Only: WAC 173-400-105(3) (11/25/2018) and NWCAA Sections 110 & 111 (1/8/1969)

Upon presentation of credentials and other documents as may be required by law, the permittee shall allow Ecology, NWCAA or an authorized representative to:

(i) Enter upon the permittee's premises where a chapter 401 source is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit,

(ii) Have access to and copy, at reasonable times, any records that must be kept under the condition of the permit,

(iii) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit, and

(iv) Sample or monitor, at reasonable times, substances, or parameters for the purpose of assuring compliance with the permit or applicable requirements.

No person shall willfully interfere with or obstruct the Control Officer or any NWCAA employee and/or assigned agent in carrying out any lawful duty.

2.1.7 Investigation and Studies

State Only: NWCAA Section 110 (1/8/1969)

The Control Officer and/or his qualified agents may make any reasonable investigation or study which is necessary for the purpose of standards or any amendments thereto on reducing the amount or kind of contaminant.

When investigating conditions specific to the control, recovery or release of air contaminants, the Control Officer or his duly authorized representatives shall have the power to enter at reasonable times upon any private or public property, except non-multiple unit private dwellings housing two families or less.

If an authorized employee of the Agency, during the course of an inspection desires to obtain a sample of air contaminant, he shall notify the owner or lessee of the time and place of obtaining a sample, so the owner or lessee has the opportunity to take a similar sample at the same time and place. A receipt shall be given to the owner or lessee for the sample obtained.

2.1.8 Source Testing

2.1.8.1 WAC 173-400-105(4) (9/20/1993)

To demonstrate compliance, Ecology or the NWCAA may conduct or require that a test be conducted of the source using approved EPA methods from 40 CFR 60 Appendix A which are adopted by reference, or approved procedures contained in the "Source Test Manual – Procedures for Compliance Testing," state of Washington, Department of Ecology, as of July 12, 1990, on file at Ecology. The operator of a source may be required to provide the necessary platform and sampling ports for Ecology personnel or others to perform a test of an emissions unit. Ecology shall be allowed to obtain a sample from any emissions unit. The operator of the source shall be given an opportunity to observe the sampling and to obtain a sample at the same time.

2.1.8.2 State Only: WAC 173-400-105(4) (11/25/2018)

To demonstrate compliance, the required test must be conducted using approved EPA methods from 40 CFR Parts 51, 60, 61 and 63 (in effect on January 24, 2018) or procedures contained in "*Source Test Manual – Procedures for Compliance Testing*," state of Washington, department of ecology, as of September 20, 2004, on file at ecology. All other language is the same as 2.1.8.1.

2.1.8.3 State Only: NWCAA Section 367 and Appendix A (7/14/2005)

Source tests required by NWCAA to assess compliance with an air emission standard shall be conducted according to the following provisions:

(i) A source test plan shall be submitted to the NWCAA for approval for all compliance source tests at least 30 days prior to scheduled testing. A summary of the test shall accompany the test plan and be submitted on a template provided by the NWCAA.

(ii) Once a test plan has been approved, any changes in test dates or methodology shall require NWCAA approval.

(iii) Results of required source tests must be submitted within 60 days of completion of the test unless prior approval is granted by NWCAA.

2.1.9 Testing and Sampling

2.1.9.1 NWCAA Section 360.1 (2/14/1973)

Any person operating or using any article, machine, equipment or other contrivance shall provide and maintain such sampling and testing facilities as specified in the Order of Approval to Construct or an Air Operating Permit.

2.1.9.2 State Only: NWCAA Section 367 and Appendix A (7/14/2005)

All ambient monitoring, compliance testing, continuous monitoring systems and continuous opacity monitoring systems required by a regulation, order of approval or permit issued by the NWCAA shall comply with the applicable requirements of Section 367 and Appendix A of the NWCAA Regulation. The applicable requirements of Section 367 and Appendix A of the NWCAA Regulation are in addition to any monitoring, testing, calibration or quality assurance/quality control requirements that otherwise apply.

Any person operating an air operating permit source may, at any time, be required to monitor the ambient air, process emissions or conduct emission tests as deemed necessary by the Control Officer.

The Control Officer may take such samples and perform any tests and investigations deemed necessary to determine the accuracy of the monitoring reports and tests submitted to the Agency and evaluate the validity of the data. The owner or operator may also be required by the Control Officer to take a sample using an approved procedure and submit the results thereof within a reasonable period of time.

Once initiated, a compliance test shall be completed unless interrupted by severe weather, test equipment failure or other conditions beyond control of the facility. Failure to complete a test shall be a violation of the requirement to test, and, in cases where the initial data indicate a non-compliance of the applicable emission standard, the results may be considered a violation of that standard.

2.1.10 Ambient Air and Continuous Emission Monitoring

2.1.10.1 NWCAA Section 365.1 (2/8/1989)

Any person operating an air contaminant source, or an air operating permit source may, at any time, be required to monitor the ambient air, process emissions or conduct emission tests as deemed necessary by the Control Officer under the following provisions:

The Board or Control Officer may require any person operating any source to conduct a monitoring program on site or adjacent off site for emissions, ambient air concentrations, or any other pertinent special studies deemed necessary.

All monitoring data shall be submitted in a form which the Board or Control Officer may require. Averaging time and collection periods will be determined by the Control Officer. Failure to record and/or report data as specified in the "Guidelines for Industrial Monitoring Equipment and Data Handling" may be cause for a Notice of Violation to be issued.

All data and records shall be kept for a period of at least one year and made available to the Control Officer upon request.

All required continuous emission monitors or required opacity monitors used to monitor compliance and all instruments used for special studies must meet appropriate EPA performance specifications (40 CFR 60, Appendix B) and shall be calibrated and maintained in accordance with the "Guidelines for Industrial Monitoring Equipment and Data Handling" procedures approved by the Control Officer.

The Control Officer may take such samples and make any tests and investigations deemed necessary to determine the accuracy of the monitoring reports and tests submitted to the NWCAA and evaluate the validity of the data. The owner or operator may also be required by the Control Officer to take a sample using an approved procedure and submit the results thereof within a reasonable period of time.

The Board or the Control Officer may require additional reasonable monitoring be undertaken at any appropriate time to ensure compliance with the NWCAA Regulation.

2.1.10.2 State Only: NWCAA Section 367 and Appendix A (7/14/2005)

All ambient air monitors shall be operated and maintained as required by the appropriate Sections of 40 CFR Parts 50 and 58.

A Quality Assurance (QA) manual and station logbook shall be kept for all stations. Written calibration and precision/span check procedures shall be included in the QA manual. A station audit shall be conducted by the NWCAA at least once per year.

Unless subject to acid rain regulations (40 CFR Part 72 and 75), all continuous emissions monitoring systems (CEMS) shall be capable of meeting appropriate EPA performance specifications using procedures outlined in 40 CFR Part 60 Appendix B. CEMS subject to acid rain regulations shall be capable of meeting the specifications outlined in the appropriate section of 40 CFR Part 75.

All CEMS shall be operated in accordance with the appropriate section of 40 CFR Part 60 Appendix F, and the operator shall assess the operation of each CEMS daily.

Continuous opacity monitors shall be maintained according to "Recommended Quality Assurance Procedures for Opacity Continuous Monitoring Systems" (EPA 340/1-86-10) and the manufacturer's procedures. All gaseous CEMS shall be maintained using the QA criteria of 40 CFR Part 60 Appendix F and the manufacturer's procedures.

Auditing of opacity monitors shall be conducted according to recommended procedures. Data accuracy assessments shall be conducted at least once every calendar quarter for gaseous

monitors and at appropriate periodic intervals. Relative Accuracy Test Audits (RATAs), Relative Accuracy Audits (RAAs) and Cylinder Gas Audits (CGAs) shall be employed as described in 40 CFR Part 60 (or 40 CFR Part 75 if the facility is subject to acid rain regulations).

Strip charts and approved data acquisition systems shall be used to capture and store data. All data must be retained for a period of at least five years and be available to the NWCAA upon request.

CEMS are required to maintain greater than 90% data availability on a monthly basis. A supplemental report shall be submitted if during any calendar month a CEMS fails to produce 90% data availability stating the reasons for the low data availability.

The following data shall be submitted to the NWCAA monthly or according to the applicable standard:

(i) Time, date, magnitude, and cause of all emissions or temperatures which exceed the applicable standard(s).

(ii) The cause and time periods of any bypass of the air pollution control equipment.

(iii) The cause and time periods of CEM downtime not associated with routine QA or maintenance operations.

(iv) Data availability for each CEM, listed by unit and parameter.

(v) Supplemental report for system with ≤90% monthly data availability.

(vi) Other data or information as required by the Control Officer.

2.1.11 Credible Evidence

40 CFR 51.212(c), 40 CFR 52.12, and 40 CFR 52.33 (2/24/1997)

For compliance certifications or establishing whether or not a person has violated or is in violation of this permit, nothing 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 been performed.

2.2 Permit Terms

2.2.1 Permit Expiration and Renewal

WAC 173-401-610 (11/4/1993) and WAC 173-401-710 (10/17/2002)

This permit is issued for a fixed term of five years from date of issuance. Permit expiration terminates the source's right to operate unless a timely and complete renewal application has been submitted. A complete permit renewal application shall be submitted to the NWCAA no later than the date established in the permit.

2.2.2 Permit Actions

WAC 173-401-620(2)(c) (11/4/1993)

This permit may be modified, revoked, reopened, reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and re-issuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.

2.2.3 Emissions Trading

WAC 173-401-620(2)(g) (11/4/1993)

No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading, and other similar programs or processes, for changes that are provided for in this permit.

2.2.4 Emission Reduction Credits

WAC 173-400-131 and
State Only: WAC 173-400-136 (12/29/2012)

An emission reduction credit may be issued and used in accordance with the applicable regulations listed above.

2.2.5 Severability

WAC 173-401-620(2)(h) (11/4/1993)

If any provision of this permit is held to be invalid, all unaffected provisions of the permit shall remain in effect and be enforceable.

2.2.6 Permit Appeals

WAC 173-401-620(2)(i) (11/4/1993), WAC 173-401-735 (5/3/1997)

This permit or any conditions in it may be appealed only by filing an appeal with the pollution control hearings board and serving it on the NWCAA within thirty days of receipt. This provision for appeal is separate from and in addition to any federal rights to petition and review under section 505(b) of the FCAA.

2.2.7 Permit Continuation

WAC 173-401-620(2)(j) (11/4/1993)

This permit and all terms and conditions contained therein, including any permit shield provided under WAC 173-401-640, shall not expire until the renewal permit has been issued or denied if a timely and complete application has been submitted. If a timely and complete application has been submitted, an application shield granted pursuant to WAC 173-401-705(2) shall remain in effect until the renewal permit has been issued or denied.

2.2.8 Reopening for Cause

WAC 173-401-730 (11/4/1993)

The permit shall be reopened and revised under any of the following circumstances:

(i) Additional requirements become applicable to the source with a remaining permit term of three or more years. Such a reopening shall be completed not later than eighteen months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions have been extended pursuant to WAC 173-401-620(2)(j);

(ii) Additional requirements (including excess emissions requirements) become applicable to an affected source under the acid rain program. Upon approval by the EPA Administrator, excess emissions offset plans shall be deemed to be incorporated into the permit,

(iii) The NWCAA or the EPA Administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit; or

(iv) The NWCAA or the EPA Administrator determines that the permit must be revised or revoked to assure compliance with the applicable requirements.

2.2.9 Changes not Requiring Permit Revisions/Off-Permit Changes

WAC 173-401-722 (10/17/2002) and WAC 173-401-724 (3/5/2016)

The permittee may make the changes described in WAC 173-401-722 and WAC 173-401-724 without revising this permit, provided that the changes satisfy the criteria set forth in those sections.

2.2.10 Permit Modifications

WAC 173-401-720 and WAC 173-401-725 (11/4/1993)

This permit may be revised as provided in WAC 173-401-720 (administrative permit amendments) and 173-401-725 (permit modifications).

2.2.11 Property Rights

WAC 173-401-620(2)(d) (11/4/1993)

This permit does not convey any property rights of any sort, or any exclusive privilege.

2.2.12 Definitions

NWCAA Section 200 (4/11/2019)

Particular references to terms not otherwise defined in this permit or the associated Statement of Basis have the meaning assigned to them in the specific regulation being cited. The terms NWCAA, Ecology, and EPA shall mean the Northwest Clean Air Agency, the Washington State Department of Ecology, and the United States Environmental Protection Agency, respectively. FCAA means the Federal Clean Air Act.

2.2.13 Compliance Schedule

WAC 173-401-630(3) and WAC 173-401-510(2)(h)(iii) (3/5/2016)

The permittee shall continue to comply with all applicable requirements with which the source was in compliance as of the date of permit issuance. The permittee shall meet on a timely basis any applicable requirements that become effective during the permit term.

2.2.14 Permit Fees

2.2.14.1 WAC 173-401-620(2)(f) (11/4/1993)

The permittee shall pay fees as a condition of this permit in accordance with the NWCAA fee schedule.

2.2.14.2 State Only: NWCAA Section 322.4 (11/17/2011)

The NWCAA shall assess and collect annual air operating permit fees for sources in its jurisdiction that are required to have Title V Air Operating Permits (excluding sources regulated by WDOE directly). The total fees required to administer the program shall be determined by a workload analysis conducted by NWCAA staff and approved annually by the NWCAA Board of Directors.

2.2.15 Transfer or Permanent Shutdown

2.2.15.1 NWCAA Section 325 (2/14/1973)

Approval to construct a stationary source is not to be transferable from one location to another (outside the plant boundary), from one piece of equipment to another, or from one person to another, except portable sources may retain the same registration so long as they remain within the jurisdiction of the NWCAA.

2.2.15.2 State Only: NWCAA Section 325 (11/8/2007)

Approval to construct a stationary source is not to be transferable from one location to another (outside the plant boundary), from one piece of equipment to another, or from one person to another, except portable sources may retain the same registration so long as they remain within the jurisdiction of the NWCAA, and they comply with NWCAA 300 and 301.

The registered owner or operator shall report the transfer of ownership or permanent shutdown of a registered source to the NWCAA within ninety (90) days of shutdown or transfer. The new owner of a registered source shall file a written report with the NWCAA within ninety (90) days of completing transfer of ownership and/or assuming operational control.

In the case of a permanent shutdown, process and pollution control equipment may remain in place and on site but shall be rendered incapable of generating emissions to the atmosphere.

2.3 Permit Shield

2.3.1 Shield Requirement

WAC 173-401-640(1) (11/4/1993)

Compliance with a permit condition shall be deemed compliance with the applicable requirements upon which that condition is based, as of the date of permit issuance. The permit shield does not apply to any insignificant emissions unit or activity so designated under WAC 173-401-530.

2.3.2 Inapplicable Requirements

WAC 173-401-640(2) (11/4/1993)

As of the date of permit issuance, the requirements listed in the Inapplicable Requirements section of this permit do not apply to the permittee. The permit shield applies to all requirements so identified.

2.3.3 Exclusions

WAC 173-401-640(4) (11/4/1993)

Nothing in this section or in this permit shall alter or affect the following:

(i) Provisions of Section 303 of the FCAA (emergency orders), including the authority of the EPA Administrator under that section:

(ii) Liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance:

(iii) Ability of EPA to obtain information from a source pursuant to Section 114 of the FCAA; or

(iv) Ability of the permitting authority to establish or revise requirements for the use of reasonably available control technology (RACT) as provided in RCW 70.94.154.

2.3.4 Reasonably Available Control Technology

2.3.4.1 WAC 173-401-605(3) (11/4/1993)

Emission standards and other requirements contained in rules or regulatory orders in effect at the time of operating permit issuance shall be considered RACT for purposes of permit issuance or renewal.

2.3.4.2 WAC 173-400-040 (3/22/1991)

All emissions units are required to use RACT which may be determined for some sources or source categories to be more stringent than the applicable emission limitations of any chapter of Title 173 WAC. Where current controls are determined to be less than RACT, Ecology or the NWCAA shall, as provided in section 8, chapter 252, Laws of 1993, define RACT for each source or source category and issue a rule or regulatory order requiring the installation of RACT.

2.3.4.3 State Only: WAC 173-400-040(1) (9/16/2018)

All emissions units are required to use RACT which may be determined for some sources or source categories to be more stringent than the applicable emission limitations of any chapter of Title 173 WAC. Where current controls are determined to be less than RACT, the permitting authority shall, as provided in RCW 70.94.154, define RACT for each source or source category and issue a rule or regulatory order requiring the installation of RACT.

2.3.4.4 State Only: NWCAA Section 309 (10/8/2015)

Reasonably Available Control Technology (RACT) is required for all existing sources except as otherwise provided in RCW 70.94.331(9). Where current controls are determined by the NWCAA to be less than RACT, the NWCAA shall define RACT for that source or source category and issue a rule or an order under NWCAA 121 requiring the installation of RACT. Emission standards and other requirements contained in rules or regulatory orders in effect at the time of operating permit issuance shall be considered RACT for purposes of operating permit issuance or renewal.

2.3.5 Emergencies

WAC 173-401-645 (11/4/1993)

An emergency, as defined in WAC 173-401-645(1), constitutes an affirmative defense to an action brought for noncompliance with a technology-based emission limitation if conditions of WAC 173-401-645(3) and (4) are met. This provision is in addition to the affirmative defense for unavoidable excess emissions found in any applicable requirement.

The permittee shall submit a notice of emergency to the NWCAA within two working days of the time when the emission limitation was exceeded due to an emergency or shorter periods of time specified in an applicable requirement.

2.4 Recordkeeping and Reporting

2.4.1 Compliance Certification

2.4.1.1 WAC 173-401-630(5) (3/5/2016)

The permittee shall submit ongoing certifications of compliance with permit terms and conditions. The first such certification shall cover the period from the last compliance certification until issuance of this permit. The following compliance certification shall cover the period from permit issuance to the end of the calendar year. Subsequent compliance certifications shall be made on a yearly basis. Each certification shall include:

(i) Identification of each term and condition of the permit that is the basis of the certification,

(ii) Compliance status,

(iii) Whether the compliance was continuous or intermittent, and

(iv) Methods used for determining the compliance status of the source, currently and over the reporting period. These methods must be consistent with the permit Monitoring, Recordkeeping, and Reporting requirements.

All compliance certifications shall be submitted to EPA Region 10 and the Northwest Clean Air Agency at the following addresses by February 28 for the previous calendar year:

Clean Air Act Compliance Manager
US EPA Region 10, Mail Stop: 20-C04
1200 Sixth Avenue, Suite 155
Seattle, WA 98101

Northwest Clean Air Agency
Attn: Air Operating Permits
1600 South Second Street
Mount Vernon, WA 98273-5202

2.4.1.2 WAC 173-401-520 (11/4/1993)

Any application form, report, or compliance certification that is submitted pursuant to this permit shall contain certification by a responsible official of truth, accuracy, and completeness. This certification and any other certification required under this permit shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

2.4.1.3 WAC 173-401-615 (10/17/2002) and -630 (3/5/2016)
Directly enforceable under WAC 173-401-615(1)(b) & (c) (10/17/2002)

All required monitoring reports must be certified by a responsible official consistent with WAC 173-401-520. Where an applicable requirement requires reporting more frequently than once every six months, the responsible official's certification need only to be submitted once every six months, covering all required reporting since the date of the last certification, provided that the certification specifically identifies all documents subject to the certification.

The semiannual certifications shall cover the calendar months of January through June, and July through December.

2.4.1.4 WAC 173-401-530(2)(d) (10/17/2002)

Where a permit does not require testing, monitoring, recordkeeping and reporting for insignificant emissions units or activities, the permittee may certify continuous compliance if there were no observed, documented, or known instances of noncompliance of an insignificant emission unit during the reporting period. Where an underlying OAC requires testing, monitoring, recordkeeping and reporting for insignificant emission units or activities, the permittee may certify continuous compliance when the testing, monitoring and recordkeeping required by the permit revealed no violations during the period, and there were no observed, documented or known instances of noncompliance during the reporting period.

2.4.2 False and Misleading Oral Statement: Unlawful Reproduction or Alteration of Documents

State Only: NWCAA Section 112 (11/12/1999)

No person shall willfully make a false or misleading oral statement to the Board as to any matter within the jurisdiction of the Board.

No person shall reproduce or alter or cause to be reproduced or altered any order or other paper issued by the Agency if the purpose of such reproduction or alteration is to evade or violate any provision or Regulation of this Agency, or any other law.

2.4.3 Required Recordkeeping

2.4.3.1 WAC 173-401-615(2) (10/17/2002)

Records of required monitoring information shall include, where applicable, the following:

(i) Date, time, and location of sampling or measurements.

(ii) Operating conditions existing at the time of sampling or measurement; and

(iii) If analyses were performed, the date, company or entity performing the analyses, the analytical techniques or methods used, and the results of such analyses.

A record shall be kept describing changes made that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under the permit, and the emissions resulting from those changes.

Records of all required monitoring data and support information shall be retained for a period of five years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit.

2.4.3.2 WAC 173-401-615 (10/17/2002) and -630 (3/5/2016)
Directly enforceable under WAC 173-401-615(1)(b) & (c) (10/17/2002)

Monitoring and associated recordkeeping are not required when an emission unit is not operating and there are no emissions to the atmosphere unless such monitoring is specifically required by the NWCAA. The facility must record the time periods that a unit is shut down and not monitored and include the time periods and a summary of why the emission unit was shut down in the periodic report of monitoring required by WAC 173-401-615(3)(a).

2.4.4 Pollutant Disclosure - Reporting by Air Contaminant Sources

2.4.4.1 NWCAA Section 150 (9/8/1993) and WAC 173-400-105(1) (9/20/1993)

The permittee shall file annually at a time determined by the NWCAA and on forms furnished by the NWCAA a report setting forth:

(i) The nature of the enterprise,

(ii) A list of process materials which are potentially significant sources of emissions used in, and incidental to, its manufacturing processes, including any by-products and waste products, and

(iii) An estimated annual total production of wastes discharged into the air in units and contaminants designated by the NWCAA that may include stack and fugitive emissions of particulate matter, PM_{10}, sulfur dioxide, carbon monoxide, total reduced sulfur compounds (TRS), fluorides, lead, VOCs, and other contaminants.

Annual emission reports shall be submitted to the NWCAA within 105 days after the end of the previous calendar year. If the emission report is not submitted by the required date and the emissions are used to determine operating permit fees as described in NWCAA 324.126 then potential to emit will be used to determine said fees.

The permittee shall maintain records of information necessary to substantiate any reported emissions, consistent with the averaging times for the applicable standards.

2.4.4.2 State Only: WAC 173-400-105(1) (11/25/2018)

In addition to the requirements of 2.4.4.1, the permittee shall report $PM_{2.5}$, oxides of nitrogen, and ammonia on forms available from the NWCAA or Ecology. Emission estimates may be based on the most recent published EPA emission factors or other information available to the source, whichever is the better estimate.

2.4.4.3 State Only: NWCAA Section 150 (11/8/2007)

Annual emission reports shall be submitted to the NWCAA no later than April 15 of the following calendar year. If the emission report is not submitted by the required date and the emissions are used to determine operating permit fees as described in NWCAA Regulation 322.4, then potential to emit may be used to determine said fees.

2.4.5 Greenhouse Gas (GHG) Reporting

2.4.5.1 State Only: WAC 173-441-030(1), (2), (5), and (6) (3/12/2022)

Beginning with the 2022 emissions year reported in 2023, GHG reporting is mandatory for:

(i) An owner or operator of any facility listed in WAC 173-441-120 that emits 10,000 metric tons CO2e or more per calendar year in total GHG emissions as calculated according to WAC 173-441-030(1)(b).

(ii) An owner or operator of any supplier with total GHG emissions in Washington that exceed 10,000 metric tons of CO2e or more per calendar year as calculated according to WAC 173-441-030(2)(b).

A person may choose to voluntarily report to Ecology GHG emissions that are not required to be reported under WAC 173-441-030(1) or (2). Persons voluntarily reporting GHG emissions must use the methods established in WAC 173-441-120(3) and 173-441-122(1)(c) to calculate any voluntarily reported GHG emissions.

Once a reporter is subject to the requirements of this chapter, the person must continue for each year thereafter to comply with all requirements of this chapter, including the requirement to submit annual GHG reports, even if the facility or supplier does not meet the applicability requirements in WAC 173-441-030(1) or (2) of this section in a future year, except as provided in WAC 173-441-030(6)(a)-(c). Reporters with a compliance obligation under Chapter 70A.65 RCW, as described in WAC 173-446, must continue to report for any year with a compliance obligation.

2.4.5.2 State Only: WAC 173-441-050 (3/12/2022)

Follow the procedures for emission calculation, monitoring, quality assurance, missing data, recordkeeping, and reporting that are specified in each relevant section of WAC 173-441.

Beginning calendar year 2012 for existing reporters, the annual GHG report shall contain the information required per WAC 173-441-050(3) and (4) and be submitted to Ecology no later than March 31st of each calendar year for GHG emissions in the previous calendar year if the facility is required to report or is voluntarily reporting GHG emissions under WAC 173-441-030.

For any reporter that becomes subject to this rule because of a physical or operational change that is made after January 1, 2012, report emissions for the first calendar year in which the change occurs according to WAC 173-441-050(2)(b)(iii)(A) through (C).

Retain all required records for at least 10 years in a form that is suitable for expeditious inspection and review, including a GHG monitoring plan per WAC 173-441-050(6)(e).

2.4.5.3 State Only: WAC 173-441-060 and -070 (3/12/2022)

Each such submission shall be signed by a representative designated in accordance with WAC 173-441-060 and 40 CFR 3.10 as adopted on October 13, 2005, and shall include the following certification statement signed by the designated representative or any alternate designated representative:

> "I am authorized to make this submission on behalf of the owners and operators of the facility or supplier, as applicable, for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment."

Each GHG report and certificate of representation for a facility or supplier must be submitted electronically in accordance with the requirements of WAC 173-441-050 and 173-441-060 and in a format specified by Ecology.

2.4.5.4 State Only: WAC 173-441-100 (3/12/2022)

All requests, notifications, and communications to Ecology pursuant to this chapter, other than submittal of the annual GHG report, shall be submitted to

either of the following:

(i) Greenhouse Gas Reporting, Air Quality Program
Department of Ecology
P.O. Box 47600
Olympia, WA 98504-7600

(ii) ghgreporting@ecy.wa.gov

2.4.6 Reporting to Verify Emissions from Potential PSD Sources

State Only: WAC 173-400-720(4)(b)(iii) (7/1/2016)

The owner or operator shall monitor the emissions of any regulated pollutants from all projects for which PSD applicability was determined according to the provisions of 40 CFR 52.21(b)(41)(ii)(a) through (c) and calculate and maintain a record of annual emissions on a calendar year basis.

The owner or operator shall submit a report to NWCAA within 60 days after the end of the year during which records must be generated under paragraph 40 CFR 52.21 (r)(6)(iii) setting out the unit's annual emissions, as monitored pursuant to 40 CFR 52.21 (r)(6)(iii), during the calendar year that preceded submission of the report. The report shall include the emissions in tons per year for the project, the baseline actual emissions and the pre-construction projected emissions.

2.4.7 Reporting of Deviations from Permit Conditions

WAC 173-401-615(3)(b) (10/17/2002)
Directly enforceable under WAC 173-401-615(1)(b) & (c) (10/17/2002)

Prompt Reporting of Deviations: The permittee shall promptly report all deviations from permit requirements, including those attributable to upset conditions as defined in this permit. The report shall include a description of the probable cause of such deviations, if known, and any

corrective actions or preventive measures taken. Prompt means reporting according to the shortest time period listed below which applies to the situation:

(i) In the case where the deviation represents a potential threat to human health or safety "prompt" means as soon as possible, but in no case later than twelve hours after the deviation is discovered. A follow up report on the deviation shall be included in the next monthly report.

(ii) For all other deviations, the deviation shall be reported as part of the next routine monitoring report, but no later than 30 days after the end of the month during which the deviation is discovered, whichever is sooner.

2.4.8 Report of Breakdown and Upset

2.4.8.1 NWCAA Sections 340.1, 340.2 and 340.3 (10/13/1994)

If a breakdown or upset condition occurs which results in or may have resulted in an emission and/or ambient air quality standard being exceeded, the owner or operator of the source shall take the following actions:

(i) The upset or breakdown shall be reported as promptly as possible and in no event later than twelve (12) hours to the NWCAA.

(ii) The person responsible shall, upon the request of the Control Officer, submit a full report within ten (10) days including the known causes, corrective measures taken, and preventive measures to be taken to minimize or eliminate a recurrence.

Compliance with the requirements of this section does not relieve the owner or operator of the source from the responsibility to maintain continuous compliance with all the requirements of the NWCAA Regulation nor from the resulting liabilities for failure to comply.

It shall be prima facie evidence of violation of the NWCAA Regulation if any control equipment or other equipment creating emissions to the atmosphere is turned off, broken down or otherwise inoperative, and a notice of breakdown has not been filed under NWCAA 340.1.

2.4.8.2 State Only: NWCAA Sections 340.1, 340.2 and 340.3 (11/8/2007)

If a breakdown or upset condition occurs which results in or may have resulted in an exceedance of an emission and/or ambient air quality standard established by this Regulation or an emission release to the air that requires NWCAA notification as specified in 40 CFR 302 (CERCLA) or 40 CFR 355 (SARA), the owner or operator of the source shall take the following actions:

(i) The upset or breakdown shall be reported as promptly as possible and in no event later than 12 hours to the NWCAA.

(ii) The responsible official or his designee shall submit a full report on forms provided by the NWCAA within 30 days after the end of a calendar month in which the upset occurred and must include as a minimum the known causes, corrective action taken, preventive measures put in place to reduce the possibility of or eliminate a recurrence, and an estimate of the quantity of emissions above the applicable limit caused by the event.

It shall be prima facie evidence of violation of the NWCAA Regulation if:

(i) Any control equipment is turned off, broken down or otherwise inoperative, and a notice of breakdown has not been filed under Section 340.1, or

(ii) Any other equipment creates new or increased emissions to the atmosphere as the result of being turned off, broken down or otherwise inoperative, and a notice of breakdown has not been filed under NWCAA 340.1.

2.4.9 Report of Shutdown or Startup

2.4.9.1 NWCAA Section 341 (9/8/1993)

If the permittee schedules a total or partial shutdown or startup of control or process equipment which may result in emissions or any additional emissions to the atmosphere which may temporarily exceed the emission standards of this Regulation, the permittee shall notify the NWCAA prior to the shutdown or startup.

Prompt notification shall be made and in no event less than 24 hours before the scheduled shutdown or startup. The permittee shall submit a general schedule of steps to be taken to minimize the release of air contaminants to the atmosphere including the reasons for and duration of the proposed shutdown or startup, the nature of the action to be taken, the date and time for the action and an estimate of the anticipated rate and concentration of emission.

Compliance with the requirements of this section does not relieve the owner or operator of the source from the responsibility to maintain continuous compliance with the requirements of this Regulation nor from the resulting liabilities for failure to comply.

2.4.9.2 State Only: NWCAA 341 (7/14/2005)

If the permittee schedules a total or partial shutdown or startup of control or process equipment that the source reasonably believes would result in emissions which may temporarily exceed an emission standard of this Regulation, the operator or owner of the source shall notify the NWCAA in advance of the shutdown or startup.

The advanced notification shall include a general schedule of steps to be taken to minimize the release of air contaminants to the atmosphere including the reasons for and duration of the proposed shutdown or startup, the nature of the action to be taken, the date and time for the action and an estimate of the anticipated rate and concentration of emission.

Compliance with the requirements of this section does not relieve the owner or operator of the source from the responsibility to maintain continuous compliance with the requirements of this Regulation nor from the resulting liabilities for failure to comply.

Excess emissions due to shutdown or startup shall be considered unavoidable, and not subject to penalty, provided the stationary source adequately demonstrates that the excess emissions could not have been prevented through careful planning and design, the emissions did not result in a violation of an ambient air quality standard and if a bypass of control equipment occurs, that such bypass is necessary to prevent loss of life, personal injury, or severe property damage.

The responsible official or their designee shall submit a full report no later than 30 days after the end of the calendar month in which the shutdown or startup occurred that resulted in an exceedance of an ambient or emission standard of this Regulation. The report shall be submitted on forms provided by the NWCAA and must include, at minimum, the known causes, corrective action taken, preventive measures put in place to reduce the possibility of or eliminate a recurrence, and an estimate of the quantity of emissions above the applicable limit caused by the event.

2.4.10 Operation and Maintenance

2.4.10.1 NWCAA Section 342 (9/8/1993)

Keep all process and/or air pollution control equipment in good operating condition and repair. If a breakdown or upset condition occurs and is determined by the Control Officer to be due to poor operating and maintenance procedures, the Control Officer may take any legal steps necessary to prevent a recurrence of the breakdown or upset condition.

Operation and maintenance instructions and schedules for process and/or control equipment must be available and may be required to be posted on the site. This section is specifically applicable to the operation of equipment where untrained personnel may operate or otherwise have access to or use the equipment.

If a breakdown or violation occurs and is due to the improper operation or maintenance of equipment, the owner or operator of the source will, in addition to filing a report of breakdown under NWCAA 340, submit a report if requested by the Control Officer on what measures will be taken in training or re-orienting personnel to prevent a recurrence of the breakdown.

2.4.10.2 State Only: NWCAA Section 342 (7/14/2005)

All air contaminant stationary sources are required to keep any process and/or air pollution control equipment in good operating condition and repair.

Operating instructions and maintenance schedules for process and/or control equipment must be available on site.

2.5 Excess Emissions

2.5.1 Excess Emission

WAC 173-400-107 (9/20/1993) (State Only - 9/16/2018)

The permittee shall have the burden of proving to Ecology or the NWCAA or the decision-making authority in an enforcement action that excess emissions were unavoidable. Excess emissions determined to be unavoidable under the procedures and criteria of this section shall be excused and not subject to penalty.

Excess emissions which represent a potential threat to human health or safety or which the owner or operator of the source believes to be unavoidable shall be reported to the NWCAA as soon as possible. Other excess emissions shall be reported within thirty days after the end of the month during which the event occurred or as part of the routine emission monitoring reports. Upon request by Ecology or the NWCAA, the permittee shall submit a full written report including the known causes, the corrective actions taken, and the preventive measures to be taken to minimize or eliminate the chance of recurrence.

Excess emissions due to startup or shutdown conditions shall be considered unavoidable provided the source reports as required and adequately demonstrates that the excess emissions could not have been prevented through careful planning and design and if a bypass of control equipment occurs, that such bypass is necessary to prevent loss of life, personal injury, or severe property damage.

Excess emissions due to scheduled maintenance shall be considered unavoidable provided the source reports as required and adequately demonstrates that the excess emissions could not have been prevented through reasonable design, better scheduling for maintenance or through better operation and maintenance practices.

Excess emissions due to upsets shall be considered unavoidable provided the source reports as required and adequately demonstrates that:

(i) The event was not caused by poor or inadequate design, operation, maintenance, or any other reasonably preventable condition,

(ii) The event was not of a recurring pattern indicative of inadequate design, operation, or maintenance; and

(iii) The permittee took immediate and appropriate corrective action in a manner consistent with good air pollution control practice for minimizing emissions during the event, taking into account the total emissions impact of the corrective action,

including slowing or shutting down the emission unit as necessary to minimize emissions, when the operator knew or should have known that an emission standard or permit condition was being exceeded.

2.5.2 Excess Emissions Due to Breakdowns, Upsets, Startup, or Shutdown

State Only: NWCAA Sections 340.4 (11/8/2007) and 341.4 (7/14/2005)

Excess emissions due to breakdowns and upsets shall be considered unavoidable, and not subject to penalty, provided the stationary source adequately demonstrates that:

(i) The event was not caused by poor or inadequate design, operation, maintenance, or any other reasonably preventable condition,

(ii) The event was not of a recurring pattern indicative of inadequate design, operation, or maintenance,

(iii) The operator took immediate and appropriate corrective action in a manner consistent with good air pollution control practice; and

(iv) The emissions did not result in a violation of an ambient air quality standard.

Excess emissions due to shutdown or startup shall be considered unavoidable, and not subject to penalty, provided the stationary source adequately demonstrates that the excess emissions could not have been prevented through careful planning and design, the emissions did not result in a violation of an ambient air quality standard and if a bypass of control equipment occurs, that such bypass is necessary to prevent loss of life, personal injury, or severe property damage.

2.6 Duty to Supplement or Correct Information

WAC 173-401-500(6) (10/17/2002)

Upon becoming aware that the source failed to submit any relevant facts in a permit application or that information submitted in a permit application is incorrect, the source shall promptly submit such supplementary facts or corrected information.

2.7 Prohibitions

2.7.1 Concealment and Masking

2.7.1.1 WAC 173-400-040(7) (3/22/1991) and State Only: WAC 173-400-040(8) (9/16/2018)

No person shall cause or permit the installation or use of any means which conceals or masks an emission of an air contaminant which would otherwise violate any provisions of this chapter.

2.7.1.2 State Only: NWCAA Section 540 (1/8/1969)

It shall be unlawful for any person to willfully cause or permit the installation or use of any device or use of any means which, without resulting in a reduction in the total amount of air contaminant emitted, conceals an emission of air contaminant which would otherwise violate the emission standards of this Regulation.

It shall be unlawful for any person to cause or permit the installation or use of any device or use of any means designed to mask the emission of an air contaminant, which causes detriment to health, safety, or welfare of any person.

2.7.2 Adjustment for Atmospheric Conditions

WAC 173-400-205 (3/22/1991)

The permittee shall not vary the rate of emission of a pollutant according to atmospheric conditions or ambient concentrations of that pollutant except as directed according to air pollution episode regulations.

2.7.3 Outdoor Burning

2.7.3.1 WAC 173-425-036 (10/18/1990) and WAC 173-425-045 (1/3/1989), WAC 173-435-050(2) (01/3/1989) Although SIP-Approved, WAC 173-425-036, –045, and -055 (referenced below) have been repealed.

No person shall conduct outdoor burning during an air pollution episode or a declared period of impaired air quality. Except as provided in WAC 173-425-055, the following materials shall not be burned in any open fire: (1) garbage, (2) dead animals, (3) asphaltic products, (4) waste petroleum products, (5) paints, (6) rubber products, (7) plastics, (8) treated wood, and (9) any substance, other than natural vegetation, which normally emits dense smoke or obnoxious odors.

2.7.3.2 State Only: WAC 173-425-040, 050, and 060 (4/13/2000), NWCAA Section 502 (9/11/2014)

No person shall conduct outdoor burning except in accordance with the applicable regulations listed above. Outdoor burning shall be conducted under a valid fire permit and shall not contain prohibited materials, unless specifically exempted. Emissions from burning shall not create a nuisance and/or interfere with visibility on any public road.

2.7.4 Asbestos

2.7.4.1 State Only: NWCAA Section 570 (9/11/2014)

The permittee shall conduct all renovation or demolition projects in accordance with the applicable asbestos control standards listed in NWCAA 570.

2.7.4.2 40 CFR 61.145 (4/7/1993), 61.148 (11/20/1990) and 61.150 (9/18/2003)

The permittee shall comply with 40 CFR Sections 61.145, 61.148 and 61.150 when conducting any renovation or demolition at the facility.

2.7.5 Stratospheric Ozone and Climate Protection

2.7.5.1 40 CFR 82 Subpart F (3/11/2020)

The permittee shall comply with the standards for recycling and emissions reduction in accordance with the requirements listed in 40 CFR 82 Subpart F.

2.7.5.2 State Only: RCW 70A.15.6410 (1991 c 199 § 602)

A person who services, repairs, or disposes of a motor vehicle air conditioning system; commercial or industrial air conditioning, heating, or refrigeration system; or consumer appliance shall use refrigerant extraction equipment to recover regulated refrigerant that would otherwise be released into the atmosphere. This subsection does not apply to off-road commercial equipment.

The willful release of regulated refrigerant from a source listed in this section is prohibited.

2.7.6 Display of Orders, Certificates and Other Notices: Removal or

Mutilation Prohibited

State Only: NWCAA Section 124 (2/14/1973)

Any order or other certificate obtained from the NWCAA shall be available at the facility. If the NWCAA requires a notice to be displayed, it shall be posted. No one shall mutilate, obstruct or remove any notice unless authorized to do so by the NWCAA.

2.7.7 Obstruction of Access

State Only: RCW 70A.15.2500 (1987 c 109 § 38*)*

The permittee shall not obstruct, hamper, or interfere with any authorized representative of the NWCAA who requests entry for the purposes of inspection and who presents appropriate credential; nor shall any person obstruct, hamper, or interfere with any such inspection.

2.7.8 False Statement, Representation or Certification

State Only: WAC 173-400-105(6) (11/25/2018)

No person shall make any false material statement, representation or certification in any form, notice or report required under chapter 70.94 or 70.120 RCW, or any ordinance, resolution, regulation, permit, or order in force pursuant thereto.

2.7.9 Inaccurate Monitoring

State Only: WAC 173-400-105(8) (11/25/2018)

No person shall render inaccurate any monitoring device or method required under chapter 70.94 or 70.120 RCW, or any ordinance, resolution, regulation, permit, or order in force pursuant thereto.

2.7.10 Prevention of Accidental Release

40 CFR 68 (12/3/2018)

This stationary source, as defined in 40 CFR Section 68.3, is subject to Part 68, the accidental release prevention regulations. This stationary source shall submit a risk management plan (RMP) by the date specified in section 68.10. This stationary source shall certify compliance with the requirements of part 68 as part of the annual compliance certification as required by 40 CFR Part 70.

2.7.11 Cutback Asphalt Paving

NWCAA Section 580.7 (4/14/1993)

The application of cutback asphalt in paving during the months of June, July, August and September is limited to use as prime coatings and patch mixes, or when the temperature is less than 50°F.

2.7.12 Creditable Stack Height and Dispersion Techniques

WAC 173-400-200 (2/10/2005)

For stacks for which construction or reconstruction commenced, or for which major modifications were carried out, after December 31, 1970, no source may use dispersion techniques or excess stack height to meet ambient air quality standards or PSD increment limitations.

2.8 Notice of Construction/New Source Review

2.8.1 Minor New Source Review (NSR)

2.8.1.1 NWCAA 300, 301, 302 & 324.2 (10/13/94), and NWCAA 303 (8/9/78)

A Notice of Construction application must be filed by the owner or operator, all fees paid, and an Order of Approval issued by the NWCAA prior to beginning actual construction of any new source or making any modification, except for those emissions units exempt under NWCAA 300.3 or 300.4, a temporary source operating under NWCAA 300.17, or an emissions unit covered under a General Order of Approval and operating in accordance with NWCAA 300.16.

2.8.1.2 State Only: WAC 173-400-111, 113 (12/29/12), WAC 173-460-010 through -150 (6/20/09), NWCAA 300.1-300.12 (8/13/15), NWCAA 301 (11/17/11), 303 (11/12/98), and 324.2 (9/11/14)

A Notice of Construction application must be filed by the owner or operator and an Order of Approval issued by the NWCAA prior to the establishment of any new source in accordance with the cited regulations. For purposes of this section "establishment" shall mean to "begin actual construction" as that phrase is defined in NWCAA 200, and "new source" shall include any "modification" to an existing "stationary source" as those terms are defined in NWCAA 200.

When actual construction has begun on a new source or modification for which a Notice of Construction is required and a final Order of Approval has not been issued, the control officer may investigate as part of the Notice of Construction application review. An investigation fee, in addition to the fees of NWCAA 324.2, may be assessed.

2.8.2 General Order

2.8.2.1 NWCAA Section 121.4 (11/15/1988)

Any orders issued by NWCAA are subject to appeal.

2.8.2.2 State Only: WAC 173-400-560 (12/29/2012) NWCAA Section 121.4 (3/14/2013)

An owner or operator may apply for an applicable general order for approval to construct certain specified sources as defined in WAC 173-400-560. A general order of approval shall identify criteria by which an emission unit or source may qualify for coverage under a general order of approval and shall include terms and conditions for installing and/or operating the source.

2.8.3 Requirements to Comply

State Only: NWCAA Section 300.13 (4/11/2019)

It shall be unlawful for an owner or operator of a source or emission unit to not abide by the operating and reporting conditions in the Order of Approval.

2.8.4 Prevention of Significant Deterioration (PSD)

WAC 173-400-117 (12/29/2012)
State Only: WAC 173-400-700 (4/1/2011), WAC 173-400-710, -720, -730 (7/1/2016), -740 (9/16/2018), -750 (12/29/2012)

A Prevention of Significant Deterioration (PSD) permit application must be filed by the owner or operator and a PSD permit issued by Ecology prior to the establishment of any new source in accordance with the cited regulations. No major stationary source or major modification as defined in the cited regulation shall begin actual construction without having received a PSD permit. Allowable emissions from the proposed major stationary source or major modification shall not cause or contribute to a violation of any ambient air quality standard.

An applicant for a PSD permit must submit an application that provides complete information for Department of Ecology to determine compliance with all PSD program requirements. Detailed procedures for submitting a complete application, for public review and involvement, and for revisions to an existing PSD permit are provided in the cited regulations (WAC 173-400-700 through 750).

2.8.5 Replacement or Substantial Alteration of Control Technology at an Existing Source

State Only: NWCAA Section 300.25 (4/11/2019)

Any person proposing to replace or substantially alter emission control technology installed on an existing stationary source or emission unit shall file a Notice of Construction application with the NWCAA.

2.8.6 Major Stationary Source and Major Modification in a Nonattainment Area

WAC 173-400-800 (4/1/2011), -810 (7/1/2016), -820 (12/29/2012), -830 (7/1/2016), -840 (7/1/2016), -850 (7/1/2016), and -860 (4/1/2011)

WAC 173-400-800 through 173-400-860 apply statewide except where a permitting authority has a permitting program for major stationary sources in a nonattainment area incorporated into the Washington state implementation plan as replacement for these sections.

These requirements apply to any new major stationary source or major modification of an existing major stationary source located in a designated nonattainment area that is major for the pollutant or pollutants for which the area is designated as not in attainment of one or more national ambient air quality standards.

2.9 Greenhouse Gas Regulation

State Only: WAC 173-401-200 (19) & (35) (3/5/2016)

Greenhouse gases (GHGs), the air pollutant defined in 40 CFR 86.1818-12(a) as the aggregate group of six greenhouse gases: Carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride, shall not be subject to regulation under this chapter unless, as of January 2, 2011, the GHG emissions are at a stationary source emitting or having the potential to emit 100,000 tpy CO_2 equivalent emissions and the source is otherwise required to have an operating permit.

The term "tpy (tons per year) CO_2 equivalent emissions (CO_{2e})" shall represent an amount of GHGs emitted and shall be computed by multiplying the mass amount of emissions (tpy), for each of the six greenhouse gases in the pollutant GHGs, by the gas's associated global warming potential published at Table A-1 to subpart A of 40 CFR Part 98 - Global Warming Potentials and summing the resultant value for each to compute a tpy CO_2e.

SECTION 3 STANDARD TERMS AND CONDITIONS FOR NSPS AND NESHAP

Standard terms and conditions are administrative and/or other requirements that typically have no ongoing compliance monitoring requirements. The permittee must comply with the requirements listed below for specific "affected facilities" as defined in the New Source Performance Standards (NSPS) in 40 CFR Part 60.2, "affected sources" defined in the National Emission Standards for Hazardous Air Pollutants (NESHAP) in 40 CFR Part 63.2, and owners or operators of any stationary source for which a standard is prescribed under 40 CFR Part 61. The affected facilities, affected sources, and stationary sources subject to these requirements are identified in Section 5 of the permit. The conditions in this section do not apply generally to all emission units at the facility. Some requirements from the regulations cited in this section of the permit have been paraphrased for brevity. For all conditions in this section, the language of the cited regulation takes precedence over a paraphrased requirement.

The EPA delegates NSPS and NESHAP implementation and enforcement authority to NWCAA on a periodic basis. Some conditions in this section cite the NSPS delegation letter or the NESHAP delegation letter from EPA Region 10 to NWCAA because the letter clarifies certain Federal requirements. For example, the delegation letters state that NWCAA shall be the recipient of all notifications and reports and be the point of contact for questions and compliance issues regarding delegated standards. The delegation letters also specify the extent of NSPS and NESHAP delegation to the NWCAA. Current delegation letters are available for review on the NWCAA website and at the NWCAA office.

Some of the terms and conditions cited below refer to the "Administrator". For delegated NSPS and NESHAP requirements, "Administrator" means NWCAA; for NSPS and NESHAP requirements that have not been delegated to NWCAA, "Administrator" means the Administrator of the United States Environmental Protection Agency.

All the federal regulations listed in Section 3 have been adopted by reference in Section 104.2 of the NWCAA Regulation. NWCAA 104.2 was last amended by the agency on June 10, 2021.

3.1 Part 60 – New Source Performance Standards

3.1.1 Address for Reports, Notifications, and Submittals

*40 CFR 60.4(a) and (b) (4/25/1975) (*as amended by Delegation Letter dated 11/2/2021 from Krishna Viswanathan, Director of the Office of Air and Radiation, EPA Region 10 to Mark Buford, Director of NWCAA*)*

Notifications, reports, and applications for delegated New Source Performance Standards (NSPS) shall be sent to the NWCAA at the following address:

Northwest Clean Air Agency
1600 S. Second Street
Mount Vernon, WA 98273-5202

Notifications, reports, and applications under NSPS authorities that have been excluded from delegation shall be submitted to the EPA at the following address*:*

Clean Air Act Compliance Manager
US EPA Region 10, Mail Stop: 20-C04
1200 Sixth Avenue, Suite 155
Seattle, WA 98101

3.1.2 Notification

*40 CFR 60.7(a) (2/1219/99) (*as amended by Delegation Letter dated 11/2/2021 from Krishna Viswanathan, Director of the Office of Air and Radiation, EPA Region 10 to Mark Buford, Director of NWCAA*)*

Furnish written notification to the Administrator of the following:

(i) The date construction (or reconstruction as defined by 40 CFR 60.15) of an affected facility commenced postmarked no later than 30 days after such date.

(ii) Notification of the actual date of initial startup of an affected facility postmarked within 15 days after such date.

(iii) 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 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.

(iv) Notification of the date upon which demonstration of the continuous monitoring system performance commences in accordance with 40 CFR 60.13(c). Notification shall be postmarked not less than 30 days prior to such date.

(v) Notification of the anticipated date for conducting the opacity observations required by 40 CFR 60.11(e)(1) of this part. The notification shall be postmarked not less than 30 days prior to such date.

(vi) Notification that continuous opacity monitoring system data results will be used to determine compliance with the applicable opacity standard during a performance test required by 60.8 in lieu of Method 9 observation data as allowed by 40 CFR 60.11(e)(5) of this part. This notification shall be postmarked not less than 30 days prior to the date of the performance test.

3.1.3 Startup, Shutdown, and Malfunction Records

3.1.3.1 40 CFR 60.7(b) (2/12/1999)

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.

3.1.3.2 40 CFR 60.8(c) (8/30/2016)

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

3.1.4 Excess Emission Records

3.1.4.1 40 CFR 60.7(c) and (d) (2/12/99) (as amended by Delegation Letter dated 11/2/2021 from Krishna Viswanathan, Director of the Office of Air and Radiation, EPA Region 10 to Mark Buford, Director of NWCAA)

Each owner or operator required to install a continuous monitoring device shall submit excess emissions and monitoring systems performance report (as defined in applicable subparts) and/or summary report form (see 60.7(d)) to the Administrator semiannually, except when: more frequent reporting is specifically required in any subpart; or the Administrator determines that more frequent reporting is necessary. All reports shall be postmarked by the 30th day following the end of each six-month period. Written reports of excess emissions shall include the information in 40 CFR 60.7(c)(1) through (4).

3.1.4.2 Excess Emissions Reports 40 CFR 60 Subpart Ja Affected Sources 40 CFR 60.108a(d) (9/12/2012)

The requirements for excess emission reporting for Subpart Ja affected sources are the same as noted in AOP Term 3.1.4.1 above with the following clarifications, exceptions, or differences:

Each owner or operator subject to this subpart shall submit an excess emissions report for all periods of excess emissions according to the requirements of 60.7(c) except that the report shall contain the following information:

(i) The date that the exceedance occurred;

(ii) An explanation of the exceedance;

(iii) Whether the exceedance was concurrent with a startup, shutdown, or malfunction of an affected facility or control system; and

(iv) A description of the action taken, if any.

(v) The information described in 60.108(c)(6) for all subject discharges.

(vi) 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.

(vii) A written statement, signed by a responsible official, certifying the accuracy and completeness of the information contained in the report.

3.1.5 Maintenance of Records

40 CFR 60.7(f) (2/12/1999)

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, except as described in 60.7(f)(1) through (3).

Note: Under WAC 173-401-615(2), records of required monitoring data and support information shall be retained for a period of five years from the date of the monitoring sample, measurement, report, or application.

3.1.6 Performance Tests

40 CFR 60.8(a), (d), (e), and (f) (8/30/2016)

Within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility, or at such other times specified by this part, and at such other times as may be required by the Administrator under section 114 of the Act, the owner or operator of such facility shall conduct performance test(s) and furnish the Administrator a written report of the results of such performance test(s), except as specified in paragraphs (a)(1),(a)(2), (a)(3), and (a)(4) of this section.

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. If after 30 days notice for an initially scheduled performance test, there is a delay (due to operational problems, etc.) in conducting the scheduled performance test, the owner or operator of an affected facility shall notify the Administrator as soon as possible of any delay in the original test date, either by providing at least 7 days prior notice of the rescheduled date of the performance test, or by arranging a rescheduled date with the Administrator by mutual agreement.

The owner or operator of an affected facility shall provide performance testing facilities as follows:

(i) Sampling ports adequate for test methods applicable to such facility.

(ii) Safe sampling platform(s).

(iii) Safe access to sampling platform(s).

(iv) Utilities for sampling and testing equipment.

Unless otherwise specified in the applicable subpart, each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the applicable standard. For the purpose of determining compliance with an applicable standard, the arithmetic means of results of the three runs shall apply.

Unless otherwise specified in a relevant standard or test method, or as otherwise approved by the Administrator in writing, the report for a performance test shall include:

(i) Facility mailing address, physical address, owner or operator or responsible official (where applicable) and his/her email address, and the appropriate Federal Registry System (FRS) number for the facility.

(ii) Applicable regulation(s) requiring the test, the pollutant(s) and other parameters being measured, the applicable emission standard and any process parameter component, and a brief process description.

(iii) Description of the emission unit tested including fuel burned, control devices, and vent characteristics; the appropriate source classification code (SCC); the permitted maximum process rate (where applicable); and the sampling location.

(iv) Description of sampling and analysis procedures used and any modifications to standard procedures, quality assurance procedures and results, record of process operating conditions that demonstrate the applicable test conditions are met, and values for any operating parameters for which limits were being set during the test.

(v) Where a test method requires you record or report, the following shall be included: Record of preparation of standards, record of calibrations, raw data sheets for field

sampling, raw data sheets for field and laboratory analyses, chain-of-custody documentation, and example calculations for reported results.

(vi) Identification of the company conducting the performance test including the primary office address, telephone number, and the contact for this test program including his/her email address.

3.1.7 Test Method Performance Audit

40 CFR 60.8(g) (8/30/2016)

Performance testing shall include a test method performance audit (PA) during the performance test, as specified in 40 CFR 60.8(g).

The source owner, operator, or representative of the tested facility shall obtain an audit sample, if commercially available, from an AASP for each test method used for regulatory compliance purposes. See 40 CFR 60.8(g)(1) for a list of test methods excluded from this requirement.

If the source owner, operator, or representative cannot find an audit sample for a specific method, the owner, operator, or representative shall consult the EPA Web site at the following URL, https://www.epa.gov/emc/emc-technical-support#audit, to confirm whether there is a source that can supply an audit sample for that method. If the EPA Web site does not list an available audit sample at least 60 days prior to the beginning of the compliance test, the source owner, operator, or representative shall not be required to include an audit sample as part of the quality assurance program for the compliance test.

The source owner, operator, or representative shall report the results for the audit sample along with a summary of the emission test results for the audited pollutant to the compliance authority and shall report the results of the audit sample to the AASP. The source owner, operator, or representative shall make both reports at the same time and in the same manner or shall report to the compliance authority first and then report to the AASP.

3.1.8 Compliance with Opacity Standards

40 CFR 60.11(b) and (c) (10/17/2000)

Compliance with opacity standards in 40 CFR Part 60 shall be determined by EPA Method 9 in Appendix A. For purposes of determining inital compliance, the minimum total time of observations shall be 3 hours (30 6-minute averages) for the performance test. The opacity standards set forth in this part shall apply at all times except during periods of startup, shutdown, malfunction, and as otherwise provided in the applicable standard.

3.1.9 Operation and Maintenance

40 CFR 60.11(d) (10/17/2000)

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 practices for minimizing emissions.

3.1.10 Credible Evidence

40 CFR 60.11(g) (10/17/2000)

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 been performed.

3.1.11 Circumvention

40 CFR 60.12 (3/8/1974)

No owner or operator subject to the provisions of this part shall 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. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere.

3.1.12 Monitoring Requirements

40 CFR 60.13 (6/30/2016)

All continuous monitoring systems required under applicable subparts shall be subject to the provisions of this section upon promulgation of performance specifications for continuous monitoring systems under appendix B to part 60 and, if the continuous monitoring system is used to demonstrate compliance with emission limits on a continuous basis, appendix F to part 60, unless otherwise specified in an applicable subpart or by the Administrator.

The owner or operator of an affected facility shall conduct a performance evaluation of the continuous emission monitoring system (CEMS) during any performance test required under §60.8 or within 30 days thereafter in accordance with the applicable performance specification in appendix B of this part, or at such other times as may be required by the Administrator under section 114 of the Act. The owner or operator of an affected facility shall furnish the Administrator within 60 days of completion a written report of the results of the performance evaluation.

Owners and operators of a CEMS installed in accordance with the provisions of this part, must check the zero (or 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 in accordance with a written procedure. The zero and span must, as a minimum, be adjusted whenever either the 24-hour zero drift or the 24-hour span drift exceeds two times the limit of the applicable performance specification in appendix B of this part. The system must allow the amount of the excess zero and span drift to be recorded and quantified whenever specified.

Except for system breakdowns, repairs, calibration checks, and zero and span adjustments required under this section, all continuous monitoring systems for measuring emissions, except opacity, shall be in continuous operation and shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

Owners or operators of continuous monitoring systems for pollutants other than opacity shall reduce all data to 1-hour averages for time periods as defined in §60.2.

For continuous monitoring systems other than opacity, 1-hour averages shall be computed according to paragraphs (h)(2)(i) through (h)(2)(ix), except that the provisions pertaining to the validation of partial operating hours are only applicable for affected facilities that are required by the applicable subpart to include partial hours in the emission calculations.

3.1.13 Modification

40 CFR 60.14 (10/17/2000)

Except as provided under paragraphs (e) 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.

Within 180 days of the completion of any physical or operational change subject to the control measures specified in paragraph (a) of this section, compliance with all applicable standards must be achieved.

3.1.14 Recordkeeping and Reporting for 40 CFR Part 60 Subpart Kb

40 CFR 60.115b (1/19/2021) and 60.116b(a) (10/15/2003)

Copies of all records required under Subpart Kb shall be kept for at least two years, except for operating plans for closed vent systems and control devices other than a flare, which must be kept for the life of the source.

Note: Under WAC 173-401-615(2), records of required monitoring data and support information shall be retained for a period of five years from the date of the monitoring sample, measurement, report, or application

3.1.15 Compliance During Startup, Shutdown, and Malfunction for 40 CFR Part 60 Subpart QQQ

40 CFR 60.692-1 (11/23/1988)

Each owner or operator subject to the provisions of Subpart QQQ shall comply with the requirements of 60.692-1 to 60.692-5 except during periods of startup, shutdown, or malfunction.

3.1.16 Recordkeeping for Stormwater Systems Excluded from 40 CFR Part 60 Subpart QQQ

40 CFR 60.697(h) (10/17/2000)

For stormwater sewer systems subject to the exclusion in 60.692-1(d)(1), an owner or operator 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.

3.1.17 Recordkeeping for Ancillary Equipment Excluded from 40 CFR Part 60 Subpart QQQ

40 CFR 60.697(i) (10/17/2000)

For ancillary equipment subject to the exclusion in 60.692-1(d)(2), an owner or operator shall keep for the life of the facility in a readily accessible location, plans or specifications that demonstrate that the ancillary equipment does not come in contact with or store oily wastewater.

3.1.18 Recordkeeping for Non-Contact Cooling Water Systems Excluded from

40 CFR Part 60 Subpart QQQ

40 CFR 60.697(j) (10/17/2000)

For non-contact cooling water systems subject to the exclusion in 60.692-1(d)(3), an owner or operator shall keep for the life of the facility in a readily accessible location, plans or specifications which demonstrate that the cooling water does not contact hydrocarbons or oily wastewater and is not recirculated through a cooling tower.

3.1.19 Deadlines for Importing or Installing Stationary Compression Ignition Internal Combustion Engines Produced in Previous Model Years for 40 CFR 60 Subpart IIII

40 CFR 60.4200(a)(4) (6/29/2021) and 60.4208(a), (b), (h), (i) (6/28/2011)

For owners and operators of stationary compression ignition (CI) internal combustion engines (ICE) that commenced construction after July 11, 2005, it is prohibited to import stationary CI ICE with a displacement of less than 30 liters per cylinder that do not meet the following requirements by the specified dates:

After December 31, 2008, owners and operators may not install stationary CI ICE (excluding fire pump engines) that do not meet the applicable requirements for 2007 model year engines.

After December 31, 2009, owners and operators may not install stationary CI ICE with a maximum engine power of less than 19 kW (25 hp) (excluding fire pump engines) that do not meet the applicable requirements for 2008 model year engines.

After December 31, 2012, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 130 kW (175 hp), including those above 560 kW (750 hp), that do not meet the applicable requirements for 2011 model year non-emergency engines.

After December 31, 2013, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 56 kW (75 hp) and less than 130 kW (175 hp) that do not meet the applicable requirements for 2012 model year non-emergency engines.

After December 31, 2014, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 19 kW (25 hp) and less than 56 kW (75 hp) that do not meet the applicable requirements for 2013 model year non-emergency engines.

After December 31, 2016, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 560 kW (750 hp) that do not meet the applicable requirements for 2015 model year non-emergency engines.

After December 31, 2018, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power greater than or equal to 600 kW (804 hp) and less than 2,000 kW (2,680 hp) and a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder that do not meet the applicable requirements for 2017 model year non-emergency engines.

The requirements of this section do not apply to stationary CI ICE that have been modified or reconstructed, and do not apply to engines that were removed from one existing location and reinstalled at a new location.

3.2 Part 61 – National Emission Standard for Hazardous Air Pollutants

3.2.1 Address for Reports, Notifications and Submittals

*40 CFR 61.04 (*4/25/1975) (as amended by Delegation Letter dated 11/16/2021 from Krishna Viswanathan, Director of the Office of Air and Radiation, EPA Region 10 to Mark Buford, Director of NWCAA*)*

Notifications, reports, and applications for delegated Part 61 National Emission Standards for Hazardous Air Pollutants (NESHAP) shall be sent to the NWCAA at the following address:

Northwest Clean Air Agency
1600 South Second Street
Mount Vernon, WA 98273-5202

Notifications, reports, and applications under NESHAP authorities that have been excluded from delegation shall be submitted to the EPA at the following address:

Clean Air Act Compliance Manager
US EPA Region 10, Mail Stop: 20-C04
1200 Sixth Avenue, Suite 155
Seattle, WA 98101

3.2.2 Requirements for Existing, Newly Constructed, and Reconstructed Sources

40 CFR 61.05(a), 61.07 (11/7/1985), and 61.10(a) and (c) (3/16/1994)

After the effective date of a Part 61 standard, no owner or operator shall construct or modify any stationary source subject to that standard without obtaining written approval from the Administrator in accordance with Part 61 Subpart A, except under an exemption granted by the President under Section 112(c)(2) of the Act. Sources, the construction or modification of which commenced after the publication date of the standards proposed to be applicable to the sources, are subject to this prohibition.

The owner or operator shall submit to the Administrator an application for approval of the construction of any new source or modification of any existing source. The application shall be submitted before the construction or modification is planned to commence, or within 30 days after the effective date if the construction or modification had commenced before the effective date and initial startup has not occurred. A separate application shall be submitted for each stationary source. Each application for approval of construction shall include:

(i) The name and address of the applicant,

(ii) The location or proposed location of the source; and

(iii) Technical information describing the proposed nature, size, design, operating design capacity, and method of operation of the source, including a description of any equipment to be used for control of emissions. Such technical information shall include calculations of emission estimates in sufficient detail to permit assessment of the validity of the calculations.

Each application for approval of modification shall include, in addition to the information required in paragraph (b) of this section:

(iv) The precise nature of the proposed changes,

(v) The productive capacity of the source before and after the changes are completed; and

(vi) Calculations of estimates of emissions before and after the changes are completed, in sufficient detail to permit assessment of the validity of the calculations.

The owner or operator of each existing source or each new source which had an initial startup before the effective date of a relevant standard shall provide the following information in writing to the Administrator within 90 days after the effective date

(i) The name address of the owner or operator,

(ii) The location of the source,

(iii) The type of hazardous pollutants emitted by the stationary source,

(iv) A brief description of the nature, size, design, and method of operation of the stationary source including the operating design capacity of the source. Identify each point of emissions for each hazardous pollutant.

(v) The average weight per month of the hazardous materials being processed by the source, over the last 12 months preceding the date of the report.

(vi) A description of the existing control equipment for each emission point including:

a. Each control device for each hazardous pollutant; and

b. Estimated control efficiency (percent) for each control devices.

(vii) A statement by the owner or operator of the source as to whether the source can comply with the standards within 90 days after the effective date.

Any change in the information provided under paragraph (a) of this section or 61.07(b) shall be provided to the Administrator within 30 days after the change. However, if any change will result from modification of the source, 61.07(c) and 61.08 apply.

3.2.3 Prohibited Activities and Circumvention

40 CFR 61.05(b), (c) and (d) (11/7/1985)

After the effective date of any standard, no owner or operator shall operate a new stationary source subject to that standard in violation of the standard except under an exemption granted by the President under Section 112(c)(2) of the Act.

Ninety days after the effective date of any standard, no owner or operator shall operate any existing source subject to that standard in violation of the standard, except under a waiver granted by the Administrator under this part or under an exemption granted by the President under Section 112(c)(2) of the Act.

No owner or operator subject to the provisions of Part 61 shall fail to report, revise reports, or report source test results as required under this part.

3.2.4 Application for Approval of Construction or Modification

40 CFR 61.07 (11/7/1985)

The owner or operator shall submit to the Administrator an application for approval of the construction of any new source according to (b) of this section or modification of any existing source according to (c) of this section. The application shall be submitted before the construction or modification is planned to commence, or within 30 days after the effective date if the construction or modification had commenced before the effective date and initial startup has not occurred. A separate application shall be submitted for each stationary source.

3.2.5 Notification of Startup

40 CFR 61.09(a) (11/7/1985)

The owner or operator shall provide the Administrator with written notification of the anticipated date of initial startup of the source not more than 60 days or less than 30 days before that date, and the actual date of initial startup of the source within 15 days after that date.

3.2.6 Operation and Maintenance

40 CFR 61.12(c) (2/24/1997)

The owner or operator of each stationary source shall maintain and operate the source, including associated equipment for air pollution control, 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, review of operating and maintenance procedures, and inspection of the source.

3.2.7 Credible Evidence

40 CFR 61.12(e) (2/24/1997)

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 been performed.

3.2.8 Emission Tests

40 CFR 61.13(a) through (f), (h), & (i) (8/30/2016)

If required to do emission testing by an applicable subpart, the owner or operator shall test emissions from the source within 90 days after the effective date, for an existing source or a new source which has an initial startup date before the effective date, or within 90 days after initial startup, for a new source which has an initial startup date after the effective date.

The owner or operator of each new source and, at the request of the Administrator, the owner or operator of each existing source shall provide emission testing facilities as follows:

(i) Sampling ports adequate for test methods applicable to each source.

(ii) Safe sampling platform(s).

(iii) Safe access to sampling platform(s).

(iv) Utilities for sampling and testing equipment.

(v) Any other facilities that the Administrator needs to safely and properly test a source.

Each emission test shall be conducted under such conditions as the Administrator shall specify based on design and operational characteristics of the source.

The performance testing shall include a test method performance audit (PA) during the performance test, as specified in 40 CFR 61.13(e)(1).

The source owner, operator, or representative of the tested facility shall obtain an audit sample, if commercially available, from an accredited audit sample provider (AASP) for each test method

used for regulatory compliance purposes. See 40 CFR 61.13(e)(1)(i) for a list of test methods excluded from this requirement.

If the source owner, operator, or representative cannot find an audit sample for a specific method, the owner, operator, or representative shall consult the EPA Web site at the following URL, https://www.epa.gov/emc/emc-technical-support#audit, to confirm whether there is a source that can supply an audit sample for that method. If the EPA Web site does not list an available audit sample at least 60 days prior to the beginning of the compliance test, the source owner, operator, or representative shall not be required to include an audit sample as part of the quality assurance program for the compliance test.

The source owner, operator, or representative shall report the results for the audit sample along with a summary of the emission test results for the audited pollutant to the compliance authority and shall report the results of the audit sample to the AASP. The test protocol and final test report shall document whether an audit sample was ordered and utilized and the pass/fail results as applicable.

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 owner or operator 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.

3.2.9 Recordkeeping Requirements

40 CFR 61.13(g) (8/30/2016), and 61.356 (11/12/2002)

The owner or operator of a source subject to Part 61 shall 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.

Each owner or operator complying with the recordkeeping requirements of 61.356 shall maintain records in a readily accessible location at the facility site for a period not less than two years from the date the information is recorded unless otherwise specified.

Note: Under WAC 173-401-615(2), records of required monitoring data and support information shall be retained for a period of five years from the date of the monitoring sample, measurement, report, or application.

3.2.10 Monitoring Requirements

40 CFR 61.14 (11/7/1985)

Unless otherwise specified, this section applies to each monitoring system required under each subpart which requires monitoring.

Each owner or operator shall maintain and operate each monitoring system as specified in the applicable subpart and in a manner consistent with good air pollution control practice for minimizing emissions. Any unavoidable breakdown or malfunction of the monitoring system should be repaired or adjusted as soon as practicable after its occurrence.

When required by the applicable subpart, and at any other time the Administrator may require, the owner or operator of a source being monitored shall conduct a performance evaluation of the monitoring system and furnish the Administrator with a copy of a written report of the results within 60 days of the evaluation. Such a performance evaluation shall be conducted according to the applicable specifications and procedures described in the applicable subpart. The owner or operator of the source shall furnish the Administrator with written notification of the date of the performance evaluation at least 30 days before the evaluation is to begin.

Monitoring data recorded during periods of unavoidable monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments shall not be included in any data average.

The owner or operator shall maintain records of monitoring data, monitoring system calibration checks, and the occurrence and duration of any period during which the monitoring system is malfunctioning or inoperative. These records shall be maintained at the source for a minimum of 2 years and made available, upon request, for inspection by the Administrator.

Note: Under WAC 173-401-615(2), records of required monitoring data and support information shall be retained for a period of five years from the date of the monitoring sample, measurement, report, or application.

3.2.11 Modification

40 CFR 61.15 (11/7/1985)

Except as provided under paragraph (d) of this section, any physical or operational change to a stationary source which results in an increase in the rate of emission to the atmosphere of a hazardous pollutant to which a standard applies shall be considered a modification. Upon modification, an existing source shall become a new source for each hazardous pollutant for which the rate of emission to the atmosphere increases and to which a standard applies.

3.2.12 Circumvention

40 CFR 61.19 (11/7/1985)

No owner or operator subject to the provisions of this part shall build, erect, install, or use any article, machine, equipment, process, or method, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous dilutants to achieve compliance with a visible emissions standard, and the piecemeal carrying out of an operation to avoid coverage by a standard that applies only to operations larger than a specified size.

3.3 Part 63 – National Emission Standard for Hazardous Air Pollutants (MACT)

3.3.1 Prohibited Activities and Circumvention

40 CFR 63.4 (4/5/2002)

No owner or operator subject to the provisions of this part must operate any affected source in violation of the requirements of this part. Affected sources subject to and in compliance with either an extension of compliance or an exemption from compliance is not in violation of the requirements of this part. An extension of compliance can be granted by the Administrator under this part; by a State with an approved permit program; or by the President under Section 112(i)(4) of the Act.

No owner or operator subject to the provisions of this part shall fail to keep records, notify, report, or revise reports as required under this part.

No owner or operator subject to the provisions of this part shall build, erect, install, or use any article, machine, equipment, or process to conceal an emission that would otherwise constitute noncompliance with a relevant standard. Such concealment includes, but is not limited to –

(i) The use of diluents to achieve compliance with a relevant standard based on the concentration of a pollutant in the effluent discharged to the atmosphere.

(ii) The use of gaseous diluents to achieve compliance with a relevant standard for visible emissions.

Fragmentation after November 15, 1990, which divides ownership of an operation, within the same facility among various owners where there is no real change in control, will not affect applicability. The owner and operator must not use fragmentation or phasing of reconstruction activities (i.e., intentionally dividing reconstruction into multiple parts for purposes of avoiding new source requirements) to avoid becoming subject to new source requirements.

3.3.2 Requirements for Existing, Newly Constructed, and Reconstructed 40 CFR Part 63 NESHAPs Sources

40 CFR 63.5(b)(1), (3), (4), (6) (4/5/2002)

A new affected source for which construction commences after proposal of a relevant standard is subject to relevant standards for new affected sources, including compliance dates. An affected source for which reconstruction commences after proposal of a relevant standard is subject to relevant standards for new sources, including compliance dates, irrespective of any change in emissions of hazardous air pollutants from that source.

After the effective date of any relevant standard promulgated by the Administrator under this part, no person may, without obtaining written approval in advance from the Administrator in accordance with the procedures in paragraphs (d) and (e) of this Part 63.5, do any of the following:

(i) Construct a new affected source that is major-emitting and subject to such standard.

(ii) Reconstruct an affected source that is major-emitting and subject to such standard; or,

(iii) Reconstruct a major source such that the source becomes an affected source that is major-emitting and subject to the standard.

After the effective date of any relevant standard promulgated by the Administrator under this part, an owner or operator who constructs a new affected source that is not major-emitting or reconstructs an affected source that is not major-emitting that is subject to such standard or reconstructs a source such that the source becomes an affected source subject to the standard, must notify the Administrator of the intended construction or reconstruction. The notification must be submitted in accordance with the applicable procedures in 63.9(b).

After the effective date of any relevant standard promulgated by the Administrator under this part, equipment added (or a process change) to an affected source that is within the scope of the definition of affected source under the relevant standard must be considered part of the affected source and subject to all provisions of the relevant standard established for that affected source.

3.3.3 Operation and Maintenance

3.3.3.1 O&M for Part 63 NESHAP Sources (except 63.6((e)1) (i) and (ii) do not apply to Subparts CC, UUU, ZZZZ and DDDDD40 CFR 63.6(e)(1)(i), (ii), and (iii) (3/11/2021)

At all times, including periods of startup, shutdown, and malfunction, owners or operators must operate and maintain any affected source, including associated air pollution control and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. During a period of startup, shutdown, or malfunction, this general duty to minimize emissions requires that the owner or operator reduce emissions from the affected source to the greatest extent which is consistent with safety and good air pollution control practices. The general duty to minimize emissions during a period of startup, shutdown, or malfunction does not require the owner or operator to achieve emission levels that would be required by the applicable standard at other times if this is not consistent with safety and good

air pollution control practices, nor does it require the owner or operator to make any further efforts to reduce emissions if levels required by the applicable 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.

Malfunctions must be corrected as soon as practicable after their occurrence. To the extent that an unexpected event arises during a startup, shutdown, or malfunction, an owner or operator must comply by minimizing emissions during such a startup, shutdown, and malfunction event consistent with safety and good air pollution control practices.

Operation and maintenance requirements established pursuant to section 112 of the Act are enforceable independent of emissions limitations or other requirements in relevant standards.

3.3.3.2 O&M for 40 CFR 63 Subpart UUU (Refinery MACT II) Affected Sources 40 CFR 63.1564(a)(3) & (c)(2) (7/13/16); 63.1565(a)(3) & (c)(2) (7/13/16); 63.1566(a)(5) & (c)(2) (7/13/16); 63.1567(a)(3) & (c)(2) (2/9/05); 63.1568(a)(3) & (c)(2) (7/13/16); 63.1569(a)(3) & (c)(2) (4/11/02); 63.1574(f) (12/1/15); and 63.1576(e) (12/1/15)

Prepare and implement an operations, maintenance and monitoring plan (OMMP) for each control system and continuous monitoring system for each affected source and operate at all times according to the procedures in the plan. Demonstrate continuous compliance with this standard by complying and maintaining records to document conformance with the procedures in the OMMP.

Prepare and submit the OMMP to the NWCAA for review and approval along with the notification of compliance status. Submit any changes to the NWCAA for review and approval and comply with the plan until the change is approved.

The plan must include, at a minimum:

(i) Process and control device parameters to be monitored for each affected source, along with established operating limits.

(ii) Procedures for monitoring emissions and process and control device operating parameters for each affected source.

(iii) Procedures that will be used to determine the coke burn-rate, the volumetric flow rate (if you use process date rather than direct measurement).

(iv) Procedures used to determine the HCl concentration of gases from a catalytic reforming unit when using a colorimetric tube sampling system, including procedures for correcting for pressure (if applicable to the sampling equipment) and the sampling locations that will be used for compliance monitoring purposes.

(v) Monitoring schedule (i.e., when in the process monitoring will take place).

(vi) Quality control plan for each CEMS, including procedures for calibrations, accuracy audits, and adjustments to the systems needed to meet applicable requirements for the system.

(vii) Maintenance schedule for each monitoring system and control device for each affected source that is generally consistent with the manufacturer's instructions for routine and long-term maintenance.

Keep a current copy of the OMMP onsite and available for inspection. Also keep records to show continuous compliance with the procedures in the OMMP.

3.3.3.3 O&M for 40 CFR 63 Subpart DDDDD (Boiler MACT) 40 CFR 63.7500(a)(3) (11/20/15)

At all times, any affected source (as defined in 63.7490), including associated air pollution control equipment and monitoring equipment, shall be operated and maintained in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that 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. Compliance With Nonopacity Emission Standards

3.3.3.4 Nonopacity emission standards for Part 63 NESHAP Sources (except Subparts CC, UUU, ZZZZ and DDDDD) 40 CFR 63.6(f)(1) (3/11/2021)

The non-opacity emission standards set forth in this part shall apply at all times except during periods of startup, shutdown, and malfunction, and as otherwise specified in an applicable subpart.

3.3.4 Compliance With Opacity and Visible Emission Standards

Compliance with opacity and visible emission standards for Part 63 NESHAP Sources (except Subparts CC, UUU, ZZZZ and DDDDD) 40 CFR 63.6(h)(1) (3/11/2021)

The opacity and visible emission standards set forth in this part shall apply at all times except during periods of startup, shutdown, and malfunction, as otherwise specified in an applicable subpart.

3.3.5 Extension of Compliance for Early Reductions and Other Reductions

40 CFR 63.6(i) (3/11/2021) and 63.9(c) (11/19/2020)

Until a compliance extension has been granted by the Administrator (or a State with an approved permit program) under this paragraph, the owner or operator of an affected source subject to the requirements of this section shall comply with this part's applicable requirements. A compliance extension may be possible if a request for extension of compliance meets 63.6(i)(3) through 63.6(i)(6).

3.3.6 Notification of Performance Tests

3.3.6.1 Notification of Performance Tests for Part 63 NESHAP Sources (as modified for Subparts CC and UUU) 40 CFR 63.7(b) (11/14/2018) and 63.9(e) (11/19/2020)

The owner or operator of an affected source shall notify the Administrator in writing of his or her intention to conduct a performance test at least 60 calendar days before the performance test is scheduled to begin to allow the Administrator to review and approve the site-specific test plan required under 40 CFR 63.7(c), if requested by the Administrator, and to have an observer present during the test.

3.3.6.2 Notification of Performance Tests for 40 CFR 63 Subpart CC Affected Sources. 40 CFR 63.642(d)(2) (12/1/2015)

The requirements for notification of performance tests for Subpart UUU affected sources are the same as noted in AOP Term 3.3.7.1 with the following clarifications, exceptions, or differences:

The notification of intent to conduct a performance test required in 63.7(b) and 63.9(e) must be submitted at least 30 days before the performance test is scheduled to begin (instead of 60 days) and Subpart CC does not require a site-specific test plan.

3.3.6.3 Notification of Performance Tests for 40 CFR 63 Subpart UUU (Refinery MACT II) Affected Sources. 40 CFR 63.1574(a)(2) (11/26/2018) (12/1/2015)

The requirements for notification of performance tests for Subpart UUU affected sources are the same as noted in AOP Term 3.3.7.1 with the following clarifications, exceptions, or differences:

The notification of intent to conduct a performance test required in 63.7(b) must be submitted at least 30 days before the performance test is scheduled to begin (instead of 60 days).

3.3.7 Conduct of Performance Tests

Conduct of Performance Tests for Part 63 NESHAP Sources (except as modified by individual Subparts) 40 CFR 63.7 (11/14/2018), 63.9(e) (11/19/2020)

If required to do performance testing by a relevant standard, the owner or operator of the affected source must perform such tests within 180 days of the compliance date for such source. The Administrator may require an owner or operator to conduct performance tests at the affected source at any other time when the action is authorized by section 114 of the Act.

Performance tests shall be conducted under such conditions as the Administrator specifies to the owner or operator based on representative performance (i.e., performance based on normal operating conditions) of the affected source. 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 relevant standard during periods of startup, shutdown, and malfunction be considered a violation of the relevant standard unless otherwise specified in the relevant standard or a determination of noncompliance is made under 63.6(e). Upon request, the owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests.

The owner or operator of an affected facility shall provide performance testing facilities as follows:

(i) Sampling ports adequate for test methods applicable to such facility.

(ii) Safe sampling platform(s).

(iii) Safe access to sampling platform(s).

(iv) Utilities for sampling and testing equipment.

Unless otherwise specified in the applicable subpart, each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the applicable standard. For the purpose of determining compliance with an applicable standard, the arithmetic means of results of the three runs shall apply.

Unless otherwise specified in a relevant standard or test method, results of a performance test shall include the analysis of samples, determination of emissions, and raw data. The owner or operator of an affected source shall report the results of the performance test to the Administrator before the close of business on the 60th day following the completion of the performance test, unless specified otherwise in a relevant standard.

Performance testing shall include a test method performance audit (PA) during the performance test, as specified in 40 CFR 63.7(c)(2)(iii).

The source owner, operator, or representative of the tested facility shall obtain an audit sample, if commercially available, from an AASP for each test method used for regulatory compliance purposes. See 40 CFR 63.7(c)(2)(iii)(A) for a list of test methods excluded from this requirement.

If the source owner, operator, or representative cannot find an audit sample for a specific method, the owner, operator, or representative shall consult the EPA Web site at the following URL, https://www.epa.gov/emc/emc-technical-support#audit, to confirm whether there is a source that can supply an audit sample for that method.

The source owner, operator, or representative shall report the results for the audit sample along with a summary of the emission test results for the audited pollutant to the compliance authority and shall report the results of the audit sample to the AASP. The test protocol and final test report shall document whether an audit sample was ordered and utilized and the pass/fail results as applicable.

3.3.8 Operation and Maintenance of Continuous Monitoring Systems

3.3.8.1 O&M of CMS at Part 63 NESHAP Sources (as modified by Subparts CC & UUU; no SSM plan required for Subpart DDDDD; no COMs required for Subpart ZZZZ) 40 CFR 63.8(c)(1), (2), (3), (4) and (6) (11/14/18)

The owner or operator of an affected source shall maintain and operate each CMS as specified in this section, or in a relevant standard, and in a manner consistent with good air pollution control practices.

(i) The owner or operator of an affected source must maintain and operate each CMS as specified in 63.6(e)(1).

(ii) The owner or operator must keep the necessary parts for routine repairs of the affected CMS equipment readily available.

All CMS must:

(i) be installed such that representative measures of emissions or process parameters from the affected source are obtained. In addition, CEMS must be located according to procedures contained in the applicable performance specification(s).

(ii) Unless the individual subpart states otherwise, the owner or operator must ensure the read out (that portion of the CMS that provides a visual display or record), or other indication of operation, from any CMS required for compliance with the emission standard is readily accessible on site for operational control or inspection by the operator of the equipment.

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 §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.

(i) Except for system breakdowns, out-of-control periods, repairs, maintenance periods, calibration checks, and zero (low-level) and high-level calibration drift adjustments, all CMS, including COMS and CEMS, shall be in continuous operation and shall meet minimum frequency of operation requirements as follows:

(ii) All COMS shall complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

(iii) All CEMS for measuring emissions other than opacity shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

The owner or operator of a CMS which is installed in accordance with the provisions of this part and the applicable CMS performance specification(s), must check the zero (low-level) and high-level calibration drifts at least once daily in accordance with the written procedure specified in the performance evaluation plan developed under paragraphs (e)(3)(i) and (ii) of this section. The zero (low-level) and high-level calibration drifts must be adjusted, at a minimum, whenever the 24-hour zero (low-level) drift exceeds two times the limits of the applicable performance specification(s) specified in the relevant standard. The system shall allow the amount of excess zero (low-level) and high-level drift measured at the 24-hour interval checks to be recorded and quantified whenever specified.

3.3.8.2 O&M for CMS for Part 63 Subpart CC Affected Sources 40 CFR 63.644 (11/26/18)

The language in 63.8(c)(3) applies except that Subpart CC specifies 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 or other written procedures that provide adequate assurance that the equipment would monitor accurately.

The language in 63.8(c)(4) applies except that for sources other than flares, the monitoring cycle frequency specified in 63.8(c)(4)(ii) is "once every hour" rather than "for each successive 15-minute period."

3.3.8.3 O&M for CMS for Part 63 Subpart UUU Affected Sources 40 CFR 63.1572 (11/26/18)

The language in 63.8(c)(3) applies except that Subpart UUU specifies that for continuous parameter monitoring systems, operational status verification includes completion of manufacturer written specifications or installation, operation, and calibration of the system or other written procedures that provide adequate assurance that the equipment will monitor accurately.

3.3.9 Continuous Monitoring Systems (CMS) Out of Control Periods

3.3.9.1 CMS Out of Control Periods for part 63 NESHAP (except Subpart CC) 40 CFR 63.8(c)(7) and (8) (11/14/2018)

A CMS is out of control if—

(i) The zero (low-level), mid-level (if applicable), or high-level calibration drift (CD) exceeds two times the applicable CD specification in the applicable performance specification or in the relevant standard; or

(ii) The CMS fails a performance test audit (e.g., cylinder gas audit), relative accuracy audit, relative accuracy test audit, or linearity test audit.

When the CMS is out of control, the owner or operator of the affected source shall take the necessary corrective action and shall repeat all necessary tests which indicate that the system is out of control. The owner or operator shall take corrective action and conduct retesting until the performance requirements are below the applicable limits. The beginning of the out-of-control period is the hour the owner or operator conducts a performance check (e.g., calibration drift) that indicates an exceedance of the performance requirements established under this part. The

end of the out-of-control period is the hour following the completion of corrective action and successful demonstration that the system is within the allowable limits. During the period the CMS is out of control, recorded data shall not be used in data averages and calculations, or to meet any data availability requirement established under this part.

The owner or operator of a CMS that is out of control as defined in paragraph (c)(7) of this section shall submit all information concerning out-of-control periods, including start and end dates and hours and descriptions of corrective actions taken, in the excess emissions and continuous monitoring system performance report required in 63.10(e)(3).

3.3.9.2 CMS Out of Control Periods for Part 63 Subpart CC Affected Sources 40 CFR 63.671(c) (12/15/2015)

For each CPMS installed to comply with applicable provisions in §63.670 except for CPMS installed for pilot flame monitoring, the owner or operator shall comply with the out-of-control procedures described in paragraphs (1) and (2).

(1) A CPMS is out-of-control if the zero (low-level), mid-level (if applicable) or
(2) high-level calibration drift exceeds two times the accuracy requirements of table 13 of this subpart.

When the CPMS is out of control, the owner or operator shall take the necessary corrective action and repeat all necessary tests that indicated the system is out of control. The owner or operator shall take corrective action and conduct retesting until the performance requirements are below the applicable limits. The beginning of the out-of-control period is the hour a performance check (e.g., calibration drift) that indicates an exceedance of the performance requirements established in this section is conducted. The end of the out-of-control period is the hour following the completion of corrective action and successful demonstration that the system is within allowable limits. The owner or operator shall not use data recorded during periods the CMPS is out-of-control in data averages and calculations used to report emissions or operating levels.

3.3.10 Continuous Monitoring Systems (CMS) Quality Control Program

3.3.10.1 3.3.11.1 CMS QC Program for Part 63 NESHAP Sources (except for Subpart CC; no written procedures required for CMS (under Subpart UUU) 40 CFR 63.8(d) & (e) (11/14/2018), 63.9(g)(1) (5/30/2003

The results of the quality control program required in this paragraph will be considered by the Administrator when he/she determines the validity of monitoring data.

The owner or operator of an affected source that is required to use a CMS and is subject to the monitoring requirements of this section and a relevant standard shall develop and implement a CMS quality control program. As part of the quality control program, the owner or operator shall develop and submit to the Administrator for approval upon request a site-specific performance evaluation test plan for the CMS performance evaluation required in paragraph (e)(3)(i) of this section, according to the procedures specified in paragraph (e). In addition, each quality control program shall include, at a minimum, a written protocol that describes procedures for each of the following operations:

(i) Initial and any subsequent calibration of the CMS,

(ii) Determination and adjustment of the calibration drift of the CMS,

(iii)Preventive maintenance of the CMS, including spare parts inventory,

(iv)Data recording, calculations, and reporting,

(v) Accuracy audit procedures, including sampling and analysis methods; and

(vi) Program of corrective action for a malfunctioning CMS.

The owner or operator shall keep these written procedures on record for the life of the affected source or until the affected source is no longer subject to the provisions of this part, to be made available for inspection, upon request, by the Administrator. If the performance evaluation plan is revised, the owner or operator shall keep previous (i.e., superseded) versions of the performance evaluation plan on record to be made available for inspection, upon request, by the Administrator, for a period of 5 years after each revision to the plan.

When required by a relevant standard, and at any other time the Administrator may require under section 114 of the Act, the owner or operator of an affected source being monitored shall conduct a performance evaluation of the CMS. Such performance evaluation shall be conducted according to the applicable specifications and procedures described in this section or in the relevant standard.

The owner or operator shall notify the Administrator in writing of the date of the performance evaluation simultaneously with the notification of the performance test date required under §63.7(b) or at least 60 days prior to the date the performance evaluation is scheduled to begin if no performance test is required.

Before conducting a required CMS performance evaluation, the owner or operator of an affected source shall develop and submit a site-specific performance evaluation test plan to the Administrator for approval upon request. The performance evaluation test plan shall include the evaluation program objectives, an evaluation program summary, the performance evaluation schedule, data quality objectives, and both an internal and external QA program. Data quality objectives are the pre-evaluation expectations of precision, accuracy, and completeness of data.

The internal QA program shall include, at a minimum, the activities planned by routine operators and analysts to provide an assessment of CMS performance. The external QA program shall include, at a minimum, systems audits that include the opportunity for on-site evaluation by the Administrator of instrument calibration, data validation, sample logging, and documentation of quality control data and field maintenance activities.

The owner or operator of an affected source shall submit the site-specific performance evaluation test plan to the Administrator (if requested) at least 60 days before the performance test or performance evaluation is scheduled to begin, or on a mutually agreed upon date, and review and approval of the performance evaluation test plan by the Administrator will occur with the review and approval of the site-specific test plan (if review of the site-specific test plan is requested).

The Administrator may request additional relevant information after the submittal of a site-specific performance evaluation test plan.

Neither the submission of a site-specific performance evaluation test plan for approval, nor the Administrator's approval or disapproval of a plan, nor the Administrator's failure to approve or disapprove a plan in a timely manner shall—

(i) Relieve an owner or operator of legal responsibility for compliance with any applicable provisions of this part or with any other applicable Federal, State, or local requirement; or,

(ii) Prevent the Administrator from implementing or enforcing this part or taking any other action under the Act.

The owner or operator of an affected source shall conduct a performance evaluation of a required CMS during any performance test required under §63.7 in accordance with the applicable performance specification as specified in the relevant standard. If a performance test is not required, or the requirement for a performance test has been waived under §63.7(h), the

owner or operator of an affected source shall conduct the performance evaluation not later than 180 days after the appropriate compliance date for the affected source, as specified in §63.7(a), or as otherwise specified in the relevant standard.

The owner or operator shall furnish the Administrator a copy of a written report of the results of the performance evaluation simultaneously with the results of the performance test required under §63.7 or within 60 days of completion of the performance evaluation if no test is required, unless otherwise specified in a relevant standard.

3.3.10.2 *CMS* QC Program for Part 63 Subpart CC Affected Sources 40 CFR 63.671(b) (12/1/15)

The requirements for a CMS quality control program for reporting under 63.8(e) is the same as required in AOP Term 3.3.11.1, except that results are to be submitted electronically if required by 63.655(h)(9), otherwise, the requirements for the CMS quality control program are as follows:

The owner or operator shall develop and implement a CPMS quality control program documented in a CPMS monitoring plan that covers each flare subject to the provisions in 63.670 and each CPMS installed to comply with applicable provisions in 63.670. The owner or operator shall have the CPMS monitoring plan readily available on-site at all times and shall submit a copy of the CPMS monitoring plan to the Administrator upon request by the Administrator. The CPMS monitoring plan must contain the information listed in paragraphs (1) through (5) of this section.

(1) Identification of the specific flare being monitored and the flare type (air-assisted only, steam-assisted only, air- and steam-assisted, pressure-assisted, or non-assisted).

(2) Identification of the parameter to be monitored by the CPMS and the expected parameter range, including worst case and normal operation.

(3) Description of the monitoring equipment, including the information specified in paragraphs (i) through (vii) of this section.

(i) Manufacturer and model number for all monitoring equipment components installed to comply with applicable provisions in §63.670.

(ii) Performance specifications, as provided by the manufacturer, and any differences expected for this installation and operation.

(iii) The location of the CPMS sampling probe or other interface and a justification of how the location meets the requirements of this section.

(iv) Placement of the CPMS readout, or other indication of parameter values, indicating how the location meets the requirements of this section.

(v) Span of the CPMS. The span of the CPMS sensor and analyzer must encompass the full range of all expected values.

(vi) How data outside of the span of the CPMS will be handled and the corrective action that will be taken to reduce and eliminate such occurrences in the future.

(vii) Identification of the parameter detected by the parametric signal analyzer and the algorithm used to convert these values into the operating parameter monitored to demonstrate compliance, if the parameter detected is different from the operating parameter monitored.

(4) Description of the data collection and reduction systems, including the information specified in paragraphs (i) through (iii) of this section.

(i) A copy of the data acquisition system algorithm used to reduce the measured data into the reportable form of the standard and to calculate the applicable averages.

(ii) Identification of whether the algorithm excludes data collected during CPMS breakdowns, out-of-control periods, repairs, maintenance periods, instrument adjustments or checks to maintain precision and accuracy, calibration checks, and zero (low-level), mid-level (if applicable) and high-level adjustments.

(iii) If the data acquisition algorithm does not exclude data collected during CPMS breakdowns, out-of-control periods, repairs, maintenance periods, instrument adjustments or checks to maintain precision and accuracy, calibration checks, and zero (low-level), mid-level (if applicable) and high-level adjustments, a description of the procedure for excluding this data.

(5) Routine quality control and assurance procedures, including descriptions of the procedures listed in paragraphs (i) through (vi) of this section and a schedule for conducting these procedures. The routine procedures must provide an assessment of CPMS performance.

(i) Initial and subsequent calibration of the CPMS and acceptance criteria.

(ii) Determination and adjustment of the calibration drift of the CPMS.

(iii) Daily checks for indications that the system is responding. If the CPMS system includes an internal system check, the owner or operator may use the results to verify the system is responding, as long as the system provides an alarm to the owner or operator, or the owner or operator checks the internal system results daily for proper operation and the results are recorded.

(iv) Preventive maintenance of the CPMS, including spare parts inventory.

(v) Data recording, calculations, and reporting.

3.3.11 Continuous Monitoring Systems (CMS) Data Reduction

3.3.11.1 CMS Data Reduction for Part 63 NESHAP Sources (except for Subparts CC and UUU; and as modified for Subpart ZZZZ) 40 CFR 63.8(g) (11/14/2018)

The owner or operator of each CMS must reduce the monitoring data as specified in paragraphs (g)(1) through (5) of this section.

Data from CEMS for measurement other than opacity, unless otherwise specified in the relevant standard, shall be reduced to 1-hour averages computed from four or more data points equally spaced over each 1-hour period, except during periods when calibration, quality assurance, or maintenance activities pursuant to provisions of this part are being performed. During these periods, a valid hourly average shall consist of at least two data points with each representing a 15-minute period. Alternatively, an arithmetic or integrated 1-hour average of CEMS data may be used. Time periods for averaging are defined in §63.2.

The data may be recorded in reduced or non-reduced form (e.g., ppm pollutant and percent O_2 or ng/J of pollutant).

All emission data shall be converted into units of the relevant standard for reporting purposes using the conversion procedures specified in that standard. After conversion into units of the relevant standard, the data may be rounded to the same number of significant digits as used in that standard to specify the emission limit (e.g., rounded to the nearest 1 percent opacity).

Monitoring data recorded during periods of unavoidable CMS breakdowns, out-of-control periods, repairs, maintenance periods, calibration checks, and zero (low-level) and high-level

adjustments must not be included in any data average computed under this part. For the owner or operator complying with the requirements of §63.10(b)(2)(vii)(A) or (B), data averages must include any data recorded during periods of monitor breakdown or malfunction.

3.3.11.2 CMS Data Reduction for Part 63 Subpart CC Affected Sources 40 CFR 63.655(i)(3) (2/4/20) and 63.671(c) (12/1/15)

Each owner or operator required to continuously monitor operating parameters under 63.644 for miscellaneous process vents or under 63.652 or 63.653 for emission points in an emissions average shall keep the records specified in paragraphs (i) through (v) of this section unless an alternative recordkeeping system has been requested and approved.

(i) The monitoring system shall measure data values at least once every hour.

(ii) The owner or operator shall record either:

(A) Each measured data value; or

(B) Block average values for 1 hour or shorter periods calculated from all measured data values during each period. If values are measured more frequently than once per minute, a single value for each minute may be used to calculate the hourly (or shorter period) block average instead of all measured values: or

(C) All values that meet the set criteria for variation from previously recorded values using an automated data compression recording system.

(1) The automated data compression recording system shall be designed to:

(i) Measure the operating parameter value at least once every hour.

(ii) Record at least 24 values each day during periods of operation.

(iii) Record the date and time when monitors are turned off or on.

(iv) Recognize unchanging data that may indicate the monitor is not functioning properly, alert the operator and record the incident.

(v) Compute the daily average values of the monitored operating parameter based on recorded data.

(2) You must maintain a record of the 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 (ii)(C)(1) of this section.

(iii) Daily average values of each continuously monitoring parameter shall be calculated for each operating day and retained for 5 years except as specified in paragraph (iv) of this section.

(A) The daily average shall be calculated as the average of all values for a monitored parameter recorded during the operating day. The average shall cover a 24-hour period if operation is continuous, or the number of hours of operation per day if operation is not continuous.

(B) The operating day shall be the period defined in the Notification of Compliance Status report. It may be from midnight to midnight or another daily period.

(iv) If all recorded values for a monitored parameter during an operating day are within the range established in the Notification of Compliance Status report, the owner or operator may record that all values were within the range and retain this record for 5 years rather than

calculating and recording a daily average for that day. For these days, the records required in paragraph (ii) of this section shall also be retained for 5 years.

(v) Monitoring data recorded during periods of monitoring system breakdowns, repairs, calibration checks, and zero (low-level) and high-level adjustments shall not be included in any average computed under this subpart. Records shall be kept of the times and durations of all such periods and any other periods during process or control device operation when monitors are not operating.

The owner or operator shall reduce data from a CPMS installed to comply with applicable provisions in 63.670 as specified in paragraphs (1) through (3) of this section.

(1) The owner or operator may round the data to the same number of significant digits used in that operating limit.

(2) Periods of non-operation of the process unit (or portion thereof) resulting in cessation of the emissions to which the monitoring applies must not be included in the 15-minute block averages.

(3) Periods when the CPMS is out of control must not be included in the 15-minute block averages.

3.3.11.3 CMS Data Reduction for Part 63 Subpart UUU Affected Sources 40 CFR 63.1572(a) and (c) (11/26/18)

You must install, operate, and maintain each continuous emission monitoring system according to the requirements in paragraphs (1) through (4) of this section.

(1) You must install, operate, and maintain each continuous emission monitoring system according to the requirements in Table 40 of this subpart.

(2) If you use a continuous emission monitoring system to meet the NSPS CO or SO_2 limit, you must conduct a performance evaluation of each continuous emission monitoring system according to the requirements in 63.8 and Table 40 of this subpart. This requirement does not apply to an affected source subject to the NSPS that has already demonstrated initial compliance with the applicable performance specification.

(3) As specified in 63.8(c)(4)(ii), each continuous emission monitoring system must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

(4) Data must be reduced as specified in 63.8(g)(2).

Except for flare monitoring systems, you must install, operate, and maintain each continuous parameter monitoring system according to the requirements in paragraphs (1) through (5) of this section. For flares, you must install, operate, calibrate, and maintain monitoring systems as specified in 63.670 and 63.671.

(1) You must install, operate, and maintain each continuous parameter monitoring system according to the requirements in Table 41 of this subpart. You must also meet the equipment specifications in Table 41 of this subpart if pH strips or colormetric tube sampling systems are used. You must meet the requirements in Table 41 of this subpart for BLD systems. Alternatively, before August 1, 2017, you may install, operate, and maintain each continuous parameter monitoring system in a manner consistent with the manufacturer's specifications or other written procedures that provide adequate assurance that the equipment will monitor accurately.

(2) The continuous parameter monitoring system must complete a minimum of one cycle of operation for each successive 15-minute period. You must have a minimum of four successive cycles of operation to have a valid hour of data (or at least two if a calibration

check is performed during that hour or if the continuous parameter monitoring system is out-of-control).

(3) Each continuous parameter monitoring system must have valid hourly average data from at least 75 percent of the hours during which the process operated, except for BLD systems.

(4) Each continuous parameter monitoring system must determine and record the hourly average of all recorded readings and if applicable, the daily average of all recorded readings for each operating day, except for BLD systems. The daily average must cover a 24-hour period if operation is continuous or the number of hours of operation per day if operation is not continuous, except for BLD systems.

(5) Each continuous parameter monitoring system must record the results of each inspection, calibration, and validation check.

You must monitor and collect data according to the requirements in paragraphs (1) and (2) of this section.

(1) Except for monitoring malfunctions, associated repairs, and required quality assurance or control activities (including as applicable, calibration checks and required zero and span adjustments), you must conduct all monitoring in continuous operation (or collect data at all required intervals) at all times the affected source is operating.

(2) You may not use data recorded during required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments) for purposes of this regulation, including data averages and calculations, for fulfilling a minimum data availability requirement, if applicable. You must use all the data collected during all other periods in assessing the operation of the control device and associated control system.

3.3.11.4 CMS Data Reduction for Part 63 Subpart ZZZZ Affected Sources 40 CFR 63.6635 (3/9/11)

The requirements for CMS data reduction for Subpart ZZZZ affected sources are the same as noted in AOP Term 3.3.12.1 with the following clarifications, exceptions, or differences:

If you must comply with emission and operating limitations, you must monitor and collect data according to this section.

Except for monitor malfunctions, associated repairs, required performance evaluations, and required quality assurance or control activities, you must monitor continuously at all times that the stationary RICE is operating. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

You may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emission or operating levels. You must, however, use all the valid data collected during all other periods.

3.3.12 Address for Reports, Notifications and Submittals

40 CFR 63.9(a) (11/19/2020), 63.10(a), 63.12(c), 63.13 (11/19/2020), (as amended by Delegation Letter dated 11/16/2021 from Krishna Viswanathan, Director of the Office of Air and Radiation, EPA Region 10 to Mark Buford, Director of NWCAA)

Notifications, reports, and applications for delegated Part 63 National Emission Standards for Hazardous Air Pollutants (NESHAPs) shall be sent to the NWCAA at the following address:

Northwest Clean Air Agency
1600 South Second Street
Mount Vernon, WA 98273-5202

Notifications, reports, and applications under NESHAP authorities that have been excluded from delegation shall be submitted to the EPA at the following address:

U.S. EPA Region 10
Director, Office of Air Quality
1200 Sixth Avenue (OAQ-107)
Seattle, WA 98101-3140

All information required to be submitted to the EPA under this part also shall be submitted to the appropriate state agency of any state to which authority has been delegated under section 112(l) of the Act, provided that each specific delegation may exempt sources from a certain federal or state reporting requirement. Any information required to be submitted electronically by this part via the EPA's CEDRI may, at the discretion of the delegated authority, satisfy the requirements of this paragraph. The Administrator may permit all or some of the information to be submitted to the appropriate state agency only, instead of to the EPA and the state agency with the exception of federal electronic reporting requirements under this part. Sources may not be exempted from federal electronic reporting requirements.

3.3.13 Notification

3.3.13.1 Notification Requirements for New or Reconstructed Part 63 NESHAP Sources (except as modified by Subpart UUU) 40 CFR 63.9(b)(4) (11/19/2020)

The owner or operator of a new or reconstructed major affected source for which an application for approval of construction or reconstruction is required under 63.5(d) must provide the following information in writing to the Administrator:

(i) A notification of intention to construct a new major-emitting affected source, reconstruct a major-emitting affected source, or reconstruct a major source such that the source becomes a major-emitting affected source with the application for approval of construction or reconstruction as specified in 63.5(d)(1)(i); and,

(ii) A notification of the actual date of startup of the source delivered or postmarked within 15 calendar days after that date.

3.3.13.2 Notification Requirements for New or Reconstructed Part 63 Subpart UUU Affected Sources 40 CFR 63.1574(c) (11/26/18)

The requirements for notification of startup of new or reconstructed affected sources for Subpart UUU affected sources are the same as noted in AOP Term 3.3.14.1 with the following clarifications, exceptions, or differences:

(i) If the new or reconstructed affected source is started up after April 11, 2002, initial notification must be submitted no later than 120 days after the source becomes subject to Subpart UUU

3.3.13.3 Notification Requirements for Existing Part 63 NESHAP Sources (except a separate initial notification report is not required for Subpart CC) 40 CFR 63.9(b)(2) and (j) (11/19/2020)

The owner or operator of an affected source that has an initial startup before the effective date of a relevant standard under this part shall notify the Administrator in writing that the source is subject to the relevant standard. The notification, which shall be submitted not later than 120 calendar days after the effective date of the relevant standard (or within 120 calendar days after the source becomes subject to the relevant standard) shall provide the following information:

(i) The name and address of the owner or operator.

(ii) The address (i.e., physical location) of the affected source.

(iii) An identification of the relevant standard, or other requirement that is the basis of notification and the source's compliance date.

(iv) A brief description of the nature and size, design, and method of operation of the source and an identification of the types of emission points within the affected source subject to the relevant standard and the types of hazardous air pollutants emitted; and

(v) A statement of whether the affected source is a major source or an area source.

Any change in the information already provided under this section shall be provided to the Administrator within 15 calendar days after the change.

3.3.14 Recordkeeping

3.3.14.1 Recordkeeping for Part 63 NESHAP Sources (except Subparts CC & UUU; & except for Subpart DDDDD where 63.10(b)(3) does not apply) 40 CFR 63.10(b)(1) and (3) (4/20/06)

The owner or operator of an affected source shall maintain files of all information (including all reports and notifications) required by this part recorded in a form suitable and readily available for expeditious inspection and review. The files shall be retained for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report or record. At a minimum, the most recent 2 years of data shall be retained on site. The remaining 3 years of data may be retained off site. Such files may be maintained on microfilm, on a computer, on computer floppy disks, on magnetic tape disks, or on microfiche.

If an owner or operator determines that his or her stationary source that emits (or has the potential to emit, without considering controls) one or more hazardous air pollutants regulated by any standard established pursuant to section 112(d) or (f), and that stationary source is in the source category regulated by the relevant standard, but that source is not subject to the relevant standard (or other requirement established under this part) because of limitations on the source's potential to emit or an exclusion, the owner or operator must keep a record of the applicability determination on site at the source for a period of 5 years after the determination, or until the source changes its operations to become an affected source, whichever comes first. The record of the applicability determination must be signed by the person making the determination and include an analysis (or other information) that demonstrates why the owner or operator believes the source is unaffected (e.g., because the source is an area source). The analysis (or other information) must be sufficiently detailed to allow the Administrator to make a finding about the source's applicability status with regard to the relevant standard or other requirement. If relevant, the analysis must be performed in accordance with requirements established in relevant subparts of this part for this purpose for particular categories of stationary sources. If relevant, the analysis should be performed in accordance with EPA guidance materials published to assist sources in making applicability determinations under section 112, if any.

3.3.14.2 Recordkeeping for Part 63 Subpart CC Affected Sources 40 CFR 63.642(e) (12/1/15) and 63.655(i) (2/4/20)

Each owner or operator of a source subject to this subpart shall keep copies of all applicable reports and records required by this subpart for at least 5 years except as otherwise specified in this subpart. All applicable records shall be maintained in such a manner that they can be readily accessed within 24 hours. Records may be maintained in hard copy or computer-readable form including, but not limited to, on paper, microfilm, computer, flash drive, floppy disk, magnetic tape, or microfiche.

3.3.14.3 Recordkeeping for Part 63 Subpart UUU Affected Sources 40 CFR 63.1576 (11/26/18)

You must keep the records specified in paragraphs (1) through (3) of this section.

(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any initial notification or Notification of Compliance Status that you submitted, according to the requirements in 63.10(b)(2)(xiv).

(2) The records specified in paragraphs (i) through (iv) of this section.

(i) Record the date, time, and duration of each startup and/or shutdown period for which the facility elected to comply with the alternative standards in 63.1564(a)(5)(ii) or 63.1565(a)(5)(ii) or 63.1568(a)(4)(ii) or (iii).

(ii) In the event that an affected unit fails to meet an applicable standard, record the number of failures. For each failure record the date, time and duration of each failure.

(iii) For each failure to meet an applicable standard, record and retain a list of the affected sources or equipment, an estimate of the volume of each regulated pollutant emitted over any emission limit and a description of the method used to estimate the emissions.

(iv) Record actions taken to minimize emissions in accordance with 63.1570(c) and any corrective actions taken to return the affected unit to its normal or usual manner of operation.

(3) Records of performance tests, performance evaluations, and opacity and visible emission observations as required in 63.10(b)(2)(viii).

For each continuous emission monitoring system and continuous opacity monitoring system, you must keep the records required in paragraphs (1) through (5) of this section.

(1) Records described in 63.10(b)(2)(vi) through (xi).

(2) Monitoring data for continuous opacity monitoring systems during a performance evaluation as required in 63.6(h)(7)(i) and (ii).

(3) The performance evaluation plan as described in 63.8(d)(2) for the life of the affected source or until the affected source is no longer subject to the provisions of this part, to be made available for inspection, upon request, by the Administrator. If the performance evaluation plan is revised, you must keep previous (*i.e.,* superseded) versions of the performance evaluation plan on record to be made available for inspection, upon request, by the Administrator, for a period of 5 years after each revision to the plan. The program of corrective action should be included in the plan required under 63.8(d)(2).

(4) Requests for alternatives to the relative accuracy test for continuous emission monitoring systems as required in 63.8(f)(6)(i).

(5) Records of the date and time that each deviation started and stopped.

You must keep the records in 63.6(h) for visible emission observations.

You must keep records required by Tables 6, 7, 13, and 14 of this Subpart (for catalytic cracking units); Tables 20, 21, 27 and 28 of this Subpart (for catalytic reforming units); Tables 34 and 35 of this Subpart (for sulfur recovery units); and Table 39 of this subpart (for bypass lines) to show continuous compliance with each emission limitation that applies to you.

You must keep a current copy of your operation, maintenance, and monitoring plan onsite and available for inspection. You also must keep records to show continuous compliance with the procedures in your operation, maintenance, and monitoring plan.

You also must keep the records of any changes that affect emission control system performance including, but not limited to, the location at which the vent stream is introduced into the flame zone for a boiler or process heater.

Your records must be in a form suitable and readily available for expeditious review according to 63.10(b)(1).

As specified in 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.

You must keep each record on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 63.10(b)(1). You can keep the records offsite for the remaining 3 years.

3.3.15 Startup, Shutdown, and Malfunction Recordkeeping and Reports

3.3.15.1 SSM Recordkeeping and Reports for Part 63 NESHAP Sources (except Subparts CC, ZZZZ & DDDDD does not apply; and as modified by Subpart UUU) 40 CFR 63.10(b)(2) and (d)(5) (4/20/06)

The owner or operator of an affected source subject to the provisions of this part shall maintain relevant records for such source of—

(i) The occurrence and duration of each startup or shutdown when the startup or shutdown causes the source to exceed any applicable emission limitation in the relevant emission standards.

(ii) The occurrence and duration of each malfunction of operation (i.e., process equipment) or the required air pollution control and monitoring equipment.

(iii) All required maintenance performed on the air pollution control and monitoring equipment.

(iv) A) Actions taken during periods of startup or shutdown when the source exceeded applicable emission limitations in a relevant standard

(v) Each period during which a CMS is malfunctioning or inoperative (including out-of-control periods).

(vi) All required measurements needed to demonstrate compliance with a relevant standard (including, but not limited to, 15-minute averages of CMS data, raw performance testing measurements, and raw performance evaluation measurements, that support data that the source is required to report):

a. This paragraph applies to owners or operators required to install a continuous emissions monitoring system (CEMS) where the CEMS installed is automated, and where the calculated data averages do not exclude periods of CEMS breakdown or malfunction. An automated CEMS records and reduces the measured data to the form of the pollutant emission standard through the use of a computerized data acquisition system. In lieu of maintaining a file of all CEMS subhourly measurements as required under paragraph (b)(2)(vii) of this section, the owner or operator shall retain the most recent consecutive three averaging periods of subhourly measurements and a file that contains a hard copy of the data acquisition system algorithm used to reduce the measured data into the reportable form of the standard.

b. This paragraph applies to owners or operators required to install a CEMS where the measured data is manually reduced to obtain the reportable form of the standard, and where the calculated data averages do not exclude periods of CEMS breakdown or malfunction. In lieu of maintaining a file of all CEMS subhourly

measurements as required under paragraph (b)(2)(vii) of this section, the owner or operator shall retain all subhourly measurements for the most recent reporting period. The subhourly measurements shall be retained for 120 days from the date of the most recent summary or excess emission report submitted to the Administrator.

c. The Administrator or delegated authority, upon notification to the source, may require the owner or operator to maintain all measurements as required by paragraph (b)(2)(vii), if the Administrator or the delegated authority determines these records are required to more accurately assess the compliance status of the affected source.

(vii) All results of performance tests, CMS performance evaluations, and opacity and visible emission observations.

(viii) All measurements as may be necessary to determine the conditions of performance tests and performance evaluations.

(ix) All CMS calibration checks.

(x) All adjustments and maintenance performed on CMS.

(xi) All documentation supporting initial notifications and notifications of compliance status under 63.9.

3.3.15.2 SSM Recordkeeping & Reports for Part 63 Subpart UUU Affected Sources 40 CFR 63.1575(d) and (e) (11/26/18)

For each deviation from an emission limitation and for each deviation from the requirements for work practice standards that occurs at an affected source where you are not using a continuous opacity monitoring system or a continuous emission monitoring system to comply with the emission limitation or work practice standard in this subpart, the semiannual compliance report must contain the information in (1) through (4) of this section.

(1) The total operating time of each affected source during the reporting period and identification of the sources for which there was a deviation.

(2) Information on the number, date, time, duration, and cause of deviations (including unknown cause, if applicable).

(3) Information on the number, duration, and cause for monitor downtime incidents (including unknown cause, if applicable, other than downtime associated with zero and span and other daily calibration checks).

(4) The applicable operating limit or work practice standard from which you deviated and either the parameter monitor reading during the deviation or a description of how you deviated from the work practice standard.

For each deviation from an emission limitation occurring at an affected source where you are using a continuous opacity monitoring system or a continuous emission monitoring system to comply with the emission limitation, you must include the information in (2) through (13) of this section.

(1) [Reserved]

(2) The date and time that each continuous opacity monitoring system or continuous emission monitoring system was inoperative, except for zero (low-level) and high-level checks.

(3) The date and time that each continuous opacity monitoring system or continuous emission monitoring system was out-of-control, including the information in 63.8(c)(8).

(4) An estimate of the quantity of each regulated pollutant emitted over the emission limit during the deviation, and a description of the method used to estimate the emissions.

(5) A summary of the total duration of the deviation during the reporting period (recorded in minutes for opacity and hours for gases and in the averaging period specified in the regulation for other types of emission limitations), and the total duration as a percent of the total source operating time during that reporting period.

(6) A breakdown of the total duration of the deviations during the reporting period and into those that are due to control equipment problems, process problems, other known causes, and other unknown causes.

(7) A summary of the total duration of downtime for the continuous opacity monitoring system or continuous emission monitoring system during the reporting period (recorded in minutes for opacity and hours for gases and in the averaging time specified in the regulation for other types of standards), and the total duration of downtime for the continuous opacity monitoring system or continuous emission monitoring system as a percent of the total source operating time during that reporting period.

(8) A breakdown of the total duration of downtime for the continuous opacity monitoring system or continuous emission monitoring system during the reporting period into periods that are due to monitoring equipment malfunctions, non-monitoring equipment malfunctions, quality assurance/quality control calibrations, other known causes, and other unknown causes.

(9) An identification of each HAP that was monitored at the affected source.

(10) A brief description of the process units.

(11) The monitoring equipment manufacturer(s) and model number(s).

(12) The date of the latest certification or audit for the continuous opacity monitoring system or continuous emission monitoring system.

(13) A description of any change in the continuous emission monitoring system or continuous opacity monitoring system, processes, or controls since the last reporting period.

3.3.16 Reports

3.3.16.1 Periodic Reports for Part 63 Subpart CC Affected Sources 40 CFR 63.655(g) (2/4/2020)

The owner or operator of a source subject to this subpart shall submit Periodic Reports no later than 60 days after the end of each 6-month period when any of the information specified in this subpart is collected. 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 events identified in this subpart occurred during the 6-month period unless emissions averaging is utilized. Quarterly reports must be submitted for emission points included in emission averages, as provided in this subpart. An owner or operator may submit reports required by other regulations in place of or as part of the Periodic Report required by this subpart if the reports contain the information required by this subpart.

3.3.16.2 Report Requirements for Part 63 Subpart UUU Affected Sources 40 CFR 63.1575(a) & (b) and Table 43 (11/26/2018)

You must submit each report in Table 43. Unless the Administrator has approved a different schedule, you must submit each report by the date in Table 43 of this subpart and according to the requirements in paragraphs (i) through (v) of this section.

(i) The first compliance report must cover the period beginning on the compliance date that is specified for your affected source in 63.1563 and ending on June 30 or December 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for your affected source in 63.1563.

(ii) The first compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date follows the end of the first calendar half after the compliance date that is specified for your affected source in 63.1563.

(iii) Each subsequent compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(iv) Each subsequent compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

(v) For each affected source that is subject to permitting regulations pursuant to part 70 or 71 of this chapter, and if the permitting authority has established dates for submitting semiannual reports pursuant to 70.6(a)(3)(iii)(A) or 71.6(a)(3)(iii)(A) of this chapter, you may submit the first and subsequent compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (i) through (iv) of this section.

3.3.16.3 Report Requirements for Part 63 Subpart DDDDD Affected Sources 40 CFR 63.7550 and Table 9 (11/20/15)

You must submit each report in Table 9 to this subpart that applies to you.

Unless the EPA Administrator has approved a different schedule for submission of reports under 63.10(a), you must submit each report by the date in Table 9 to this subpart and according to the requirements in paragraphs (i) through (iv) of this section. For units that are subject only to a requirement to conduct subsequent annual, biennial, or 5-year tune-up according to 63.7540(a)(10), (11), or (12), respectively, and not subject to emission limits or Table 4 operating limits, you may submit only an annual, biennial, or 5-year compliance report, as applicable, as specified in paragraphs (i) through (iv) of this section, instead of a semi-annual compliance report.

(i) The first semi-annual compliance report must cover the period beginning on the compliance date that is specified for each boiler or process heater in 63.7495 and ending on June 30 or December 31, whichever date is the first date that occurs at least 180 days after the compliance date that is specified for your source in 63.7495. If submitting an annual, biennial, or 5-year compliance report, the first compliance report must cover the period beginning on the compliance date that is specified for each boiler or process heater in 63.7495 and ending on December 31 within 1, 2, or 5 years, as applicable, after the compliance date that is specified for your source in 63.7495.

(ii) The first semi-annual compliance report must be postmarked or submitted no later than July 31 or January 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for each boiler or process heater in 63.7495. The first annual, biennial, or 5-year compliance report must be postmarked or submitted no later than January 31.

(iii) Each subsequent semi-annual compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31. Annual, biennial, and 5-year compliance

reports must cover the applicable 1-, 2-, or 5-year periods from January 1 to December 31.

(iv) Each subsequent semi-annual compliance report must be postmarked or submitted no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period. Annual, biennial, and 5-year compliance reports must be postmarked or submitted no later than January 31.

For each affected source that is subject to permitting regulations pursuant to part 70 or part 71 of this chapter, and if the permitting authority has established dates for submitting semiannual reports pursuant to 70.6(a)(3)(iii)(A) or 71.6(a)(3)(iii)(A), you may submit the first and subsequent compliance reports according to the dates the permitting authority has established in the permit instead of according to the dates in paragraphs (i) through (iv) of this section.

A compliance report must contain the following information depending on how the facility chooses to comply with the limits set in this rule.

(v) If the facility is subject to the requirements of a tune up you must submit a compliance report with the information in paragraphs (vi) through (x) of this section.

(vi) Company and Facility name and address.

(vii) Process unit information, emissions limitations, and operating parameter limitations.

(viii) Date of report and beginning and ending dates of the reporting period.

(ix) 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 §63.7540(a)(10), (11), or (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.

(x) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

You must submit all reports required by Table 9 of this subpart electronically to the EPA via the CEDRI. (CEDRI can be accessed through the EPA's CDX.) You must use the appropriate electronic report in CEDRI for this subpart. Instead of using the electronic report in CEDRI for this subpart, you may submit an alternate electronic file consistent with the XML schema listed on the CEDRI Web site (http://www.epa.gov/ttn/chief/cedri/index.html), once the XML schema is available. If the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, you must submit the report to the Administrator at the appropriate address listed in 63.13. You must begin submitting reports via CEDRI no later than 90 days after the form becomes available in CEDRI.

3.3.17 Deviation Reporting

Deviation Reporting Requirements for 40 CFR 63 Subpart UUU Affected Sources 40 CFR 63.1570(f) (12/1/2015), 63.1575(a)-(g), (i) & (K) (11/26/2018) and Table 43 (11/26/2018)

Report each instance in which each emissions limit and each operating limit was not met. This includes periods of startup, shutdown, and malfunction. Also, report each instance in which the work practice standards that apply were not met. These instances are deviations from the emission limitations and work practices.

Submit compliance reports covering the semiannual reporting period from January 1 through June 30, and July 1 through December 31.

The compliance report must contain (1) the company name and address, (2) a statement by a responsible official, with the official's name, title, and signature, certifying the accuracy of the content of the report, and (3) the date of the report and the beginning and ending dates of the reporting period.

If there are no deviations, the report must contain a statement that there were no deviations from the emission limitations or work practice standards during the reporting period and that no continuous emission monitoring system was inoperative, inactive, malfunctioning, out-of-control, repaired, or adjusted.

If there were deviations during the reporting period, the report must contain the information in 40 CFR 63.1575(d) and (e).

Include a copy of any performance test done during the reporting period as per 40 CFR 63.1575(f). The test results shall be submitted electronically to EPA's Central Data Exchange (www.cdx.epa.gov) within 60 days of test completion in accordance with 63.1575(k). Also report if there is any requested change in the applicability of an emission standard.

If the permitting authority has approved a period of planned maintenance for your catalytic cracking unit you must include the information in your report in accordance with 63.1575(i).

Reports required by other regulations may be submitted in place of or as part of the compliance report if they contain the required information.

3.3.18 Recordkeeping Requirements for Sources with Continuous Monitoring Systems

3.3.18.1 CMS Recordkeeping for Part 63 NESHAP Sources (except for Subparts CC & UUU; except for Subpart DDDDD where 63.10(c)(10), (11) & (15) do not apply) 40 CFR 63.10(c) (11/19/2020)

In addition to complying with the requirements specified in paragraphs (b)(1) and (2) of this section, the owner or operator of an affected source required to install a CMS by a relevant standard shall maintain records for such source of:

(i) All required CMS measurements (including monitoring data recorded during unavoidable CMS breakdowns and out-of-control periods);

(ii) [Reserved]

(iii) The date and time identifying each period during which the CMS was inoperative except for zero (low-level) and high-level checks;

(iv) The date and time identifying each period during which the CMS was out of control, as defined in §63.8(c)(7);

(v) The specific identification (i.e., the date and time of commencement and completion) of each period of excess emissions and parameter monitoring exceedances, as defined in the relevant standard(s), that occurs during startups, shutdowns, and malfunctions of the affected source;

(vi) The specific identification (i.e., the date and time of commencement and completion) of each time period of excess emissions and parameter monitoring exceedances, as defined in the relevant standard(s), that occurs during periods other than startups, shutdowns, and malfunctions of the affected source;

(vii) [Reserved]

(viii) The nature and cause of any malfunction (if known);

(ix) The corrective action taken or preventive measures adopted;

(x) The nature of the repairs or adjustments to the CMS that was inoperative or out of control;

(xi) The total process operating time during the reporting period; and

(xii) All procedures that are part of a quality control program developed and implemented for CMS under §63.8(d).

3.3.18.2 Recordkeeping Requirements for CMS for Part 63 Subpart CC Affected Sources 40 CFR 63.655(i) (2/4/2020)

Each owner or operator of a source subject to this subpart shall keep copies of all applicable reports and records required by this subpart for at least 5 years except as otherwise specified in (1) through (12) of this section. All applicable records shall be maintained in such a manner that they can be readily accessed within 24 hours. Records may be maintained in hard copy or computer-readable form including, but not limited to, on paper, microfilm, computer, flash drive, floppy disk, magnetic tape, or microfiche.

3.3.18.3 Recordkeeping Requirements for CMS for Part 63 Subpart UUU Affected Sources 40 CFR 63.1576(b) (11/26/2018)

For each continuous emission monitoring system and continuous opacity monitoring system, you must keep the records required in paragraphs (i) through (v) of this section.

(i) Records described in 63.10(b)(2)(vi) through (xi).

(ii) Monitoring data for continuous opacity monitoring systems during a performance evaluation as required in 63.6(h)(7)(i) and (ii).

(iii) The performance evaluation plan as described in 63.8(d)(2) for the life of the affected source or until the affected source is no longer subject to the provisions of this part, to be made available for inspection, upon request, by the Administrator. If the performance evaluation plan is revised, you must keep previous (i.e., superseded) versions of the performance evaluation plan on record to be made available for inspection, upon request, by the Administrator, for a period of 5 years after each revision to the plan. The program of corrective action should be included in the plan required under 63.8(d)(2).

(iv) Requests for alternatives to the relative accuracy test for continuous emission monitoring systems as required in 63.8(f)(6)(i).

(v) Records of the date and time that each deviation started and stopped.

In order to satisfy the requirements of paragraphs (c)(10) through (c)(12) of this section and to avoid duplicative recordkeeping efforts, the owner or operator may use the affected source's startup, shutdown, and malfunction plan or records kept to satisfy the recordkeeping requirements of the startup, shutdown, and malfunction plan specified in §63.6(e), provided that such plan and records adequately address the requirements of paragraphs (c)(10) through (c)(12).

3.3.19 Additional 40 CFR Part 63 Subpart CC (Refinery MACT) Process Units Added or Process Changes Not Meeting Construction or

Reconstruction Definition

40 CFR 63.640(l) and (m) (2/4/2020)

If an additional petroleum refining process unit or a process change is made that is subject to 63.640(l), the added emission point(s) and any emission point(s) within the added or changed petroleum refining process unit are subject to the requirements for an existing source.

If a process unit is added to a plant site or an emission point(s) is added to any existing petroleum refining process unit, the added emission point(s) shall comply upon initial startup.

If a deliberate operational process change to an existing petroleum refining process unit causes a Group 2 emission point to become a Group 1 emission point, the owner or operator shall comply upon initial startup unless they demonstrate to the Administrator that achieving compliance will take longer than making the change. If this demonstration is made to the Administrator's satisfaction, the owner or operator shall follow the procedures as noted below to establish a compliance date:

(i) The owner or operator shall submit a compliance schedule along with a justification for the schedule.

(ii) The compliance schedule shall be submitted within 180 days after the change is made, unless the compliance schedule has been previously submitted to the NWCAA, and

(iii) The Administrator shall approve or deny the compliance schedule or request within 120 calendar days of receipt of the compliance schedule and justification.

The emission points are subject to the Notification of Compliance Status Report as required by 63.655 (f), Periodic Reports as required by 63.655 (g) and (h), and other reports as required by 40 CFR 63.640(l)(3)(i) through (vii) and Subpart A of Part 63. Pumps, compressors, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, or instrumentation systems added to an existing source are subject to the equipment leak standards for existing sources in §63.648 but a notification of compliance status report is not required for such added equipment as provided by 40 CFR 63.640(l)(4).

3.3.20 Recordkeeping Requirements for 40 CFR Part 63 Subpart CC (Refinery MACT I) Equipment

40 CFR 63.642(e) (12/1/2015) and 63.655(i) (2/4/2020)

Each owner or operator of a source subject to 40 CFR 63 Subpart CC shall keep copies of all applicable reports and records required by this subpart for at least 5 years except as otherwise specified in this subpart. All applicable records shall be maintained in such a manner that they can be readily accessed within 24 hours. Records may be maintained in hard copy or computer-readable form including, but not limited to, on paper, microfilm, computer, floppy disk, magnetic tape, or microfiche.

3.3.21 Notification of Compliance Status (NCS)

3.3.21.1 NCS for Part 63 NESHAPs Sources (except for Subpart CC; and as modified for Subparts UUU andt DDDDD). 40 CFR 63.9(h) (11/19/2020)

Each time a notification of compliance status is required under this part, the owner or operator of such source shall submit to the Administrator a notification of compliance status, signed by the responsible official who shall certify its accuracy, attesting to whether the source has complied with the relevant standard.

The notification shall list:

(i) the methods that were used to determine compliance.

(ii) the results of any performance tests, opacity or visible emission observations, continuous monitoring system (CMS) performance evaluations, and/or other monitoring procedures or methods that were conducted.

(iii) the methods that will be used for determining continuing compliance, including a description of monitoring and reporting requirements and test methods.

(iv) the type and quantity of hazardous air pollutants emitted by the source (or surrogate pollutants if specified in the relevant standard), reported in units and averaging times and in accordance with the test methods specified in the relevant standard.

(v) if the relevant standard applies to both major and area sources, an analysis demonstrating whether the affected source is a major source (using the emissions data generated for this notification).

(vi) a description of the air pollution control equipment (or method) for each emission point, including each control device (or method) for each hazardous air pollutant and the control efficiency (percent) for each control device (or method); and,

(vii) a statement by the owner or operator of the affected existing, new, or reconstructed source as to whether the source has complied with the relevant standard or other requirements.

After the applicable requirements are incorporated into the affected source's title V permit, the owner or operator of such source shall comply with all requirements for compliance status reports contained in the source's title V permit, including reports required under this part. After a title V permit has been issued to the owner or operator of an affected source, and each time a notification of compliance status is required under this part, the owner or operator of such source shall submit the notification of compliance status to the appropriate permitting authority following completion of the relevant compliance demonstration activity specified in the relevant standard.

The NCS must be sent before the close of business on the 60th day following the completion of the relevant compliance demonstration activity specified in the relevant standard (unless a different reporting period is specified in the standard, in which case the letter must be sent before the close of business on the day the report of the relevant testing or monitoring results is required to be delivered or postmarked). For example, the notification shall be sent before close of business on the 60th (or other required) day following completion of the initial performance test and again before the close of business on the 60th (or other required) day following the completion of any subsequent required performance test. If no performance test is required but opacity or visible emission observations are required to demonstrate compliance with an opacity or visible emission standard under this part, the notification of compliance status shall be sent before close of business on the 30th day following the completion of opacity or visible emission observations. Notifications may be combined as long as the due date requirement for each notification is met.

3.3.21.2 NCS for Part 63 Subpart CC Affected Sources 40 CFR 63.655(f) (2/4/20)

Each owner or operator of a source subject to this subpart shall submit a Notification of Compliance Status report within 150 days after the compliance dates specified in 63.640(h) with the exception of Notification of Compliance Status reports submitted to comply with 63.640(l)(3) and for storage vessels subject to the compliance schedule specified in 63.640(h)(2). Notification of Compliance Status reports required by 63.640(l)(3) and for storage vessels subject to the compliance dates specified in 63.640(h)(2) shall be submitted according to paragraph (f)(6) of this section. 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 63.640(h), a separate Notification of Compliance Status report is not required within 150 days after the compliance dates specified in 63.640(h). If an owner or operator submits the information specified in paragraphs (f)(1) through (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. Each owner or operator of a gasoline loading rack classified under Standard Industrial Classification Code 2911 located within a contiguous area and under common control with a petroleum refinery subject to the standards of this subpart shall submit the Notification of Compliance Status report required by subpart R of this part within 150 days after the compliance dates specified in 63.640(h).

3.3.21.3 NCS for 40 CFR 63 Subpart UUU (Refinery MACT II) Affected Sources. 40 CFR 63.1574(a)(3) & (d) (11/19/2020) and Table 42 (2/9/2005)

The requirements for Notifications of Compliance Status for Subpart UUU affected sources are the same as noted in AOP Term 3.3.21.1 with the following clarifications, exceptions, or differences:

If a performance test, performance evaluation, design evaluation, opacity observation, visible emission observation, or other initial compliance demonstration is required, a Notification of Compliance Status is required. This information can be submitted in an operating permit application, in an amendment to an operating permit application, in a separate submission, or in any combination. If the required information has been submitted previously, a separate Notification of Compliance Status is not required, just refer to earlier submissions instead of duplicating and resubmitting the previously submitted information.

For each initial compliance demonstration that does not include a performance test, the Notification of Compliance Status must be submitted no later than 30 calendar days following completion of the initial compliance demonstration.

For each initial compliance demonstration that includes a performance test, the Notification of Compliance Status, including the performance test results, must be submitted no later than 150 calendar days after the specified compliance date.

The initial Notification of Compliance Status shall include, as applicable, the information listed in 40 CFR 63 Subpart UUU Table 42.

3.3.21.4 NCS for 40 CFR 63 Subpart DDDDD (Boiler MACT) Affected Sources 40 CFR 63.7545(a), (e), (e)(1), and (e)(6) (12/28/2020)

The requirements for Notifications of Compliance Status for Subpart DDDDD affected sources are the same as noted in AOP Term 3.3.21.1 with the following clarifications, exceptions, or differences:

The NCS shall be submitted by close of business on the 60th day after January 31, 2016 (i.e., March 31, 2016). It shall include a signed certification that all the work practice standards have been met. Also, it should include a description of the affected units 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, and justification for the selection of fuel(s) burned during the compliance demonstration.

The NCS must include the following certification(s) of compliance, as applicable, and be signed by a responsible official:

"This facility completed the required initial tune-up for all of the boilers and process heaters covered by 40 CFR 63 Subpart DDDDD at this site according to the procedures in

§63.7540(a)(10)(i) through (vi).” and “This facility has had an energy assessment performed according to §63.7530(e).”

SECTION 4 GENERALLY APPLICABLE REQUIREMENTS

The cited requirements in the "Citation" column and incorporated herein by reference are applicable plant-wide at the source, including insignificant emission units. These requirements are federally enforceable unless identified as "state only". A requirement designated state only is enforceable only by the state or the NWCAA, and not by the EPA or through citizen suits. "State only" WAC citations are enforceable by NWCAA because they are adopted by reference in NWCAA 104.1, as amended February 10, 2022. All federal regulations listed in Section 4 have been adopted by reference in NWCAA 104.2, as amended February 10, 2022.

The "Description" column is a brief description of the applicable requirements for informational purposes only and is not enforceable. Periodic or continuous monitoring requirements (including testing) are specified in the "Monitoring, Recordkeeping and Reporting" column, which identifies monitoring, recordkeeping, and reporting (MR&R) obligations the source must perform as required by WAC 173-401-605(1) and 615(1) and (2) or the underlying requirement. MR&R obligations do not apply to insignificant emission units.

The requirements in the MR&R column listed below the "***Directly Enforceable***" label are legally enforceable requirements added under the NWCAA's "gap-filling" authority (WAC 173-401-615(1)(b) & (c), (10/17/02)), or the NWCAA's "sufficiency monitoring" authority under (WAC 173-401-630(1), (3/5/2016)), as cited in each permit term. Other requirements not labeled "***Directly Enforceable***" or above the "***Directly Enforceable***" label are brief descriptions of the regulatory requirements for information purposes and are not enforceable. Unless the text of the MR&R column is specifically identified to be directly enforceable, the language of the cited regulation takes precedence over a paraphrased requirement.

MR&R requirements noted as "CAM" are part of the Compliance Assurance Monitoring (CAM) Plan for the specified units as required by 40 CFR 64.6(c) (10/22/1997). The CAM plan submitted by the facility per 40 CFR 64.4 is included in the Statement of Basis document accompanying this permit.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
4.1 General	WAC 173-401-630(1) (3/5/2016) 40 CFR 60 Subpart A 60.19(c) (2/12/1998) 40 CFR 61 Subpart A 61.10(g) (3/16/1994) 40 CFR 63 Subpart A 63.10(a)(5) (4/20/2006) WAC 173-401-630(1) (3/5/2016)	Required Monitoring Reports Submit reports of any required monitoring to the NWCAA at least once every six months. All instances of deviations from permit requirements must be clearly identified in such reports.	***Directly Enforceable**:* Monthly reports shall cover a calendar month, quarterly reports shall cover a calendar quarter, six-month reports shall cover January through June and July through December, and annual reports shall cover a calendar year. The reports shall be submitted within 30 days after the close of the period that the reports cover, except when the reporting deadline is specified in a permit term including, but not necessarily limited to: AOP Term 2.1.8 - Source testing AOP Term 2.4.1 - Annual AOP certification AOP Term 2.4.4 – Annual emissions inventory AOP Term 2.4.5 - Annual GHG emissions AOP Term 4.28 – Fenceline Benzene Monitoring AOP Term 5.11.1 - Annual BWON TAB
4.2 General	NWCAA 342 (9/8/93) NWCAA 342 (7/14/05 state only) WAC 173-401-615 (10/17/2002)	Operation and Maintenance Sources are required to keep any process and/or air pollution control equipment in good operating condition and repair.	Operating instructions and maintenance schedules for process and/or control equipment must be available on site. ***Directly Enforceable**:* Monitor, keep records and report in accordance with the terms of this permit.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
4.3 Nuisance	NWCAA 530 (3/09/2000 state only) WAC 173-401-615 (10/17/2002)	General Nuisance No person shall discharge from any source quantities of air contaminants, with the exception of odors, in sufficient amounts and of such characteristics and duration as is likely to be injurious or cause damage to human health, plant or animal life, or property; or which unreasonably interferes with enjoyment of life and property. An air contaminant is defined as "dust, fumes, mist, smoke, other particulate matter, vapor gas, odorous substance, or any combination thereof.	***Directly Enforceable**:* Maintain a written air contaminant complaint response plan. Upon receiving an air contaminant complaint from the NWCAA or the public, all possible sources of the nuisance emissions at the facility shall be checked for proper operation. Problems identified shall be repaired or corrected as soon as practicable. If the problems identified cannot be repaired or corrected within four hours, action shall be taken to minimize emissions until repairs can be made and the NWCAA shall be notified within 12 hours with a description of the complaint and action being taken to resolve the problem. The results of the investigation, identification of any malfunctioning equipment or aberrant operation, and the date and time of repair or mitigation shall be recorded. A log of these records shall be maintained for inspection. Receipt of a nuisance complaint in itself shall not necessarily be a violation.
4.4 Nuisance	WAC 173-400-040(5) (9/20/1993) WAC 173-400-040(6) (9/16/2018 state only) WAC 173-401-615 (10/17/2002)	General Nuisance No person shall cause or allow the emission of any air contaminant from any source if it is detrimental to the health, safety, or welfare of any person, or causes damage to property or business.	
4.5 Odor	NWCAA 535 (3/09/00 state only) WAC 173-401-615 (10/17/2002)	Odors Appropriate practices and control equipment shall be installed and operated to reduce odor-bearing gases emitted into the atmosphere to a reasonable minimum. Any person who shall cause the generation of any odor from any source which may reasonably interfere with any other property owner's use and enjoyment of their property must use recognized best practices and control equipment to reduce these odors to a reasonable minimum. No person shall cause or permit the emission of any odorous air contaminant from any source if it is detrimental to the health, safety, or welfare of any person, or causes damage to property or business.	

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
4.6 Odor	WAC 173-400-040(5) (9/16/2018 state only) WAC 173-401-615 (10/17/2002)	Odors Source may not generate odors which may unreasonably interfere with property use and must use recognized good practice and procedures to reduce odors to reasonable minimum.	
4.7 PM	NWCAA 550 (4/14/1993) WAC 173-401-615 (10/17/2002)	Preventing Particulate from Becoming Airborne Best Available Control Technology (BACT) required to prevent the release of fugitive matter to the ambient air. Nuisance particulate fallout is prohibited.	***Directly Enforceable**:* Maintain a written air contaminant complaint response plan. Upon receiving an air contaminant complaint from the NWCAA or the public, all possible sources of the nuisance emissions at the facility shall be checked for proper operation. Problems identified shall be repaired or corrected as soon as practicable. If the problems identified cannot be repaired or corrected within four hours, action shall be taken to minimize emissions until repairs can be made and the NWCAA shall be notified within 12 hours with a description of the complaint and action being taken to resolve the problem. The results of the investigation, identification of any malfunctioning equipment or aberrant operation, and the date and time of repair or mitigation shall be recorded. A log of these records shall be maintained for inspection. Receipt of a nuisance complaint in itself shall not necessarily be a violation.
4.8 PM	NWCAA 550 (9/11/2014 state only) WAC 173-401-615 (10/17/2002)	Preventing Particulate from Becoming Airborne Sources or activities that generate fugitive dust shall employ reasonable precautions to prevent dust from becoming airborne and must maintain and operate the source or activity to minimize emissions. It is unlawful to cause particulate matter from being deposited on property in sufficient quantities, character and duration to likely be injurious to humans, plants, animals, or property, or unreasonably interferes with enjoyment of life and property.	
4.9 PM	WAC 173-400-040(3) (9/16/2018 state only) WAC 173-401-615 (10/17/2002)	Particulate Fallout Source may not generate the emission of particulate matter to be deposited beyond the property line in sufficient quantity to interfere unreasonably with the use and enjoyment of the property upon which the material is deposited.	
4.10 PM	WAC 173-400-040(3)(a) (9/20/1993) WAC 173-400-040(4)(a) (9/16/2018 state only) WAC 173-401-615 (10/17/2002)	Fugitive Emissions From an emissions unit engaging in materials handling, construction, demolition, or other operation, which is a source of fugitive emissions, take reasonable precautions to prevent the release of air contaminants from the operation.	

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
4.11 PM	WAC 173-400-040(8)(a) (9/20/1993) WAC 173-400-040(9)(a) (9/16/2018 state only) WAC 173-401-615 (10/17/2002)	Fugitive Dust Reasonable precautions to prevent release of fugitive dust required. Maintain and operate source to minimize emissions.	
4.12 VE	NWCAA 451.1 (10/13/1994) WAC 173-401-615 (10/17/2002)	Visible Emission Standard No person shall cause or permit the emission, for any period aggregating more than 3 minutes in any 1 hour, of an air contaminant from any source which, at the point at emission, or within a reasonable distance of the point of emission, exceeds 20% opacity except: When there is valid data to show that the opacity is in excess of 20% as a result of the presence of condensed water droplets, and that the concentration of the particulate matter, as shown by a source test approved by the Control Officer, is less than 0.10 (0.23 g/m^3) grain/dscf. Emissions from a catalytic cracking unit shall not exceed 40% opacity for more than an aggregate of 3 minutes in any one hour.	***Directly Enforceable**:* Comply with AOP Term 6.1.
4.13 VE	NWCAA 451.1 (11/8/07 state only) WAC 173-401-615 (10/17/2002)	Visible Emission Standard No person shall cause or permit the emission, for any period aggregating more than 3 minutes in any 1 hour, of an air contaminant from any source which, at the point at emission, or within a reasonable distance of the point of emission, exceeds 20% opacity except: When there is valid data to show that the opacity is in excess of 20% as a result of the presence of condensed water droplets, and that the concentration of the particulate matter, as shown by a source test approved by the Control Officer, is less than 0.10 (0.23 g/m^3) grain/dscf.	

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
4.14 VE	WAC 173-400-040(1) (9/20/1993) WAC 173-400-040(2) (9/16/2018 state only) WAC 173-401-615 (10/17/2002)	Visible Emission Standard No person shall cause or allow the emission for more than three minutes, in any one hour, of an air contaminant from any emissions unit which at the emission point, or within a reasonable distance of the emission point, exceeds 20% opacity except: When the owner or operator of a source supplies valid data to show that the presence of uncombined water is the only reason for the opacity to exceed twenty percent.	
4.15 PM	NWCAA 455.11 (9/8/1993) NWCAA 455.1 (5/11/1995 state only) WAC 173-401-615 (10/17/2002)	Emission of Particulate Matter No person shall cause or permit emission of particulate matter in excess of 0.10 grain/dry standard cubic foot (dscf) (0.23 g/m3) (combustion emissions shall be corrected to 7% O2) except: • From all gaseous and distillate fuel burning equipment, emissions shall not exceed 0.05 grain/dscf (0.11 g/m3) corrected to 7% oxygen. • From all existing petroleum catalytic cracking units, emissions shall not exceed 0.20 grain/dscf (0.46 g/m3) of exhaust gas as corrected to 7% oxygen.	***Directly Enforceable**:* Comply with AOP Term 6.1.
4.16 PM	WAC 173-400-060 (11/25/2018) WAC 173-401-615 (10/17/2002)	Emission Standards for General Process Units Particulate emissions greater than 0.1 grain/dscf prohibited.	
4.17 PM	WAC 173-400-050(1) and (3) (9/16/2018) WAC 173-401-615 (10/17/2002)	Emission Standards for Combustion and Incineration Particulate emissions from combustion units greater than 0.1 grains/dscf corrected to 7% oxygen prohibited.	
4.18 SO_2	NWCAA 460 (4/14/1993) WAC 173-401-615 (10/17/2002)	Weight/Heat Rate Standard for SO_2 Sulfur compound emissions, as SO_2, shall not exceed 1.5 lb/MMBtu of heat input per hour, calendar month average of hourly values for the facility.	***Directly Enforceable**:* Report the facility calendar monthly average SO_2 lb/MMBtu in the monthly report.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
4.19 SO_2	NWCAA 462 (10/13/1994) WAC 173-401-615 (10/17/2002)	Emission of Sulfur Compounds Sulfur compounds emissions, calculated as SO_2, shall not exceed 1,000 ppmvd at 7% oxygen. This requirement is not violated if reasonable evidence is presented that concentrations will not exceed ambient standards and the permittee demonstrates that no practical method of reducing the concentration exists.	***Directly Enforceable**:* Monitor and record the concentration of stack SO_2, or alternatively fuel gas H_2S, in accordance with the applicable permit terms listed in AOP Section 5.
4.20 SO_2	NWCAA 462 (3/13/1997 state only) WAC 173-401-615 (10/17/2002)	Emission of Sulfur Compounds Sulfur compounds emissions, calculated as SO_2, shall not exceed 1,000 ppmvd at 7% oxygen averaged for a 60 consecutive minute period. This requirement is not violated if reasonable evidence is presented that concentrations will not exceed ambient standards and the permittee demonstrates that no practical method of reducing the concentration exists.	
4.21 SO_2	WAC 173-400-040(6) first paragraph only (9/20/1993) WAC 173-401-615 (10/17/2002)	Sulfur Dioxide Sulfur dioxide emissions shall not exceed 1,000 ppmvd, corrected to 7% oxygen for combustion sources, based on the average of any 60 consecutive minute period.	

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
4.22 SO_2	NWCAA 520.11, 520.12, 520.13 and 520.15 (4/14/1993) WAC 173-401-615 (10/17/2002)	Sulfur Compounds in Fuel Prohibited to burn, sell, or make available for sale for burning in fuel burning equipment within the jurisdiction of the NWCAA, fuel containing sulfur in excess of the following for a time period not to exceed 30 days in a 12-month period: • #1 distillate – 0.3 wt% • #2 distillate – 0.5 wt% • other fuel oils – 2.0 wt% • solid fuels – 2.0 wt%	***Directly Enforceable:*** Retain fuel specifications and purchase records verifying that fuel sold or combusted in the NWCAA's jurisdiction has a sulfur content of no more than the allowable limits. Fuel testing for sulfur content shall be conducted in accordance with ASTM D-4294 (Industrial and Marine Fuel Oils) or ASTM D-2622 (Distillate Fuel Oil).
4.23 SO_2	NWCAA 520.11, 520.12, 520.13 and 520.15 (5/9/1996 state only) WAC 173-401-615 (10/17/2002)	Sulfur Compounds in Fuel Prohibited to burn, sell, or make available for sale for burning in fuel burning equipment within the jurisdiction of the NWCAA, fuel containing sulfur in excess of the following for a time period not to exceed 30 days in a 12-month period: • #1 distillate – 0.3 wt% • #2 distillate – 0.5 wt% • other fuel oils – 2.0 wt% • solid fuels – 2.0 wt% Ocean-going vessels are exempt.	
4.24 VOC	NWCAA 580.24 (12/13/1989) NWCAA 580.24 (2/8/1996 state only)	Process Turnarounds Process units shall be depressurized to less than 5 psig (gauge) before venting to the atmosphere. During depressurization, VOCs shall be routed through a closed vent system to a flare or other appropriate disposal device.	Keep records of each process unit turnaround listing the date the unit was shut down, the estimated vessel VOC concentration when the VOC was first emitted, and the estimated total quantity of VOC emitted. A specific record shall be kept for any turnaround during which a vessel containing VOC was vented to the atmosphere at a pressure at or above 5 psig. Include emissions from turnarounds in the annual emissions inventory.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
4.25 VOC	NWCAA 580.25 (12/13/1989) NWCAA 580.25 (2/8/1996) WAC 173-401-615 (10/17/2002)	O & M for VOC Equipment Equipment for the reduction, collection or disposal of VOC shall be maintained and operated in a manner commensurate with accepted industrial practices.	***Directly Enforceable**:* Maintain appropriate records.
4.26 HAP	40 CFR 63 Subpart GGGGG 63.7881(c) (11/29/2006), 63.7884(b) (11/29/2006), and 63.7936 (10/8/2003)	Site Remediation Activities Site remediation activities must follow only the recordkeeping requirements provided that either: • The total quantity of the listed HAP contained in the remediation material excavated, extracted, pumped, or otherwise removed during all of the site remediations conducted at the refinery must be less than 1 megagram (Mg) annually; or • The site remediation must be completed within 30 consecutive calendar days.	For the 1 Mg exemption: Prepare and maintain at the facility written documentation to support the determination that the total HAP quantity in the remediation materials for the year is less than 1 Mg. The documentation must include a description of the methodology and data used for determining the total HAP content of the remediation material. For the 30-day activity exemption: If the remediation material is shipped or otherwise transferred off-site, include in the applicable shipping documentation, in addition to any notifications and certifications required under §63.7936, a statement that the shipped material was generated by a site remediation activity subject to the conditions of this exemption. The statement must include the date on which you initiated the site remediation activity generating the shipped remediation materials and the date 30 calendar days following the initiation date. You must prepare and maintain at the facility written documentation describing the exempted site remediation and listing the initiation and completion dates for the site remediation.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
4.27 HAP	40 CFR 63 Subpart CC 63.658(a, b, c, e, f & j) (11/26/2018), 63.655(h)(8) & (i)(8) and Table 11(4)(vi) (11/26/2018)	<u>Fenceline Benzene Monitoring – Sampling</u> Conduct a fenceline monitoring program for benzene using a sampling grid setup in accordance with an Method 325A of 40 CFR 63 Appendix A, and a monitoring method conducted in accordance with Method 325A or 325B of 40 CFR 63 Appendix A. Sampling shall be conducted biweekly for a period of no less than 12 consecutive months. Sampling may be relaxed to: • Monthly with 52 biweekly samples < 0.9 ug/m^3 • Quarterly with 26 monthly samples < 0.9 ug/m^3 • Semiannually with 8 quarterly samples < 0.9 ug/m^3 • Annually with 4 semiannual samples < 0.9 ug/m^3 If a sample at any site exceeds 0.9 µg/m^3, the sampling frequency at that monitoring site must return to once every 14 days for one quarter. If no samples collected during that quarter exceed 0.9 µg/m^3, the site may revert back to the reduced monitoring schedule applicable for that site prior to the exceedance. If a sample collected during that quarter exceeds 0.9 µg/m^3, that monitoring site must return to the original sampling requirements (no skip periods for 2 consecutive years of sampling once every 14 days). Sampling results may be adjusted for background and near-field sources of benzene.	Maintain records in accordance with 63.655(i)(8) including sampling locations, periods, conditions, and justifications for: • Determining sample outliers, • Samples adjusted for background, and • Samples adjusted for near-field source corrections. Submit sampling results electronically to EPA's Central Data Exchange (www.cdx.epa.gov) once every quarter. The information shall include the location of each monitoring site within 3 meters and updated whenever monitoring sites are added or moved. The reported sampling results shall include: • The sampling result at each site in ug/m^3 • The biweekly annual average for each site in ug/m^3 • A notation for each biweekly value that indicates whether a background correction was used • A notation when measurements in the sampling period were below detection limits. • A notation when an outlier was removed from the sampling period data set.
4.28 HAP	40 CFR 63 Subpart CC 63.658(d) (11/26/2018) and 63.655 (i)(8) (2/4/2020)	<u>Fenceline Benzene Monitoring – Met Station</u> Collect meteorological data for the fenceline benzene monitoring program with an on-site meteorological station in accordance with Section 8.3 of Method 325A of 40 CFR 63 Appendix A. The meteorological station shall collect temperature, barometric pressure, wind speed, wind direction, vector wind direction, and daily sigma theta.	Maintain a record of the location of the meteorological station and the average temperature and barometric pressure measurements for each benzene sample. In addition, record hourly average temperature, barometric pressure, wind speed, and wind direction. Also record daily unit vector wind direction and daily sigma theta.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
4.29 HAP	40 CFR 63 Subpart CC 63.658(f)(3) & (g)(11/26/2018) and 63.655(i)(8)(viii) (2/4/2020)	Fenceline Benzene Monitoring – Root Cause Analysis and Initial Corrective Action Analysis Within 5 days of determining that the action level of 9.0 ug/m^3 annual average has been exceeded, and no less than 50 days after the completion of sampling, conduct a root cause analysis and initiate a corrective action analysis. The corrective action analysis may include employing a more progressive sampling frequency, analysis method and meteorological analysis to identify the cause. Take appropriate corrective action no later than 45 days after determining that the action level was exceeded. Corrective action may include conducting an inspection for leaks and repairing any leaks found. The leak inspection may use EPA Method 21, optical gas imaging, or visual survey techniques.	Maintain a record documenting corrective action taken each time the 9 ug/m^3 annual average action level is exceeded.
4.30 HAP	40 CFR 63 Subpart CC 63.658(h) (11/26/2018)	Fenceline Benzene Monitoring – Corrective Action Plan If either of the following occur: • Upon completion of corrective action required under AOP Term 4.30, sampling for the next 14-day period finds that the annual average is still above 9.0 ug/m^3. • All corrective action measures identified under AOP Term 4.30 require more than 45 days to implement. A corrective action plan shall be developed that describes the corrective actions completed to date, additional measures proposed to reduce fenceline concentrations below the action level, and a schedule for completion of these measures.	Submit a corrective action plan to the Administrator within 60 days of receiving sampling results indicating that the 14-day sampling period following completion of corrective action taken under AOP Term 4.30 shows that benzene concentrations are still above the 9 µg/m3 action level. If no corrective actions were identified in the corrective action analysis required under AOP Term 4.30, submit the corrective action plan to the Administrator no later than 60 days following the completion of the corrective action analysis.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
4.31 HAP	40 CFR 63 Subpart CC 63.643(c) and 63.655(i)(12) & (g)(13) (2/4/2020)	MACT for Maintenance Process Vents Maintenance process vents used exclusively for startup, shutdown, maintenance, or inspection may vent to the atmosphere when LEL < 10%, or the equipment served by the maintenance vent contains less than 72 pounds of VOC. If there is no ability to measure the LEL inside the equipment, the pressure in the equipment must be ≤ 5 psig and active purging cannot occur until the vented vapors have an LEL < 10%.	Determine the LEL or equipment pressure using process instrumentation or portable measurement devices and follow procedures for their calibration and maintenance according to manufacturer's specifications. Determine the mass of VOC in equipment based on its size and contents after draining and purging. Maintain standard site procedures used to deinventory equipment for safety purposes. Maintain a record of each maintenance vent opening including vent ID and the LEL, pressure or mass of VOC used to comply with this term. Report in the semiannual MACT report each maintenance vent opening that exceeds applicable limits including vent ID, date, and time of the opening, the LEL, pressure or mass of VOC that was exceed, and an estimate of the mass of organic HAP released to the atmospheric from the opening.
4.32 HAP	40 CFR 61 Subpart FF 61.340(a) (11/12/2002) and 61.342(b) (10/17/2000) 40 CFR 63 Subpart CC 63.647 (12/1/2015)	40 CFR 61 Subpart FF Benzene Waste Operations: Refinery MACT Wastewater Provisions: The facility shall implement 40 CFR 61 Subpart FF tracking, managing, and treating benzene-containing wastes as required in AOP Section 5.13. The general requirements of 40 CFR 61 Subpart A apply to the affected facilities (AOP Section 3.2).	See MR&R terms in AOP Section 1 applicable to subject waste streams and equipment. The following waste is exempt from 40 CFR 61 Subpart FF: (1) Waste in the form of gases or vapors that is emitted from process fluids: (2) Waste that is contained in a segregated storm water sewer system. Any gaseous stream from a waste management unit, treatment process, or wastewater treatment system routed to a fuel gas system, as defined in 40 CFR 61.341, is exempt from this subpart. No testing, monitoring, recordkeeping, or reporting is required under this subpart for any gaseous stream from a waste management unit, treatment process, or wastewater treatment unit routed to a fuel gas system.
4.33 HAP	40 CFR 63 Subpart CC 63.642(b) (12/1/2015)	Refinery MACT 1 Emission standards apply to affected sources at all times.	Certification by responsible office under AOP Term 2.4.1.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
4.34 HAP	40 CFR 63 Subpart CC 63.642(n) (12/1/2015)	Refinery MACT 1 – General Duty to Minimize Emissions At all times, operate and maintain the 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.	Certification by responsible office under AOP Term 2.4.1.
4.35 HAP	40 CFR 63 Subpart UUU 63.1570(a) (12/1/2015)	Refinery MACT 2 Non-opacity standards apply to affected sources at all times.	Certification by responsible office under AOP Term 2.4.1.
4.36 HAP	40 CFR 63 Subpart UUU 63.1570(b) (12/1/2015)	Refinery MACT 2 Opacity and visible emission standards apply to affected sources at all times.	Certification by responsible office under AOP Term 2.4.1.
4.37 HAP	40 CFR 63 Subpart UUU 63.1570(c) (12/1/2015)	Refinery MACT 2 - General Duty to Minimize Emissions At all times, operate and maintain the affected source, including associated air pollution control equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions.	Certification by responsible office under AOP Term 2.4.1.
4.38 HAP	40 CFR 63 Subpart ZZZZ 63.6605(a) (1/30/2013)	RICE MACT Emission limits and operating limits apply to affected sources at all times.	Certification by responsible office under AOP Term 2.4.1.
4.39 HAP	40 CFR 63 Subpart ZZZZ 63.6605(b) (1/30/2013)	RICE MACT - General Duty to Minimize Emissions At all times, operate and maintain the affected source, including associated air pollution control equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions.	Certification by responsible office under AOP Term 2.4.1.

SECTION 5 SPECIFICALLY APPLICABLE REQUIREMENTS

The cited requirements in the "Citation" column and incorporated herein by reference are applicable to the emission units specified in the header of the table. These requirements are federally enforceable unless identified as "State Only". A requirement designated "State Only" is enforceable only by the state or the NWCAA, and not by the EPA or through citizen suits. "State Only" WAC citations are enforceable only by NWCAA because they are adopted by reference in NWCAA 104.1, as amended February 10, 2022. All the federal regulations listed in Section 5 have been adopted by reference in NWCAA 104.2, as amended February 10, 2022.

The "Description" column is a brief description of the applicable requirements for informational purposes only and is not enforceable. Periodic or continuous monitoring requirements, including testing, are specified in the "Monitoring, Recordkeeping, & Reporting" (MR&R) column, which identifies MR&R obligations the source must perform as required by WAC 173-401-605(1) and 615(1) and (2) or the underlying requirement. MR&R obligations do not apply to insignificant emission units. The test method cited, or any credible evidence may be used to determine compliance.

The requirements in the MR&R column labeled "***Directly Enforceable***" are legally enforceable requirements added under either the NWCAA's "gap-filling" authority (WAC 173-401-615(1)(b) & (c) (10/17/2002)), or the NWCAA's "sufficiency monitoring" authority (WAC 173-401-630(1), 3/5/2016)), as cited in each permit term. Other requirements not labeled "***Directly Enforceable***" are brief descriptions of the regulatory requirements for informational purposes and are not enforceable. Unless the test of the MR&R column is specifically identified to be directly enforceable, the language of the cited regulation takes precedence over a paraphrased requirement.

MR&R requirements noted as "CAM" are part of the Compliance Assurance Monitoring (CAM) Plan for the specified unit(s) as required by 40 CFR 64.6(c) (10/22/97). The CAM plan submitted by the facility per 40 CFR 64.4 is included in the Statement of Basis document accompanying this permit.

The provisions of federally-approved NWCAA 365, 366 and the "Guidelines for Industrial Monitoring Equipment and Data Handling" have been replaced in this section by NWCAA 367 and NWCAA Appendix A – "Ambient Monitoring, Emission Testing, and Continuous Emission and Opacity Monitoring". NWCAA 367 and Appendix A were adopted on July 14, 2005, with a provision that applicable sources would be allowed one year from the date of adoption to achieve compliance with Appendix A. The new regulations are "State Only" until incorporated into the State Implementation Plan.

Many of the federal standards in the following tables refer to other standards, which, in turn, refer to yet other standards. The symbol → is used in place of "which refers to."

Section 5 is separated into the following refinery process and product handling areas:

5.1 Primary Crude Processing Area

5.2 Catalytic Cracking Processing Unit

5.3 Alkylation Process Area

5.4 Tier III/LSR Hydrotreater Process Area

5.5 Reformer/Diesel Hydrotreater Process Area

5.6 Sulfur Plant/Treaters Process Area

5.7 Utilities

5.8 Flare System

5.9 Transfer (Loading/Unloading) Terminals

5.10 Reciprocating Internal Combustion Engines – Refinery-Wide

5.11 Effluent Collection, Conveyance, and Treatment Plant – Refinery-Wide

5.12 Storage Vessels

5.1 Primary Crude Oil Process Area

(Crude Distillation Unit)

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Crude Distillation Unit - Crude Heater (1F-1) and Supplemental Crude Heater (1F-1A)			
Note: 40 CFR 60 NSPS and 63 NESHAP General Provisions in Section 3 apply to these affected facilities.			
5.1.1 Fuel	OAC 733f Condition 20 (12/10/2019) WAC 173-401-615 (10/17/2002)	Fuel oil (defined as any liquid fossil fuel with a sulfur content greater than 0.05% by weight) shall not be burned in the Crude Heater and Supplemental Crude Heater, except during periods of natural gas curtailment, test runs, or operator training.	***Directly Enforceable:*** Certify annually that only approved fuels were combusted in the Crude heaters.
5.1.2 SO_2	OAC 733f Condition 20 (12/10/2019) 40 CFR 60 Subpart J 60.104(a)(1) (6/24/2008), 60.105(a)(4) &(e)(3)(ii) (12/1/2015) & 60.106(e)(1) (9/12/2012)	<u>NSPS for Refinery Fuel gas</u> Fuel combusted in the Crude Heater and Supplemental Crude Heater is limited to purchased natural gas or refinery fuel gas containing less than: • 162 ppm H_2S, 3-hour average.	Monitor H_2S in the refinery fuel gas with a CEMS that is compliant with 40 CFR 60 Subpart A, Subpart J and Appendix F. Concentration measurements provided by the CEMS shall be used to directly determine compliance on a continuous basis. The span value for the CEMS is 425 mg/dscm H_2S. The performance evaluations for the CEMS under 60.13(c) is Performance Specification 7. EPA Method 11, 15, 15A, or 16 shall be used for conducting RATAs. Report monthly the dates, times, and causes of periods that the monitoring system did not function properly.
5.1.3 HAP	40 CFR 63 Subpart DDDDD 63,7485 (1/31/2013)	<u>Boilers & Process Heaters</u> Comply with 40 CFR 63 Subpart DDDDD for boilers and process heaters at major sources of HAPs.	Comply with AOP Section 6.7.

Crude Distillation Unit – Maintenance Process Vents			
Note: 40 CFR 63 NESHAP General Provisions in Section 3 apply to this affected facility.			
5.1.4 HAP	40 CFR 63 Subpart CC 63.643(c) and 63.655(i)(12) & (g)(13) (7/13/16)	<u>MACT for Maintenance Process Vents</u> Maintenance process vents used exclusively for startup, shutdown, maintenance, or inspection may vent to the atmosphere when LEL < 10%, or the equipment served by the maintenance vent contains less than 72 pounds of VOC. If there is no ability to measure the LEL inside the equipment, the pressure in the equipment must be ≤ 5 psig and active purging cannot occur until the vented vapors have an LEL < 10%.	Determine the LEL or equipment pressure using process instrumentation or portable measurement devices and follow procedures for their calibration and maintenance according to manufacturer's specifications. Determine the mass of VOC in equipment based on its size and contents after draining and purging. Maintain standard site procedures used to deinventory equipment for safety purposes. Maintain a record of each maintenance vent opening including vent ID and the LEL, pressure or mass of VOC used to comply with this term. Report in the semiannual MACT report each maintenance vent opening that exceeds applicable limits including vent ID, date and time of the opening, the LEL, pressure or mass of VOC that was exceed, and an estimate of the mass of organic HAP released to the atmospheric from the opening.
Crude Distillation Unit - Equipment Components			
Note: 40 CFR 60 NSPS and 63 NESHAP General Provisions in Section 3 apply to this affected facility.			
5.1.5 VOC	40 CFR 60 Subpart GGGa (6/2/2008) → 40 CFR 60 Subpart VVa 60.482a - 60.487a (11/16/07)	<u>NSPS for Equipment Leaks</u> Equipment in VOC service shall be in an LDAR program conducted in accordance with 40 CFR 60 Subparts GGGa and VVa.	Conduct an LDAR program on equipment in VOC service in accordance with AOP Terms 6.4.1 through 6.4.13.
5.1.6 HAP	40 CFR 63 Subpart CC 63.648 (2/4/2020) → 40 CFR 60 Subpart VV 60.482 - 60.487 (11/16/2007)	<u>MACT for Equipment Leaks</u> Equipment in HAP service shall be in an LDAR program conducted in accordance with 40 CFR 60 Subpart VV. Equipment in VOC service and regulated under the equipment leak provisions of 40 CFR 60 Subpart GGGa and VVa are exempt from this requirement per 63.640(p).	Conduct an LDAR program on equipment in non-VOC HAP service in accordance with AOP Terms 6.2.1 through 6.2.13.

5.2 Catalytic Cracking Process Area

(Fluid Catalytic Cracking Unit (FCCU))

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
FCCU - Regenerator, Combustion Air Heater and CO Boiler (FGS Stack)			
Note: 40 CFR 60 NSPS and 63 NESHAP General Provisions in Section 3 apply to these affected facilities.			
5.2.1 VE	NWCAA 451.1 (5/11/95) and WAC 173-400-040(1) (8/20/93) WAC 173-401-615 (10/17/2002)	Emission of Air Contaminant – Visual Standard Emissions from a catalytic cracking unit shall not exceed 40% opacity for more than an aggregate of 3 minutes in any one-hour. Excess emissions as a result of soot blowing or grate cleaning shall not occur for more than 15 minutes in any 8-hour period, or another approved schedule.	***Directly Enforceable:*** Comply with AOP Term 5.2.4 - FCCU Alternative Monitoring Plan for Opacity.
5.2.2 VE	OAC 733f Condition 10 (12/10/2019) WAC 173-401-615 (10/17/2002)	Visible emissions from the FCCU Combustion Air Heater, FCCU Regenerator, and the CO Boiler (FGS Stack) shall not exceed an average of 20% opacity in any consecutive 6-minute period as determined by 40 CFR 60 Appendix A, Method 9.	***Directly Enforceable:*** Comply with AOP Term 5.2.4 - FCCU Alternative Monitoring Plan for Opacity.
5.2.3 VE	40 CFR 60 Subpart J 60.102(a)(2) (6/24/2008), 60.105(a)(1) & (e)(1) (12/1/2015) and 60.11(c) (10/17/2000) WAC 173-400-070(5)(b) ((7/1/16) → WAC 173-400-115 (7/1/2016) WAC 173-401-630(1) (3/5/2016)	NSPS for FCCU Regenerator Opacity Visual emissions from the FCCU regenerator (FGS Stack) shall not exceed 30% opacity as determined by EPA Method 9, except for one 6-minute average in any one-hour period, and except during periods of startup, shutdown, and malfunction.	***Directly Enforceable:*** Comply with AOP Term 5.2.4 - FCCU Alternative Monitoring Plan for Opacity.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.2.4 VE	OAC 733f Condition 22 (12/10/2019)	FCCU Alternative Monitoring Plan for Opacity An appropriate continuous parameter monitoring system (CPMS) for the FCCU WGS (FGS) includes monitoring the WGS (FGS) liquid-to-gas ratio (L/G) and the weight percent solids in the scrubber recirculation liquid. The value for L is be determined by measuring the amperage to each WGS recirculation pump motor that is operating, calculating the power generated by the pump motor at the measured amperage using a standard equation from the Chemical Engineers Handbook, determining the liquid flow rate at the calculated power input from the pump manufacturer's Centrifugal Pump Characteristics Curve and summing the liquid flow rate from each operating pump. The value for G is measured directly by a gas flow meter or calculated in accordance with 63.1573(a)(2)(iii) using control room instrumentation for air flow into the regenerator, and continuous gas analyzers on the exhaust from the regenerator.	As described in the guideline of 63.1564(b)(2) and (3), the L/G ratio is calculated and recorded at least once every operating hour. Phillips 66 has established a minimum L/G ratio of 1.25 calculated on a three-hour block average based on performance testing. The weight percent solids in the WGS liquid must be sampled and analyzed weekly. Phillips 66 has established a maximum weight percent value of 1.0 based on data taken during performance testing. Phillips 66 has developed and must maintain a written monitoring plan which describes the specific CPMS for this AMP including the measurement equipment, equations, centrifugal pump characteristics curves or algorithms, sampling methods, analytical methods and operation and maintenance requirements. This monitoring plan must be reviewed annually and revised, if necessary, and made available to U.S. EPA and NWCAA upon request. This CPMS must meet the requirements of 63.1572(c) and (d).
5.2.5 PM	PSD-00-02 Amendment 8 Conditions 7, 12 & 17 (9/9/2015) 40 CFR 64.3(b); 64.6(c); 64.7(c), (d), & (e) and 64.9(a) & (b) (10/22/1997) (CAM)	Combined PM/PM_{10} emissions from the FCCU and CO Boiler (FGS stack) shall not exceed any of the following limits: • 0.50 lb/1000 lb coke burn-off, 3-hour average • 0.020 grains/dscf at 7% O_2, 3-hour average.	Conduct annual source testing in accordance with 40 CFR 60 Appendix A Method 5B, or an alternative approved method. Testing shall be conducted between 10 and 13 months from the previous test. Testing shall be performed at maximum normal FCCU feed rates. Maintain a record of the results of each source test. Report monthly, the average PM and PM_{10} emitted from the FCCU CO Boiler FGS stack. *- CAM Plan -* Comply with AOP Term 5.2.4 - FCCU Alternative Monitoring Plan for Opacity.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.2.6 PM	40 CFR 60 Subpart J 60.102(a)(1) (6/24/2008), 60.105(c) (12/1/2015) and 60.106(a) & (b) (9/12/2012) WAC 173-400-070(5)(b) ((7/1/2016) → WAC 173-400-115 (7/1/2016) 40 CFR 64.3(b); 64.6(c); 64.7(c), (d), & (e) and 64.9(a) & (b) (10/22/1997) (CAM) WAC 173-401-615 (10/17/2002)	<u>NSPS for FCCU Regenerator PM</u> PM emissions from the FCCU regenerator shall not exceed 2.0 lb/ton coke burn-off in the catalyst regenerator.	Maintain a record of the average coke burn-off rate in tons per hour, and hours of FCCU operation. ***Directly Enforceable**:* Compliance shall be demonstrated by conducting a performance test at least once every 13 months at maximum normal FCCU feed rates. Testing shall be conducted in accordance with 60.106(a) & (b) including using EPA Method 5B with test run of at least 60 minutes. *- CAM Plan -* Comply with AOP Term 5.2.4 - FCCU Alternative Monitoring Plan for Opacity.
5.2.7 SO_2	OAC 733f Condition 9 (12/10/2019)	Combined SO_2 emissions from the FCCU Combustion Air Heater, FCCU Regenerator and CO Boiler shall not exceed 548.4 tons in any consecutive 12-month period.	Use data from the CEMS to calculate SO_2 emissions and maintain a record of the data and supporting documentation used to calculate the SO_2 emission rate. Report monthly, the tons of SO_2 emitted from the FCCU Combustion Air Heater, FCCU Regenerator and CO Boiler as a consecutive 12-month rolling total.
5.2.8 SO_2	OAC 733f Conditions 8 and 15 (12/10/2019)	Emissions from the FCCU Combustion Air Heater, FCCU Regenerator, and CO Boiler shall be continuously routed through a wet gas scrubber (FGS) that reduces SO_2 emissions by at least: • 90%, consecutive 24-hour average, and • 95%, consecutive 7 operating-day average.	Conduct monitoring, testing, recordkeeping, and reporting in accordance with 60.105, 60.106, and 60.107 of Subpart J. The emission limits specified in this term shall be included in the basis for recordkeeping and reporting. Maintain a record of raw data, calculation results, test results, and monitoring data used as the basis to comply with this term.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.2.9 SO_2	40 CFR 60 Subpart J 60.104(b)(1), (c) & (d) (6/24/2008), 60.105(a) (8, 11, 12 & 13) (12/1/2015) 60.106(a, g, h & k), 60.107(a - f) and 60.108 (6/24/2008)	NSPS for FCCU Regenerator SO_2 Reduce SO_2 emissions by 90% or maintain SO_2 emissions to ≤ 50 ppmvd, whichever is less stringent. Compliance shall be determined on a 7-day rolling average using the appropriate procedures outlined in 60.106. A minimum of 22 valid days of data shall be obtained every 30 rolling successive calendar days.	Install and operate an instrument for continuously monitoring and recording concentrations of SO_2 in the gases at both the inlet and outlet of the SO_2 control device (wet gas scrubber). Inlet monitor span shall be 125 percent and outlet monitor span shall be 50 percent of the maximum estimated hourly potential SO_2 emission concentration entering the control devices. Use Performance Specification 2, EPA Methods 3 or 3A and 6 or 6C for RATAs. Quarterly accuracy determinations and daily calibration drift tests shall follow Appendix F, Procedure 1. Data missing due to CMS breakdown, repair, calibration checks and adjustments shall be obtained using the methods prescribed in 60.105(a)(13). Maintain a record of emissions data including each 7-day rolling average compliance determination. Submit a semiannual report that includes deviations for the SO_2 limit and information on missing emissions data. Pursuant to 60.107(a) and 60.108(d), notify the agency of any changes made to the compliance options provided in 60.104(b).
5.2.10 SO_2	OAC 733f Condition 19 (12/10/2019)	SO_2 from the FCCU Combustion Air Heater, FCCU Regenerator, and the CO Boiler in combination shall not exceed: • 50 ppmvd @ 0% O_2, 7-day rolling average* • 25 ppmvd @ 0% O_2, 365-day rolling average * SO_2 emissions during periods of malfunction of the FCCU (including its regenerator and CO Boiler) or during periods of malfunction of the wet gas scrubber (FGS) will not be used in determining compliance with the 50 ppmvd limit, provided that during such periods the owner or operator implements good air pollution control practices to minimize SO_2 emissions. "Malfunction" shall mean, as specified in 40 CFR Part 60.2, "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".	Monitor SO_2 using a CEMS calibrated, maintained, and operated in accordance with NWCAA Appendix A and 40 CFR 60 Appendices B and F. Report monthly, the maximum combined SO_2 emissions from the from the FCCU Combustion Air Heater, FCCU Regenerator, and the CO Boiler in ppmvd @ 0% O_2 as a 7-day rolling average and a 365-day rolling average.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.2.11 NOx	PSD-00-02 Amendment 8 Conditions 2, 9 & 17 (9/9/2015)	Combined NOx emissions from the FCCU and CO Boiler shall not exceed any of the following limits: • 123.2 ppmvd @ 0% O_2, 7-operating day rolling average, excluding periods of startup, shutdown and malfunction. • 127 ppmvd @ 0% O_2, 30-operating day rolling average, • 96.1 ppmvd @ 0% O_2, consecutive 365-day rolling average, • 308.10 tons, 12-month rolling total.	Continuously monitor NOx using a CEMS meeting the performance specifications of 40 CFR 60, Appendix B and the quality control/quality assurance requirements of 40 CFR 60, Appendix F. Report monthly, the average NOx emitted from the FCCU/CO Boiler FGS stack, and the times emission data were excluded from the calculated average emission rate and reasons for excluding the data. Report quarterly, periods CEMS data not collected and reason, any modification to CEMS that could affect performance, periods when NOx exceeded CEMS span, and results of drift tests.
5.2.12 CO	PSD-00-02 Amendment 8 Conditions 5, 10 & 17 (9/9/2015)	Combined CO emissions from the FCCU and CO Boiler shall not exceed any of the following limits: • 500 ppmvd @ 0% O_2, 1-hour average, • 100 ppmvd @ 0% O_2, 365-day rolling average.	Continuously monitor CO using a CEMS meeting the performance specifications of 40 CFR 60, Appendix B and the quality control/quality assurance requirements of 40 CFR 60, Appendix F. Report monthly, the average CO emitted from the FCCU CO Boiler FGS stack, and the times emission data were excluded from the calculated average emission rate and reason. Report quarterly, periods CEMS data not collected and reason, any modification to CEMS that could affect performance, periods when CO exceeded CEMS span, and results of drift tests.
5.2.13 CO	NWCAA Compliance Order 13, Terms of Order (A)–(D) (7/14/2014)	CO emissions from the FCCU shall not exceed any of the following limits: • 500 ppmvd @ 0% O_2, 1-hour average, excluding periods of startup, shutdown and malfunction provided that during such periods good air pollution control practices are used to minimize CO emissions. • 100 ppmvd @ 0% O_2, 365-day rolling average.	Compliance shall be determined by the installation, certification, calibration, maintenance and operation of a CEMS in accordance with the provisions of 40 CFR 60 Subpart A, §60.13 (excluding those provisions applicable only to Continuous Opacity Monitoring Systems) and 40 CFR 60 Appendices A and F, and the applicable performance specification test of 40 CFR 60 Appendix B. The general duty to implement good air pollution control practices shall be considered operation and maintenance practices, and associated recordkeeping and reporting requirements of 63.6(e) & (f) of 40 CFR 63 Subpart A.
5.2.14 CO	40 CFR 60 Subpart J 60.103 (10/2/1990), 60.105(a)(2) & (e)(2) (12/1/2015)	<u>NSPS for FCCU Regenerator CO</u> CO emissions from the FCCU regenerator shall not exceed 500 ppmvd, 1-hour average.	Install, calibrate, maintain, and operate a CEMS for CO. The span value for monitor is 1,000 ppm CO. For the purpose of reports under §60.7(c), periods of excess emissions that shall be determined and reported are defined as follows: All 1-hour periods during which the average CO concentration as measured by the CO continuous monitoring system under §60.105(a)(2) exceeds 500 ppm.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.2.15 NH_3	OAC 1047a Condition 2, 3, 4 & 5 (10/12/2014) WAC 173-401-615 (10/17/2002)	Ammonia emissions from the CO Boiler FGS stack shall not exceed 10 ppmvd @ 0% O_2, 24-hour average. Develop and implement an Ammonia Emissions Monitoring Plan to establish a predictive relationship between the FCC Unit and ESNCR operating parameters and emissions of ammonia. The plan shall define QA/QC procedures and corrective actions when parameter monitoring indicates the ammonia emission limit may be exceeded. Amend the plan as needed based on the results of source testing. Operate in accordance with the plan.	Conduct a source test for ammonia at least once every 13 months while the FCCU is in partial burn mode. Test shall be conducted using three, 60-minute test runs, and test using method BAAQMD ST-1B, EPA Method 320, or alternative test method approved by the NWCAA. During testing record the ammonia feed rate, NO_X emissions, fuel consumption, and other operating parameters. Include this data in the test report. Maintain a copy of the current Ammonia Emissions Monitoring Plan onsite and the date the plan was implemented. ***Directly Enforceable**:* Record predictive parameters identified by the Ammonia Emissions Monitoring Plan at least hourly. Report as a deviation, each period when parameter monitoring indicates that ammonia emissions exceed the 10 ppmvd @ 0% O_2, 24-hour average limit.
5.2.16 HAP	40 CFR 63 Subpart UUU 63.1564(a)(1)(i), (b)(1) & (c)(1) (11/26/2018)→ Tables 1 (12/1/2015), 2 (7/13/2016), 6 (11/26/2018) and 7 (12/1/2015), 63.1570 (a, b, c, f) (12/1/2015), 63.1571(a)(5) & (b), 63.1572(d) (11/26/2018), 63.1574(a)(2) (11/19/2020, 63.1575 and 63.1576 (11/26/2018)	<u>MACT for FCCU Regenerator Metal HAP</u> Emissions from the FCCU regenerator shall not exceed. • PM shall not to exceed 1.0 lb/1000 lb of coke burn-off, 3 test run average. • Visual emissions shall not exceed 20% opacity, 3-hour rolling average. • Visual emissions shall not exceed 30% opacity except for no more than one 6-minute average in any 1-hour period determined using EPA Method 9. Coke burn-off rates shall be calculated using the equation in 63.1564	Conduct a performance test for PM at least once every 5 years unless PM is found to be greater than 0.8 lb/1000 lb of coke burn-off whereby annual testing is required. Test at the maximum representative operating capacity using EPA Method 5B and three test runs of at least 60 minutes each. Maintain a record of FCCU startup and shutdown dates, operating hours of the regenerator, results of performance evaluations, any deviation of applicable standards and actions taken to minimize emissions. Submit in the semiannual Refinery MACT report that includes: 1. The results of any performance tests, 2. Any deviation of the standards and a statement that there were none if that was the case, and 3. A notice if there was a change in the elected monitoring options under Subpart UUU. Comply with AOP Term 5.2.4 - FCCU Alternative Monitoring Plan for Opacity.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.2.17 HAP	40 CFR 63 Subpart UUU 63.1565(a)(1 & 5) & (c), (11/26/2018), 63.1570 (a, c & f) (12/1/2015), 63.1572 (a & d), 63.1575, and 63.1576 (11/26/2018), and Table 40 (12/1/2015)	MACT for FCCU Regenerator Organic HAP Comply with the CO emission limit of NSPS 60.103 of Subpart J and the work practice standards of Subpart UUU including limiting CO emissions from the FCCU catalyst regenerator to no more than 500 ppmvd, 1-hour average. When the FCCU is in startup, shutdown or hot standby mode, compliance may be determined by maintaining the oxygen concentration in the exhaust gas of the catalyst regenerator at or above 1% by volume, dry basis, instead of the 500 ppmvd CO limit.	Install, operate, and maintain a CEMS for CO emissions from the catalyst regenerator vent in accordance with Performance Specification 4 of 40 CFR 60, Appendix B. Use a span value of 1,000 ppm and Procedure 1 of 40 CFR 60, Appendix F except that RATAs are required annually instead of quarterly. Maintain a record of the hourly average CO emissions in ppmvd, performance test data, out of control periods, raw measurements, monitoring system adjustments, performance evaluations, deviation periods and records of changes to monitoring system or control device. Submit Refinery MACT semiannual reports that include information on deviations, and if there were none a statement to that fact. Include information about monitoring systems including the total duration of CEMS downtime, a breakdown into periods due to monitoring equipment malfunctions, non-equipment malfunctions, QA/QC calibrations, other causes. Also include the monitoring equipment manufacturer and model number, and the date of the latest certification or audit.
5.2.18 HAP	40 CFR 63 Subpart UUU 63.1564(a)(3) & (c)(2), 63.1565(a)(3) & (c)(2) (11/26/2018), 63.1570(f) (12/1/2015), 63.1574(f) (11/19/2020) and 63.1576(e) (11/26/2018)	MACT for FCCU OM&M Plan Prepare and implement an operations, maintenance and monitoring plan (OMMP) for each control system and continuous monitoring system at the FCCU used to demonstrate compliance with the metal HAP and organic HAP standards of 40 CFR 63 Subpart UUU. The plan must include the information specified in 63.1574(f)(2).	Demonstrate continuous compliance with the metal HAP and organic HAP standards of 40 CFR 63 Subpart UUU by complying with the procedures in the OMMP dated June 2016 unless a revised plan has been submitted and approved. Keep a current copy of the OMMP onsite and records to show continuous compliance with the procedures in the OMMP. Submit each revised OMMP for review and approval.
5.2.19	OAC 733fCondition 16(C) (12/10/2019)	FCCU combustion mode reporting requirement.	Report monthly, the number of hours the FCCU regenerator was operated in partial combustion mode and in full combustion.
5.2.20	PSD-00-02 Amendment 8 Condition 18 (9/9/2015)	Enforcement: Any activity, which is undertaken by the company or others, in a manner, which is inconsistent with the application and this determination, shall be subject to enforcement under the applicable regulations.	- *none* -

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.2.21	PSD-00-02 Amendment 8 Condition 19 (9/9/2015)	Access: Access to the source by the EPA, state, and local regulatory personnel shall be permitted upon request for the purposes of compliance assurance inspections. Failure to allow such access is grounds for an enforcement action.	- *none* -
FCCU - CO Boiler			
Note: 40 CFR 60 NSPS General Provisions in Section 3 apply to this affected facility.			
5.2.22 Fuel	OAC 733f Conditions 12 and 16(B) (12/10/2016)	The FCCU Combustion Air Heater shall not be operated more than 240 hours in any consecutive 12-month period.	Report monthly, the number of hours that the FCCU Combustion Air Heater operated in the most recent 12-month period.
5.2.23 Fuel	PSD-00-02 Amendment 8 Condition 15 (9/9/2015) WAC 173-401-615 (10/17/2002)	CO Boiler Auxiliary Firing Rate The auxiliary fuel gas firing rate of the CO Boiler is limited to 109 MMBtu/hour.	***Directly Enforceable**:* Monitor and record the hourly auxiliary firing rate of the CO Boiler. Report monthly, the maximum hourly auxiliary firing rate of the CO Boiler calculated on a rolling 24-hour average basis.
5.2.24 Fuel	PSD-00-02 Amendment 8 Condition 15 (9/9/2015) WAC 173-401-615 (10/17/2002)	FCCU Combustion Air Heater Firing Rate The firing rate of the FCCU Combustion Air Heater is limited to 70 MMBtu/hour.	***Directly Enforceable**:* Monitor and record the hourly firing rate of the heater. Report monthly, the maximum hourly firing rate of the heater.
5.2.25 Fuel	OAC 733f Conditions 13 and 16(E) (12/10/2019)	CO Boiler Annual Capacity Factor The annual capacity factor for natural gas burned in the CO Boiler shall not exceed 10% of the total potential heat input to the CO Boiler in each calendar year. Total potential heat input shall not include heat recovered from the FCCU regenerator but shall include heat generated from the combustion of CO in the boiler.	Report monthly, the quantity of purchased natural gas combusted in the CO Boiler in the calendar year to date.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.2.26 Fuel	PSD-00-02 Amendment 8 Condition 14 (9/15/2015) WAC 173-401-615 (10/17/2002)	CO Boiler Annual Capacity Factor Natural gas combusted in the CO Boiler is limited to 111,252 MMBtu as a consecutive 12-month rolling total.	***Directly Enforceable**:* Comply with AOP Term 5.2.25.
5.2.27 SO_2	40 CFR 60 Subpart J 60.104(a)(1) (6/24/2008), 60.105(a)(4) & (e)(3)(ii) (12/1/2015) & 60.106(e)(1) (9/12/2012)	NSPS for Fuel Gas Fuel gas combusted in the CO Boiler shall not exceed: • 162 ppm H_2S, 3-hour average.	Monitor H_2S in the refinery fuel gas with a CEMS that is compliant with 40 CFR 60 Subpart A, Subpart J and Appendix F. Concentration measurements provided by the CEMS shall be used to directly determine compliance on a continuous basis. The span value for the CEMS is 425 mg/dscm H_2S. The performance evaluations for the CEMS under 60.13(c) is Performance Specification 7. EPA Method 11, 15, 15A, or 16 shall be used for conducting the relative accuracy evaluations. Report monthly the dates, times, and causes of all periods that the monitoring system did not function was outside of established ranges.
5.2.28	OAC 733f Condition 11 (12/10/2019) PSD-00-02 Amendment 8 Condition 16 (9/15/2015)	CO Boiler O & M Manual Maintain an operation and maintenance manual for the CO Boiler that identifies operational parameters and practices that describe good combustion practice. The O&M manual shall include a description of records that will be maintained to insure the continuous application of good combustion practices. Emissions that result from failure to follow the O&M manual may be considered credible evidence that emission violations have occurred.	Maintain a copy of the operation and maintenance manual for the CO Boiler and provide for review by state, federal, and local agencies upon request.
FCCU - Vacuum Distillation Tower Vacuum System			
5.2.29 VOC	NWCAA 580.221 and 580.25 (2/8/1996) WAC 173-401-615 (10/17/2002)	Vacuum Systems Non-condensable VOC shall be piped to an appropriate firebox, incinerator, or to a closed refinery system. Equipment for the reduction, collection or disposal of VOC shall be maintained and operated in a manner commensurate with accepted industrial practices.	***Directly Enforceable**:* Maintain written documentation that describes operation and maintenance activities associated with controlling VOC emissions in closed vent systems routed to flares or other appropriate control device. Keep records of associated maintenance activities for this equipment.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
FCCU - Vacuum Flasher Heater (4F-2)			
Note: 40 CFR 60 NSPS and 63 NESHAP General Provisions in Section 3 apply to this affected facility.			
5.2.30 Fuel	OAC 1012e Condition 1 (5/24/2018) WAC 173-401-615 (10/17/2002)	Fuel combusted in the Vacuum Flasher Heater is limited to refinery fuel gas.	***Directly Enforceable:*** Certify annually that only refinery fuel gas was combusted in the Vacuum Flasher Heater.
5.2.31 Fuel	OAC 733f Condition 21 (12/10/2019) WAC 173-401-615 (10/17/2002)	Fuel oil (defined as any liquid fossil fuel with a sulfur content greater than 0.05% by weight) shall not be burned in the Vacuum Flasher Heater, except during periods of natural gas curtailment, test runs, or operator training.	***Directly Enforceable:*** Certify annually that only approved fuels were combusted in the Vacuum Flasher Heater.
5.2.32 Fuel	OAC 1012e Condition 2 & 8 (5/24/2018)	Heat input to the Vacuum Flasher Heater shall not exceed 189 MMBtu/hour (HHV) based on a consecutive 12-month rolling average.	Monitor the heat input by measuring the total fuel gas flow rate to the heater from each heater pass flow meter, multiplied by the calculated HHV from gas chromatographic composition data. Report the 12-month rolling average firing rate of the Vacuum Flasher Heater in the monthly report.
5.2.33 VE	OAC 1012e Condition 3 (5/24/2018) WAC 173-401-615 (10/17/2002)	Visual emissions from the Vacuum Flasher Heater shall not exceed 5% opacity for more than 3 minutes in any 60-minute period as determined by WDOE Method 9A.	***Directly Enforceable:*** Comply with AOP Term 6.1.
5.2.34 SO_2	OAC 733f Conditions 20 and 16(A) (12/10/2019) 40 CFR 60 Subpart J 60.104(a)(1) (6/24/2008), 60.105(a)(4) & (e)(3)(ii) (12/1/2015) and 60.106(e)(1) (9/12/2012)	Fuel combusted in the Vacuum Flasher Heater is limited to purchased natural gas or refinery fuel gas containing less than: • 162 ppm H_2S, 3-hour average.	Monitor H_2S in the refinery fuel gas with a CEMS that is compliant with 40 CFR 60 Subpart A, Subpart J and Appendix F. Concentration measurements provided by the CEMS shall be used to directly determine compliance on a continuous basis. The span value for the CEMS is 425 mg/dscm H_2S. The performance evaluations for the CEMS under 60.13(c) is Performance Specification 7. EPA Method 11, 15, 15A, or 16 shall be used for conducting the relative accuracy evaluations. Report monthly the dates, times, and causes of all periods that the monitoring system did not function was outside of established ranges.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.2.35 NOx	OAC 1012e Conditions 8, 9 & 10 (5/24/2018)	NO_X emissions from the Vacuum Flasher Heater shall not exceed the following limits. Any period when the SCR is operating for the entire time: • 80 ppmvd @ 3% O_2, 24-hour average. Any period when the SCR is not operating due to maintenance or repair: • 242 ppmvd @ 3% O_2, 24-hour average. All periods regardless of SCR operating status: • 0.070 lb/MMBtu, consecutive 12-month rolling average.	Continuously monitor NOx using a CEMS installed, calibrated, maintained, and operated in accordance with NWCAA Appendix A and 40 CFR 60 Appendices B and F. Report the following maximum monthly NOx emission rates in the monthly report. • ppmvd @ 3% O_2, 24-hour average. • lb/MMBtu, consecutive 12-month rolling average.
5.2.36 NOx	OAC 1012e Condition 11 (5/24/2018)	Operation of the Vacuum Flasher Heater without SCR control is limited to 336 hours per calendar year.	Maintain a record of the time and date of each SCR startup and shutdown, and the reason that the SCR was not operating. If the SCR was down for maintenance or repair, the record shall describe the type and extent of that activity, and the periods when the maintenance and repair activity was performed.
5.2.37 NH_3	OAC 1012e Conditions 5, 6, 7 & 8 (5/24/2018)	Ammonia (NH_3) emissions from the Vacuum Flasher Heater shall not exceed 10 ppmvd @ 3%, O_2, consecutive 24-hour average.	Conduct a source test for ammonia at least once every 13 months. Test shall be conducted using three, 60-minute test runs, and test method BAAQMD ST-1B, or alternative test method approved in advance by the NWCAA. The test shall be conducted under normal operating rates, which is defined as being equal to or greater than average daily heat input to the heater during the most recent consecutive 12-month period. During testing record the ammonia feed rate, NO_X emissions, fuel consumption, excess oxygen, and exhaust temperature. Include this data in the test report. Operate in accordance with the Ammonia Emissions Monitoring Plan required under AOP Term 5.2.38. Report the maximum monthly ammonia emission rate in ppmvd @ 3% O_2, 24-hour average in the monthly report.
5.2.38 NH_3	OAC 1012e Condition 7 (5/24/2018)	Maintain an Ammonia Emissions Monitoring Plan that establishes a predictive relationship between the Vacuum Flasher Heater, SCR parameters and ammonia emissions. Update the plan as needed based on the results of source testing.	Maintain a copy of the initial Ammonia Emissions Monitoring Plan and all subsequent revisions to the plan onsite and available for review by the NWCAA. The initial plan and all revisions to the plan shall be dated with the date that each plan was implemented.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.2.39 HAP	40 CFR 63 Subpart DDDDD 63.7485 (1/31/2013)	Boilers & Process Heaters Comply with 40 CFR 63 Subpart DDDDD for boilers and process heaters at major sources of HAPs.	Comply with AOP Section 6.7.
FCCU – Miscellaneous Process Vent 25FV-007			
Note: 40 CFR 63 NESHAP General Provisions in Section 3 apply to this affected facility.			
5.2.40 HAP	40 CFR 63 Subpart CC 63.643(a)(1) (2/4/2020)	MACT for Misc. Process Vents Controlled by Flare MACT Group 1 miscellaneous process vents shall reduce HAP emissions with a flare.	Comply with AOP Terms 5.8.1 through 5.8.12 as applicable.
FCCU – Maintenance Process Vents			
Note: 40 CFR 63 NESHAP General Provisions in Section 3 apply to this affected facility.			
5.2.41 HAP	40 CFR 63 Subpart CC 63.643(c) and 63.655(i)(12) & (g)(13) (2/4/2020)	MACT for Maintenance Process Vents Maintenance process vents used exclusively for startup, shutdown, maintenance, or inspection may vent to the atmosphere when LEL < 10%, or the equipment served by the maintenance vent contains less than 72 pounds of VOC. If there is no ability to measure the LEL inside the equipment, the pressure in the equipment must be ≤ 5 psig and active purging cannot occur until the vented vapors have an LEL < 10%.	Determine the LEL or equipment pressure using process instrumentation or portable measurement devices and follow procedures for their calibration and maintenance according to manufacturers' specifications. Determine the mass of VOC in equipment based on the size and contents after draining and purging. Maintain standard site procedures used to deinventory equipment for safety purposes. Maintain a record of each maintenance vent opening including vent ID and the LEL, pressure or mass of VOC used to comply with this term. Report in the semiannual MACT report each maintenance vent opening that exceeds applicable limits including vent ID, date and time of the opening, the LEL, pressure or mass of VOC that was exceed, and an estimate of the mass of organic HAP released to the atmospheric from the opening.
FC–U - Equipment Components			
Note: 40 CFR 60 NSPS and 63 NESHAP General Provisions in Section 3 apply to this affected facility.			
5.2.42 VOC	40 CFR 60 Subpart GGG (6/2/2008) → 40 CFR 60 Subpart VV 60.4–2 - 60.487 (11/16/2007)	NSPS for Equipment Leaks Equipment in VOC service shall be in an LDAR program conducted in accordance with 40 CFR 60 Subparts GGG and VV. Equipment in HAP service and regulated under the equipment leak provisions of 40 CFR 63 Subpart CC are exempt from this requirement per 63.640(p).	Conduct an LDAR program on equipment in non-HAP VOC service in accordance with AOP Terms 6.2.1 through 6.2.13.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.2.43 VOC/ HAP	OAC 733f Condition 1 (12/10/2019) → 40 CFR 60 Subpart VV 60.4–2 - 60.487 (11/16/2007) as revised by the OAC.	BACT for Equipment Leaks Equipment in VOC and/or HAP service shall be in an LDAR program conducted in accordance with 40 CFR 60 Subpart VV as revised with lower leak definitions for valves and pumps.	Conduct an LDAR program on equipment in VOC and/or HAP service in accordance with AOP Terms 6.2.4 through 6.2.13 and 6.3.1 through 6.3.3.
5.2.44 HAP	40 CFR 63 Subpart CC 63.648 (2/4/2020) → 40 CFR 60 Subpart VV 60.4–2 - 60.487 (11/16/2007)	MACT for Equipment Leaks Equipment in HAP service shall be in an LDAR program conducted in accordance with 40 CFR 60 Subpart VV.	Conduct an LDAR program on equipment in HAP service in accordance with AOP Terms 6.2.1 through 6.2.13.
5.2.45 HAP	OAC 1047a Condition 1 (10/12/2014)	BACT for Equipment Leaks Equipment in HAP service on ESNCR equipment components at the FCCU shall be in an LDAR program conducted in accordance with 40 CFR 60 Subpart VV as revised with lower leak definitions for valves and pumps.	Conduct an LDAR program on equipment in HAP service in accordance with AOP Terms 6.2.4 through 6.2.13 and 6.3.1, except that the leaks definition for valves is 500 ppm (instead of 1,000 ppm) and the lower scale calibration shall be no more than 2,000 ppm (instead of 3,000 ppm).

5.3 Alkylation Process Area

(Alkylation Unit, CGD/S-Zorb Unit and Butane Isomerization Unit)

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Alkylation Unit - Alky Depropanizer Reboiler Heater (17F-1)			
Note: 40 CFR 60 NSPS and 63 NESHAP General Provisions in Section 3 apply to these affected facilities.			
5.3.1 Fuel	OAC 733f Condition 21 (12/10/2019) WAC 173-401-615 (10/17/2002)	Fuel oil (defined as any liquid fossil fuel with a sulfur content greater than 0.05% by weight) shall not be burned in the Alky Depropanizer Reboiler Heater, except during periods of natural gas curtailment, test runs, or operator training.	***Directly Enforceable**:* Certify annually that only approved fuels were combusted in the Alky Depropanizer Reboiler Heater.
5.3.2 SO_2	OAC 733f Conditions 20 and 16(A) (12/10/2019) 40 CFR 60 Subpart J 60.104(a)(1) (6/24/2008), 60.105(a)(4) & (e)(3)(ii) (12/1/2015) and 60.106(e)(1) (9/12/2012)	Fuel combusted in the Alky Depropanizer Reboiler Heater is limited to purchased natural gas or refinery fuel gas containing less than: • 162 ppm H_2S, 3-hour average.	Monitor H_2S in the refinery fuel gas with a CEMS that is compliant with 40 CFR 60 Subpart A, Subpart J and Appendix F. Concentration measurements provided by the CEMS shall be used to directly determine compliance on a continuous basis. The span value for the CEMS is 425 mg/dscm H_2S. The performance evaluations for the CEMS under 60.13(c) is Performance Specification 7. EPA Method 11, 15, 15A, or 16 shall be used for conducting the relative accuracy evaluations. Report monthly the dates, times, and causes of all periods that the monitoring system did not function was outside of established ranges.
5.3.3 HAP	40 CFR 63 Subpart DDDDD 63.7485 (1/31/2013)	Boilers & Process Heaters Comply with 40 CFR 63 Subpart DDDDD for boilers and process heaters at major sources of HAPs.	Comply with AOP Section 6.7.
Alkylation Unit - Miscellaneous Process Vent: Olefin Feed Surge Drum Manual Vent (17HC-1717)			
Note: 40 CFR 63 NESHAP General Provisions in Section 3 apply to this affected facility.			
5.3.4 HAP	40 CFR 63 Subpart CC 63.643(a)(1) (2/4/2020)	MACT for Misc. Process Vents Controlled by Flare MACT Group 1 miscellaneous process vents shall reduce HAP emissions with a flare.	Comply with AOP Terms 5.8.1 through 5.8.12 as applicable.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Alkylation Unit - Maintenance Process Vents			
Note: 40 CFR 63 NESHAP General Provisions in Section 3 apply to these affected facilities.			
5.3.5 HAP	40 CFR 63 Subpart CC 63.643(c) and 63.655(i)(12) & (g)(13) (2/4/2020)	MACT for Maintenance Process Vents Maintenance process vents used exclusively for startup, shutdown, maintenance, or inspection may vent to the atmosphere when LEL < 10%, or the equipment served by the maintenance vent contains less than 72 pounds of VOC. If there is no ability to measure the LEL inside the equipment, the pressure in the equipment must be ≤ 5 psig and active purging cannot occur until the vented vapors have an LEL < 10%.	Determine the LEL or equipment pressure using process instrumentation or portable measurement devices and follow procedures for their calibration and maintenance according to manufacturer's specifications. Determine the mass of VOC in equipment based on the size and contents after draining and purging. Maintain standard site procedures used to deinventory equipment for safety purposes. Maintain a record of each maintenance vent opening including vent ID and the LEL, pressure or mass of VOC used to comply with this term. Report in the semiannual MACT report each maintenance vent opening that exceeds applicable limits including vent ID, date and time of the opening, the LEL, pressure or mass of VOC that was exceed, and an estimate of the mass of organic HAP released to the atmospheric from the opening.
Alkylation Unit - Equipment Components			
Note: 40 CFR 60 NSPS and 63 NESHAP General Provisions in Section 3 apply to this affected facility.			
5.3.6 VOC	40 CFR 60 Subpart GGG (6/2/2008) → 40 CFR 60 Subpart VV 60.482 - 60.487 (11/16/2007)	NSPS for Equipment Leaks Equipment in VOC service shall be in an LDAR program conducted in accordance with 40 CFR 60 Subparts GGG and VV. Equipment in HAP service and regulated under the equipment leak provisions of 40 CFR 63 Subpart CC are exempt from this requirement per 63.640(p).	Conduct an LDAR program on equipment in non-HAP VOC service in accordance with AOP Terms 6.2.1 through 6.2.13.
5.3.7 VOC	NWCAA 580.8 (3/13/1997) → 40 CFR 60 Subpart GGG (6/2/2008) → 40 CFR 60 Subpart VV 60.482 - 60.487 (11/16/2007)	RACT for Equipment Leaks Equipment in VOC service shall be in an LDAR program conducted in accordance with 40 CFR 60 Subpart VV. Equipment in HAP service and regulated under the equipment leak provisions of 40 CFR 63 Subpart CC are exempt from this requirement per 63.640(p).	Conduct an LDAR program on equipment in non-HAP VOC service in accordance with AOP Terms 6.2.1 through 6.2.13 and 6.5.1.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.3.8 VOC/ HAP	OAC 733f Condition 1 (12/10/2019) and OAC 795a Condition 1 (6/9/2016) → 40 CFR 60 Subpart VV 60.482 - 60.487 (11/16/2007) as revised by the OACs.	BACT for Equipment Leaks Equipment in VOC and/or HAP service shall be in an LDAR program conducted in accordance with 40 CFR 60 Subpart VV as revised with lower leak definitions for valves and pumps.	Conduct an LDAR program on equipment in VOC and/or HAP service in accordance with AOP Terms 6.2.4 through 6.2.13 and 6.3.1 through 6.3.3.
5.3.9 HAP	40 CFR 63 Subpart CC 63.648 (2/4/2020) → 40 CFR 60 Subpart VV 60.482 - 60.487 (11/16/2007)	MACT for Equipment Leaks Equipment in HAP service shall be in an LDAR program conducted in accordance with 40 CFR 60 Subpart VV.	Conduct an LDAR program on equipment in HAP service in accordance with AOP Terms 6.2.1 through 6.2.13.
Alkylation Unit - Effluent Drain Systems			
Note: 40 CFR 60 NSPS General Provisions in Section 3 apply to this affected facility.			
5.3.10 VOC	40 CFR 60 Subpart QQQ (10/17/2000)	NSPS for Individual Drain Systems, Junction Boxes and Sewers Lines Equipment in wastewater effluent service shall be in an emission control program conducted in accordance with 40 CFR 60 Subpart QQQ. Equipment managed as a Group 1 wastewater stream under 40 CFR 63 Subpart CC are exempt from this requirement per 63.640(o).	Conduct a VOC emission control program on individual drain systems, junction boxes and sewers lines in accordance with AOP Terms 6.6.1 through 6.6.4.
CGD/S-Zorb Unit - Cat Gasoline Desulfurizer Feed Heater (S-Zorb Heater)			
Note: 40 CFR 60 NSPS and 63 NESHAP General Provisions in Section 3 apply to this affected facility.			
5.3.11 Fuel	PSD-00-02 Amendment 8 Condition 15 (9/9/2015) WAC 173-401-615 (10/17/2002)	CGD/S-Zorb Heater Firing Rate The firing rate of the CGD/S-Zorb Heater is limited to 40 MMBtu/hour.	***Directly Enforceable**:* Monitor and record the hourly firing rate of the heater. Report monthly, the maximum hourly firing rate of the heater.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.3.12 SO_2	OAC 733f Conditions 7, 15 and 16(A) (12/10/2019)	Fuel combusted in the CGD/S-Zorb Heater is limited to purchased natural gas or refinery fuel gas containing less than: • 50 ppmv H_2S, 24-hour average.	Monitor H_2S in the fuel gas with a CEMS operated in accordance with 40 CFR 60 Subpart A, Subpart J and the quality assurance requirements of Appendix F. Keep raw data, calculations, test results, and monitoring data available for inspection by the NWCAA. Submit a monthly report that includes the periods when the CEMS was not operating properly and the cause.
5.3.13 SO_2	40 CFR 60 Subpart J 60.104(a)(1) (6/24/2008), 60.105(a)(4) & (e)(3)(ii) (12/1/2015) & 60.106(e)(1) (9/12/2012)	NSPS for Fuel Gas Fuel gas combusted in the CGD/S-Zorb Heater shall not exceed: • 162 ppm H_2S, 3-hour average.	Monitor H_2S in the refinery fuel gas with a CEMS that is compliant with 40 CFR 60 Subpart A, Subpart J and Appendix F. Concentration measurements provided by the CEMS shall be used to directly determine compliance on a continuous basis. The span value for the CEMS is 425 mg/dscm H_2S. The performance evaluations for the CEMS under 60.13(c) is Performance Specification 7. EPA Method 11, 15, 15A, or 16 shall be used for conducting the relative accuracy evaluations. Report monthly the dates, times, and causes of all periods that the monitoring system did not function was outside of established ranges.
5.3.14 NOx	PSD-00-02 Amendment 8 Conditions 1, 8 & 21 (9/9/2015)	NOx from the CGD/S-Zorb Heater shall not exceed any of the following limits: • 17 ppmvd at 7% O_2, 1-hour average. • 5.1 tons, 12-month rolling total.	Conduct annual source testing in accordance with 40 CFR 60 Appendix A Method 7E, or an alternative approved method. Testing shall be conducted between 10 and 13 months from the previous test. Maintain a record of the results of each source test.
5.3.15 CO	PSD-00-02 Amendment 8 Conditions 4, 11 & 17 (9/9/2015)	CO from the CGD/S-Zorb Heater shall not exceed any of the following limits: • 0.0824 lb/MMBtu, 1-hour average. • 14.4 tons, 12-month rolling total.	Conduct annual source testing in accordance with 40 CFR 60 Appendix A Method 10, or an alternative approved method. Testing shall be conducted between 10 and 13 months from the previous test. For ongoing compliance, identify a surrogate parameter (such as fuel usage) and multiply it by the emission factor derived during the previous source test. Maintain a record of the results of each source test.
5.3.16 HAP	40 CFR 63 Subpart DDDDD 63.7485 (1/31/2013)	Boilers & Process Heaters Comply with 40 CFR 63 Subpart DDDDD for boilers and process heaters at major sources of HAPs.	Comply with AOP Section 6.7.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.3.17	PSD-00-02 Amendment 8 Condition 18 (9/9/2015)	Enforcement: Any activity, which is undertaken by the company or others, in a manner, which is inconsistent with the application and this determination, shall be subject to enforcement under the applicable regulations.	- *none* -
5.3.18	PSD-00-02 Amendment 8 Condition 19 (9/9/2015)	Access: Access to the source by the EPA, state, and local regulatory personnel shall be permitted upon request for the purposes of compliance assurance inspections. Failure to allow such access is grounds for an enforcement action.	- *none* -
CGD/S-Zorb Unit - Maintenance Process Vents			
Note: 40 CFR 63 NESHAP General Provisions in Section 3 apply to this affected facility.			
5.3.19 HAP	40 CFR 63 Subpart CC 63.643(c) and 63.655(i)(12) & (g)(13) (2/4/2020)	MACT for Maintenance Process Vents Maintenance process vents used exclusively for startup, shutdown, maintenance, or inspection may vent to the atmosphere when LEL < 10%, or the equipment served by the maintenance vent contains less than 72 pounds of VOC. If there is no ability to measure the LEL inside the equipment, the pressure in the equipment must be ≤ 5 psig and active purging cannot occur until the vented vapors have an LEL < 10%.	Determine the LEL or equipment pressure using process instrumentation or portable measurement devices and follow procedures for their calibration and maintenance according to manufacturer's specifications. Determine the mass of VOC in equipment based on the size and contents after draining and purging. Maintain standard site procedures used to deinventory equipment for safety purposes. Maintain a record of each maintenance vent opening including vent ID and the LEL, pressure or mass of VOC used to comply with this term. Report in the semiannual MACT report each maintenance vent opening that exceeds applicable limits including vent ID, date and time of the opening, the LEL, pressure or mass of VOC that was exceed, and an estimate of the mass of organic HAP released to the atmospheric from the opening.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
CGD/S-Zorb Unit - Equipment Components			
Note: 40 CFR 60 NSPS and 63 NESHAP General Provisions in Section 3 apply to this affected facility.			
5.3.20 VOC	40 CFR 60 Subpart GGG (6/2/2008) → 40 CFR 60 Subpart VV 60.482 - 60.487 (11/16/2007)	NSPS for Equipment Leaks Equipment in VOC service shall be in an LDAR program conducted in accordance with 40 CFR 60 Subparts GGG and VV. Equipment in HAP service and regulated under the equipment leak provisions of 40 CFR 63 Subpart CC are exempt from this requirement per 63.640(p).	Conduct an LDAR program on equipment in non-HAP VOC service in accordance with AOP Terms 6.2.1 through 6.2.13.
5.3.21 VOC/ HAP	OAC 733f Condition 1 (12/10/2019) → 40 CFR 60 Subpart VV 60.482 - 60.487 (11/16/2007) as revised by the OAC.	BACT for Equipment Leaks Equipment in VOC and/or HAP service shall be in an LDAR program conducted in accordance with 40 CFR 60 Subpart VV as revised with lower leak definitions for valves and pumps.	Conduct an LDAR program on equipment in VOC and/or HAP service in accordance with AOP Terms 6.2.4 through 6.2.13 and 6.3.1 through 6.3.3.
5.3.22 HAP	40 CFR 63 Subpart CC 63.648 (2/4/2020) → 40 CFR 60 Subpart VV 60.482 - 60.487 (11/16/2007)	MACT for Equipment Leaks Equipment in HAP service shall be in an LDAR program conducted in accordance with 40 CFR 60 Subpart VV.	Conduct an LDAR program on equipment in HAP service in accordance with AOP Terms 6.2.1 through 6.2.13.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Butane Isomerization Unit - Maintenance Process Vents			
Note: 40 CFR 63 NESHAP General Provisions in Section 3 apply to these affected facilities.			
5.3.23 HAP	40 CFR 63 Subpart CC 63.643(c) and 63.655(i)(12) & (g)(13) (2/4/2020)	MACT for Maintenance Process Vents Maintenance process vents used exclusively for startup, shutdown, maintenance, or inspection may vent to the atmosphere when LEL < 10%, or the equipment served by the maintenance vent contains less than 72 pounds of VOC. If there is no ability to measure the LEL inside the equipment, the pressure in the equipment must be ≤ 5 psig and active purging cannot occur until the vented vapors have an LEL < 10%.	Determine the LEL or equipment pressure using process instrumentation or portable measurement devices and follow procedures for their calibration and maintenance according to manufacturer's specifications. Determine the mass of VOC in equipment based on the size and contents after draining and purging. Maintain standard site procedures used to deinventory equipment for safety purposes. Maintain a record of each maintenance vent opening including vent ID and the LEL, pressure or mass of VOC used to comply with this term. Report in the semiannual MACT report each maintenance vent opening that exceeds applicable limits including vent ID, date and time of the opening, the LEL, pressure or mass of VOC that was exceed, and an estimate of the mass of organic HAP released to the atmospheric from the opening.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Butane Isomerization Unit - Equipment Components			
Note: 40 CFR 60 NSPS and 63 NESHAP General Provisions in Section 3 apply to this affected facility.			
5.3.24 VOC	40 CFR 60 Subpart GGG (6/2/0208) → 40 CFR 60 Subpart VV 60.482 - 60.487 (11/16/2007)	NSPS for Equipment Leaks Equipment in VOC service shall be in an LDAR program conducted in accordance with 40 CFR 60 Subparts GGG and VV. Equipment in HAP service and regulated under the equipment leak provisions of 40 CFR 63 Subpart CC are exempt from this requirement per 63.640(p).	Conduct an LDAR program on equipment in non-HAP VOC service in accordance with AOP Terms 6.2.1 through 6.2.13.
5.3.25 VOC	NWCAA 580.8 (12/13/1989) → 40 CFR 60 Subpart GGG (6/2/2008) → 40 CFR 60 Subpart VV 60.482 - 60.487 (11/16/2007)	RACT for Equipment Leaks Equipment in VOC service shall be in an LDAR program conducted in accordance with 40 CFR 60 Subpart VV. Equipment in HAP service and regulated under the equipment leak provisions of 40 CFR 63 Subpart CC are exempt from this requirement per 63.640(p).	Conduct an LDAR program on equipment in non-HAP VOC service in accordance with AOP Terms 6.2.1 through 6.2.13 and 6.5.1.
5.3.26 HAP	40 CFR 63 Subpart CC 63.648 (2/4/2020) → 40 CFR 60 Subpart VV 60.482 - 60.487 (11/16/2007)	MACT for Equipment Leaks Equipment in HAP service shall be in an LDAR program conducted in accordance with 40 CFR 60 Subpart VV	Conduct an LDAR program on equipment in HAP service in accordance with AOP Terms 6.2.1 through 6.2.13.
5.3.27 HAP	OAC 564a Condition 1 (10/02/2002) → 40 CFR 60 Subpart VV 60.482 - 60.487 (11/16/2007)	BACT for Equipment Leaks Equipment in perchloroethylene (perc) service shall be in an LDAR program conducted in accordance with 40 CFR 60 Subpart VV. Equipment in HAP service and regulated under the equipment leak provisions of 40 CFR 63 Subpart CC are exempt from this requirement per 63.640(p).	Comply with AOP Term 5.3.26 for equipment components in perchloroethylene service.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Butane Isomerization Unit - Effluent Drain Systems			
Note: 40 CFR 60 NSPS General Provisions in Section 3 apply to this affected facility.			
5.3.28 VOC	40 CFR 60 Subpart QQQ (10/17/2000)	NSPS for Individual Drain Systems, Junction Boxes and Sewers Lines Equipment in wastewater effluent service shall be in an emission control program conducted in accordance with 40 CFR 60 Subpart QQQ. Equipment managed as a Group 1 wastewater stream under 40 CFR 63 Subpart CC are exempt from this requirement per 63.640(o).	Conduct a VOC emission control program on individual drain systems, junction boxes and sewers lines in accordance with AOP Terms 6.6.1 through 6.6.4.

5.4 Tier III/LSR Hydrotreater Process Area

(Tier III/LSR Hydrotreater Unit)

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Tier III/LSR Hydrotreater Unit - Tier III/LSR Hydrotreater Charge Heater (41F-1))			
Note: 40 CFR 60 NSPS and 63 NESHAP General Provisions in Section 3 apply to these affected facilities.			
5.4.1 Fuel	OAC 1223 Condition 1 (10/23/2015) WAC 173-401-615 (10/17/2002)	Fuel combusted in the Tier III Hydrotreater Charge Heater is limited to natural gas and refinery fuel gas.	***Directly Enforceable:*** Certify annually that only natural gas and/or refinery fuel gas were combusted in the Tier III Hydrotreater Charge Heater.
5.4.2 VE	OAC 1223 Condition 2 (10/23/2015) WAC 173-401-615 (10/17/2002)	Visible emissions from the Tier III Hydrotreater Charge Heater must not exceed 5% opacity for more than 3 minutes in any consecutive 60-minute period as determined by WDOE Method 9A.	***Directly Enforceable:*** Comply with AOP Term 6.1.
5.4.3 SO_2	OAC 1223 Condition 3 (10/23/2015)	The H_2S in fuel combusted in the Tier III Hydrotreater Charge Heater must not exceed: • 50 ppmvd, 24-hour rolling average.	Monitor H_2S in the fuel gas with a CEMS installed and operated in accordance with NWCAA Section 367 and Appendix A, and 40 CFR 60 Subpart Ja and Appendix F.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.4.4 SO_2	40 CFR 60 Subpart Ja 60.102a(g)(1)(ii) (7/13/2016) and 60.107a(a)(2) (12/1/2015)	The H_2S in fuel gas combusted in the Tier III Hydrotreater Charge Heater shall not exceed any of the following: • 162 ppmv, 3-hour rolling average • 60 ppmv, 365-day rolling average Compliance shall be achieved upon achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup.	Monitor H_2S in the fuel gas with a CEMS installed, operated, calibrated and maintained in accordance with NWCAA Section 367 and Appendix A, and 40 CFR 60 Subpart Ja and Appendices B and F.
5.4.5 NOx	OAC 1223 Conditions 4 and 6 (10/23/2015)	NOx emissions from the Tier III Hydrotreater Charge Heater must not exceed: • 0.035 lb/MMBtu based on an average of three source test runs.	Conduct a source test for NOx within 120 days of initial firing of the heater. Subsequent testing must occur no less than once every 36 months. Testing shall be conducted in accordance with 40 CFR 60 Appendix A, Methods 3A, 19, and 7E unless an alternative method is approved in advance by the NWCAA. Testing shall be conducted at a heater firing rate that is representative of normal operations at the time of testing.
5.4.6 CO	OAC 1223 Conditions 5 and 6 (10/23/2015)	CO emissions from the Tier III Hydrotreater Charge Heater must not exceed: • 0.030 lb/MMBtu based on an average of three source test runs.	Conduct a source test for CO within 120 days of initial firing of the heater. Subsequent testing must occur no less than once every 36 months. Testing shall be conducted in accordance with 40 CFR 60 Appendix A, Methods 3A, 19 and 10, 10A or 10B, unless an alternative method is approved in advance by the NWCAA. Testing shall be conducted at a heater firing rate that is representative of normal operations at the time of testing.
5.4.7 HAP	40 CFR 63 Subpart DDDDD 63.7485 (1/31/2013)	Comply with 40 CFR 63 Subpart DDDDD for boilers and process heaters at major sources of HAPs.	Comply with AOP Section 6.7.
5.4.8	OAC 1223 Condition 7 (10/23/2015)	Maintain and operate the Tier III Hydrotreater Charge Heater low NOx burners consistent with the O&M manual.	Maintain a copy of an operation and maintenance (O&M) manual for the low-NOx burners on the Tier III Hydrotreater Charge Heater on-site.
5.4.9	OAC 1223 Condition 8 (10/23/2015)	Provide written notice of the initial startup date of the Tier III Hydrotreater Charge Heater.	Submit the notice postmarked no later than 15 days after startup of the heater and include a reference to OAC 1223.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Tier III/LSR Hydrotreater Unit - Maintenance Process Vents			
Note: 40 CFR 63 NESHAP General Provisions in Section 3 apply to these affected facilities.			
5.4.10 HAP	40 CFR 63 Subpart CC 63.643(c) and 63.655(i)(12) & (g)(13) (2/4/2020)	MACT for Maintenance Process Vents Maintenance process vents used exclusively for startup, shutdown, maintenance, or inspection may vent to the atmosphere when LEL < 10%, or the equipment served by the maintenance vent contains less than 72 pounds of VOC. If there is no ability to measure the LEL inside the equipment, the pressure in the equipment must be ≤ 5 psig and active purging cannot occur until the vented vapors have an LEL < 10%.	Determine the LEL or equipment pressure using process instrumentation or portable measurement devices and follow procedures for their calibration and maintenance according to manufacturer's specifications. Determine the mass of VOC in equipment based on the size and contents after draining and purging. Maintain standard site procedures used to deinventory equipment for safety purposes. Maintain a record of each maintenance vent opening including vent ID and the LEL, pressure or mass of VOC used to comply with this term. Report in the semiannual MACT report each maintenance vent opening that exceeds applicable limits including vent ID, date and time of the opening, the LEL, pressure or mass of VOC that was exceed, and an estimate of the mass of organic HAP released to the atmospheric from the opening.
Tier III/LSR Hydrotreater Unit - Equipment Components			
Note: 40 CFR 60 NSPS and 63 NESHAP General Provisions in Section 3 apply to this affected facility.			
5.4.11 VOC	40 CFR 60 Subpart GGGa (6/2/2008) → 40 CFR 60 Subpart VVa 60.482a - 60.487a (11/16/2007)	NSPS for Equipment Leaks Equipment in VOC service shall be in an LDAR program conducted in accordance with 40 CFR 60 Subparts GGGa and VVa.	Conduct an LDAR program on equipment in VOC service in accordance with AOP Terms 6.4.1 through 6.4.13.
5.4.12 HAP	40 CFR 63 Subpart CC 63.648 (2/4/2020) → 40 CFR 60 Subpart VV 60.482 - 60.487 (11/16/2007)	MACT for Equipment Leaks Equipment in HAP service shall be in an LDAR program conducted in accordance with 40 CFR 60 Subpart VV. Equipment in VOC service and regulated under the equipment leak provisions of 40 CFR 60 Subpart GGGa and VVa are exempt from this requirement per 63.640(p).	Conduct an LDAR program on equipment in non-VOC HAP service in accordance with AOP Terms 6.2.1 through 6.2.13.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Tier III/LSR Hydrotreater Unit – Effluent Drain Systems			
Note: 40 CFR 60 NSPS General Provisions in Section 3 apply to this affected facility.			
5.4.13 VOC	40 CFR 60 Subpart QQQ (10/17/2000)	NSPS for Individual Drain Systems, Junction Boxes and Sewers Lines Equipment in wastewater effluent service shall be in an emission control program conducted in accordance with 40 CFR 60 Subpart QQQ. Equipment managed as a Group 1 wastewater stream under 40 CFR 63 Subpart CC are exempt from this requirement per 63.640(o).	Conduct a VOC emission control program on individual drain systems, junction boxes and sewers lines in accordance with AOP Terms 6.6.1 through 6.6.4.

5.5 Reformer/Diesel Hydrotreater Process Area

(#3 Reformer Unit and Diesel Hydrotreater Unit (DHT))

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
#3 Reformer Unit - Reformer Heaters (18F-21, 22, 23 & 24), Reformer Pretreat Heater (18F-1) and Reformer Regen Heater (18F-26)			
Note: 40 CFR 60 NSPS and 63 NESHAP General Provisions in Section 3 apply to these affected facilities.			
5.5.1 Fuel	OAC 733f Condition 21 (12/10/2019)	Fuel oil (defined as any liquid fossil fuel with a sulfur content greater than 0.05% by weight) shall not be burned in the #3 Reformer heaters, except during periods of natural gas curtailment, test runs, or operator training.	*Directly Enforceable:* Certify annually that only approved fuels were combusted in the #3 Reformer heaters.
5.5.2 SO_2	OAC 733f Conditions 20 and 16(A) (12/10/2019) 40 CFR 60 Subpart J 60.104(a)(1) (6/24/2008), 60.105(a)(4) & (e)(3)(ii) (12/1/2015) and 60.106(e)(1) (9/12/2012)	Fuel combusted in the #3 Reformer heaters is limited to purchased natural gas or refinery fuel gas containing less than: • 162 ppm H_2S, 3-hour average.	Monitor H_2S in the refinery fuel gas with a CEMS that is compliant with 40 CFR 60 Subpart A, Subpart J and Appendix F. Concentration measurements provided by the CEMS shall be used to directly determine compliance on a continuous basis. The span value for the CEMS is 425 mg/dscm H_2S. The performance evaluations for the CEMS under 60.13(c) is Performance Specification 7. EPA Method 11, 15, 15A, or 16 shall be used for conducting the relative accuracy evaluations. Report monthly the dates, times, and causes of all periods that the monitoring system did not function was outside of established ranges.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.5.3 HAP	40 CFR 63 Subpart DDDDD 63.7485 (1/31/2013) 63.7485 (1/31/2013)	Boilers & Process Heater Comply with 40 CFR 63 Subpart DDDDD for boilers and process heaters at major sources of HAPs.	Comply with AOP Section 6.7.
#3 Reformer Unit - Catalyst Regeneration Vent			
Note: 40 CFR 60 NSPS and 63 NESHAP General Provisions in Section 3 apply to this affected facility.			
5.5.4 HAP	40 CFR 63 Subpart UUU 63.1566(a)(1)(i), (3) & (4) (7/13/2016) → Table 15 Option 1 & Table 16 Option 1 (12/1/2015), 63.1566(c)(1) (7/13/2016) → Table 20 Option 1 & Table 21 Option 1 (12/1/2015) → 40 CFR 63 Subpart 63.670 (2/4/2020) and 63.671 (12/1/2015)	Organic HAPs Controlled by Flare During initial catalyst depressuring and catalyst purging operations that occur prior to the coke burn-off cycle (except when the reactor vent pressure is 5 psig or less) control total organic compounds (TOC) emissions with a flare. Prior to January 30, 2019: Flares used as a control device shall comply with the requirements of 63.11(b) unless they comply with the Refinery MACT provisions for flares in effect on or after January 30, 2019. On or after January 30, 2019: Flares used as a control device shall comply with the Refinery MACT requirements of 63.670.	Comply with AOP Terms 5.8.1 through 5.8.12 as applicable.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.5.5 HAP (HCl)	40 CFR 63 Subpart UUU 63.1567(a)(1)(ii), (a)(2) & (c)(1) (02/09/2005), 63.1571(e), 63.1572(c)(1) & (d) (11/26/2018), Table 22 Item 2 (12/1/2015), Table 23 Item 4 (02/09/2005), Table 24 Item 4 (12/1/2015), Table 27 Item 2, Table 28 Item 4 (2/09/2005) and → Table 41 Item 3 (12/1/2015)	Metal HAP Controlled by Chloride Scrubber During coke burn-off and catalyst rejuvenation operations, reduce hydrogen chloride emissions with a fixed-bed, gas-solid adsorption system to 10 ppmvd corrected to 3% oxygen. During coke burn-off and catalyst rejuvenation, the daily average temperature of the gas entering or exiting the adsorption system must not exceed the limit established during the performance test. The established operating limit for the continuous parameter monitoring system may be revised based on the results of additional performance testing. * Temperature limit established during the initial performance test on June 16, 2005, is 75.3 °F resulting in 9 ppmvd HCl.	During coke burn-off and catalyst rejuvenation operate a continuous parameter monitoring system to measure and record the temperature of the gas entering or exiting the adsorption system, and colorimetric tube sampling system to measure the HCl concentration in the exhaust and at a point within the absorbent bed not to exceed 90% of the total length of the absorbent bed. Use a colorimetric 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.
5.5.6 HAP	40 CFR 63 Subpart UUU 63.1566(a)(5), (b)(5 & 7) & (c)(2) (7/13/2016), 63.1567(a)(3) & (c)(2) (02/09/2005), 63.1574(f) and 63.1576(e) (12/1/2015)	MACT Operation, Maintenance and Monitoring Plan Prepare an operation, maintenance, and monitoring plan for the #3 Reformer catalyst regeneration and operate at all times according to the procedures in the plan. The plan shall address both organic (TOC) and inorganic (HCl) HAPs controlled under Refinery MACT II.	Prepare and implement an operation, maintenance, and monitoring plan for each affected source, control system, and continuous monitoring system. Submit the plan to the NWCAA for review and approval along with the notification of compliance status. Submit any changes for review and approval and comply with the plan until the change is approved. Maintain a copy of the plan available for inspection and maintain records to document conformance with the procedures in the plan. The plan must include process and control device parameters to be monitored along with established operating limits, procedures for monitoring emissions, processes and control devices and associated monitoring schedules. The plan shall include the procedures to determine coke burn-off rate and volumetric flow rate if not a direct measurement. The plan shall also include a quality control plan for each monitoring system that includes procedures for calibrations, accuracy audits, adjustments to the system and a maintenance schedule for the CEMS and control device consistent with the manufacturer's instructions.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
#3 Reformer Unit - Miscellaneous Process Vents: RBV Body Vents, Reactor Shroud Vents and Reactor Dump Nozzle Vent			
Note: 40 CFR 63 NESHAP General Provisions in Section 3 apply to these affected facilities.			
5.5.7 HAP	40 CFR 63 Subpart CC 63.643(a)(1) (2/4/2020)	MACT for Misc. Process Vents Controlled by Flare MACT Group 1 miscellaneous process vents shall reduce HAP emissions with a flare.	Comply with AOP Terms 5.8.1 through 5.8.12 as applicable.
#3 Reformer Unit - Maintenance Process Vents			
Note: 40 CFR 63 NESHAP General Provisions in Section 3 apply to this affected facility.			
5.5.8 HAP	40 CFR 63 Subpart CC 63.643(c) and 63.655(i)(12) & (g)(13) (2/4/2020)	MACT for Maintenance Process Vents Maintenance process vents used exclusively for startup, shutdown, maintenance, or inspection may vent to the atmosphere when LEL < 10%, or the equipment served by the maintenance vent contains less than 72 pounds of VOC. If there is no ability to measure the LEL inside the equipment, the pressure in the equipment must be ≤ 5 psig and active purging cannot occur until the vented vapors have an LEL < 10%.	Determine the LEL or equipment pressure using process instrumentation or portable measurement devices and follow procedures for their calibration and maintenance according to manufacturer's specifications. Determine the mass of VOC in equipment based on its size and contents after draining and purging. Maintain standard site procedures used to deinventory equipment for safety purposes. Maintain a record of each maintenance vent opening including vent ID and the LEL, pressure or mass of VOC used to comply with this term. Report in the semiannual MACT report each maintenance vent opening that exceeds applicable limits including vent ID, date and time of the opening, the LEL, pressure or mass of VOC that was exceed, and an estimate of the mass of organic HAP released to the atmospheric from the opening.
#3 Reformer Unit - Equipment Components			
Note: 40 CFR 63 NESHAP General Provisions in Section 3 apply to this affected facility.			
5.5.9 HAP	40 CFR 63 Subpart CC 63.648 (2/4/2020) → 40 CFR 60 Subpart VV 60.482 - 60.487 (11/16/2007)	MACT for Equipment Leaks Equipment in HAP service shall be in an LDAR program conducted in accordance with 40 CFR 60 Subpart VV.	Conduct an LDAR program on equipment in HAP service in accordance with AOP Terms 6.2.1 through 6.2.13.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Diesel Hydrotreater Unit – DHT Heater (33F-1)			
Note: 40 CFR 60 NSPS and 63 NESHAP General Provisions in Section 3 apply to this affected facility.			
5.5.10 Fuel	OAC 733f Condition 21 (12/10/2019)	Fuel oil (defined as any liquid fossil fuel with a sulfur content greater than 0.05% by weight) shall not be burned in the DHT Heater, except during periods of natural gas curtailment, test runs, or operator training.	*Directly Enforceable:* Certify annually that only approved fuels were combusted in the DHT Heater.
5.5.11 SO_2	OAC 733f Conditions 20 and 16(A) (12/10/2019) 40 CFR 60 Subpart J 60.104(a)(1) (6/24/2008), 60.105(a)(4) & (e)(3)(ii) (12/1/2015) and 60.106(e)(1) (9/12/2012)	Fuel combusted in the DHT Heater is limited to purchased natural gas or refinery fuel gas containing less than: • 162 ppm H_2S, 3-hour average.	Monitor H_2S in the refinery fuel gas with a CEMS that is compliant with 40 CFR 60 Subpart A, Subpart J and Appendix F. Concentration measurements provided by the CEMS shall be used to directly determine compliance on a continuous basis. The span value for the CEMS is 425 mg/dscm H_2S. The performance evaluations for the CEMS under 60.13(c) is Performance Specification 7. EPA Method 11, 15, 15A, or 16 shall be used for conducting the relative accuracy evaluations. Report monthly the dates, times, and causes of all periods that the monitoring system did not function was outside of established ranges.
5.5.12 Fuel	OAC 780b Condition 1 (12/22/2021)	Fuel combusted in the DHT Heater is limited to refinery fuel gas and purchased natural gas.	*Directly Enforceable:* Certify annually that only natural gas and/or refinery fuel gas were combusted in the DHT Heater.
5.5.13 SO_2	OAC 780b Condition 2 (12/22/2021)	Refinery fuel gas combusted in the DHT Heater shall not exceed 50 ppm H_2S based on a consecutive 24-hour rolling average.	Monitor H_2S in the fuel gas with a CEMS installed, calibrated, maintained, and operated in accordance with NWCAA Section 367 and Appendix A, and 40 CFR 60 Appendices B and F including relevant recordkeeping and reporting.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.5.14 NOx	OAC 780b Condition 3 (12/22/2021)	NOx emissions from the DHT Heater shall not exceed 0.05 lb/MMBtu based on a consecutive 3-hour rolling average.	An initial performance test must be conducted on the DHT heater within 180 days of initial firing of the replacement burners to demonstrate compliance with Condition 2. The test shall be conducted in accordance with 40 CFR Appendix A, Method 19 and Method 7E, and NWCAA Section 367 and Appendix A, or other method approved in advance by NWCCA, based on a 3- hour rolling average. Thereafter, demonstrate compliance by the following testing: (A) Conduct testing at least once every four (4) calendar quarters by measuring NOX in accordance with the procedures specified in EPA Conditional Test Method (CTM)-034 utilizing a portable emissions analyzer, or other method approved in advance by NWCCA. Maintain a record of each test report performed in accordance with this condition. Notify the NWCAA within seven (7) days of any test performed in accordance with this condition that indicates noncompliance with the NOX limit in Condition 2 of this Order. (B) Conduct testing at least once every 60 months in accordance with NWCAA Section 367 and NWCAA Appendix A, based on a 3-hour rolling average. The test shall be conducted in accordance with 40 CFR Appendix A, Method 19 and Method 7E, and NWCAA Section 367 and Appendix A, or other test method approved in advance by the NWCAA. Unless approved in advance by the NWCAA in writing, conduct all testing while operating the heater at a firing rate that is at least equal to the average firing rate of the previous month prior to the scheduled test.
5.5.15	OAC 780b Condition 4 (12/22/2021)	The DHT Heater firing rate shall not exceed 48 MMBtu/hour, based on a consecutive 3-hour rolling average.	Maintain record of the firing rate of the DHT Heater in MMBtu/hour, based on a consecutive 3-hour rolling average.
5.5.16 VE	OAC 780b Condition 5 (12/22/2021)	Visible emissions from the DHT Heater shall not exceed an average of 5% opacity in any consecutive 6-minute period as determined by 40 CFR 60 Appendix A, Method 9.	*Directly Enforceable:* Comply with AOP Term 6.1.
5.5.17 HAP	40 CFR 63 Subpart DDDDD 63.7485 (1/31/2013)	Boilers & Process Heaters Comply with 40 CFR 63 Subpart DDDDD for boilers and process heaters at major sources of HAPs.	Comply with AOP Section 6.7.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Diesel Hydrotreater Unit – Miscellaneous Process Vent: Sour Water Drain Drum Flash Gas Vent (33C-40)			
Note: 40 CFR 63 NESHAP General Provisions in Section 3 apply to this affected facility.			
5.5.18 HAP	40 CFR 63 Subpart CC 63.643(a)(1) (2/4/2020)	MACT for Misc. Process Vents Controlled by Flare MACT Group 1 miscellaneous process vents shall reduce HAP emissions with a flare.	Comply with AOP Terms 5.8.1 through 5.8.12 as applicable.
Diesel Hydrotreater Unit – Maintenance Process Vents			
Note: 40 CFR 63 NESHAP General Provisions in Section 3 apply to these affected facilities.			
5.5.19 HAP	40 CFR 63 Subpart CC 63.643(c) and 63.655(i)(12) & (g)(13) (2/4/2020)	MACT for Maintenance Process Vents Maintenance process vents used exclusively for startup, shutdown, maintenance, or inspection may vent to the atmosphere when LEL < 10%, or the equipment served by the maintenance vent contains less than 72 pounds of VOC. If there is no ability to measure the LEL inside the equipment, the pressure in the equipment must be ≤ 5 psig and active purging cannot occur until the vented vapors have an LEL < 10%.	Determine the LEL or equipment pressure using process instrumentation or portable measurement devices and follow procedures for their calibration and maintenance according to manufacturer's specifications. Determine the mass of VOC in equipment based on the size and contents after draining and purging. Maintain standard site procedures used to deinventory equipment for safety purposes. Maintain a record of each maintenance vent opening including vent ID and the LEL, pressure or mass of VOC used to comply with this term. Report in the semiannual MACT report each maintenance vent opening that exceeds applicable limits including vent ID, date and time of the opening, the LEL, pressure or mass of VOC that was exceed, and an estimate of the mass of organic HAP released to the atmospheric from the opening.
Diesel Hydrotreater Unit – Equipment Components			
Note: 40 CFR 60 NSPS and 63 NESHAP General Provisions in Section 3 apply to this affected facility.			
5.5.20 VOC	40 CFR 60 Subpart GGG (6/2/08) → 40 CFR 60 Subpart VV 60.482 - 60.487 (11/16/2007)	NSPS for Equipment Leaks Equipment in VOC service shall be in an LDAR program conducted in accordance with 40 CFR 60 Subparts GGG and VV. Equipment in HAP service and regulated under the equipment leak provisions of 40 CFR 63 Subpart CC are exempt from this requirement per 63.640(p).	Conduct an LDAR program on equipment in non-HAP VOC service in accordance with AOP Terms 6.2.1 through 6.2.13.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.5.21 HAP	40 CFR 63 Subpart CC 63.648 (2/4/2020) → 40 CFR 60 Subpart VV 60.482 - 60.487 (11/16/2007)	MACT for Equipment Leaks Equipment in HAP service shall be in an LDAR program conducted in accordance with 40 CFR 60 Subpart VV.	Conduct an LDAR program on equipment in HAP service in accordance with AOP Terms 6.2.1 through 6.2.13.
5.5.22 VOC	OAC 886 Condition 1 (3/3/2005) → 40 CFR 60 Subpart GGG (6/2/2008) → 40 CFR 60 Subpart VV 60.482 - 60.487 (11/16/2007)	BACT for Equipment Leaks Equipment in VOC service shall be in an LDAR program conducted in accordance with 40 CFR 60 Subparts GGG and VV. Equipment in HAP service and regulated under the equipment leak provisions of 40 CFR 63 Subpart CC are exempt from this requirement per 63.640(p).	Conduct an LDAR program on equipment in non-HAP VOC service in accordance with AOP Terms 6.2.1 through 6.2.13.
Diesel Hydrotreater Unit – Effluent Drain Systems			
Note: 40 CFR 60 NSPS General Provisions in Section 3 apply to this affected facility.			
5.5.23 VOC	40 CFR 60 Subpart QQQ (10/17/2000)	NSPS for Individual Drain Systems, Junction Boxes and Sewers Lines Equipment in wastewater effluent service shall be in an emission control program conducted in accordance with 40 CFR 60 Subpart QQQ. Equipment managed as a Group 1 wastewater stream under 40 CFR 63 Subpart CC are exempt from this requirement per 63.640(o).	Conduct a VOC emission control program on individual drain systems, junction boxes and sewers lines in accordance with AOP Terms 6.6.1 through 6.6.4.

5.6 Sulfur Plant/Treaters Process Area

(Sulfur Recovery Plant and Merox Unit)

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Sulfur Recovery Plant - SRU #1, TGU #1 and Incinerator (19F-21)			
Note: 40 CFR 60 NSPS and 63 NESHAP General Provisions in Section 3 apply to these affected facilities.			
5.6.1 Fuel	OAC 733f Condition 5 (12/10/2019) WAC 173-401-615 (10/17/2002)	Supplemental fuel combusted in the SRU #1 Incinerator is limited to purchased natural gas.	***Directly Enforceable**:* Certify annually that only natural gas was used as supplemental fuel in the SRU #1 Incinerator.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.6.2 Fuel	PSD-00-02 Amendment 8 Condition 15 (9/9/2015) WAC 173-401-630(1) (3/5/2016)	The firing rate of the SRU #1 Incinerator is limited to 23 MMBtu/hour. The firing rate includes natural gas supplied as supplement fuel and the heater content of acid gas from the SRU and/or TGU.	***Directly Enforceable**:* Monitor and record the hourly firing rate of the SRU #1 Incinerator in MMBtu/hour (HHV).
5.6.3 VE	OAC 733f Condition 4 (12/10/2019) WAC 173-401-615 (10/17/2002)	Visible emissions from the SRU #1 Incinerator stack shall not exceed 10% opacity for more than 3 minutes in any consecutive 60-minute period as determined by WDOE Method 9A.	***Directly Enforceable**:* Comply with AOP Term 6.1.
5.6.4 SO_2	OAC 733f Conditions 2, 3, 15 and 16(A) & (D) (12/10/2019)	SO_2 from the SRU #1 shall not exceed any of the following emission limits: • 250 ppmvd @ 0% O_2 rolling 12-hour average. • 150 ppmvd @ 0% O_2, rolling 720-operating-hour average. Exception: The 250 ppmvd @ 0% O_2 rolling 12-hour average limit does not apply during startup, shutdown, and malfunction events as defined in 40 CFR 63.2. During such events, in accordance with 40 CFR 63.1568(a)(4)(iii), send any startup or shutdown purge gases to the incinerator operated at a minimum hourly average temperature of 1,200 degrees Fahrenheit in the firebox and a minimum hourly average outlet oxygen concentration of 2% by volume, dry mass. On addition, during startup, shutdown, and malfunction events at the sulfur unit and tail gas unit, minimize emissions in accordance with good air pollution control practices.	Continuously monitor SO_2 using a CEMS operated in accordance with 40 CFR 60 Subpart A, Subpart J and the quality assurance requirements of Appendix F. Maintain records CEMS data, calculations, test results. Submit a monthly report that includes the maximum monthly SO_2 emissions from the SRU #1 in terms of ppmvd @ 0% O_2, 12-hour rolling average and 720-hour rolling average. And submit the periods when the CEMS was not operating properly including the cause.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.6.5 SO_2	40 CFR 60 Subpart J 60.104(a)(2)(i), 60.105(a)(5) & (e)(4)(i) (12/1/2015), 60.106(f) (9/12/12), and 60.107(d, f & g) (6/24/2008)	NSPS for Sulfur Recovery Unit SO_2 SO_2 emissions from sulfur recovery unit shall not exceed: • 250 ppmvd @ 0% excess air, 12-hour rolling average.	Install, operate and maintain a CEMS for SO_2 that meets Performance Specification 2 of 40 CFR 60 Appendix B and for oxygen that meets Performance Specification 3 of 40 CFR 60 Appendix F. Span at 500 ppm SO_2 and 25% oxygen. Certify the SO_2 monitor using EPA Method 6 or 6C and certify the oxygen monitor using EPA Method 3A or 3B. Record emissions data and CEMS quality assurance data. Semiannually, submit a certified report that includes emission data that is not available, each incident where SO_2 exceeded the emission limit, and any changes to the CEMS.
5.6.6 SO_2	OAC 733f Condition 6 (12/10/2019)	SRU #1 Operation & Maintenance Manual Maintain an operation and maintenance (O & M) manual that identifies good air pollution control practices for minimizing emissions pursuant to 40 CFR §60.11(d) for SRU #1 including air pollution compliance monitoring and plantwide sulfur dioxide emissions abatement during upset conditions.	Maintain a copy of the O & M manual for SRU #1 on-site and available for review by the NWCAA.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.6.7 SO_2	OAC 733f Condition 17 (12/10/2019)	SRU #1 Tail Gas Flaring Investigate the cause of tail gas flaring incidents, take steps to correct the conditions that have caused or contributed to tail gas flaring incidents, and minimize such incidents. For purposes of this specific condition, tail gas shall mean exhaust gas from the Clause trains and the tail gas unit ("TGU") section of the sulfur recovery plant. A tail gas flaring incident shall mean the combustions of tail gas that either is: • Combusted in a flare and results in 500 lb or more of SO_2 in any 24-hour period, or • Combusted in a thermal incinerator and results in 500 lb or more of SO_2 in any 24-hour period. Only those time periods which are in excess of a SO_2 concentration of 250 ppm, rolling 24-hour average, shall be used to determine the amount of excess SO_2 emissions from the incinerator. The facility 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 tail gas flaring incident(s). For purposes of this specific condition, root cause shall mean the primary cause(s) of a tail gas flaring incident as determined through a process of investigation.	Maintain records of investigations and corrective actions taken when tail gas flaring incidents occur as defined in this term.
5.6.8 NOx	PSD-00-02 Amendment 8 Conditions 3, 8 & 17 (9/9/2015)	NOx emissions from SRU #1 shall not exceed any of the following: • 42.2 ppmvd @ 7% O_2, 1-hour average • 9.9 tons per year	Conduct annual source testing in accordance with 40 CFR 60 Appendix A Method 7E, or an alternative approved method. Testing shall be conducted between 10 and 13 months from the previous test. Maintain a record of the results of each source test.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.6.9 CO	PSD-00-02 Amendment 8 Conditions 6, 11 & 17 (9/9/2015)	CO emissions from SRU #1 shall not exceed any of the following limits: • 57.1 ppmvd @ 7% O_2, 1-hour average • 8.30 tons, 12-month rolling total	Conduct annual source testing in accordance with 40 CFR 60 Appendix A Method 10, or an alternative approved method. Testing shall be conducted between 10 and 13 months from the previous test. For ongoing compliance, identify a surrogate parameter (such as fuel usage) and multiply it by the emission factor derived during the previous source test. Maintain a record of the results of each source test.
5.6.10 HAP	40 CFR 63 Subpart UUU 63.1568(a)(1), (a)(4)(iii), (b)(1) & (c)(1) (7/13/16), 63.1572(a)(1), Table 29 Item 1, Table 31 Item 1, Table 34 Item 1, and Table 40 Item 5 (7/13/2016)	MACT for Sulfur Recovery Unit SO_2 SO_2 emissions from SRU #1 shall not exceed the 40 CFR 60 Subpart J standard of: • 250 ppmvd @ 0% excess air, 12-hour rolling average. During startup and shutdown periods maintain the hourly average temperature of the incinerator above 1200°F and the hourly average incinerator exhaust above least 2% oxygen by volume, dry basis (20,000 ppmvd).	Install, operate, and maintain a CEMS for SO_2 that meets Performance Specification 2 of 40 CFR 60 Appendix B. Span at 500 ppm SO_2. Certify the SO_2 monitor using EPA Method 6 or 6C and certify the oxygen monitor using EPA Method 3A or 3B. Use Procedure 1 of 40 CFR 60 Appendix F except that RATAs are required annually. Record hourly ppmvd SO_2 and % oxygen, and each 12-hour rolling average at 0% excess air. In addition, during periods of startup and shutdown when the 250 ppmvd limit is exceeded, record hourly incinerator temperature. Submit in the semiannual MACT report, each incident that exceeds the SO_2 emission limit.
5.6.11 HAP	40 CFR 63 Subpart UUU 63.1568(a)(3) & (c)(1) (7/13/16), 63.1574(f) and 63.1576(f) (7/13/2016)	MACT Operation, Maintenance and Monitoring Plan Prepare and implement an operations, maintenance, and monitoring plan (OMMP) for each control system and continuous monitoring system at the SRU #1 used to demonstrate compliance with the SO_2 emission standard of 40 CFR 63 Subpart UUU. The plan must include the information specified in 63.1574(f)(2).	Demonstrate continuous compliance with the SO_2 emission standard of 40 CFR 63 Subpart UUU by complying with the procedures in the OMMP dated June 2016 unless a revised plan has been submitted and approved. Keep a current copy of the OMMP onsite and records to show continuous compliance with the procedures in the OMMP. Submit each revised OMMP for review and approval.
5.6.12	PSD-00-02 Amendment 8 Condition 18 (9/9/2015)	Enforcement: Any activity, which is undertaken by the company or others, in a manner, which is inconsistent with the application and this determination, shall be subject to enforcement under the applicable regulations.	- *none* -
5.6.13	PSD-00-02 Amendment 8 Condition 19 (9/9/2015)	Access: Access to the source by the EPA, state, and local regulatory personnel shall be permitted upon request for the purposes of compliance assurance inspections. Failure to allow such access is grounds for an enforcement action.	- *none* -

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Sulfur Recovery Plant – SRU #2, TGU #2 and Incinerator (39F-104)			
Note: 40 CFR 60 NSPS and 63 NESHAP General Provisions in Section 3 apply to these affected facilities.			
5.6.14 Fuel	OAC 908c Condition 1 (8/20/2019) WAC 173-401-615 (10/17/2002)	Supplemental fuel combusted in SRU #2 Incinerator is limited to purchased natural gas.	***Directly Enforceable**:* Certify annually that only natural gas was used a supplemental fuel in the SRU #2 Incinerator.
5.6.15 VE	OAC 908c Condition 2 (8/20/2019) WAC 173-401-615 (10/17/2002)	Visible emissions from the SRU #2 Incinerator stack shall not exceed 10% opacity for more than 3 minutes in any consecutive 60-minute period as determined by WDOE Method 9A.	***Directly Enforceable**:* Comply with AOP Term 6.1.
5.6.16 SO_2	OAC 908c Conditions 3 and 7 (8/20/2019)	SO_2 from the SRU #2 Incinerator stack shall not exceed any of the following emission limits: • 250 ppmvd @ 0% O_2, 12-hour rolling average. • 150 ppmvd @ 0% O_2, 720-hour rolling average. • 22.3 tons, based on a consecutive 12-month rolling total.	Continuously monitor SO_2 using a CEMS installed, calibrated, maintained, and operated in accordance with the appropriate requirements of 40 CFR 60 Subpart J and Appendices B and F, and NWCAA Section 367 and Appendix A. Submit a monthly report that includes the maximum SO_2 emissions from the SRU #2 in terms of ppmvd @ 0% O_2, 12-hour rolling average and 720-hour rolling average, and total tons in the most recent consecutive 12-month rolling period.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.6.17	OAC 908c Condition 4 (8/20/2019)	The SO2 emission limit of 250 ppm, 12-hr rolling average does not apply during startup, shutdown, and malfunction events as defined in 40 CFR 63.2. The following conditions apply during startup, shutdown, and malfunction events: In accordance with 40 CFR 63.1568(a)(4)(iii) (NESHAP Subpart UUU – NESHAP for Petroleum Refineries), send any startup or shutdown purge gasses to the incinerator operated at a minimum hourly average temperature of 1,200°F in the firebox and a minimum hourly average outlet oxygen concentration of 2% by volume, dry basis. In accordance with 40 CFR 60.11 (NSPS Subpart A – General Provisions) and 40 CFR 63.6(e)(1) (NESHAP Subpart A – General Provisions), emissions associated with startup, shutdown, and malfunction events at the sulfur recover unit and tail gas unit shall be minimized in accordance with good air pollution practices.	- *none* -
5.6.18 SO_2	OAC 908c Condition 5 (8/20/2019)	Sweep gas from the sulfur collection header used to control emissions from the elemental sulfur tank and sulfur pit, must be controlled by routing through a closed vent system to a SRU incinerator or to the front end of a SRU.	- *none* -
5.6.19 SO_2	40 CFR 60 Subpart J 60.104(a)(2)(i), 60.105(a)(5) & (e)(4)(i) (12/1/15), 60.106(f) (9/12/2012), and 60.107(d, f & g) (6/24/08)	<u>NSPS for Sulfur Recovery Unit SO_2</u> SO_2 emissions from sulfur recovery unit shall not exceed: • 250 ppmvd @ 0% excess air, 12-hour rolling average.	Install, operate, and maintain a CEMS for SO_2 that meets Performance Specification 2 of 40 CFR 60 Appendix B and for oxygen that meets Performance Specification 3 of 40 CFR 60 Appendix F. Span at 500 ppm SO_2 and 25% oxygen. Certify the SO_2 monitor using EPA Method 6 or 6C and certify the oxygen monitor using EPA Method 3A or 3B. Record emissions data and CEMS quality assurance data. Semiannually, submit a certified report that includes emission data that is not available, each incident where SO2 exceeded the emission limit, and any changes to the CEMS.
5.6.20 SO_2	OAC 908c Condition 7 (8/20/2019)	<u>TGU #2 Bypass Lines</u> Any lines that allow a bypass of sulfur bearing compounds normally emitted from the TGU #2 shall be continuously monitored for the presence of flow.	Report events where flow is detected in a TGU #2 bypass line. This reportable event shall be considered a startup, shutdown or upset condition and reported in accordance with NWCAA Section 340 or 341.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.6.21 SO_2	OAC 733f Condition 17 (12/10/2019)	SRU #2 Tail Gas Flaring Investigate the cause of tail gas flaring incidents, take steps to correct the conditions that have caused or contributed to tail gas flaring incidents, and minimize such incidents. For purposes of this specific condition, tail gas shall mean exhaust gas from the Claus trains and the tail gas unit ("TGU") section of the sulfur recovery plant. A tail gas flaring incident shall mean the combustions of tail gas that either is: • Combusted in a flare and results in 500 lb or more of SO_2 in any 24-hour period, or • Combusted in a thermal incinerator and results in 500 lb or more of SO_2 in any 24-hour period. Only those time periods which are in excess of a SO_2 concentration of 250 ppm, rolling 24-hour average, shall be used to determine the amount of excess SO_2 emissions from the incinerator. The facility 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 tail gas flaring incident(s). For purposes of this specific condition, root cause shall mean the primary cause(s) of a tail gas flaring incident as determined through a process of investigation.	Maintain records of investigations and corrective actions taken when tail gas flaring incidents occur as defined in this term.
5.6.22 NOx	PSD-05-01 Conditions 1, 3, 5 and 7 (11/14/2005)	NOx emissions from SRU #2 shall not exceed any of the following: • 42.2 ppmvd at 7% O_2, 1-hour average • 2.3 lb/hour.	Conduct annual source testing for NOx in accordance with 40 CFR 60 Appendix A Method 7E or an equivalent method approved in advance by the WDOE. Report excess emissions as required by this AOP.
5.6.23 CO	PSD-05-01 Conditions 2, 4, 6 and 7 (11/14/2005)	CO emissions from SRU #2 shall not exceed any of the following: • 57.1 ppmvd at 7% O_2, 1-hour average • 1.9 lb/hour.	Conduct annual source testing for CO in accordance with 40 CFR 60 Appendix A Method 10 or an equivalent method approved in advance by the WDOE. Report excess emissions as required by this AOP.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.6.24 HAP	40 CFR 63 Subpart UUU 63.1568(a)(1), (a)(4)(iii), (b)(1) & (c)(1) (7/13/2016), 63.1572(a)(1), Table 29 Item 1, Table 31 Item 1, Table 34 Item 1, and Table 40 Item 5 (12/1/2015)	MACT for Sulfur Recovery Unit SO_2 SO_2 emissions from SRU #2 shall not exceed the 40 CFR 60 Subpart J standard of: • 250 ppmvd @ 0% excess air, 12-hour rolling average. During startup and shutdown periods maintain the hourly average temperature of the incinerator above 1200°F and the hourly average incinerator exhaust above 2% oxygen by volume, dry basis (20,000 ppmvd).	Install, operate, and maintain a CEMS for SO_2 that meets Performance Specification 2 of 40 CFR 60 Appendix B. Span at 500 ppm SO_2. Certify the SO_2 monitor using EPA Method 6 or 6C and certify the oxygen monitor using EPA Method 3A or 3B. Use Procedure 1 of 40 CFR 60 Appendix F except that RATAs are required annually. Record hourly ppmvd SO_2 and % oxygen, and each 12-hour rolling average at 0% excess air. In addition, during periods of startup and shutdown when the 250 ppmvd limit is exceeded, record hourly incinerator temperature. Submit in the semiannual MACT report, each incident that exceeds the SO_2 emission limit.
5.6.25 HAP	40 CFR 63 Subpart UUU 63.1568(a)(3) & (c)(1) (7/13/2016), 63.1574(f) and 63.1576(f) (12/1/2015)	Operation, Maintenance and Monitoring Plan Prepare and implement an operations, maintenance, and monitoring plan (OMMP) for each control system and continuous monitoring system at the SRU #2 used to demonstrate compliance with the SO_2 emission standard of 40 CFR 63 Subpart UUU. The plan must include the information specified in 63.1574(f)(2).	Demonstrate continuous compliance with the SO_2 emission standard of 40 CFR 63 Subpart UUU by complying with the procedures in the OMMP dated June 2016 unless a revised plan has been submitted and approved. Keep a current copy of the OMMP onsite and records to show continuous compliance with the procedures in the OMMP. Submit each revised OMMP for review and approval.
5.6.26	OAC 908c Condition 6 (8/20/2019) PSD-05-01 Condition 8 (11/14/2005)	SRU #2 Operation and Maintenance Manual Keep and up-to-date operation and maintenance (O&M) manual for SRU #2 and operate consistent with the manual.	Maintain an up-to-date operation and maintenance manual for the SRU #2.
5.6.27	PSD-05-01 Condition 9 (11/14/2005)	Access to the source by Ecology, NWCAA, or the EPA, shall be permitted upon request. Failure to allow such access is grounds for an enforcement action under the federal Clean Air Act or the Washington State Clean Air Act.	- *none* -
Sulfur Recovery Plant – Sulfur Pit			
5.6.28 SO_2	OAC 733f Condition 18 (12/10/2019)	Emissions from the sulfur pit shall either be eliminated, controlled, and/or included and monitored as part of SRU #1 emissions under 40 CFR 60 Subpart J 60.104(a)(2).	If emissions are released from the sulfur pit, monitor using a CEMS for SO_2 operated in accordance with 40 CFR 60 Subpart A, Subpart J and the quality assurance requirements of Appendix F to demonstrate that the 250 ppmvd @ 0%, 12-hour average limit is not exceeded.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Sulfur Recovery Plant - Maintenance Process Vents			
Note: 40 CFR 63 NESHAP General Provisions in Section 3 apply to these affected facilities.			
5.6.29 HAP	40 CFR 63 Subpart CC 63.643(c) and 63.655(i)(12) & (g)(13) (2/4/2020)	MACT for Maintenance Process Vents Maintenance process vents used exclusively for startup, shutdown, maintenance, or inspection may vent to the atmosphere when LEL < 10%, or the equipment served by the maintenance vent contains less than 72 pounds of VOC. If there is no ability to measure the LEL inside the equipment, the pressure in the equipment must be ≤ 5 psig and active purging cannot occur until the vented vapors have an LEL < 10%.	Determine the LEL or equipment pressure using process instrumentation or portable measurement devices and follow procedures for their calibration and maintenance according to manufacturer's specifications. Determine the mass of VOC in equipment based on the size and contents after draining and purging. Maintain standard site procedures used to deinventory equipment for safety purposes. Maintain a record of each maintenance vent opening including vent ID and the LEL, pressure or mass of VOC used to comply with this term. Report in the semiannual MACT report each maintenance vent opening that exceeds applicable limits including vent ID, date and time of the opening, the LEL, pressure or mass of VOC that was exceed, and an estimate of the mass of organic HAP released to the atmospheric from the opening.
Sulfur Recovery Plant - Equipment Components (located at the SRU #1, SRU #2, Amine Treaters and Sour Water Stripper)			
Note: 40 CFR 63 NESHAP General Provisions in Section 3 apply to these affected facilities.			
5.6.30 HAP	40 CFR 63 Subpart CC 63.648 (2/4/2020) → 40 CFR 60 Subpart VV 60.482 - 60.487 (11/16/2007)	MACT for Equipment Leaks Equipment in HAP service shall be in an LDAR program conducted in accordance with 40 CFR 60 Subpart VV.	Conduct an LDAR program on equipment in HAP service in accordance with AOP Terms 6.2.1 through 6.2.13.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Merox Unit - Maintenance Process Vents			
Note: 40 CFR 63 NESHAP General Provisions in Section 3 apply to these affected facilities.			
5.6.31 HAP	40 CFR 63 Subpart CC 63.643(c) and 63.655(i)(12) & (g)(13) (2/4/2020)	MACT for Maintenance Process Vents Maintenance process vents used exclusively for startup, shutdown, maintenance, or inspection may vent to the atmosphere when LEL < 10%, or the equipment served by the maintenance vent contains less than 72 pounds of VOC. If there is no ability to measure the LEL inside the equipment, the pressure in the equipment must be ≤ 5 psig and active purging cannot occur until the vented vapors have an LEL < 10%.	Determine the LEL or equipment pressure using process instrumentation or portable measurement devices and follow procedures for their calibration and maintenance according to manufacturer's specifications. Determine the mass of VOC in equipment based on the size and contents after draining and purging. Maintain standard site procedures used to deinventory equipment for safety purposes. Maintain a record of each maintenance vent opening including vent ID and the LEL, pressure or mass of VOC used to comply with this term. Report in the semiannual MACT report each maintenance vent opening that exceeds applicable limits including vent ID, date and time of the opening, the LEL, pressure or mass of VOC that was exceed, and an estimate of the mass of organic HAP released to the atmospheric from the opening.
Merox Unit - Equipment Components			
Note: 40 CFR 60 NSPS and 63 NESHAP General Provisions in Section 3 apply to this affected facility.			
5.6.32 VOC	40 CFR 60 Subpart GGG (6/2/2008) → 40 CFR 60 Subpart VV 60.482 - 60.487 (11/16/2007)	NSPS for Equipment Leaks Equipment in VOC service shall be in an LDAR program conducted in accordance with 40 CFR 60 Subparts GGG and VV. Equipment in HAP service and regulated under the equipment leak provisions of 40 CFR 63 Subpart CC are exempt from this requirement per 63.640(p).	Conduct an LDAR program on equipment in non-HAP VOC service in accordance with AOP Terms 6.2.1 through 6.2.13.
5.6.33 VOC/ HAP	OAC 727a Condition 1 (6/9/2016) → 40 CFR 60 Subpart VV 60.482 - 60.487 (11/16/2007) as revised by the OAC.	BACT for Equipment Leaks Equipment in VOC and/or HAP service shall be in an LDAR program conducted in accordance with 40 CFR 60 Subpart VV as revised with lower leak definitions for valves and pumps.	Conduct an LDAR program on equipment in VOC and/or HAP service in accordance with AOP Terms 6.2.4 through 6.2.13 and 6.3.1 through 6.3.3.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.6.34 HAP	40 CFR 63 Subpart CC 63.648 (2/4/2020) → 40 CFR 60 Subpart VV 60.482 - 60.487 (11/16/2007)	MACT for Equipment Leaks Equipment in HAP service shall be in an LDAR program conducted in accordance with 40 CFR 60 Subpart VV.	Conduct an LDAR program on equipment in HAP service in accordance with AOP Terms 6.2.1 through 6.2.13.

5.7 Utilities

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Utilities - #1 Boiler (22F-1C)			
Note: 40 CFR 60 NSPS and 63 NESHAP General Provisions in Section 3 apply to this affected facility.			
5.7.1 Fuel	OAC 578b Condition 2 (6/9/2016) WAC 173-401-615 (10/17/2002)	The #1 Boiler shall combust only natural gas or refinery fuel gas.	***Directly Enforceable**:* Certify annually that only natural gas and/or refinery fuel gas was combusted in the #1 Boiler.
5.7.2 Fuel	OAC 733e Condition 20 (9/30/2016) WAC 173-401-615 (10/17/2002)	Fuel oil (defined as any liquid fossil fuel with a sulfur content greater than 0.05% by weight) shall not be burned in the #1 Boiler, except during periods of natural gas curtailment, test runs, or operator training.	***Directly Enforceable**:* Certify annually that only approved fuels were combusted in the #1 Boiler.
5.7.3 VE	OAC 578b Condition 3 (6/9/2016) WAC 173-401-615 (10/17/2002)	Visible emissions from the #1 Boiler stack shall not exceed an average of 5% opacity in any consecutive 6-minute period as determined by 40 CFR 60 Appendix A, Method 9.	***Directly Enforceable**:* Comply with AOP Term 6.1.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.7.4 SO_2	OAC 733f Conditions 20 & 16(A) (12/10/2019) 40 CFR 60 Subpart J 60.104(a)(1) (6/24/2008), 60.105(a)(4) & (e)(3)(ii) (12/1/2015) & 60.106(e)(1) (9/12/2012)	Fuel combusted in the #1 Boiler is limited to purchased natural gas or refinery fuel gas containing less than: • 162 ppm H_2S, 3-hour average.	Monitor H_2S in the refinery fuel gas with a CEMS that is compliant with 40 CFR 60 Subpart A, Subpart J and Appendix F. Concentration measurements provided by the CEMS shall be used to directly determine compliance on a continuous basis. The span value for the CEMS is 425 mg/dscm H_2S. The performance evaluations for the CEMS under 60.13(c) is Performance Specification 7. EPA Method 11, 15, 15A, or 16 shall be used for conducting the relative accuracy evaluations. Report monthly the dates, times, and causes of all periods that the monitoring system did not function was outside of established ranges.
5.7.5 NOx	OAC 578b Conditions 1, 4 & 5 (6/9/2016)	NO_X emissions from the #1 Boiler shall not exceed 0.040 lb/MMBtu on a consecutive 365-day rolling average.	Continuously monitor NO_X with a CEMS calibrated, maintained, and operated in accordance with NWCAA Section 367 and Appendix A, and 40 CFR 60 Appendices B and F. Submit a monthly report that includes the maximum monthly NOx emissions in lb/MMBtu, 365-day rolling average.
5.7.6 NOx	40 CFR 60 Subpart Db 60.44b(a)(1)(ii), (h) & (i), 60.46b(c) & (e) 60.48b(b)-(f) and 60.49b(d, g, h, i, v & w) (2/16/2012)	<u>NSPS for Industrial Boilers</u> NOx emissions from the #1 Boiler shall not exceed: • 0.2 lb/MMBtu, 30-day rolling average of most recent consecutive steam operating days.	Operate a CEMS to continuously monitor NOx & O_2 concentrations in the #1 Boiler stack in accordance with NWCAA 367, NWCAA Appendix A, 40 CFR 60 Subpart Db and 40 CFR 60 Appendices B and F. Span value for the NOx CEM shall be 500 ppm, or in accordance 40 CFR 75 Appendix A. An alternative span value is acceptable provided that the span value is set high enough to ensure that all emissions from the unit can be quantified. Maintain the following records for each steam generating day. • Average hourly NOx emission rates expressed as NO_2 in lb/MMBtu heat input • 30-day rolling average NOx in lb/MMBtu heat input • Identification of "F" factor used for calculations • Identification of times pollutant concentrations exceeded span of monitoring system • Description of modifications to CEMS that would affect ability to comply with Performance Specification 2 or 3. Submit semiannual reports containing the required records for each steam generating day. Certified electronic quarterly reports may be submitted in lieu of the semiannual written reports.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.7.7	40 CFR 63 Subpart DDDDD 63.7485 (1/31/2013)	Boilers & Process Heaters Comply with 40 CFR 63 Subpart DDDDD for boilers and process heaters at major sources of HAPs.	Comply with AOP Section 6.7.
Utilities - #2 Boiler (22F-1A) and #3 Boiler (22F-1B)			
Note: 40 CFR 60 NSPS and 63 NESHAP General Provisions in Section 3 apply to these affected facilities.			
5.7.8 Fuel	OAC 733f Condition 21 (12/10/2019)	Fuel oil (defined as any liquid fossil fuel with a sulfur content greater than 0.05% by weight) shall not be burned in the #2 Boiler and #3 Boiler, except during periods of natural gas curtailment, test runs, or operator training.	*Directly Enforceable:* Certify annually that only approved fuels were combusted in the #2 and #3 Boilers.
5.7.9 SO_2	OAC 733f Conditions 20 and 16(A) (12/10/2019) 40 CFR 60 Subpart J 60.104(a)(1) (6/24/2008), 60.105(a)(4) & (e)(3)(ii) (12/1/2015) & 60.106(e)(1) (9/12/2012)	Fuel combusted in the #2 Boiler and #3 Boiler is limited to purchased natural gas or refinery fuel gas containing less than: • 162 ppm H_2S, 3-hour average.	Monitor H_2S in the refinery fuel gas with a CEMS that is compliant with 40 CFR 60 Subpart A, Subpart J and Appendix F. Concentration measurements provided by the CEMS shall be used to directly determine compliance on a continuous basis. The span value for the CEMS is 425 mg/dscm H_2S. The performance evaluations for the CEMS under 60.13(c) is Performance Specification 7. EPA Method 11, 15, 15A, or 16 shall be used for conducting the relative accuracy evaluations. Report monthly the dates, times, and causes of all periods that the monitoring system did not function was outside of established ranges.
5.7.10 HAP	40 CFR 63 Subpart DDDDD 63.7485 (1/31/2013)	Boilers & Process Heaters Comply with 40 CFR 63 Subpart DDDDD for boilers and process heaters at major sources of HAPs.	Comply with AOP Section 6.7.
Utilities - #4 Boiler (22F-1E)			
Note: 40 CFR 60 NSPS and 63 NESHAP General Provisions in Section 3 apply to this affected facility.			
5.7.11 Fuel	OAC 733f Condition 21 (12/10/2019) WAC 173-401-615 (10/17/2002)	Fuel oil (defined as any liquid fossil fuel with a sulfur content greater than 0.05% by weight) shall not be burned in the #4 Boiler, except during periods of natural gas curtailment, test runs, or operator training.	***Directly Enforceable**:* Certify annually that only approved fuels were combusted in the #4 Boiler.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.7.12 Fuel	OAC 877b Condition 1 (6/9/2016) WAC 173-401-615 (10/17/2002)	The #4 Boiler shall combust only natural gas or refinery fuel gas.	***Directly Enforceable**:* Certify annually that only natural gas and/or refinery fuel gas were combusted in the #4 Boiler.
5.7.13 VE	OAC 877b Condition 2 (6/9/2016) WAC 173-401-615 (10/17/2002)	Visible emissions from the #4 Boiler stack shall not exceed an average of 5% opacity in any consecutive 6-minute period as determined by 40 CFR 60 Appendix A Method 9.	***Directly Enforceable**:* Comply with AOP Term 6.1.
5.7.14 NOx	OAC 877b Conditions 3 and 6 (6/9/2016)	NO_X from the #4 Boiler shall not exceed any of the following: • 15 ppmvd @ 3% O_2, 24-hour rolling average. • 0.018 lb/MMBtu, 24-hour rolling average.	Continuously monitor NOx emissions with a CEMS that is calibrated, maintained, and operated in accordance with NWCAA Appendix A, and 40 CFR 60 Appendices B and F. Submit a monthly report that includes the maximum monthly NO_X emissions in ppmvd @ 3% O_2, 24-hour rolling average and lb/MMBtu, 24-hour rolling average.
5.7.15 NOx	40 CFR 60 Subpart Db 60.44b(a)(1)(ii), (h) & (i), 60.46b(c) & © 60.48b(b)-(f) and 60.49b(d, g, h, i, v & w) (2/16/2012)	<u>NSPS for Industrial Boilers</u> NOx emissions from the #4 Boiler shall not exceed: • 0.2 lb/MMBtu, 30-day rolling average of most recent consecutive steam operating days.	Operate a CEMS to continuously monitor NOx & O_2 concentrations in the #1 Boiler stack in accordance with NWCAA 367, NWCAA Appendix A, 40 CFR 60 Subpart Db and 40 CFR 60 Appendices B and F. Span value for the NOx CEM shall be 500 ppm, or in accordance 40 CFR 75 Appendix A. An alternative span value is acceptable provided that the span value is set high enough to ensure that all emissions from the unit can be quantified. Maintain the following records for each steam generating day. • Average hourly NOx emission rates expressed as NO_2 in lb/MMBtu heat input • 30-day rolling average NOx in lb/MMBtu heat input • Identification of "F" factor used for calculations • Identification of times pollutant concentrations exceeded span of monitoring system • Description of modifications to CEMS that would affect ability to comply with Performance Specification 2 or 3. Submit semiannual reports containing the required records for each steam generating day. Certified electronic quarterly reports may be submitted in lieu of the semiannual written reports.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.7.16 SO_2	OAC 877b Condition 4 (6/9/2016)	Fuel combusted in the #4 Boiler shall not contain H_2S in excess of: • 50 ppm, 24-hour rolling average, and • 162 ppm, 3-hour rolling average.	The H_2S content of the refinery fuel gas combusted in the #4 Boiler shall be continuously monitored in accordance with 40 CFR Subpart J, Subpart A and Appendix F.
5.7.17 SO_2	OAC 733f Conditions 20 and 16(A) (12/10/2019) 40 CFR 60 Subpart J 60.104(a)(1) (6/24/2008), 60.105(a)(4) & (e)(3)(ii) (12/1/2015) & 60.106(e)(1) (9/12/2012)	Fuel combusted in the #4 Boiler is limited to purchased natural gas or refinery fuel gas containing H_2S less than: • 162 ppm, 3-hour average.	Monitor H_2S in the refinery fuel gas with a CEMS that is compliant with 40 CFR 60 Subpart A, Subpart J and Appendix F. Concentration measurements provided by the CEMS shall be used to directly determine compliance on a continuous basis. The span value for the CEMS is 425 mg/dscm H_2S. The performance evaluations for the CEMS under 60.13(c) is Performance Specification 7. EPA Method 11, 15, 15A, or 16 shall be used for conducting the relative accuracy evaluations. Report monthly the dates, times, and causes of all periods that the monitoring system did not function was outside of established ranges.
5.7.18 CO	OAC 877b Conditions 5 and 6 (6/9/2016)	CO from the #4 Boiler shall not exceed: • 70 ppmvd @ 7% O_2, 24-hour rolling average. or, when the ppmvd limit is exceeded, • 18.1 lb/hour, 24-hour rolling average.	Continuously monitor CO emissions with a CEMS that is calibrated, maintained and operated in accordance with NWCAA Appendix A, and 40 CFR 60 Appendices B and F. Submit a monthly report that includes the maximum monthly CO emissions in ppmvd @ 7% O_2, 24-hour rolling average and lb/hour, 24-hour rolling average.
5.7.19 HAP	40 CFR 63 Subpart DDDDD 63.7485 (1/31/2013)	Boilers & Process Heaters Comply with 40 CFR 63 Subpart DDDDD for boilers and process heaters at major sources of HAPs.	Comply with AOP Section 6.7.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Utilities - Equipment Components			
Note: 40 CFR 63 NESHAP General Provisions in Section 3 apply to this affected facility.			
5.7.20 HAP	40 CFR 63 Subpart CC 63.648 (2/4/2020) → 40 CFR 60 Subpart VV 60.482 - 60.487 (11/16/2007)	MACT for Equipment Leaks Equipment in HAP service shall be in an LDAR program conducted in accordance with 40 CFR 60 Subpart VV.	Conduct an LDAR program on equipment in HAP service in accordance with AOP Terms 6.2.1 through 6.2.13.
Utilities – Cooling Towers and associated Heater Exchangers			
Note: 40 CFR 63 NESHAP General Provisions in Section 3 apply to this affected facility.			
5.7.21 HAP	40 CFR 63 Subpart CC 63.654(c)(1-4), (c)(6) (d) & (e) and 63.655(g)(9), (h)(7) & (i)(4) (2/4/2020)	Heat Exchanger Leak Monitoring Conduct sampling using Modified El Paso Method for total strippable VOC (in ppmv as methane) on either each cooling tower return line or representative riser prior to exposure to air or individual heat exchanger exit line(s). If monthly monitoring is selected for that exchanger, a measured concentration of 6.2 ppmv or greater is a leak. If quarterly monitoring is selected for that exchanger, a measured concentration of 3.1 ppmv or greater is a leak except as provided under delay of repair in AOP Term 5.7.22. If a repair is delayed, monitor monthly. When a leak is detected, it shall be repaired as soon as practicable, but not later than 45 days after it is detected, except as provided under AOP Term 5.7.22 for delay of repair. Repair includes remonitoring after repair to verify concentrations are below action levels.	Keep a record of: • Identification of subject heat exchangers and average annual HAP concentrations of process fluid estimated when developing the NCS. • Identification of all subject and exempt heat exchanger systems. For the subject systems, identification of all heat exchangers in the system and associated cooling tower. • For each monitoring event, record: date/time of event; barometric pressure; El Paso apparatus water flow, air flow, and air temperature; FID reading; length of sampling period; sample volume; calibration information; the date when a leak was identified; the date the source of the leak was identified; and date when heat exchanger was repaired of taken out of service. Notify the NWCAA at least 30 calendar days prior to changing between the monthly and quarterly monitoring options. Semiannually, report: • The number of heat exchange systems subject to monitoring. • The number of heat exchange systems found to be leaking. • For leaking heat exchange systems, identification of monitoring location, measured concentration, date leak was found, and (if applicable) date the source of the leak was identified. • For leaks that were repaired during the reporting period (including delayed repairs), identification of the monitoring location, post-repair monitored concentration, and remonitoring date.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.7.22 HAP	40 CFR 63 Subpart CC 63.654(f & g) and 63.655(g)(9) & (i)(4) (2/4/2020)	Heat Exchanger Delay of Repair Delay of repair for a leaking exchanger will be allowed if repair within 45 days is technically infeasible without a process unit shutdown and the monthly measured concentrations are less than 62 ppmv. Repair may be delayed until the next scheduled shutdown. Delay of repair for a leaking exchanger will also be allowed if repair within 45 days is not feasible because the necessary equipment, parts, or personnel are not available, and the monthly measured concentrations are less than 62 ppmv. Repair may be delayed for a maximum of 120 calendar days. If during subsequent monthly monitoring the measured concentration exceeds 62 ppmv, the leak shall be repaired within 30 days of exceeding the threshold concentration.	When a delay of repair is utilized, record: • The reason(s) for delaying repair. • A schedule for completing the repair • Monitoring data (date and concentration). • Heat exchange exit line flow or cooling tower return line average flow rate at the monitoring location. • An estimate of potential n estimate of potential emissions associated with the delayed repair. Semiannually, report: For each delayed repair, identification of monitoring location, date when the delay of repair began, date the repair is expected to be completed (if not repaired during the reporting period), all monitored concentrations while on delay of repair, and an estimate of potential emissions associated with the delayed repair.

5.8 Flare System

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Flare System (Elevated Flare (13V-11) and Flare Gas Recovery)			
5.8.1 VE	As referenced: 40 CFR 63 Subpart CC 63.670(c), (h), (o)(3)(i), (o)(7)(ii) & (o)(7)(iv) and 63.655(g)(11)(ii), (g)(11)(iv)(B) and (i)(9)(ii) (2/4/2020) and 63.671 (a) and (b) (12/1/2015)	Flare Visible Emissions The flare shall operate with no visible emissions, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours, when regulated material is routed to the flare and under the following conditions: Anytime that the vent gas flow rate is less than the smokeless design capacity of the flare. When the vent gas flow exceeds the smokeless capacity of the flare, and the visible emission limit is exceeded within 3 consecutive calendar years for the following reasons that are not force majeure: • 2 flaring events that occur for a similar root cause. • 3 flaring events that occur for any reason.	Conduct an initial visible observation of the flare while the flare is combusting regulated gasses using EPA Method 22 for a period of 2 hours. For ongoing compliance, conduct daily visible emissions observations using EPA Method 22 for a period of 5 minutes. If emissions are visible for more than one continuous minute the observation period shall be extended to 2 hours. If at any time visible emissions are observed, even if the minimum daily visual observation monitoring has already been performed, the flare shall be observed for 5 minutes using EPA Method 22. In lieu of periodic visual observations, a video surveillance camera may be used to monitor ongoing compliance. The camera shall record a frame at least every 15 seconds with time and date stamps. The camera shall record images of the flare flame and a reasonable distance above the flare flame at an angle suitable for visual emissions observations. The camera shall provide real-time output to the control room or other continuously manned location where the images may be viewed. Maintain a record of the smokeless design capacity of the flare, images from the flare surveillance camera and each Method 22 observation used to determine compliance. Report in the semiannual MACT report any instances where visible emissions are observed for more than 5 minutes during any consecutive 2 hour period during flaring of regulated gasses, and any periods that visual emission monitoring was not performed as required.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.8.2 VOC/ HAP	As referenced: 40 CFR 63 Subpart CC 63.670(b) & (g) and 63.655(g)(6)(i)(B), (g)(11)(i) and (i)(9)(i) (2/4/2020) and 63.671 (a) and (b) (12/1/2015)	Flare Pilot Flame Operate the flare with a pilot flame present at all times when regulated material is routed to the flare. Each 15-minute block during which there is at least one minute of regulated gas routed to the flare and no pilot flame is present is a deviation of the standard. Deviations in different 15-minute blocks from the same event are considered separate deviations.	Continuously monitor the presence of a pilot flame using a device including, but not limited to, a thermocouple, ultraviolet beam sensor, or infrared sensor, capable of detecting the presents of a pilot flame. Record the output of the monitoring device used to detect the presence of a pilot flame and each 15-minute block during which there was at least one minute that no pilot flame is present when regulated material is routed to a flare. Report in the semiannual MACT report each operating day when all pilot flames of the flare were absent, and each 15-minute block during which there was at least one minute when regulated gas was routed to a flare and no pilot flame was present.
5.8.3 VOC/ HAP	As referenced: 40 CFR 63 Subpart CC 63.670(d), (i), (k), (o)(3)(ii), (o)(7)(iii) & (o)(7)(v) and 63.655(g)(11) & (i)(9) (2/4/2020) and 63.671 (a) – (d) (12/1/2015)	Flare Tip Velocity Limit Whenever regulated gas is routed to the flare for at least 15-minutes and the flare vent gas flow rate is less than the smokeless design capacity of the flare. • The actual flare tip velocity (V_{tip}) must be less than 60 feet per second, or • The actual flare tip velocity (V_{tip}) must be less than 400 feet per second and also less than the maximum allowed flare tip velocity (V_{max}) calculated as: $Log_{10}(V_{max}) = (NHV_{vg} + 1{,}212) / 850$ Where: V_{max} = Maximum allowed flare tip velocity, ft/sec. NHV_{vg} = Net heating value of flare vent gas, as determined by the equations in 63.670(j) & (l), Btu/scf. Whenever regulated gas is routed to the flare for at least 15-minutes and the flare vent gas flow rate exceeds the smokeless design capacity of the flare, a violation occurs when the 15-minute block average $V_{tip} > V_{max}$ within 3 consecutive calendar years for the following reasons that are not force majeure: • 2 flaring events that occur from a similar cause. • 3 flaring events that occur for any reason.	Monitor V_{tip} by a system capable of continuously determining the volumetric flow rate in the flare header and any supplemental gas used, and a system capable of monitoring the volumetric flow of steam used to assist combustion at the flare tip. The monitors shall output in standard conditions of 20°C and 1 atm. V_{tip} in feet per second shall be calculated as a 15-minute block average based on the following equation. $V_{tip} = Q_{cum}/(Area \times 900)$ Where: Q_{cum} = Cumulative volumetric flow over 15-minute block average period, actual cubic feet Area = Unobstructed area of the flare tip, square feet. Maintain a record of the V_{tip}, individually monitored volumetric flow rates, the cumulative volumetric flow rate at the flare tip and each temperature or pressure used to correct flows to standard conditions. All of these monitoring parameters shall be recorded as 15-minute block averages. Maintain a record of each period that V_{tip} exceeds the velocity limits during periods when regulated gas is being routed to the flare, each period that the flare is not monitored as required, each period that the flow of vent gas exceeds the smokeless capacity of the flare, and each period where there is vent gas to the flare but no flow of regulated gas. Report in the semiannual MACT report any instances where V_{tip} exceeded an operating limit and any periods that V_{tip} monitoring was not performed as required.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.8.4 VOC/ HAP	As referenced: 40 CFR 63 Subpart CC 63.670(e), (j) (l), (m) & (n) and 63.655(g)(11) & (i)(9) (2/4/2020) and 63.671 (a) and (b) (12/1/2015)	Combustion Zone Operating Limit Maintain the net heating value of flare combustion zone gas (NHV_{cz}) ≥ 270 Btu/scf on a 15-minute block average when regulated material is routed to the flare for at least 15-minutes. NHV_{cz} shall be calculated based on the net heating value of each component in the flare combustion zone in accordance with equations established in: • 63.670(m) to determine NHV_{cz} • 63.670(j) & (l) to determine NHV_{vg}	Monitor and record vent gas compositions and flow rates for determining NHV_{cz} as 15-minute block averages. Maintain a record of each period that NHV_{cz} is below 270 Btu/scf on a 15-minute block average when regulated material is routed to the flare for at least 15-minutes, each period that the NHV_{cz} was not monitored as required, and each period where there is vent gas to the flare but no flow of regulated gas. Report in the semiannual MACT report any instances where NHV_{cz} is below 270 Btu/scf on a 15-minute block average when regulated material is routed to the flare for at least 15-minutes, and any periods that NHV_{cz} monitoring was not performed as required.
5.8.5 VOC/ HAP	As referenced: 40 CFR 63 Subpart CC 63.670(o)(1) & (o)(2) (2/4/2020); and 63.671 (b) (12/1/2015) WAC 173-401-630(1) (3/5/2016)	Flare Management Plan Develop and implement a flare management plan that includes, but is not limited to; flare system design, equipment, and practices to minimized flaring, information on potential flow from pressure relief devices routed to the flare, types and locations of monitoring systems, and the smokeless design capacity of the flare. The plan must be developed and implemented by January 30, 2019. The initial plan and any revisions to the plan that change the smokeless design capacity of the flare must be submitted to the EPA (RTP) and the NWCAA.	Maintain a copy of the flare management plan. Submit the initial plan and any subsequent revisions of the plan that change the smokeless design capacity of the flare to the EPA (RTP) and the NWCAA. ***Directly Enforceable:*** Submit any revisions of the plan to the NWCAA.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.8.6 VOC/ HAP	As referenced: 40 CFR 63 Subpart CC 63.670(0) (3-5) & (o)(7)(i) (2/4/2020) and 63.655(g)(11) & (i)(9) (2/4/2020)	Root Cause Analysis and Corrective Action Analysis Conduct a root cause analysis and corrective action analysis for the following flaring events where flow contains regulated material. • The vent gas flow rate exceeds the smokeless capacity of the flare and visible emissions are present from the flare for more than 5 minutes during any 2 consecutive hours. • The vent gas flow rate exceeds the smokeless capacity of the flare, and the 15-minute block average flare tip velocity (V_{tip}) exceeds the maximum flare tip velocity (V_{max}). Complete the root cause analysis and corrective action analysis within 45 days of the flaring event. Implement corrective action within 45 days of the flaring event or as soon as practicable thereafter. Any flaring event for which the root cause was determined to be operator error or poor maintenance is considered a violation of the emergency flaring work practice standard.	Maintain a record of each flaring event where a root cause analysis and corrective action analysis is required including, but not limited to: • Date and duration of the flaring vent. • The start and stop time of the flow of regulated material to the flare. • Results of visual emission observations or flare tip velocities that exceed the applicable standard. • The root cause analysis and corrective action analysis. • Corrective action taken and if the action is not complete within 45 days of the event, the proposed implementation schedule including commencement and completion dates. Report in the semiannual MACT report, the following as applicable for each flaring event where a root cause analysis and corrective action analysis is required. • The start and stop, time and date of the flaring event. • The duration of any visual emissions. • The duration that the flare tip velocity exceeded Vmax. • The maximum 15-minute block average flare tip velocity recorded during the event. • Results of the root cause and corrective actions analysis completed during the reporting period, including the corrective actions implemented during the reporting period and, if applicable, the implementation schedule for planned corrective actions to be implemented subsequent to the reporting period.
Flare System (Elevated Flare (13V-11) and Flare Gas Recovery) The following AOP Terms are valid at all times.			
Note: 40 CFR 60 NSPS General Provisions in Section 3 apply to this affected facility.			
5.8.7 Fuel	OAC 1174 Condition 1 (3/7/2014) WAC 173-401-615 (10/17/2002)	Purge gas and pilot gas used in the elevated flare is limited to natural gas.	***Directly Enforceable**:* Certify annually that only natural gas was used as purge gas and pilot gas in the elevated flare.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.8.8 VE	OAC 1174 Condition 2 (3/7/2014) WAC 173-401-615 (10/17/2002)	Visible emissions from the elevated flare shall not exceed 5% opacity as determined by WDOE Method 9A.	***Directly Enforceable**:* Comply with AOP Term 6.1.
5.8.9 SO_2	40 CFR 60 Subpart Ja 60.103a(f) & (h); and 60.107a(a)(2) & (i)(2) (9/12/2012) WAC 173-401-630(1) (3/5/2016)	H_2S limit for Flares The H_2S content of gases combusted in the flare shall not exceed 162 ppmv on a 3-hour rolling average. 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.	Install and operate a continuous monitoring system for H_2S concentration on a by volume dry basis in the gas before being burned in the flare in accordance with 40 CFR 60 Subparts A and Ja and 40 CFR 60 Appendices B and F. ***Directly Enforceable:*** Report monthly each event when the H_2S content of gases combusted in the flare exceeds 162 ppm on a 3-hr rolling average. Include the date, time and fuel gas event.
5.8.10 SO_2	40 CFR 60 Subpart Ja 60.103a(c)(1), (d), (e), & (f); 60.107a(e)(1) & (f)(1); and 60.108a(c)(6) (9/12/2012)	Root Cause Analysis Conduct a root cause analysis and a corrective action analysis for any of the following flaring events: • greater than 500,000 scfd above baseline flaring in any 24-hour period • for events resulting in greater than 500 lb SO_2 in any 24-hour period The analyses must be completed as soon as possible but no later than 45 days after the discharge. Implement the corrective action within 45 days of the discharge or as soon as practicable thereafter.	Install and operate a continuous monitoring system for TRS concentration in gas discharged to any flare in accordance with 40 CFR 60 Subparts A and Ja and 40 CFR 60 Appendices B and F. Install and operate a continuous parameter monitoring system to measure and record the flow rate of gas discharged to any flare in accordance with manufacturer's specifications and 40 CFR 60 Subpart Ja. If the flow monitor is not equipped with a redundant flow sensor, 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. 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. Maintain records of qualifying discharges per 60.108a(c)(6).
5.8.11 VOC	40 CFR 60 Subpart Ja 60.103a(a) & (b) and 60.108a(c)(1) (9/12/2012)	Flare Management Plan Develop and implement a written flare management plan which includes a flare minimization assessment, an evaluation of the baseline flow to the flare, procedures to minimize or eliminate flaring during startup and shutdown, procedures to reduce flaring during fuel gas imbalance, and procedures to minimize outages of the flare gas recovery system.	Maintain a copy of the flare management plan. Submit a revised plan to the NWCAA and EPA (RTP) if the plan is revised with an alternative baseline flow rate, a change to the baseline flow, a flare gas recovery system is installed, or the flare designations are changed.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.8.12 VOC/ HAP	OAC 1174 Conditions 4, 5(A) & (B) and 6 (3/7/2014)	No flaring shall occur when the pressure upstream of the elevated flare water seal is < 60" H_2O.	Continuously monitor and record the following parameters with a time resolution of no less than one minute. • The water level in the elevated flare water seal. • The pressure in inches of water column upstream of the elevated flare water seal. Maintain as record of the beginning and end times/dates of each period that flaring occurs.
5.8.13 VOC/ HAP	OAC 1174 Condition 5(C) & (D) (3/7/2014)	Continuously monitor flow and exit velocity of the elevated flare.	Continuously monitor and record the following parameters with a time resolution of no less than one minute. • The volumetric flow rate in acfm and scfm of gasses routed to the flare. The exit velocity in meters per second (mps) of gasses at the elevated flare tip calculated as a function of volumetric flow consistent with the applicable provisions of 40 CFR 60 Subpart A, §60.18 and 40 CFR 63 Subpart A, §60.11,
5.8.14 VOC/ HAP	OAC 1174 Condition 3 (3/7/2014)	Except where operation would be unsafe or endanger one or more flare gas recovery compressors, the Flare Gas Recovery Unit shall be operated during all flaring events.	- *none* -
5.8.15 VOC/ HAP	OAC 1029 Conditions 1 & 3 (10/16/2008)	Flare gas produced at the facility shall be routed to and recovered by the flare gas recovery unit during continuous and/or routine releases. Process upset gases and fuel gas that is released to the flare as a result of relief valve leakage or other emergency malfunctions are exempt from this requirement.	A record shall be kept of each occurrence when flare gas is not recovered that include the time, date, duration and description of each event and an estimate of the resulting sulfur dioxide emissions that would otherwise have been removed if the gasses had been recovered.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Flare System - Maintenance Process Vents			
Note: 40 CFR 63 NESHAP General Provisions in Section 3 apply to these affected facilities.			
5.8.16 HAP	40 CFR 63 Subpart CC 63.643(c) and 63.655(i)(12) & (g)(13) (2/4/2020)	MACT for Maintenance Process Vents Maintenance process vents used exclusively for startup, shutdown, maintenance, or inspection may vent to the atmosphere when LEL < 10%, or the equipment served by the maintenance vent contains less than 72 pounds of VOC. If there is no ability to measure the LEL inside the equipment, the pressure in the equipment must be ≤ 5 psig and active purging cannot occur until the vented vapors have an LEL < 10%.	Determine the LEL or equipment pressure using process instrumentation or portable measurement devices and follow procedures for their calibration and maintenance according to manufacturer's specifications. Determine the mass of VOC in equipment based on the size and contents after draining and purging. Maintain standard site procedures used to deinventory equipment for safety purposes. Maintain a record of each maintenance vent opening including vent ID and the LEL, pressure or mass of VOC used to comply with this term. Report in the semiannual MACT report each maintenance vent opening that exceeds applicable limits including vent ID, date, and time of the opening, the LEL, pressure or mass of VOC that was exceed, and an estimate of the mass of organic HAP released to the atmospheric from the opening.
Flare System - Flare Gas Recovery Unit - Equipment Components			
Note: 40 CFR 60 NSPS and 63 NESHAP General Provisions in Section 3 apply to this affected facility.			
5.8.17 VOC	40 CFR 60 Subpart GGGa (6/2/08) → 40 CFR 60 Subpart VVa 60.482a - 60.487a (11/16/2007)	NSPS for Equipment Leaks Equipment in VOC service shall be in an LDAR program conducted in accordance with 40 CFR 60 Subparts GGGa and VVa.	Conduct an LDAR program on equipment in VOC service in accordance with AOP Terms 6.4.1 through 6.4.13.
5.8.18 VOC/ HAP	OAC 1029 Conditions 4 & 5 (10/16/2008) → 40 CFR 60 Subpart GGGa (6/2/2008) → 40 CFR 60 Subpart VVa 60.482a - 60.487a (11/16/2007)	BACT for Equipment Leaks Equipment in VOC and/or HAP service shall be in an LDAR program conducted in accordance with 40 CFR 60 Subpart VV as revised with lower leak definitions for valves and pumps.	Conduct an LDAR program on equipment in VOC service in accordance with AOP Terms 6.4.1 through 6.4.13.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.8.19 HAP	40 CFR 63 Subpart CC 63.648 (2/4/2020) → 40 CFR 60 Subpart VV 60.482 - 60.487 (11/16/2007)	MACT for Equipment Leaks Equipment in HAP service shall be in an LDAR program conducted in accordance with 40 CFR 60 Subpart VV. Equipment in VOC service and regulated under the equipment leak provisions of 40 CFR 60 Subpart GGGa and VVa are exempt from this requirement per 63.640(p).	Conduct an LDAR program on equipment in non-VOC HAP service in accordance with AOP Terms 6.2.1 through 6.2.13.
Flare System - Flare Infrastructure Upgrade Project Equipment Components			
5.8.20 VOC	OAC 1174 Condition 9 (3/7/2014)	BACT for Equipment Leaks All process equipment in VOC service (10% by weight) installed as part of the Flare Infrastructure Upgrade Project shall be in a leak detection and repair program meeting the monitoring, recordkeeping, and reporting provisions of 40 CFR 60 Subpart GGGa and its referenced requirements of 40 CFR 60 Subpart VVa.	Conduct an LDAR program on equipment in VOC service in accordance with AOP Terms 6.4.1 through 6.4.13.

5.9 Transfer (Loading/Unloading) Terminals

(Truck Loading Rack, LPG Railcar Loading Unit, Railcar Unloading Facility, Marine Terminal)

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Truck Gasoline Loading Rack with Vapor Combustor (11V-1)			
Note: 40 CFR 63 NESHAP General Provisions in Section 3 apply to this affected facility.			
5.9.1 VE	OAC 265a Condition 2 (6/9/2016) WAC 173-401-615 (10/17/2002)	Visible emissions from the vapor combustion device shall not exceed an average of 10% opacity in any consecutive 6-minute period as determined by 40 CFR 60 Appendix A, Method 9.	***Directly Enforceable:*** Comply with AOP Term 6.1.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.9.2 SO_2	40 CFR 60 Subpart J 60.104(a)(1) (6/24/2008)	NSPS for Fuel Gas Fuel gas combusted in the in the Truck Rack vapor combustor shall not exceed: • 162 ppm H_2S, 3-hour average.	Monitor in accordance with the alternative monitoring plan (AMP) approved by EPA Region 10 on April 4, 2003. The plan is summarized as follows: 1) Phillips 66 shall monitor all fuels loaded at the rack to assure they meet sulfur specifications for that finished product, 2) Phillips 66 shall keep a record of each fuel sampling performed pursuant to #1, 3) the records shall be kept for at least 5 years, 4) Phillips 66 will notify the EPA and NWCAA within 30 days after any change in fuel type or sulfur specification greater than indicated below and if there is a change in the type of auxiliary fuel used in the truck rack vapor combustor. Fuel sulfur specification: Regular/Super/Midgrade Gasoline ..... 0.1% (wt.) Diesel ..... 0.047% (wt.) Ultralow Sulfur Diesel..... 30 ppm (wt.)
5.9.3 VOC	NWCAA 580.424 (6/14/2001 State Only) 40 CFR 64.3(b); 64.6(c); 64.7(c), (d), & (e) and 64.9(a) & (b) (10/22/1997) (CAM) WAC 173-401-615 (10/17/2002)	The vapor control system shall prevent the emission of at least 90 percent by weight of the VOC and shall limit the emission to no more than 35 milligrams VOC per liter of gasoline transferred.	***Directly Enforceable**:* Comply with AOP Term 5.9.5. Upon inspection, demonstrate that the temperature for adding auxiliary fuel is set at a minimum temperature of 850° F. In addition, perform biennial source testing in accordance with 40 CFR 60.503 (12/19/03), and 40 CFR 63.425(a) & (b) (3/19/03) except a reading of 500 ppm shall be used to determine the level of leaks to be repaired under 60.503(b). *- CAM Plan –* Monitor temperature in the firebox or in the ductwork immediately downstream from the firebox in a position before any substantial heat exchange occurs. Temperatures of less than 450 °F during loading indicate a loss of control. In response, loading will be discontinued until control is reestablished.
5.9.4 VOC	NWCAA 580.424 (6/14/2001 state only) 40 CFR 64.3(b); 64.6(c); 64.7(c), (d), & (e) and 64.9(a) & (b) (10/22/1997) (CAM) WAC 173-401-615 (10/17/2002	The vapor control system shall prevent the emission of at least 90 percent by weight of the volatile organic compounds and shall limit the emission of volatile organic compounds to no more than 10 milligrams per liter of gasoline transferred.	

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.9.5 VOC	OAC 265a Condition 1 (6/9/2016) 40 CFR 64.3(b); 64.6(c); 64.7(c), (d), & (e) and 64.9(a) & (b) (10/22/1997) (CAM)	VOC from the vapor combustion device limited to 35 mg/liter gasoline transferred.	Conduct biennial source testing using 40 CFR 60 Subpart A Method 25, or alternative method approved in advance by the NWCAA. *- CAM Plan –* Monitor temperature in the firebox or in the ductwork immediately downstream from the firebox in a position before any substantial heat exchange occurs. Temperatures of less than 450 °F during loading indicate a loss of control. In response, loading will be discontinued until control is reestablished.
5.9.6 VOC	NWCAA 580.425 (11/13/1994), NWCAA 580.425 (6/14/2001 state only)	The vapor control system shall be equipped with an appropriate alarm system to alert personnel when the system is not in compliance with 580.424.	*- none -*
5.9.7 VOC	NWCAA 580.421 (11/13/1994) NWCAA 580.421 (6/14/2001 state only) WAC 173-491-040(2)(b)(i) (12/23/97 state only)	The loading terminal shall employ submerged or bottom loading and be equipped with a vapor control system.	*- none -*
5.9.8 VOC	NWCAA 580.422 (11/13/1994) NWCAA 580.422(6/14/01 state only) WAC 173-491-040(2)(b)(iv) (12/23/1997 state only)	All loading and vapor lines shall be equipped with vapor-tight fittings which close automatically upon disconnect. The point of closure shall be on the tank side of any hose or immediate connecting line.	*- none -*

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.9.9 VOC	NWCAA 580.423 (11/13/1994) NWCAA 580.423 (6/14/01 state only) WAC 173-491-040(2)(b)(ii) and (iii) (12/23/1997 state only) WAC 173-401-615 (10/17/2002)	Vapor return lines shall be connected between the transport tank and the vapor control system such that all displaced volatile organic compounds are vented to the vapor recovery system. Excludes emissions from pressure relief valves when the back pressure in the collection lines is lower than the relief pressure setting of the transport tank's relief valves.	***Directly Enforceable**:* Perform biennial testing in accordance with 40 CFR 60.503(b) and (d) except a reading of 500 ppm shall be used to determine the level of leaks to be repaired under 60.503(b).
5.9.10 VOC	NWCAA 580.104 (11/13/1994) NWCAA 580.103 (11/12/199 State Only) WAC 173-491-040(6)(b)(iii)(A) (II), (III), (IV) and (B) (12/23/1997 state only) WAC 173-401-615 (10/17/2002)	System must be operated such that gasoline vapor concentration is less than the lower explosive limit at a distance of 2.5 cm or greater from any potential leak source; and liquid leaks must be less than 3 drops per minute and no more than 10 ml per disconnect (4 drops per minute per WAC 173-491-040). Repair and retest a vapor collection system that exceeds these limits within ten days (15 days per WAC 173-491-040).	
5.9.11 VOC	NWCAA 580.426 (11/13/1994) NWCAA 580.426 (6/14/2001 state only) WAC 173-401-615 (10/17/2002)	All loading arms shall be designed, maintained, and operated to prevent overfill, fugitive liquid or vapor leaks, and excess gasoline drainage during disconnect.	

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.9.12 VOC	WAC 173-491-040(6)(b)(iii)(A)(1) and (b)(iii)(B) (12/23/1997 state only) WAC 173-401-615 (10/17/2002)	Transport tank pressure shall not exceed a pressure of eighteen inches of water or a vacuum of six inches of water. Repair and retest a vapor collection system that exceeds this limit within fifteen days.	
5.9.13 VOC	WAC 173-491-040(2)(c)(iii) (12/23/1997 state only) WAC 173-401-615 (10/17/2002)	The backpressure in the vapor collection system shall not exceed the transport tank's pressure relief settings.	
5.9.14 VOC	NWCAA 580.102, 103, and 105 (11/13/1994) NWCAA 580.102 (11/12/1999 State Only) WAC 173-491-040(6)(b) (i) and WAC 173-491-040(6)(d) (12/23/1997 state only)	Gasoline transport tanks must be leak tightness tested annually. Ensure that gasoline is loaded only into cargo tanks that pass annual leak checks performed in accordance with 40 CFR 60 Appendix A Method 27 and the criteria of NWCAA 580.105.	Maintain a record of leak tightness test results for each gasoline transport tank loaded at the facility.
5.9.15 VOC	WAC 173-491-040(6)(a) (12/23/1997 state only) WAC 173-401-615 (10/17/2002)	During the months of May, June, July, August, and September any failure of a vapor collection system to comply with WAC 173-491-040 requires the discontinuation of gasoline transfer operations for the failed part of the system.	***Directly Enforceable**:* Record each event during the months of May through September that the vapor collection system failed, and gasoline transfer was not discontinued.
5.9.16 VOC	WAC 173-491-040(6)(e) (12/23/1997 state only)	Take reasonable measures to prevent the spilling, discarding sewers, storing in open containers, or handling of gasoline in a manner that will result in evaporation to the ambient air.	*- none -*

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.9.17 HAP	40 CFR 63 Subpart CC 63.650(a) (12/1/2015) → 40 CFR 63 Subpart R 63.422(a) (12/19/2003) → 40 CFR 60 Subpart XX 60.502(e) (as modified by 63.422(c)), (f) & (g) (2/12/1999) 40 CFR 63 Subpart CC 63.650(a) (12/1/2015) & 63.655(b) (6/20/2013) → 40 CFR 63 Subpart R 63.425(e), (f), (g) & (h) (12/19/2003), 63.428(b), (g)(1), (h)(2), and (h)(3) (4/6/2006) 40 CFR 60 Subpart XX 60.500-60.506 (8/18/1983, 12/19/2003, 2/12/1999)	Loading of liquid product into gasoline tank trucks shall be limited to vapor-tight gasoline tank trucks using the procedures specified at §60.502(e) (as modified by 63.422(c). Assure that loading of gasoline tank trucks is made only into tanks equipped with vapor collection equipment that is compatible with the terminal's vapor collection system and 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.	Ensure that gasoline is loaded only into cargo tanks that pass annual leak checks performed in accordance with the criteria of 63.425(e), (f), (g) and (h). Obtain the vapor tightness documentation described in §60.505(b) for each gasoline tank truck loaded at the affected facility. Record the tank identification number as each gasoline tank truck is loaded at the facility. Cross-check each tank identification number with the file of tank vapor tightness documentation within 2 weeks after the corresponding tank is loaded, unless either less than an average of one gasoline tank truck per month over the last 26 weeks is loaded without vapor tightness documentation then the documentation cross-check shall be performed each quarter; or less than an average of one gasoline tank truck per month over the last 52 weeks is loaded without vapor tightness documentation then the documentation cross-check shall be performed semiannually. Return to biweekly crosschecks if these conditions are not maintained. Notify the owner or operator of each non-vapor-tight gasoline tank truck loaded at the affected facility within 1 week of the crosscheck. Ensure that the nonvapor-tight gasoline cargo tank will not be reloaded until vapor tightness documentation is obtained. Maintain records in accordance with 63.428(b) of cargo tank annual certification and continuous performance testing. The records shall include the name of test, the tank owner's name and address, tank identification number, test location and date, tester name and signature, witnessing inspector, if any: name, signature, and affiliation, nature of repair work and when performed in relation to vapor tightness testing. And test results. Include in a semiannual report to the NWCAA each loading of a cargo tank for which vapor tightness documentation had not been previously obtained by the facility. Submit an excess emissions report to the NWCAA in accordance with 63.10(e)(3), when a nonvapor-tight gasoline cargo tank is loaded and there was a failure to take steps to assure that the cargo tank would not be reloaded before vapor tightness documentation was obtained. Also report each reloading of a nonvapor-tight gasoline cargo tank before vapor tightness documentation for is obtained in accordance with 63.422(c) (2).

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.9.18 HAP	40 CFR 63 Subpart CC 63.650(a) (12/1/2015) & 63.655(b) (2/4/2012) → 40 CFR 63 Subpart R 63.422(b), 63.425(b) & (c), 63.427(a)(3) & (b) (12/19/2003); and 63.428(c) & (h)(1) (4/6/2006) 40 CFR 60 Subpart XX 60.500-60.506 (8/18/1983, 12/19/2003, 2/12/1999)	Emissions to the atmosphere from the vapor collection and processing systems due to the loading of gasoline cargo tanks shall not exceed 10 milligrams of total organic compounds per liter of gasoline loaded.	Install, certify, operate, and maintain, according to manufacturer's specifications, a continuous monitoring system (CMS). Install a CMS capable of measuring temperature in the firebox or in the ductwork immediately downstream from the firebox in a position before any substantial heat exchange occurs. Operate the vapor processing system in a manner not to go below a temperature of 450 °F during loading; a minimum temperature established using the procedures in 63.425(b). Keep an up-to-date, readily accessible record of the continuous monitoring data. This record shall indicate the time intervals during which loadings of gasoline cargo tanks have occurred or, alternatively, shall record the operating parameter data only during such loadings. The date and time of day shall also be indicated at reasonable intervals on this record. Submit an excess emissions report to the NWCAA in accordance with § 63.10(e) (3) when there is a failure to maintain vapor combustor temperature above 450 °F. The report shall include the monitoring data for the days the failure occurred, and a description and timing of the steps taken to repair or perform maintenance on the vapor collection and processing systems or the CMS. After every performance test on the vapor combustor, document the reasons for any change in the operating parameter value since the previous performance test.
5.9.19 HAP	40 CFR 63 Subpart CC 63.648 (2/4/2020) → 40 CFR 60 Subpart VV 60.482 - 60.487 (11/16/0207)	MACT for Equipment Leaks Equipment in HAP service shall be in an LDAR program conducted in accordance with 40 CFR 60 Subpart VV.	Conduct an LDAR program on equipment in non-VOC HAP service in accordance with AOP Terms 6.2.1 through 6.2.13.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.9.20 HAP	40 CFR 63 Subpart CC 63.650(a) (12/1/2015) → Subpart R 63.422(a) (12/19/2003) that references Subpart XX 60.502(h & i) (2/12/1999) and 60.503(d) (12/19/2003) WAC 173-401-615 (10/17/2002)	Equipment shall be operated to prevent gauge pressure in the delivery tank from exceeding 4,500 pascals (450 mm of water) during product loading and pressure-vacuum vent in the bulk gasoline terminal's vapor collection system shall not begin to open at a system pressure less than 4,500 pascals.	***Directly Enforceable**:* Perform a pressure measurement test in accordance with 40 CFR 60.503(d) during required biennial stack testing at the truck rack. Include the pressure measurement results in the biennial test report submitted to the NWCAA.
5.9.21 HAP	40 CFR 63 Subpart CC 63.650(a) (12/1/2015) → Subpart R 63.422(a) (12/19/2003) → Subpart XX 60.502(a & d) (2/12/1999)	Equip with a vapor collection system designed to collect the total organic compounds vapors displaced from tank trucks during product loading and to prevent any total organic compounds vapors collected at one loading rack from passing to another loading rack.	*- none -*
Truck Loading Rack - Equipment Components			
Note: 40 CFR 63 NESHAP General Provisions in Section 3 apply to this affected facility.			
5.9.22 VOC	NWCAA 580.8 (3/13/1997) → 40 CFR 60 Subpart GGG (6/2/2008) → 40 CFR 60 Subpart VV 60.482 - 60.487 (11/16/2007)	<u>RACT for Equipment Leaks</u> Equipment in VOC service shall be in an LDAR program conducted in accordance with 40 CFR 60 Subpart VV.	Conduct an LDAR program on equipment in VOC service in accordance with AOP Terms 6.2.1 through 6.2.13 and 6.5.1.
5.9.23 HAP	40 CFR 63 Subpart CC 63.648 (2/4/2020) → 40 CFR 60 Subpart VV 60.482 - 60.487 (11/16/2007)	<u>MACT for Equipment Leaks</u> Equipment in HAP service shall be in an LDAR program conducted in accordance with 40 CFR 60 Subpart VV.	Conduct an LDAR program on equipment in HAP service in accordance with AOP Terms 6.2.1 through 6.2.13.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
LPG Railcar Loading Unit - Equipment Components			
5.9.24 VOC	NWCAA 580.8 (3/13/1997) → 40 CFR 60 Subpart GGG (6/2/2008) → 40 CFR 60 Subpart VV 60.482 - 60.487 (11/16/2007)	RACT for Equipment Leaks Equipment in VOC service shall be in an LDAR program conducted in accordance with 40 CFR 60 Subpart VV.	Conduct an LDAR program on equipment in VOC service in accordance with AOP Terms 6.2.1 through 6.2.13 and 6.5.1.
Railcar Unloading Facility - General			
5.9.25 VOC/ HAP	OAC 1152 Conditions 1 & 2 (6/7/2013)	The Crude Unloading Facility shall unload crude oil with ≤ 3.0% by weight benzene.	Maintain a record of the following for each rail shipment received. • Type of material and its origin, • Benzene content in percent by weight, • Volume of the shipment in barrels, and • Time period and dates that the shipment was unloaded.
5.9.26 VOC/ HAP	OAC 1152 Conditions 3, 4 & 5 (6/7/2013)	Railcar unloading operations shall be conducted using a combination of vapor balancing and direct vacuum breaker methods that prevent emissions to the atmosphere from vapor balancing lines and standpipes from exceeding 500 ppm VOC as determined using 40 CFR 60 Appendix A Method 21.	At least once every 12 months, all equipment used for vapor balancing shall be visually inspected to ensure proper operation. Potential leaks identified during the visual inspection shall be monitored within 24 hours of identification using Method 21. Any leaks found that exceed 500 ppm VOC shall be repaired, or the associated equipment removed from service, prior to unloading the next shipment. Maintain a record of the results of each visual inspection, results of instrument monitoring, information on leaking components that are repaired, and information on equipment that taken out of service due to visual inspection or instrument monitoring.
Railcar Unloading Facility – Wastewater Vents			
5.9.27 VOC/ HAP	OAC 1152 Condition 6 (6/7/2013)	Wastewater Vents All vents from the oily wastewater system associated with the Crude Unloading Facility shall be connected to a closed-vent system and control device designed and operated in accordance with 61.349 of 40 CFR 61 Subpart FF.	Follow AOP Terms 5.11.4 through 5.11.6 for the wastewater vents at the Railcar Unloading Facility.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Railcar Unloading Facility - Equipment Components			
Note: 40 CFR 63 NESHAP General Provisions in Section 3 apply to this affected facility.			
5.9.28 HAP	40 CFR 63 Subpart CC 63.648 (7/13/2016) → 40 CFR 60 Subpart VV 60.482 - 60.487 (11/16/2007)	MACT for Equipment Leaks Equipment in HAP service shall be in an LDAR program conducted in accordance with 40 CFR 60 Subpart VV.	Conduct an LDAR program on equipment in HAP service in accordance with AOP Terms 6.2.1 through 6.2.13.
Marine Terminal - General			
Note: 40 CFR 63 NESHAP General Provisions in Section 3 apply to this affected facility.			
5.9.29 VOC/HAP	OAC 733f Condition 14 (12/10/2019)	The quantity of gasoline loaded onto marine vessels at the refinery marine terminal shall be less than 10,000,000 barrels per rolling 12-month period. The quantity of VOC emitted from the marine terminal shall not exceed 819 tons per rolling 12-month period.	Maintain a record of the quantity of each product transferred into marine vessels. Report no less than semiannually, the following as 12-month rolling totals: • Barrels of gasoline transferred onto marine vessels. • Tons of VOC emitted from the marine terminal.
5.9.30 HAP	40 CFR 63 Subpart CC 63.651 (12/1/2015)→ 40 CFR 63 Subpart Y 63.560 (a)(3) & (4) (12/1/2015) and (d), 63.565(l) (2/27/2014) and 63.567(j)(4) (12/1/2015) → 46 CFR 152 Subpart B 152.282 (5/17/1982)	MACT for Submerged Loading Marine tank vessel loading operations that meet the following annual thresholds: < 10 tons single HAP < 25 tons of a combination of HAPs < 10 million barrels gasoline loading < 200 million barrels crude oil loading Must meet the standards of 46 CFR 153.282 requiring that the discharge point of a cargo tank filling line be no higher above the bottom of the cargo tank or sump than 10 cm (approx. 4 in.) or the radius of the filling line. Commodities with vapor pressures ≤ 1.5 psia @ 20 °C and 760 mm Hg are exempt from this submerged loading requirement.	Maintain the following records: • Annual loading throughputs for all commodities loaded • Annual estimate of HAP emissions from the loading of non-exempt commodities.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Marine Terminal - Equipment Components			
Note: 40 CFR 63 NESHAP General Provisions in Section 3 apply to this affected facility.			
5.9.31 HAP	40 CFR 63 Subpart CC 63.648 (2/4/2020) → 40 CFR 60 Subpart VV 60.482 - 60.487 (11/16/2007)	MACT for Equipment Leaks Equipment in HAP service shall be in an LDAR program conducted in accordance with 40 CFR 60 Subpart VV.	Conduct an LDAR program on equipment in HAP service in accordance with AOP Terms 6.2.1 through 6.2.13.

5.10 Reciprocating Internal Combustion Engines (RICE), Refinery-Wide

Stationary, Emergency, Compression Ignition, RICE ≤ 500 hp (Subject to 40 CFR 63 Subpart ZZZZ as "existing") **Detroit Model 62402RA (26-GV-4, 26-GV-5 and 26-GV-6) and Kohler Model 20R0Z274 (22-GEN-0164), Deutz BF6L914C (26G-0105A), and Deutz BF6L914C (26G-0105B)**			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping & Reporting**
Note: 40 CFR 63 NESHAP General Provisions included in AOP Section 3 apply to these affected facilities			
5.10.1 HAP	40 CFR 63 Subpart ZZZZ 63.6602 (1/30/13) & Table 2c Line 1 (3/6/13), 63.6625(f) & (i) (1/30/13), 63.6640(b) (8/10/22) (and 63.6650(f) (8/10/22)	Change oil and filter every 500 hours of operation or annually, whichever comes first or utilize an oil analysis program in order to extend the specified oil change requirement. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the work practice requirements, or if performing the work practice on the required schedule would otherwise pose an unacceptable risk, the work practice can be delayed until the emergency is over, or the unacceptable risk has abated. The work practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk has abated.	Operate the engine with a non-resettable run time meter. Report each instance in which an operating limitation was not met. Deviations from emission and operating limits must be reported according to the requirements in 40 CFR 63.6650(f) and AOP Term 2.4.7 Report any failure to perform the management practice on the schedule required and the Federal, State or local law under which the risk was deemed unacceptable. If an oil analysis program is utilized to extend the specified oil change requirement, 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.
5.10.2 HAP	40 CFR 63 Subpart ZZZZ 63.6625(e)(2) & (h) (1/30/13), 63.6640(a) (8/10/22) & Table 6 Line 9 (1/30/13), and 63.6655(d) & (e) (1/30/2013)	Operate and maintain the engine 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. Minimize the engine's time spent at idle and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes per startup.	Keep records related to operating and maintaining the engine according to the manufacturer's emission-related operation and maintenance instructions. Or if a maintenance plan is developed, keep records of the maintenance conducted on the engine in order to demonstrate that the engine is operated and maintained according to the maintenance plan.

5.10.3 HAP	40 CFR 63 Subpart ZZZZ 63.6625(f) (1/30/13)and 63.6655(f) (1/30/13)	Keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. Document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engines are used for demand response operation, the owner or operator must keep records of the notification of the emergency situation, and the time the engine was operated as part of demand response.	Operate the engine with a non-resettable run time meter.
5.10.4 HAP	40 CFR 63 Subpart ZZZZ 63.6595(c) (1/30/13), 63.6640(e) (8/10/22) & Table 8 (11/19/20), 63.6645(a)(5) (11/19/20) and 63.6650(f) (8/10/22)	Comply with applicable requirements in 40 CFR 63 Subpart A as listed in 40 CFR 63 Subpart ZZZZ Table 8, exempt those notifications under 63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), 63.9(b) through (e), and (g) and (h) do not apply.	Report each instance in which the applicable requirements in 40 CFR 63 Subpart A as listed in 40 CFR 63 Subpart ZZZZ Table 8 are not met. Deviations must be reported according to the requirements in 40 CFR 63.6650(f) and AOP Term 2.4.7.
5.10.5 HAP	40 CFR 63 Subpart ZZZZ 63.6640(f)(2) (8/10/22)	Non-emergency operation is limited 100 hours per calendar year for maintenance checks and readiness testing. There is no limit to operating in emergency service.	Record the emergency and non-emergency run time from the non-resettable hour meter each time the engine is operated.
Emergency, Compression Ignition, RICE ≤ 500 hp (Subject to 40 CFR 63 Subpart IIII and 40 CFR 63 Subpart ZZZZ as "new") **Cummins Model QSB5-63 NR3 (10G-100), Kubota Model C2203-EBG (24-GEN-0101), Caterpillar Model C9 (29-GEN-01), John Deere 4045TF150 (21GEN-201), and Generac Model 17922860200 (90GEN-0001)**			
Note: 40 CFR 60 NSPS and 63 NESHAP General Provisions included in AOP Section 3 apply to these affected facilities			
5.10.6 PM/ NOx/ CO/ VOC/	40 CFR 60 Subpart IIII 60.4205(b) (6/29/21) → 60.4202 (6/29/21), 60.4206 (6/28/11), 40 CFR 63 Subpart ZZZZ 63.6590(c)(6) (8/10/22)	Purchase an engine that complies with the emission standards for new nonroad CI engines in accordance with 60.4202 for all pollutants for the same model year and maximum engine power. Operate and maintain the engine so that it achieves the emission standards over the entire life of the engine including following the manufacturer's emission-related written instructions and changing only those emission-related settings that are permitted by the manufacturer.	***Directly Enforceable:*** Keep a record of: Engine manufacturer data indicating compliance with 40 CFR 60 Subpart IIII standards including 60.4202. A copy of the manufacturer's emission-related written instructions. Each maintenance and repair activity performed on the engine. The type of fuel and its sulfur content for fuels combusted in the engine.

5.10.7 PM/ NOx/ CO/ VOC/	40 CFR 60 Subpart IIII 60.4207(b) (12/4/20) 40 CFR 63 Subpart ZZZZ 63.6590(c)(6) (8/10/22)	Use diesel that meet the requirement of 40 CFR 1090.305 for nonroad diesel fuel: • 15 ppm maximum sulfur content • Minimum cetane index of 40 or maximum aromatic content of 35 volume percent	***Directly Enforceable:*** For fuels combusted in the engine: Keep a record of the type of fuel along with its cetane index and sulfur content.
5.10.8 PM/ NOx/ CO/ VOC/	40 CFR 60 Subpart IIII 60.4209(a) (6/28/2011) and 60.4211(f) (6/29/21) 40 CFR 63 Subpart ZZZZ 63.6640(f)(2) (8/10/22)	Do not operate the engine for more than 100 hours per calendar year for maintenance and readiness testing or where there is a deviation of voltage or frequency ≥ 5% below standard voltage or frequency. The engine may be operated for up to 50 hours of the 100 hour limit in non-emergency service for conditions not specified above, if the electricity generated is not used for peak shaving, non-emergency demand response, 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. There is no time limit on use in emergency situations.	***Directly Enforceable:*** Maintain a record of the engine's non-resettable run time hours in each calendar year that includes; • Hours operated in non-emergency service, • Hours operated in emergency service and what classified the operation as an emergency.
Emergency, Compression Ignition, RICE > 500 hp (Subject to 40 CFR 63 Subpart IIII and 40 CFR 63 Subpart ZZZZ as "new") **Caterpillar C18 (26G-0106A) and Caterpillar C18 (26G-0106B)**			
Note: 40 CFR 60 NSPS and 63 NESHAP General Provisions included in AOP Section 3 apply to these affected facilities			
5.10.9	40 CFR 63 Subpart ZZZZ 63.6590(b)(1)(i) (8/10/22) 63.6645(c) and (f) (11/19/20)	Comply with Subpart ZZZZ by: • Submit initial notification no later than 120 days after becoming subject to Subpart ZZZZ. • Do not operating for more than 15 hours per calendar year for emergency demand response or voltage deviation as described in 40 CFR 63.6640(f)(ii) and (iii).	Submit notification in accordance with AOP Term 3.1.1. Include provisions in 63.6645(f) and a statement that the engine has no additional requirements along with an explanation of the basis of the exclusion. ***Directly Enforceable:*** Keep a record of hours operated as described in 40 CFR 63.6640(f)(ii) and (iii).

5.10.10	40 CFR 60 Subpart IIII 60.4205(b) (6/29/21) → 60.4202 (6/29/21), 60.4206 (6/28/11), 60.4211(a) and (c) (6/29/21), Table 8 (7/11/06)	Purchase an engine that complies with the emission standards for new nonroad CI engines in accordance with 60.4202 for all pollutants for the same model year and maximum engine power. Operate and maintain the engine so that it achieves the emission standards over the entire life of the engine including following the manufacturer's emission-related written instructions and changing only those emission-related settings that are permitted by the manufacturer.	***Directly Enforceable:*** Keep a record of: Engine manufacturer data indicating compliance with 40 CFR 60 Subpart IIII standards including 60.4202. A copy of the manufacturer's emission-related written instructions. Each maintenance and repair activity performed on the engine. The type of fuel and its sulfur content for fuels combusted in the engine.
5.10.11	40 CFR 60 Subpart IIII 60.4211(f) (6/29/21)	Do not operate the engine for more than 100 hours per calendar year for maintenance and readiness testing or where there is a deviation of voltage or frequency ≥ 5% below standard voltage or frequency. The engine may be operated for up to 50 hours of the 100 hour limit in non-emergency service for conditions not specified above, if the electricity generated is not used for peak shaving, non-emergency demand response, 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. There is no time limit on use in emergency situations.	***Directly Enforceable:*** Maintain a record of the engine's non-resettable run time hours in each calendar year that includes; • Hours operated in non-emergency service, • Hours operated in emergency service and what classified the operation as an emergency.
5.10.12	40 CFR 60 Subpart IIII 60.4207(b) (12/4/20)	Use diesel that meet the requirement of 40 CFR 1090.305 for nonroad diesel fuel: • 15 ppm maximum sulfur content • Minimum cetane index of 40 or maximum aromatic content of 35 volume percent	***Directly Enforceable:*** For fuels combusted in the engine: Keep a record of the type of fuel along with its cetane index and sulfur content.

5.11 Effluent Collection, Conveyance and Treatment Plant, Refinery-Wide

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
BWON Program - Refinery-Wide (Subject to 40 CFR 61 Subpart FF - National Emission Standard for Benzene Waste Operations (BWON))			
Note: 40 CFR 61 and 63 NESHAP General Provisions included in AOP Section 3 apply to these affected facilities			
5.11.1 HAP	40 CFR 63 Subpart CC 63.647 (12/1/2015) and 63.655(a) (2/4/2020) → 40 CFR 61 Subpart FF 61.342(c)(2) & (c)(3)(ii), 61.355 and 61.357(d) (10/1720/00)	Total Annual Benzene (TAB) Report For each waste stream subject to 40 CFR 61 Subpart FF and 40 CFR 63 Subpart CC: • Determine the annual waste quantity for each waste stream using the procedures in 61.355(b). • Determine the flow-weighted annual average benzene concentration for each waste stream using the procedures in 61.355(c). • Calculate the annual benzene quantity for each waste stream by multiplying the annual waste quantity of the waste stream times the flow-weighted annual average benzene concentration. Total annual benzene quantity is calculated by adding together the annual benzene quantity for each waste stream generated during the year and the annual benzene quantity for each process unit turnaround waste. The total annual benzene quantity in all waste streams chosen for exemption under 61.342(c)(3)(ii) shall not exceed 2.0 Mg/year.	By no later than April 7, submit a calendar year BWON total annual benzene (TAB) report that includes: (1) The total annual benzene quantity from facility waste. (2) A table identifying each waste stream and whether or not the stream will be controlled for benzene emissions. (3) For each waste stream identified as not being controlled for benzene emissions • whether or not the water content of the waste stream is greater than 10%, • whether or not the waste stream is a process wastewater stream, product tank drawdown, or landfill leachate, • the annual waste quantity for the waste stream, • the range of benzene concentrations for the waste stream, • the annual average flow-weighted benzene concentration for the waste stream; and, • the annual benzene quantity for that waste stream. If (1), (2), and (3) have not changed since the previous report, submit a statement to that effect. Also, identify the waste streams chosen for exemption and the total annual benzene quantity in those streams and state that they are less than 2.0 Mg/year benzene. Certify annually that the flow-weighted annual average benzene concentration for except waste streams is less than 10 ppm by weight.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.11.2 HAP	40 CFR 63 Subpart CC 63.655(a) (2/4/2020) → 40 CFR 61 Subpart FF 61.356(b) (11/12/2002)	BWON Waste Stream Identification Identify each waste stream subject to 40 CFR 61 Subpart FF and 60 CFR 63 Subpart CC and whether each stream is controlled.	For each uncontrolled waste stream, maintain a record of test results, measurements, calculations, and other documentation used to determine the waste stream identification, water content, waste stream type, annual waste quantity, range of benzene concentrations, annual average flow-weighted benzene concentrations, and annual benzene quantity. Maintain a record of measurements, calculations, and other documentation used to determine that the sum of the total annual benzene quantity in all exempt waste streams is less than 2.0 Mg/yr.
5.11.3 HAP	40 CFR 63 Subpart CC 63.647 (12/1/2015) → 40 CFR 61 Subpart FF 61.355(b)(4) (10/17/2000)	BWON Process Unit Turnaround Waste The determination of annual waste quantity for each process unit turnaround waste generated only at 2 year or greater intervals, may be made by dividing the total quantity of waste generated during the most recent process unit turnaround by the time period between the turnaround resulting in generation of the waste and the most recent preceding process turnaround for the unit. If the owner or operator chooses not to annualize process unit turnaround waste, as specified in this paragraph, then the process unit turnaround waste quantity shall be included in the calculation of the annual benzene quantity for the year in which the turnaround occurs.	Maintain records including all test results, measurements, calculations, and other documentation used to determine the identification of each process unit that undergoes turnarounds, the date of the most recent turnaround for each process unit, identification of each process unit turnaround waste, the water content of each process unit turnaround waste, the annual waste quantity determined in accordance with 61.355(g)(4), the range of benzene concentrations in the waste, the annual average flow-weighted benzene concentration of the waste, and the annual benzene quantity calculated in accordance with 61.355(a)(1)(iii) of this section.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.11.4 HAP	40 CFR 63 Subpart CC 63.647 and 63.655(a) (2/4/2020) → 40 CFR 61 Subpart FF 61.346(a), 61.350, 61.355(h), 61.356(d, g & h) and 61.357(d) (6 & 8) (11/12/2002)	<u>BWON Individual Drain Systems – Cover and Route to a Closed-Vent System</u> Install, operate, and maintain on each drain system opening a cover and closed-vent system that routes all organic vapors from the drain system to a control device. The cover and all openings shall be designed to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background. Maintain each opening in a closed, sealed position except during waste sampling or removal, equipment inspection, maintenance, or repair. Except where repair is technically impossible without a complete or partial facility or unit shutdown, when a broken seal or gasket or other problem is identified, or when detectable emissions are measured, make a first effort at repair as soon as practicable, but not later than 15 calendar days after identification. When repair is delayed for a shutdown, repair such equipment before the end of the next facility or unit shutdown.	Annually, monitor using an Organic Vapor Analyzer. Calibration gases shall be zero air (less than 10 ppm of hydrocarbon in air); and a mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppm methane or n-hexane. Maintain records for each test of no detectable emissions. Quarterly, perform a visual inspection of each cover seal, access hatch, and all other openings to ensure there are no cracks or gaps and openings are closed and gasketed properly. Maintain engineering design documentation for the life of the control equipment. Maintain records for each visual inspection that identifies a problem (such as a broken seal, gap, or other problem) that could result in benzene emissions. Submit quarterly to the NWCAA a certification that the required inspections have been carried out. Annually, report all inspections during which detectable emissions were 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.
5.11.5 HAP	40 CFR 63 Subpart CC 63.647 and 63.655(a) (2/4/2020) → 40 CFR 61 Subpart FF 61.349(a)(1)(i-iv), 61.354(f), 61.355(h), 61.356(a & h) and 61.357(d)(6) (11/12/2002)	<u>BWON Closed Vent System</u> Design the closed-vent system to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background. All gauging and sampling devices shall be gas-tight except when gauging or sampling is taking place. Secure any bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. One or more devices which vent directly to the atmosphere may be used provided each device remains in a closed, sealed position during normal operations. Secure the closed position with a car-seal or a lock-and-key type configuration.	Annually, monitor using an Organic Vapor Analyzer. Calibration gases shall be zero air (less than 10 ppm of hydrocarbon in air); and a mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppm methane or n-hexane. Maintain records for each test of no detectable emissions as per 61.356(h). Monthly, visually inspect the bypass live valve, checking the position of the valve and the condition of the car-seal to ensure that the valve is maintained in the closed position. Quarterly, submit a certification to the NWCAA that the required inspections have been carried out.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.11.6 HAP	40 CFR 63 Subpart CC 63.647 and 63.655(a) (2/4/2020) → 40 CFR 61 Subpart FF 61.349(b f & g), 61.350, 61.356(a) & (f)(1), 61.357(d) (6 & 8) (11/12/2002)	BWON Closed-Vent System and Control Device Operate the closed-vent system and control device at all times when waste is placed in the waste management unit vented to the control device except when maintenance or repair of the waste management unit cannot be completed without a shutdown of the control device. Except where repair is technically impossible without a complete or partial facility or unit shutdown, if visible defects are observed during an inspection, or if other problems are identified, or if detectable emissions are measured, make a first effort at repair as soon as practicable, but not 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. When repair is delayed for a shutdown, repair such equipment before the end of the next facility or unit shutdown.	Quarterly, perform a visual inspection including ductwork, piping, and connections to covers and control devices for evidence of viable defects such as holes in ductwork or piping and loose connections. Maintain records with a signed and dated statement certifying that the closed-vent system and control device is designed to operate at the documented performance level when the waste management unit is or would be operating at the highest load or capacity expected to occur. Quarterly, submit a certification to the NWCAA that the required inspections have been carried out. Annually, submit a report summarizing all inspections required by 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.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.11.7 HAP	40 CFR 63 Subpart CC 63.647 and 63.655(a) (2/4/2020) → 40 CFR 61 Subpart FF 61.349(a)(2)(ii), (c)(1) & (h), 61.354(d) and 61.356(a) & (f)(2) & (j) (11/12/2002)	<u>BWON Activated Carbon Control Device</u> Design and operate control device to recover or control organic emissions vented to it with an efficiency of 95% by weight or greater or recover or control the benzene emissions vented to it with an efficiency of 98% weight or greater. Maintain a design analysis for the control device, including specifications, drawings, schematics, and piping and instrumentation diagrams. The design analysis shall consider the vent stream composition, constituent concentration, flow rate, relative humidity, and temperature. The analysis shall also establish the design exhaust vent stream organic compound concentration level or the design exhaust vent stream benzene concentration level, capacity of carbon bed, type and working capacity of activated carbon used for carbon bed, and design carbon replacement interval based on the total carbon working capacity of the control device and source operating schedule.	Monitor the organic compound concentration level in the exhaust either on a daily basis or at intervals no greater than 20% of the design carbon replacement interval, whichever is greater. Replace the carbon with fresh carbon when breakthrough (concentration of 500 ppmv above background) is indicated. Maintain documentation including: • Dates of startup and shutdown of the closed-vent system and control device. • A description of the operating parameter to be monitored to ensure that the control device will be operated in conformance with the standards and the design specifications, and an explanation of the criteria used for selection of that parameter. • Periods when the closed-vent system and control device are not operated as designed as per 61.356(j). Maintain records of dates and times of monitoring, when breakthrough is measured and the date and time when the existing carbon is replaced.
5.11.8 HAP	40 CFR 63 Subpart CC 63.647 and 63.655(a) (2/4/2020) → 40 CFR 61 Subpart FF 61.346(b), 61.350, 61.356(d & g) and 61.357(d) (6 & 8) (11/12/2002)	<u>BWON Individual Drain Systems with Water Seal</u> Except where repair is technically impossible without a complete or partial facility or unit shutdown, when a broken seal or gasket or other problem is identified, or when detectable emissions are measured, make a first effort at repair as soon as practicable, but not later than 15 calendar days after identification. When repair is delayed for a shutdown, repair such equipment before the end of the next facility or unit shutdown.	Perform a visual or physical inspection quarterly for indications of low water levels or other conditions that would reduce the effectiveness of water seal controls. Maintain engineering design documentation for the life of the control equipment. Maintain records for each visual inspection that identifies a problem that could result in benzene emissions. Submit quarterly to the NWCAA a certification that the required inspection has been carried out. Submit annually a report summarizing all inspections during which detectable emissions were 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.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.11.9 HAP	40 CFR 63 Subpart CC 63.647 (12/1/2015) → 40 CFR 61 Subpart FF 61.348(b)(1) (10/17/2000)	BWON Treatment Processes Design and operate each waste management unit that comprises the wastewater treatment system in accordance with the appropriate standard specified in §61.343 through §61.347.	*- none -*
5.11.10 HAP	40 CFR 63 Subpart CC 63.647 and 63.655(a) (2/4/2020) → 40 CFR 61 Subpart FF 61.348(d) and 61.356(a, e & i) (11/12/2002)	BWON Treatment Process or Waste Stream Treat the waste stream by a means or to a level that meets benzene-specific effluent limitations or performance standards on accordance with the Effluent Guideline and Standards under 40 CFR parts 401-464.	Maintain records for the life of the unit certifying that the treatment process or wastewater treatment system unit is designed to operate at the documented performance level when the waste stream entering the unit is at the highest waste stream flow rate and benzene content that is expected to occur. Maintain the complete design analysis and any test information, as per 61.356(e). Maintain documentation that includes the following information: • Dates of startup and shutdown of the unit. • Periods when the unit is not operating as designed. Certify semiannually that the treatment process and subject waste streams are treated by a means or to a level that is in compliance with the facility's National Pollutant Discharge Emission Standard (NPDES) permit and Title 40 CFR Part 419.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
BWON Program - Induced Air Flotation Unit (IAF, 12S-204)			
Note: The 40 CFR 61 and 40 CFR 63 General Provisions included in Section 3 apply to this affected source.			
5.11.11 HAP	40 CFR 63 Subpart CC 63.647 and 63.655(a) (2/4/2020) → 40 CFR 61 Subpart FF 61.343, 61.350, 61.355(h), 61.356(d, g & h) and 61.357(d) (6 & 8) (11/12/2002)	<u>BWON Induced Air Flotation Unit with Fixed Roof and Closed Vent System</u> Install, operate, and maintain a fixed-roof and closed-vent system (CVS) that routes all organic vapors vented from the tank to a control device. The cover and all openings shall be designed to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background. Maintain each opening in a closed, sealed position except during waste sampling or removal, equipment inspection, maintenance, or repair. Except where repair is technically impossible without a complete or partial facility or unit shutdown, when a broken seal, gasket, or other problem is identified, make a first effort at repair as soon as practicable, but not later than 45 calendar days after identification. When repair is delayed for a shutdown, repair such equipment before the end of the next facility or unit shutdown.	Annually, monitor using an Organic Vapor Analyzer. Calibration gases shall be zero air (less than 10 ppm of hydrocarbon in air); and a mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppm methane or n-hexane. Maintain records for each test of no detectable emissions. Quarterly, perform a visual inspection of each cover seal, access hatch, and all other openings to ensure there are no cracks or gaps and openings are closed and gasketed properly. Quarterly, certify to the NWCAA that the required inspections were carried out. Maintain engineering design documentation for the life of the control equipment. Maintain records for each visual inspection that identifies a problem that could result in benzene emissions. The record shall include the date of the inspection, waste management unit and control equipment location where the problem is identified, a description of the problem, a description of the corrective action taken, and the date the corrective action was completed. Maintain records for each test of no detectable emissions including the test date, background level and maximum concentration. If detectable emissions are measured at a leak interface, the record shall also include the waste management unit, control equipment, and leak interface location where detectable emissions were measured, a description of the problem, a description of the corrective action taken, and date corrective action was completed. Submit an annual report summarizing inspections where detectable emissions were measured, or a problem could result in emissions and include repair or corrective action taken.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
BWON Program - API Oil Water Separator (12S-2)			
Note: The 40 CFR 61 and 40 CFR 63 General Provisions included in Section 3 apply to this affected source.			
5.11.12 HAP	40 CFR 63 Subpart CC 63.647 and 63.655(a) (2/4/2020) → 40 CFR 61 Subpart FF 61.347, 61.350, 61.355(h), 61.356(d, g & h) and 61.357(d) (6 & 8) (11/12/2002)	BWON Oil Water Separators - Fixed Roof With the exception of bays equipped with floating roof covers, each oil water separator system shall have a fixed-roof and closed-vent system that routes all organic vapors to a control device. The system shall operate with no detectable emissions equal to or greater than 500 ppm above background as measured by EPA Method 21. Each opening is to remain closed or sealed except during waste sampling, inspection or maintenance. Except where repair is technically impossible without a unit shutdown, a first attempt at repair shall be made as soon as practicable, but not later than 15 calendar days after identifying a problem with a seal or gasket or when a leak is detected using EPA Method 21. When repair is delayed for a shutdown, repair shall be made before end of the next unit shutdown.	Perform semiannual visual inspections of each cover seal, access hatch, and all other openings to ensure there are no cracks or gaps and that openings are properly closed and gasketed. If defects are found, they shall be repaired as soon as practical and in no case later than within 15 days of discovery unless repair requires a unit shutdown. Submit quarterly reports to the NWCAA certifying that required inspections have been completed. Annually, monitor for leaks using EPA Method 21. Instrument calibration gases shall be zero air (<10 ppm HC) and approximately, but not greater than, 10,000 ppm methane or n-hexane. Submit an annual report that includes results of inspections and leak tests which indicates a 500 ppm leak above background or where a problem such as a broken seal, gap, or other problem occurred. The report shall include a description of action taken to correct each problem and the date the action was complete. Maintain engineering design documentation for the life of the control equipment. Maintain records for each visual inspection that identifies a problem that could result in benzene emissions. The record shall include the date of the inspection, waste management unit and control equipment location where the problem is identified, a description of the problem, a description of the corrective action taken, and the date the corrective action was completed. Maintain records for each test of no detectable emissions. The record shall include the test date, background level measured during test, and maximum concentration. If detectable emissions are measured at a leak interface, the record shall also include the waste management unit, control equipment, and leak interface location where detectable emissions were measured, a description of the problem, a description of the corrective action taken, and the date the corrective action was completed.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.11.13 HAP	40 CFR 63 Subpart CC 63.647 and 63.655(a) (7/13/2016) → 40 CFR 61 Subpart FF 61.356(l), 61.357(g) and 61.352 (11/12/2002) → 40 CFR 60 Subpart QQQ 60.693-2(a), 60.692-6 and 60.696(d) (10/17/2000)	<u>BWON Oil Water Separators - Floating Roof</u> The floating roof shall have primary and secondary seals. Primary seal gaps shall not to exceed 1.5 inches at any one point or 3.2 square inches per foot of total gap area. Secondary seal gaps shall not exceed 0.5 inches at any one point or 0.32 square inches per foot of total gap area. Openings shall be equipped with a gasketed cover, seal, or lid, which shall be closed at all times, except during inspection and maintenance. Slotted membrane fabric cover shall cover 90% of the emergency roof drain area. Except where repair is technically impossible without a unit shutdown, defects shall be repaired as soon as practicable but no later than 30 days after identification. When repair is delayed until a shutdown, repair shall be made before end of the next unit shutdown.	Measure the secondary seal gaps annually and measure the primary seal gaps at least once every five years. Gaps shall be measured using various sized probes at all points where a 1/8" diameter probe passes freely between the roof seal and separator wall. Gap areas shall be calculated by adding the gap surface area of each gap location for the primary seal and the secondary seal individually and dividing the sum for each seal by the nominal perimeter of the separator basin. Conduct semiannual visual inspections of access doors, emergency roof drains and other openings, Maintain records of the date, location, and corrective action for each visual inspection in which a defect was found, and the results of any seal gap measurements. Submit quarterly reports to the NWCAA certifying that required inspections have been completed and that identify all seal gap measurements that are found to exceed the prescribed limits. Submit an annual report that includes results of visual inspections where a defect was found that includes a description of action taken to correct each problem and the date the action was complete.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
BWON Program - Vacuum Trucks			
Note: The 40 CFR 61 and 40 CFR 63 General Provisions included in Section 3 apply to this affected source.			
5.11.14 HAP	40 CFR 61 Subpart FF 61.345(a, b & c), 61.350, 61.355(h), 61.356 (g & h) and 61.357(d) (6 & 8) (11/12/2002)	BWON Waste Containers Install, operate, and maintain a cover on each container used to handle, transfer, or store waste. The cover and all openings shall be designed to operate with no detectable emissions as indicated by less than 500 ppmv above background. Maintain each opening in a closed, sealed position (e.g., covered by a lid that is gasketed and latched) at all times when waste is in the container, except when loading, removing, sampling, or inspecting wastes. When waste is transferred by pumping, the fill pipe should be submerged. During loading, the cover shall remain in place and all openings shall be closed and sealed, except for those openings required for the submerged fill pipe, those openings required for venting to prevent physical damage or permanent deformation of the container or cover. Except where repair is technically impossible without a complete or partial facility or unit shutdown, if 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 identification. If repair must be delayed, the repair shall occur before the end of the next facility or unit shutdown.	Annually, monitor using an Organic Vapor Analyzer. Calibration gases shall be zero air (less than 10 ppm of hydrocarbon in air); and a mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppm methane or n-hexane. Quarterly, visually inspect each cover and all openings to ensure that they are closed and gasketed properly. Maintain records for each visual inspection that identifies a problem that could result in benzene emissions. The record shall include the date of the inspection, waste management unit and control equipment location where the problem is identified, a description of the problem, a description of the corrective action taken, and the date the corrective action was completed. Maintain records for each test of no detectable emissions. The record shall include the test date, background level measured during test, and maximum concentration. If detectable emissions are measured at a leak interface, the record shall also include the waste management unit, control equipment, and leak interface location where detectable emissions were measured, a description of the problem, a description of the corrective action taken, and the date the corrective action was completed. Quarterly, certify to the NWCAA that the required inspections were carried out. Annually, submit a report summarizing all inspections during which detectable emissions were measured or a problem (such as a broken seal, gap, or other problem) that could result in benzene emissions was identified, including the repairs or corrective action taken.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Effluent Treatment Plant - Equipment Components			
Note: The 40 CFR 61 and 40 CFR 63 General Provisions included in Section 3 apply to this affected source.			
5.11.15 HAP	40 CFR 63 Subpart CC 63.648 (2/4/2020) → 40 CFR 60 Subpart VV 60.482 - 60.487 (11/16/2007)	MACT for Equipment Leaks Equipment in HAP service shall be in an LDAR program conducted in accordance with 40 CFR 60 Subpart VV.	Conduct an LDAR program on equipment in HAP service in accordance with AOP Terms 6.2.1 through 6.2.13.

5.12 Storage Vessels

- **External Floating Roof, Refinery MACT Group 1 Tanks (AOP Tank Categories 1 - 3)**
- **Internal Floating Roof, Refinery MACT Group 1 Tanks (AOP Tank Categories 4 – 6)**
- **Refinery MACT Group 2 Tank with High VP (AOP Tank Category 7)**
- **Refinery MACT Group 2 Tanks with Low VP (AOP Tank Category 8)**
- **Equipment Components at the Tank Farm**

External Floating Roof, Refinery MACT Group 1 Tanks

AOP Tank Category 1 - External Floating Roof Tanks storing High VP Liquids with HAPs Tanks 6000X1, 3000X1, 1340X110, 1340X111, 1340X112, 1340X113, 1340X114, 1340X115, 1340X116, 1340X117, 800X141, 800X142, 800X143, 800X144, 800X145, 800X151, 550X101, 550X102, 550X106, 300X41, 300X42, 300X43, 300X44, and 300X45.		
Term	**Description**	**Monitoring, Recordkeeping & Reporting**
5.12.1 VOC/HAP	External Floating Roof Tanks Subject to 40 CFR 63 Subpart CC as Group 1 Tanks, and Subject to NWCAA 560, 580.3 and 580.9	Comply with AOP Terms 5.12.4 through 5.12.12.
AOP Tank Category 2 - External Floating Roof Tanks storing High VP Liquids with HAPs and Subject to BWON Tanks 900X1, 900X2, 900X3, 300X35, and 300X46		
5.12.2 VOC/HAP	External Floating Roof Tanks Subject to 40 CFR 63 Subpart CC as Group 1 Tanks, Subject to NWCAA 560, 580.3 and 580.9, and Subject to 40 CFR 61 Subpart FF (BWON)	Comply AOP Terms 5.12.4 through 5.12.16.
AOP Tank Category 3 - External Floating Roof Tanks storing High VP Liquids with HAPs and Subject to OAC 314a Tanks 100X92 and 100X95		
5.12.3 VOC/HAP	External Floating Roof Tanks Subject to 40 CFR 63 Subpart CC as Group 1 Tanks, Subject to NWCAA 560, 580.3 and 580.9, and Subject to OAC 314a	Comply with AOP Terms 5.12.4 through 5.12.12 and 5.12.17.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
External Floating Roof Tanks Subject to 40 CFR 63 Subpart CC as Group 1 Tanks in HAP Service			
Note: 40 CFR 63 NESHAP General Provisions in Section 3 apply to these affected facilities.			
5.12.4 HAP	40 CFR 63 Subpart CC 63.660 and 63.655(g)(3) (2/4/2020) → 40 CFR 63 Subpart WW 63.1063(a)(1)(ii), 63.1063(c)(2), 63.1063(d)(3), 63.1065(b & d) and 63.1066(b)(1, 2 & 4) (6/29/1999)	<u>MACT External Floating Roof Seal Coverage</u> The EFR tank shall be equipped with a liquid-mounted primary seal and secondary seal, or a mechanical shoe primary seal and secondary seal with the mechanical shoe extending at least 24 inches above the liquid surface. The primary seal shall not have an accumulated area of gaps greater than 212 cm^2 per meter of tank diameter (10 $inch^2$ per foot), or a gap wider than 3.81 cm (1.5 inches). The secondary seal shall not have an accumulated area of gaps greater than 21.2 cm^2 per meter of tank diameter (1 $inch^2$ per foot), or a gap wider than 1.27 cm (0.5 inches). * If the EFR is equipped with a liquid-mounted seal or mechanical shoe seal, or a vapor-mounted seal and secondary seal as of June 30, 2014, these seal requirements do not apply until the next time the storage vessel is completely emptied and degassed, but in no case not later than January 30, 2026.	Conduct annual secondary seal gap measurements. Conduct primary seal gap measurements at least once every five years. Seal gaps shall be measured while the roof is floating using probes around the entire circumference of the tank. Repair failures within 45 days or remove the tank from service. Up to two, 30-day repair extensions may be utilized if repairs cannot be completed within 45 days and no alternative storage capacity is available. Maintain a record describing the results of seal gap measurements including the date, raw data obtained, and any calculations performed. Notify the agency at least 30 days prior conducting seal gap measurements. If the measurement event was unplanned, notify within 7 days and follow-up with a written explanation as to why it as unplanned. Submit an inspection report for each tank that was discovered to have a seal failure with the semiannual Refinery MACT report. Submit documentation on any repair extensions utilized with the semiannual Refinery MACT report. Up to two, 30-day inspection (gap measurement) extensions may be utilized if the tank is determined to be unsafe and cannot be emptied within 45 days. Submit documentation on any inspection extensions utilized with the semiannual Refinery MACT report.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.12.5 HAP	40 CFR 63 Subpart CC 63.660 and 63.655(g)(3) (2/4/2020) → 40 CFR 63 Subpart WW 63.1063(a)(2), 63.1063(b)(3-5) 63.1063(d)(1), 63.1065(b, d & e) and 63.1066(b) (6/29/1999)	MACT External Floating Roof Fittings/Openings/Seals Except for automatic bleeder vents, rim space vents, deck drains, and leg sleeves, each opening in the roof is to be equipped with a gasketed deck cover. Automatic bleeder vents and rim space vents shall be equipped with a gasketed lid, pallet, flapper or other closure device. Sample wells and deck drains may be equipped with a slotted fabric that covers at least 90% instead of a full closure. Unslotted guide poles are to be equipped with wipers and gasketed cap. Slotted guide poles are to be equipped with a pole wiper and float or sleeve. Roof opening for ladders may have pole wipers and floats or sleeves, or flexible or welded enclosure devices. Except for automatic bleeder vents, rim space vents; all openings shall have their lower edge below the liquid surface. Except for automatic bleeder vents and rim space vents, fitting/opening closures shall remain closed unless opened for access. Automatic bleeder vents and rim space vents shall remain closed except to relieve pressure. Unslotted guide pole caps shall be closed except during gauging liquid levels or taking samples. There shall be no holes or tears in the primary or secondary seal material. * If the tank does not meet the roof fitting/opening requirements as of June 30, 2014, these requirements do not apply until the next time the storage vessel is completely emptied and degassed, but in no case not later than January 30, 2026.	Each time the tank is emptied and degassed, conduct an internal inspection of the storage vessel. The inspection shall be performed from within the storage vessel and may be performed entirely from the top side of the floating roof. Ensure there is no stored liquid on the floating roof, there are no holes or tears in the primary or secondary seal, and that the floating roof deck, fittings and opening, and seals are functioning as designed. For fittings and openings, a gap of more than 1/8 inch between any surfaces that are intended to be sealed and equipment discovered not functioning as designed constitute a failure. Repair all failures prior to refilling the tank or with 45 days unless a repair extension is utilized. Maintain a record the inspection including any failures discovered and a description of how they were repaired. Submit an inspection report for each tank that was discovered to have a fitting/opening failure with the semiannual Refinery MACT report. Submit documentation on any repair extensions utilized with the semiannual Refinery MACT report. Notify the agency at least 30 days prior conducting the inspection. If the inspection was unplanned, notify within 7 days and follow-up with a written explanation as to why it as unplanned.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.12.6 HAP	40 CFR 63 Subpart CC 63.660 (2/4/2020) → 40 CFR 63 Subpart WW 63.1063(b)(2) and 63.1065(c) (6/29/1999)	MACT External Floating Roof Leg Supports The roof shall be floating on the stored liquid surface at all times except when sitting on its support legs. When the storage vessel is storing liquid, but the liquid depth is insufficient to float the floating roof, the process of filling to the point of refloating the floating roof shall be continuous and shall be performed as soon as practical.	Keep a record of the date when a floating roof is set on its legs and date the roof was refloated. The record shall indicate whether the process of refloating was continuous.
External Floating Roof Tanks subject to NWCAA 560 - Storage of Organic Liquid			
5.12.7 VOC	NWCAA 560 (4/14/1993) WAC 173-401-615 (10/17/2002)	Design and equip the storage vessel with the following vapor loss control device, properly installed, in good working order and in operation: A floating roof, consisting of a pontoon type or double-deck type roof, resting on the surface of the liquid contents and equipped with a closure seal, or seals, to close the space between the roof edge and tank wall. All tank gauging and sampling devices shall be gas-tight except when gauging or sampling is taking place. This control equipment shall not be used if the gasoline or petroleum distillate has a true vapor pressure > of 11.1 psia.	***Directly Enforceable**:* Comply with terms 5.12.8 through 5.12.12.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
External Floating Roof Tanks subject to NWCAA 580 - High Vapor Pressure Volatile Organic Compound Storage			
5.12.8 VOC	NWCAA 580.32, 580.33, 580.93, 580.94 and 580.99 (5/14/2020) → 40 CFR 60 Subpart Kb 60.112b(a)(2)(i) and 60.113b(b)(1-4) (8/11/1989) as revised by 40 CFR 63 Subpart CC 63.640(n) (2/4/2020) WAC 173-401-630(1) (3/5/2016)	<u>External Floating Roof Seal Coverage</u> The tank shall be equipped with primary seal and rim-mounted secondary seal that covers the annular space between the floating roof and the tank wall. There shall be no holes, tears, or other openings in the seal material. The primary seal shall not have an accumulated area of gaps greater than 212 cm^2 per meter of tank diameter (10 $inch^2$ per foot), or a gap wider than 3.81 cm (1.5 inches). If the primary seal is a mechanical shoe, it shall extend at least 61 cm (24 inches) above the stored liquid and the other end into the stored liquid. The secondary seal shall not have an accumulated area of gaps greater than 21.2 cm^2 per meter of tank diameter (1 $inch^2$ per foot), or a gap wider than 1.27 cm (0.5 inches). There shall be no visible holes, tears, or other openings in the seal or seal fabric and seals must be intact and uniformly in place between the roof and the tank wall.	Conduct semiannual visual inspections of the secondary seal gap. Conduct annual secondary seal gap measurements. Conduct primary seal gap measurements at least once every five years. Seal gaps shall be measured while the roof is floating using probes around the entire circumference of the tank. Up to two, 30-day inspection (gap measurement) extensions may be utilized if the tank is determined to be unsafe and cannot be emptied within 45 days. Repair seal defects discovered during the inspection within 45 days or take the tank out of service. Up to two, 30-day repair extensions may be utilized if repairs cannot be completed within 45 days and no alternative storage capacity is available. Notify the NWCAA at least 5 days in advance of seal gap testing. ***Directly Enforceable**:* Maintain a record of the semiannual visual inspection results. Maintain a record of seal gap measurements including the date, raw data obtained, and any calculations performed. Submit an inspection report for each tank that was discovered to have a seal defect with the semiannual Refinery MACT report. Submit documentation on any repair extensions utilized with the semiannual Refinery MACT report. Submit documentation on any inspection extensions utilized with the semiannual Refinery MACT report.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.12.9 VOC	NWCAA 580.32, 580.34, 580.95 – 580.98 (5/14/2020) → 40 CFR 60 Subpart Kb 60.112b(a)(2)(iii) (4/8/1987) as revised by 40 CFR 63 Subpart CC 63.640(n) (2/4/2020) WAC 173-401-630(1) (3/5/2016)	External Floating Roof Openings Except for automatic bleeder vents, rim space vents, roof drains, and leg sleeves, each opening in the roof is to be equipped with a gasketed 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% of the area of the opening. Except for automatic bleeder vents, rim space vents, and leg sleeves; all openings shall be equipped with projections into the tank which remain below the liquid surface. Slotted guide poles shall be equipped with a pole float or sleeve	Inspect roof openings each time the tank is emptied and degassed. Openings discovered not properly covered or sealed and equipment discovered not functioning as designed constitute a defect. Repair all defects prior to refilling the tank. ***Directly Enforceable**:* Maintain a record of the internal tank inspection results. Notify the agency at least 30 days prior to refilling the tank. If the inspection was unplanned, notify within 7 days with a written explanation as to why it as unplanned.
5.12.10 VOC	NWCAA 580.32, 580.33 and 580.34 (5/14/2020) → 40 CFR 60 Subpart Kb 60.113b(b)(6) (8/11/1989) WAC 173-401-630(1) (3/5/2016)	Inspection After Degassing Visually inspect the external floating roof, the primary seal, secondary seal, openings, and fittings each time the tank is emptied and degassed. If the inspection discovers defects in the floating roof, the roof openings, or fittings, or that the primary or secondary seal has holes, tears, or other openings in the seal or seal fabric; repair before refilling the tank.	Conduct an internal inspection of the seals, openings, and fittings prior to refilling the tank following each degassing. Repair all defects discovered during the internal inspection prior to refilling the tank. ***Directly Enforceable**:* Maintain a record of the internal tank inspection results.
5.12.11 VOC	NWCAA 580.32 (5/14/2020) → 40 CFR 60 Subpart Kb 60.112b(a)(2)(iii) (4/8/87) WAC 173-401-615 (10/17/2002)	External Floating Roof Leg Supports 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.	***Directly Enforceable**:* Maintain a record of each period that a tank was resting on its leg supports.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.12.12 VOC	NWCAA 580.31 and 580.993 (2/4/2020)	Maximum Vapor Pressure Limit NWCAA Section 580.3 applies to tanks storing liquids with a true vapor pressure between 1.5 and 11.1 psia based on actual monthly average storage temperatures.	Maintain a record of the type of petroleum liquids stored in the tank and the maximum true vapor pressure of the stored liquid to demonstrate that the monthly average true vapor pressure of the stored liquid is <11.1 psia.
External Floating Roof Tanks subject to 40 CFR 61 Subpart FF (BWON)			
Note: 40 CFR 61 NESHAP General Provisions in Section 3 apply to the affected facilities.			
5.12.13 HAP	40 CFR 61 Subpart FF 61.351(a)(2), 61.356(k) and 61.357(f) (11/12/2002) → 40 CFR 60 Subpart Kb 60.112b(a)(2) and 60.115b(b) (4/8/1987) as revised by 40 CFR 63 Subpart CC 63.640(n) (2/4/2020)	BWON External Floating Roof Seal Coverage The tank shall be equipped with primary seal and rim-mounted secondary seal that covers the annular space between the floating roof and the tank wall. There shall be no holes, tears, or other openings in the seal material. The primary seal shall not have an accumulated area of gaps greater than 212 cm^2 per meter of tank diameter (10 $inch^2$ per foot), or a gap wider than 3.81 cm (1.5 inches). If the primary seal is a mechanical shoe, it shall extend at least 61 cm (24 inches) above the stored liquid and the other end into the stored liquid. The secondary seal shall not have an accumulated area of gaps greater than 21.2 cm^2 per meter of tank diameter (1 $inch^2$ per foot), or a gap wider than 1.27 cm (0.5 inches). There shall be no visible holes, tears, or other openings in the seal or seal fabric and seals must be intact and uniformly in place between the roof and the tank wall.	Conduct annual secondary seal gap measurements. Conduct primary seal gap measurements at least once every five years. Seal gaps shall be measured while the roof is floating using probes around the entire circumference of the tank. Repair defects within 45 days or remove the tank from service. Up to two, 30-day repair extensions may be utilized if repairs cannot be completed within 45 days and no alternative storage capacity is available. Maintain a record describing the results of seal gap measurements including the date, raw data obtained, and any calculations performed. Notify the agency at least 30 days prior conducting seal gap measurements. If the measurement event was unplanned, notify within 7 days and follow-up with a written explanation as to why it as unplanned. Submit an inspection report for each tank that was discovered to have a seal defect with the semiannual Refinery MACT report. Submit documentation on any repair extensions utilized with the semiannual Refinery MACT report. Up to two, 30-day inspection (gap measurement) extensions may be utilized if the tank is determined to be unsafe and cannot be emptied within 45 days. Submit documentation on any inspection extensions utilized with semiannual the Refinery MACT report.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.12.14 HAP	40 CFR 61 Subpart FF 61.351(a)(2), 61.356(k) and 61.357(f) (11/12/2002) → 40 CFR 60 Subpart Kb 60.112b(a)(2) and 60.115b(b) (10/8/1997) as revised by 40 CFR 63 Subpart CC 63.640(n) (12/1/2015)	BWON External Floating Roof Openings Except for automatic bleeder vents, rim space vents, roof drains, and leg sleeves, each opening in the roof is to be equipped with a gasketed 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% of the area of the opening. Except for automatic bleeder vents, rim space vents, and leg sleeves; all openings shall be equipped with projections into the tank which remain below the liquid surface. Slotted guide poles shall be equipped with a pole float or sleeve	Inspect roof openings each time the tank is emptied and degassed. Openings discovered not properly covered or sealed and equipment discovered not functioning as designed constitute a defect. Repair all defects prior to refilling the tank. Maintain a record of the internal tank inspection results. Notify the agency at least 30 days prior to refilling the tank. If the inspection was unplanned, notify within 7 days and follow-up with a written explanation as to why it as unplanned.
5.12.15 HAP	40 CFR 61 Subpart FF 61.351(a)(2), 61.356(k) and 61.357(f) (11/12/2002) → 40 CFR 60 Subpart Kb 60.112b(a)(2) (10/8/1997)	BWON Inspection After Degassing Visually inspect the external floating roof, the primary seal, secondary seal, openings and fittings each time the tank is emptied and degassed. If the inspection discovers defects in the floating roof, the roof openings or fittings, or that the primary or secondary seal has holes, tears, or other openings in the seal or seal fabric; repair before refilling the tank.	Conduct an internal inspection of the seals, openings and fittings prior to refilling the tank following each degassing. Repair all defects prior to refilling the tank. Maintain a record of the internal tank inspection results. Notify the agency at least 30 days prior conducting the inspection. If the inspection was unplanned, notify within 7 days with a written explanation as to why it as unplanned.
5.12.16 HAP	40 CFR 61 Subpart FF 61.351(a)(2), 61.356(k) and 61.357(f) (11/12/2002) → 40 CFR 60 Subpart Kb 60.112b(a)(2) (10/8/1997)	BWON External Floating Roof Leg Supports 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.	*- none -*

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
External Floating Roof Tanks subject to OAC 314a			
5.12.17 VOC	OAC 314a Conditions 1 & 3 (10/2/2002)	Subpart Kb Requirements as BACT EFR Tanks 100x92 and 100x95 shall have rim mounted secondary seals conforming to 60.112b(a)(2), and subject to the testing procedures of 60.113b, the recordkeeping and reporting requirements of 60.115b and the monitoring requirements of 60.116b, as revised by 40 CFR 63 Subpart CC 63.640(n).	Comply with terms 5.12.8 through 5.12.12 Keep a record of dimensions and storage capacities of EFR Tanks 100x92 and 100x95.

Internal Floating Roof, Refinery MACT Group 1 Tanks

AOP Tank Category 4 - Internal Floating Roof Tanks storing High VP Liquids with HAPs Tanks 400X1,50X304, and 550x100		
Term	**Description**	**Monitoring, Recordkeeping & Reporting**
5.12.18 VOC/HAP	Internal Floating Roof Tanks Subject to 40 CFR 63 Subpart CC as Group 1 Tanks, and Subject to NWCAA 560 and 580.3	Comply with AOP Terms 5.12.21 through 5.12.30.
AOP Tank Category 5 - Internal Floating Roof Tanks storing High VP Liquids with HAPs and Subject to BWON Tanks 100X94 and 100X99		
5.12.19 VOC/HAP	Internal Floating Roof Tanks Subject to 40 CFR 63 Subpart CC as Group 1 Tanks, Subject to NWCAA 560 and 580.3, and Subject to 40 CFR 61 Subpart FF (BWON)	Comply with AOP Terms 5.12.21 through 5.12.34.
AOP Tank Category 6 - Internal Floating Roof Tanks storing High VP Liquids with HAPs and Subject to BWON and OAC 314a Tanks 300X40 and 100X98		
5.12.20 VOC/HAP	Internal Floating Roof Tanks Subject to 40 CFR 63 Subpart CC as Group 1 Tanks, Subject to NWCAA 560, 580.3 and 580.9, Subject to 40 CFR 61 Subpart FF (BWON), and Subject to OAC 314a	Comply with AOP Terms 5.12.21 through 5.12.35.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Internal Floating Roof Tanks Subject to 40 CFR 63 Subpart CC as Group 1 Tanks in HAP Service			
Note: 40 CFR 63 NESHAP General Provisions in Section 3 apply to the affected facilities.			
5.12.21 HAP	40 CFR 63 Subpart CC 63.660 and 63.655(g)(2) (2/4/2020) → 40 CFR 63 Subpart WW 63.1063(a)(1)(i), (c)(1) & (d) (1 & 2), 63.1065(b & d), 63.1066(b) (2 & 4) (6/29/1999)	<u>MACT Internal Floating Roof Seal Coverage</u> The IFR tank shall be equipped with a liquid-mounted seal, or a mechanical shoe seal, or two seals with one above the other and the lower seal may be vapor-mounted. * If the IFR is equipped with a vapor-mounted seal as of June 30, 2014, these seal requirements do not apply until the next time the storage vessel is completely emptied and degassed, but in no case not later than January 30, 2026.	Conduct annual visual tank-top inspections through openings in the fixed roof. If there is stored liquid on the roof, an indication that the floating roof is not functioning as designed, or visible holes or tears in the rim seal; repair within 45 days or take the tank out of service. Up to two, 30-day repair extensions may be utilized if repairs cannot be completed within 45 days and no alternative storage capacity is available. Maintain a record describing the results of annual visual tank-top inspections. Submit an inspection report for each tank that was discovered to have a failure with the semiannual Refinery MACT report. Submit documentation on any repair extensions utilized with the semiannual Refinery MACT report.
5.12.22 HAP	40 CFR 63 Subpart CC 63.660 and 63.655(g)(2) (2/4/2020) → 40 CFR 63 Subpart WW 63.1063(a)(2), (b)(3-5) & (d)(1 & 2), 63.1065(b & e) and 63.1066(b) (6/29/1999)	<u>MACT Internal Floating Roof Fittings/Openings</u> Except for automatic bleeder vents, rim space vents, deck drains, and leg sleeves, each opening in the roof is to be equipped with a gasketed deck cover. Automatic bleeder vents and rim space vents shall be equipped with a gasketed lid, pallet, flapper or other closure device. Sample wells and deck drains may be equipped with a slotted fabric that covers at least 90% instead of a full closure. Unslotted guide poles are to be equipped with wipers and gasketed cap. Slotted guide poles are to be equipped with a pole wiper and float or sleeve. Roof opening for ladders may have pole wipers and floats or sleeves, or flexible or welded enclosure devices. Except for automatic bleeder vents, rim space vents; all openings shall have their lower edge below the liquid surface. Except for automatic bleeder vents and rim space vents, fitting/opening closures shall remain closed	Inspect roof fittings/openings each time the tank is emptied and degassed. A gap of more than 1/8 inch between any surfaces that are intended to be sealed and any equipment not functioning as designed constitutes a failure. Repair all failures prior to refilling the tank. Maintain a record of the inspection including any fitting/opening failures and a description of how they were repaired. Notify the agency at least 30 days prior conducting the inspection. If the inspection was unplanned, notify within 7 days and follow-up with a written explanation as to why it as unplanned. Submit an inspection report for each tank that was discovered to have a fitting/opening failure with the semiannual Refinery MACT report.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
		unless opened for access. Automatic bleeder vents and rim space vents shall remain closed except to relieve pressure. Unslotted guide pole caps shall be closed except during gauging liquid levels or taking samples. * If the tank does not meet the roof fitting/opening requirements as of June 30, 2014, these requirements do not apply until the next time the storage vessel is completely emptied and degassed, but in no case not later than January 30, 2026.	
5.12.23 HAP	40 CFR 63 Subpart CC 63.660 (2/4/2020) → 40 CFR 63 Subpart WW 63.1063(c)(1)(i), (d)(1), 63.1065(b) and 63.1066(b) (6/29/1999)	MACT Inspection After Degassing Visually inspect the internal floating roof, the primary seal, secondary seal (if present), and fittings and openings each time the tank is emptied and degassed. In no case shall the tank be emptied and degassed less than once every 10 years. The inspection shall ensure there is no stored liquid on the floating roof, there are no holes or tears in the rim seals, and that the floating roof deck, fittings and opening, and seals are functioning as designed. For fittings and openings, a gap of more than 1/8 inch between any surfaces that are intended to be sealed constitutes a failure.	Conduct an internal inspection of the seals, openings and fittings prior to refilling the tank following each degassing, and not less than once every 10 years, except those tanks equipped with double seals must be inspected internally at least once every 5 years if annual hatch inspections are not conducted. Repair all failures discovered during the internal inspection prior to refilling the tank. Maintain a record of the inspection including any failures and a description of how they were repaired. Notify the agency at least 30 days prior conducting the inspection. If the inspection was unplanned, notify within 7 days and follow-up with a written explanation as to why it as unplanned. Submit an inspection report for each tank that was discovered to have a failure with the semiannual Refinery MACT report.
5.12.24 HAP	40 CFR 63 Subpart CC 63.660 (2/4/2020) → 40 CFR 63 Subpart WW 63.1063(b)(2) and 63.1065(c) (6/29/1999)	MACT Internal Floating Roof Leg Supports The roof shall be floating on the stored liquid surface at all times except when sitting on its support legs. When the storage vessel is storing liquid, but the liquid depth is insufficient to float the floating roof, the process of filling to the point of refloating the floating roof shall be continuous and shall be performed as soon as practical.	Keep a record of the date when a floating roof is set on its legs and date the roof was refloated. The record shall indicate whether the process of refloating was continuous.
Internal Floating Roof Tanks subject to NWCAA 560 - Storage of Organic Liquid			
5.12.25 VOC	NWCAA 560 (4/14/1993) WAC 173-401-615 (10/17/2002)	Design and equip the storage vessel with the following vapor loss control device, properly installed, in good working order and in operation: A floating roof, consisting of a pontoon type or double-deck type roof, resting on the surface of the	***Directly Enforceable**:* Comply with AOP Terms 5.12.26 through 5.12.30.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
		liquid contents and equipped with a closure seal, or seals, to close the space between the roof edge and tank wall. All tank gauging and sampling devices shall be gas-tight except when gauging or sampling is taking place. This control equipment shall not be used if the gasoline or petroleum distillate has a true vapor pressure > of 11.1 psia.	
Internal Floating Roof Tanks subject to NWCAA 580 - High Vapor Pressure Volatile Organic Compound Storage			
5.12.26 VOC	NWCAA 580.32 and 580.33 (11/12/1989) → 40 CFR 60 Subpart Kb 60.112b(a)(1)(ii) and 60.113b(a)(2 & 3) (8/11/1989) as revised by 40 CFR 63 Subpart CC 63.640(n) (2/4/2020) WAC 173-401-630(1) (3/5/2016)	Internal Floating Roof Seal Coverage The tank 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: A liquid mounted foam- or liquid-filled seal, two seals mounted one above the other so that each forms a continuous closure, or a mechanical shoe seal with a flexible coated fabric spanning the annular space between the roof and tank wall. There shall be no visible holes, tears, or other openings in the seal or seal fabric.	Conduct annual visual inspections through roof hatches. Tanks equipped with double seals may be inspected internally at least once every 5 years in lieu of annual hatch inspections. Repair defects discovered during the inspection within 45 days or take the tank out of service. Up to two, 30-day repair extensions may be utilized if repairs cannot be completed within 45 days and no alternative storage capacity is available. Defects include the roof not resting on the surface of the stored liquid, liquid accumulated on the roof, a detached seal, and holes or tears in the seal fabric. ***Directly Enforceable**:* Maintain a record of annual visual inspection results. Submit an inspection report for each tank that was discovered to have a seal defect and documentation of any repair extensions utilized with the semiannual Refinery MACT report.
5.12.27 VOC	NWCAA 580.32 and 580.34 (11/12/1989) → 40 CFR 60 Subpart Kb 60.112b(a)(2) (iii-ix) and 60.113b(a)(4) (4/8/1987) as revised by40 CFR 63 Subpart CC 63.640(n) (2/4/2020) WAC 173-401-630(1) (3/5/2016)	Internal Floating Roof Openings Except for automatic bleeder vents and rim space vents, all openings shall be equipped with projections into the tank below the liquid surface. Except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains; shall be equipped with a gasketed cover maintained in a closed position except when in actual use. Covers on each access hatch and automatic gauge float well shall be bolted except when in use. Automatic bleeder vents shall be gasket and closed except when the roof is being floated off or on leg supports. Rim space vents shall be gasketed and set to open only when the roof is not floating or at the manufacturer's recommended	Conduct an internal inspection of the roof openings prior to refilling the tank following each degassing, and not less than once every 10 years. Tanks equipped with double seals must be inspected internally at least once every 5 years if annual hatch inspections are not conducted. Repair all defects discovered during the internal inspection prior to refilling the tank. ***Directly Enforceable**:* Maintain a record of internal tank inspection results.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
		setting. Sampling wells shall have a slit fabric that covers at least 90% of the opening. Columns penetrating the roof shall have a flexible fabric sleeve seal or a gasketed sliding cover. Ladders penetrating the roof shall have a gasketed sliding cover. Slotted guide poles shall be equipped with a pole float or sleeve	
5.12.28 VOC	NWCAA 580.32, 580.33 and 580.34 (11/12/1989) → 40 CFR 60 Subpart Kb 60.113b(a)(4) (8/11/1989) WAC 173-401-630(1) (3/5/2016)	Inspection After Degassing Visually inspect the internal floating roof, the seals, and roof openings and fittings each time the tank is emptied and degassed. If the inspection discovers defects in the floating roof, the roof openings or fittings, or that the primary or secondary seal has holes, tears, or other openings in the seal or seal fabric; repair before refilling the tank.	Conduct an internal inspection of the seals, openings and fittings prior to refilling the tank following each degassing, and not less than once every 10 years. Tanks equipped with double seals must be inspected internally at least once every 5 years if annual hatch inspections are not conducted. Repair all defects discovered during the internal inspection prior to refilling the tank. ***Directly Enforceable**:* Maintain a record internal tank inspection results.
5.12.29 VOC	NWCAA 580.32 (11/12/1989) → 40 CFR 60 Subpart Kb 60.112b(a)(1)(i) and 60.113b(a)(2) (4/8/1987) as revised by 40 CFR 63 Subpart CC 63.640(n) (12/1/2015) WAC 173-401-630(1) (3/5/2016)	Internal Floating Roof Leg Supports 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.	Conduct annual visual inspections through roof hatches. Tanks equipped with double seals may be inspected internally at least once every 5 years in lieu of annual hatch inspections. If the roof was discovered not to be floating on the liquid surface during the inspection, repair within 45 days or take the tank out of service. A 30-day repair extension may be used if the repair cannot be completed within 45 days and no alternative storage capacity is available. ***Directly Enforceable**:* Maintain a record of annual visual inspection results. Submit documentation on any repair extensions utilized with the semiannual Refinery MACT report.
5.12.30 VOC	NWCAA 580.31 (11/12/1989) WAC 173-401-615 (10/17/2002)	Maximum Vapor Pressure Limit NWCAA Section 580.3 applies to tanks storing liquids with a true vapor pressure between 1.5 and 11.1 psia based on actual monthly average storage temperatures.	***Directly Enforceable**:* Maintain a record of the type of petroleum liquids stored in the tank and the maximum true vapor pressure of the stored liquid to demonstrate that the monthly average true vapor pressure of the stored liquid is <11.1 psia.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Internal Floating Roof Tanks subject to 40 CFR 61 Subpart FF (BWON)			
Note: 40 CFR 61 NESHAP General Provisions in Section 3 apply to the affected facilities.			
5.12.31 HAP	40 CFR 61 Subpart FF 61.351(a)(2), 61.356(k) and 61.357(f) (11/12/2002) → 40 CFR 60 Subpart Kb 60.112b(a)(1) and 60.115b(a) (4/8/1987) as revised by 40 CFR 63 Subpart CC 63.640(n) (2/4/2020)	BWON Internal Floating Roof Seal Coverage The tank 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: A liquid mounted foam- or liquid-filled seal, two seals mounted one above the other so that each forms a continuous closure, or a mechanical shoe seal with a flexible coated fabric spanning the annular space between the roof and tank wall. There shall be no visible holes, tears, or other openings in the seal or seal fabric.	Conduct annual visual inspections through roof hatches. Tanks equipped with double seals may be inspected internally at least once every 5 years in lieu of annual hatch inspections. Inspection defects include the roof not resting on the surface of the stored liquid, liquid accumulated on the roof, a detached seal, and holes or tears in the seal fabric. Repair seal defects within 45 days or remove the tank from service. Up to two, 30-day repair extensions may be utilized if repairs cannot be completed within 45 days and no alternative storage capacity is available. Maintain a record of annual visual inspection results. Submit an inspection report for each tank that was discovered to have a seal defect with the semiannual Refinery MACT report. Submit documentation on any repair extensions utilized with the semiannual Refinery MACT report.
5.12.32 HAP	40 CFR 61 Subpart FF 61.351(a)(2), 61.356(k) and 61.357(f) (11/12/2002) → 40 CFR 60 Subpart Kb 60.112b(a)(1) and 60.115b(a) (10/8/1997) as revised by 40 CFR 63 Subpart CC 63.640(n) (2/4/2020)	BWON Internal Floating Roof Openings Except for automatic bleeder vents and rim space vents, all openings shall be equipped with projections into the tank below the liquid surface. Except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains; shall be equipped with a gasketed cover maintained in a closed position except when in actual use. Covers on each access hatch and automatic gauge float well shall be bolted except when in use. Automatic bleeder vents shall be gasket and closed except when the roof is being floated off or on leg supports. Rim space vents shall be gasketed and set to open only when the roof is not floating or at the manufacturer's recommended setting. Sampling wells shall have a slit fabric that covers at least 90% of the opening. Columns penetrating the roof shall have a flexible fabric sleeve seal or a gasketed sliding cover. Ladders penetrating the roof shall have a gasketed sliding cover.	Conduct an internal inspection of the roof openings prior to refilling the tank following each degassing, and not less than once every 10 years. Tanks equipped with double seals must be inspected internally at least once every 5 years if annual hatch inspections are not conducted. Repair all defects discovered during the internal inspection prior to refilling the tank. Maintain a record of inspection results. Notify the agency at least 30 days prior to refilling the tank.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
		Slotted guide poles shall be equipped with a pole float or sleeve	
5.12.33 HAP	40 CFR 61 Subpart FF 61.351(a)(2), 61.356(k) and 61.357(f) (11/12/2002) → 40 CFR 60 Subpart Kb 60.112b(a)(1) and 60.115b(a) (10/8/1997)	BWON Inspection After Degassing Visually inspect the internal floating roof, the seals, and roof openings and fittings each time the tank is emptied and degassed. If the inspection discovers defects in the floating roof, the roof openings or fittings, or that the primary or secondary seal has holes, tears, or other openings in the seal or seal fabric; repair before refilling the tank.	Conduct an internal inspection of the seals, openings and fittings prior to refilling the tank following each degassing, and not less than once every 10 years. Tanks equipped with double seals must be inspected internally at least once every 5 years if annual hatch inspections are not conducted. Repair all defects discovered prior to refilling the tank. Maintain a record of the tank inspection results. Notify the agency at least 30 days prior refilling the tank.
5.12.34 HAP	40 CFR 61 Subpart FF 61.351(a)(2), 61.356(k) and 61.357(f) (11/12/2002) → 40 CFR 60 Subpart Kb 60.112b(a)(1) and 60.115b(a) (10/8/1997) as revised by 40 CFR 63 Subpart CC 63.640(n) (2/4/2020)	BWON Internal Floating Roof Leg Supports 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.	Conduct annual visual inspections through roof hatches. Tanks equipped with double seals may be inspected internally at least once every 5 years in lieu of annual hatch inspections. If the roof was discovered not to be floating on the liquid surface during the inspection, repair within 45 days or take the tank out of service. Up to two, 30-day repair extensions may be utilized if repairs cannot be completed within 45 days and no alternative storage capacity is available. Maintain a record of the annual inspection results. Submit an inspection report for each tank that was discovered to have a floating roof defect with the semiannual Refinery MACT report. Submit documentation on any repair extensions utilized with the semiannual Refinery MACT report.
Internal Floating Roof Tanks subject to OAC 314a			
5.12.35 VOC	OAC 314a Conditions 2 & 3 (10/2/2002)	Subpart Kb Requirements as BACT IFR Tanks 300x40 and 100x98 shall conform with 60.112b(a)(1), and subject to the testing procedures of 60.113b, the recordkeeping and reporting requirements of 60.115b and the monitoring requirements of 60.116b, as revised by 40 CFR 63 Subpart CC 63.640(n).	Comply with AOP Terms 5.12.26 through 5.12.30. Keep a record of dimensions and storage capacities of IFR Tanks 300x40 and 100x98.

Internal Floating Roof with High VP Liquids, Refinery MACT Group 2 Tank

AOP Tank Category 7 - Internal Floating Roof Tank storing High VP Liquids, Subject 40 CFR 60 Subpart Kb and OAC 1111, and Considered a Group 2 Tank under 40 CFR 63 Subpart CC Tank 70x1 (ethanol)			
Term	**Description**		**Monitoring, Recordkeeping & Reporting**
5.12.36 VOC	Internal Floating Roof Tank Subject to 40 CFR 63 Subpart CC as a Group 2 Tank, Subject to NWCAA 560, 580.3 and 580.9, Subject to 40 CFR 60 Subpart Kb, Subject to OAC 1111		Comply with AOP Terms 5.12.37 through 5.12.44.
Term	**Citation**	**Description**	**Monitoring, Recordkeeping & Reporting**
Internal Floating Roof Tanks subject to NWCAA 560 - Storage of Organic Liquid			
5.12.37 VOC	NWCAA 560 (4/14/1993) WAC 173-401-615 (10/17/2002)	Design and equip the storage vessel with the following vapor loss control device, properly installed, in good working order and in operation: A floating roof, consisting of a pontoon type or double-deck type roof, resting on the surface of the liquid contents and equipped with a closure seal, or seals, to close the space between the roof edge and tank wall. All tank gauging and sampling devices shall be gas-tight except when gauging or sampling is taking place. This control equipment shall not be used if the gasoline or petroleum distillate has a true vapor pressure > of 11.1 psia.	***Directly Enforceable**:* Comply with AOP Terms 5.12.38 through 5.12.42.
Internal Floating Roof Tanks subject to NWCAA 580 and NSPS Subpart Kb - High Vapor Pressure Volatile Organic Compound Storage			
Note: 40 CFR 60 NSPS General Provisions in Section 3 apply to the affected facilities.			
5.12.38 VOC	NWCAA 580.32 and 580.33 (11/12/1989) → 40 CFR 60 Subpart Kb 60.112b(a)(1)(ii) and 60.113b(a)(2 & 3) (8/11/1989) as	<u>Internal Floating Roof Seal Coverage</u> The tank 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: A liquid mounted foam- or liquid-filled seal, two seals mounted one above the other so that each forms a continuous closure, or a mechanical shoe seal with a	Conduct annual visual inspections through roof hatches. Tanks equipped with double seals may be inspected internally at least once every 5 years in lieu of annual hatch inspections. Repair defects discovered during the inspection within 45 days or take the tank out of service. Up to two, 30-day repair extensions may be utilized if repairs cannot be completed within 45 days and no alternative storage capacity is available. Defects include the roof not

	revised by 40 CFR 63 Subpart CC 63.640(n) (2/4/2020) Also, 40 CFR 60 Subpart Kb directly WAC 173-401-630(1) (3/5/2016)	flexible coated fabric spanning the annular space between the roof and tank wall. There shall be no visible holes, tears, or other openings in the seal or seal fabric.	resting on the surface of the stored liquid, liquid accumulated on the roof, a detached seal, and holes or tears in the seal fabric. ***Directly Enforceable**:* Maintain a record of annual visual inspection results. Submit an inspection report for each tank that was discovered to have a seal defect and documentation of any repair extensions utilized with the semiannual Refinery MACT report.
5.12.39 VOC	NWCAA 580.32 and 580.34 (11/12/1989) → 40 CFR 60 Subpart Kb 60.112b(a)(2) (iii-ix) and 60.113b(a)(4) (4/8/1987) as revised by 40 CFR 63 Subpart CC 63.640(n) (2/4/2020) Also, 40 CFR 60 Subpart Kb directly WAC 173-401-630(1) (3/5/2016)	<u>Internal Floating Roof Openings</u> Except for automatic bleeder vents and rim space vents, all openings shall be equipped with projections into the tank below the liquid surface. Except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains; shall be equipped with a gasketed cover maintained in a closed position except when in actual use. Covers on each access hatch and automatic gauge float well shall be bolted except when in use. Automatic bleeder vents shall be gasket and closed except when the roof is being floated off or on leg supports. Rim space vents shall be gasketed and set to open only when the roof is not floating or at the manufacturer's recommended setting. Sampling wells shall have a slit fabric that covers at least 90% of the opening. Columns penetrating the roof shall have a flexible fabric sleeve seal or a gasketed sliding cover. Ladders penetrating the roof shall have a gasketed sliding cover. Slotted guide poles shall be equipped with a pole float or sleeve	Conduct an internal inspection of the roof openings prior to refilling the tank following each degassing, and not less than once every 10 years. Tanks equipped with double seals must be inspected internally at least once every 5 years if annual hatch inspections are not conducted. Repair all defects discovered during the internal inspection prior to refilling the tank. ***Directly Enforceable**:* Maintain a record of internal tank inspection results.
5.12.40 VOC	NWCAA 580.32, 580.33 and 580.34 (11/12/1989) → 40 CFR 60 Subpart Kb 60.113b(a)(4) (8/1119/89) Also, 40 CFR 60 Subpart Kb directly	<u>Inspection After Degassing</u> Visually inspect the internal floating roof, the seals, and roof openings and fittings each time the tank is emptied and degassed. If the inspection discovers defects in the floating roof, the roof openings, or fittings, or that the primary or secondary seal has holes, tears, or other openings in the seal or seal fabric; repair before refilling the tank.	Conduct an internal inspection of the seals, openings, and fittings prior to refilling the tank following each degassing, and not less than once every 10 years. Tanks equipped with double seals must be inspected internally at least once every 5 years if annual hatch inspections are not conducted. Repair all defects discovered during the internal inspection prior to refilling the tank. ***Directly Enforceable**:*

	WAC 173-401-630(1) (3/5/2016)		Maintain a record internal tank inspection results.
5.12.41 VOC	NWCAA 580.32 (11/12/1989) → 40 CFR 60 Subpart Kb 60.112b(a)(1)(i) and 60.113b(a)(2) (4/8/1987) as revised by 40 CFR 63 Subpart CC 63.640(n) (2/4/2020) Also, 40 CFR 60 Subpart Kb directly WAC 173-401-630(1) (3/5/2016)	Internal Floating Roof Leg Supports 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.	Conduct annual visual inspections through roof hatches. Tanks equipped with double seals may be inspected internally at least once every 5 years in lieu of annual hatch inspections. If the roof was discovered not to be floating on the liquid surface during the inspection, repair within 45 days or take the tank out of service. A 30-day repair extension may be used if the repair cannot be completed within 45 days and no alternative storage capacity is available. ***Directly Enforceable**:* Maintain a record of annual visual inspection results. Submit documentation on any repair extensions utilized with the semiannual Refinery MACT report.
5.12.42 VOC	NWCAA 580.31 (12/13/1989) WAC 173-401-630(1) (3/5/2016)	Maximum Vapor Pressure Limit NWCAA Section 580.3 applies to tanks storing liquids with a true vapor pressure between 1.5 and 11.1 psia based on actual monthly average storage temperatures.	***Directly Enforceable**:* Maintain a record of the type of petroleum liquids stored in the tank and the maximum true vapor pressure of the stored liquid to demonstrate that the monthly average true vapor pressure of the stored liquid is <11.1 psia.
Internal Floating Roof Tank subject to OAC 1111			
5.12.43 VOC	OAC 1111 Condition 1 (2/16/2012)	IFR with Double Seals as BACT Ethanol storage Tank 70x1 shall be equipped with an internal floating roof with both primary and secondary seals.	Records documenting the roof type, seals, and monitoring shall be maintained while the storage tank is in ethanol service.
Internal Floating Roof Tank subject MACT Group 2 Tank Recordkeeping Provisions			
Note: 40 CFR 63 NESHAP General Provisions in Section 3 apply to the affected facilities.			
5.12.44	40 CFR 63 Subpart CC 63.655(i)(1)(vi) (2/4/2020) → 40 CFR 63 Subpart WW 63.1065(a) (6/29/2016)	Refinery MACT Group 2 Tank Records Maintain a record of the dimensions and storage capacity of each Group 2 storage vessel. If the storage vessel is determined to be Group 2 because it has a weight percent total organic HAP in the stored liquid of ≤ 4%, keep a record of the basis for this determination.	Maintain a record of the dimensions and storage capacity of each Group 2 tank. If the tank is designated as Group 2 based on the HAP content of the stored liquid, maintain a record of data, assumptions, and procedures used to make this determination.

Refinery MACT Group 2 Tanks Storing Low VP Liquids

AOP Tank Category 8 - Tanks storing Low VP Liquids and Considered Group 2 Tanks under 40 CFR 63 Subpart CC Fixed Roof Tanks 800X140, 800X146, 800X147, 800X148, 800X149, 800X150, 550X103, 550X104, 550X105, 300X36, 300X37, 300X38, 300X39, 100X91, 50X300, 50X301, 50X302, 50X303, 6X10, and 6X11 External Floating Roof Tanks (none) Internal Floating Roof Tanks 960X1 and 550X100			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping & Reporting**
Note: 40 CFR 63 NESHAP General Provisions in Section 3 apply to the affected facilities.			
5.12.45	40 CFR 63 Subpart CC 63.655(i)(1)(vi) (2/4/2020) → 40 CFR 63 Subpart WW 63.1065(a) (6/29/2016)	Refinery MACT Group 2 Tank Records Maintain a record of the dimensions and storage capacity of each Group 2 storage vessel. If the storage vessel is determined to be Group 2 because it has a weight percent total organic HAP in the stored liquid of ≤ 4%, keep a record of the basis for this determination.	Maintain a record of the dimensions and storage capacity of each Group 2 tank. If the tank is designated as Group 2 based on the HAP content of the stored liquid, maintain a record of data, assumptions, and procedures used to make this determination.

Equipment Components Associated with Storage Tanks

Storage Vessel Tank Farm (Offplot) – Equipment Components			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping & Reporting**
Note: 40 CFR 63 NESHAP General Provisions in Section 3 apply to the affected facilities.			
5.12.46 HAP	40 CFR 63 Subpart CC 63.648 (2/4/2020) → 40 CFR 60 Subpart VV 60.482 - 60.487 (11/16/2007)	MACT for Equipment Leaks Equipment in HAP service shall be in an LDAR program conducted in accordance with 40 CFR 60 Subpart VV.	Conduct an LDAR program on equipment in HAP service in accordance with AOP Terms 6.2.1 through 6.2.13.

SECTION 6 COMMONLY REFERENCED REQUIREMENTS

Section 6 of this AOP contains requirements that are common to various emission units as referenced in Section 5.

The requirements specified in the "Citation" column, and incorporated herein by reference, are federally enforceable. The "Description" column is a brief description of the applicable requirements for informational purposes only and is not enforceable. Periodic or continuous monitoring requirements (including testing) are specified in the "Monitoring, Recordkeeping, & Reporting" column, which identifies monitoring, recordkeeping, and reporting (MR&R) obligations the source must perform as required by WAC 173-401-605(1) and 615(1) and (2) or the underlying requirement. MR&R obligations do not apply to insignificant emission units.

The requirements in the MR&R column labeled "*Directly Enforceable:*" are legally enforceable requirements added under the NWCAA's "gap-filling" authority. Other requirements not labeled "*Directly Enforceable:*" are brief descriptions of the regulatory requirements for informational purposes and are not enforceable. Unless the text of the MR&R column is specifically identified to be directly enforceable, the language of the cited regulation takes precedence over a paraphrased requirement.

All of the federal regulations listed in Section 6 have been adopted by reference in Section 104.2 of the NWCAA Regulation. NWCAA 104.2 was last amended by the agency on August 11, 2016.

The commonly referenced requirements are presented as follows.

6.1 Monitoring, recordkeeping, and reporting requirements for visible emissions from combustion units.

6.2 LDAR requirements of 40 CFR 60 Subpart VV as prescribed by 40 CFR 60 Subpart GGG for equipment components in VOC Service, and as prescribed by 40 CFR 63 Subpart CC for equipment components in HAP Service.

6.3 LDAR requirements of 40 CFR 60 Subpart VV as modified by OAC 727a, OAC 733e, and OAC 795a for Equipment Components in VOC and/or HAP service.

6.4 LDAR requirements of 40 CFR 60 Subpart VVa as prescribed by 40 CFR 60 Subpart GGGa for equipment components in VOC Service.

6.5 LDAR requirements of NWCAA 580.8 for pressure relief valves in VOC Service.

6.6 Effluent Drain System Requirements of 40 CFR 60 Subpart QQQ.

6.7 Heater and Boiler requirements of 40 CFR 63 Subpart DDDDD.

6.1 Visible Emissions Monitoring

At least once during each calendar month, conduct a qualitative visible emission observation of emission units at the refinery. Record each observation including the date and time, background conditions, and name of the observer. The frequency of visible emission observations may be reduced from monthly to quarterly if no visible emissions are observed for six consecutive months. If visible emissions are detected during any quarterly observation, the observation frequency shall revert to monthly.

For each emission unit observed with visual emissions during the observation, maintain a record of any operational failures, date and time of the failures, the duration that visible emissions occurred, and any actions taken to reduce visual emissions. Within 24 hours of observing visible emissions, take one or more of the following actions.

- Take corrective action that returns emissions to a non-visible level as soon as practicable.
- Shutdown the emitting unit as soon as practicable until corrective action can be taken to mitigate visible emissions.
- Have a certified opacity observer determine visual emissions from the heater or boiler using the applicable opacity determination method[1]. If the certified observation finds that the heater or boiler exceeds an applicable opacity standard, observations shall be conducted at least once per calendar day that the unit operates until visible emissions are determined to be in compliance with all applicable opacity standards. Maintain a record of each certified opacity observation that includes all data required to conduct the applicable opacity determination method.

  If a certified visible emissions observer is not available to read opacity within 24 hours of observed emissions, it shall be assumed that visible emissions from the stack exceed all applicable opacity standards.

Compliance with this permit term does not relieve the owner or operator of the source from the responsibility to maintain continuous compliance with all applicable visible emission and particulate matter standards, nor from the resulting liabilities for failure to comply.

[1] If the applicable method is 40 CFR 60 Appendix A Method 9, the observation shall be for at least six consecutive minutes. If the applicable method is Washington Department of Ecology Source Test Method 9A or 40 CFR 60 Appendix A Method 22, the observation shall be for at least sixty consecutive minutes.

6.2 LDAR Requirements under 40 CFR 60 Subpart VV

LDAR Requirements under 40 CFR 60 Subpart VV			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping & Reporting**
6.2.1 VOC/ HAP	As referenced: 40 CFR 60 Subpart VV 60.482-7, 60.483-2, 60.485(a), (b) & (h), 60.486(a), (b), (c), (e), (f) & (g) and 60.487(a), (c) & (d) (11/16/2007) WAC 173-401-630(1) (3/5/16)	Valves in Gas/Vapor Service and in Light Liquid Service Monitor valves monthly for leaks at ≥ 10,000 ppm VOC, except as provided for valves designated for no detectable emissions, as unsafe-to-monitor, or as difficult-to-monitor. Monitoring may be relaxed to quarterly for each valve monitored and found not to be leaking for two consecutive months. When a leak is detected, monitoring shall revert back to monthly. Quarterly monitoring may be relaxed to semiannually in process units found to be leaking ≤ 2% for two consecutive quarters. Monitoring may be relaxed to annually in process units found to be leaking ≤ 2% for five consecutive quarters. Monitoring with a process unit shall revert to monthly when the leak rate is found to be > 2%. Leaks shall be repaired as soon as practicable and no less than 15 days after the leak is detected, except as provided in AOP Term 6.2.9 for delay of repairs. A first attempt at repair shall be made no later than 5 days after the leak is detected. New valves installed after initial startup of a process unit must be monitored within 30 days, unless the valve is replacing a leaking valve, or the valve is assumed to be leaking.	Monthly, instrument monitor using EPA Method 21. Calibrate the instrument each day before use with zero air (< 10 ppm) and about, but no less than 10,000 ppm using a mixture of methane or n-hexane and air. Keep a record of the percent of valves found leaking during each leak detection period. Keep a record of the monitoring schedule. When a leak is detected, comply with the recordkeeping requirements in AOP Term 6.2.12. Keep a monitoring log with the information required in 60.486(e). Submit a 90-day advanced notice before using relaxed monitoring provisions. Submit semiannual monitoring reports in accordance with AOP Term 6.2.13 ***Directly Enforceable:*** For those units complying a lower leak definition, calibrate using a mixture of n-hexane or methane and air at a concentration approximately equal to the leak definition.

LDAR Requirements under 40 CFR 60 Subpart VV			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping & Reporting**
6.2.2 VOC/ HAP	As referenced: 40 CFR 60 Subpart VV 60.482-2(a), (b), (c), (e), (f), & (g), 60.485(a) & (b), 60.486(a), (b), (c), (e), & (f) and 60.487(a) & (c) (11/16/2007) WAC 173-401-630(1) (3/5/2016) Also as modified by specifically applicable Permit Terms in Section 5	<u>Pumps in Light Liquid Service without Dual Mechanical Seals</u> Visually inspect each calendar week. If there are visible indications of liquids dripping from the pump seal, monitor the pump within 5 days or designate that a leak is detected, except when the pump was monitored during the previous week and found to be less than the leak definition and the pump was not repaired since that monitoring event. Monitor each pump monthly to detect leaks. A pump that begins operation after the initial startup date 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 or except that is provided for as pumps designated as no detectable emissions, equipped with a closed vent system, or unsafe-to-monitor. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected. 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 under delay of repair in AOP Term 6.2.9. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.	Each calendar week, visually inspect each pump for indications of liquids dripping from the pump seal. Monthly, instrument monitor using EPA Method 21. The instrument shall be calibrated before use each day. The following calibration gases shall be used: Zero air (less than 10 ppm of hydrocarbon in air), and a mixture of methane or n-hexane and air at a concentration of about, but not less than, 10,000 ppm methane or n-hexane. When a leak is detected, comply with AOP Term 6.2.12. Record in a log in a readily accessible location the information required in 60.486(e). Submit a semiannual report as required in AOP Term 6.2.13. ***Directly Enforceable:*** For those units complying with a lower leak definition, calibrate using a mixture of n-hexane or methane and air at a concentration approximately equal to the leak definition.

LDAR Requirements under 40 CFR 60 Subpart VV			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping & Reporting**
6.2.3 VOC/ HAP	As referenced: 40 CFR 60 Subpart VV 60.482-2(d), (e), (f) & (g), 60.485(a) & (b), 60.486(a), (b), (c), (e), (f) & (h) and 60.487(a) & (c) (11/16/2007) WAC 173-401-630(1) (3/5/2016) Also as modified by specifically applicable Permit Terms in Section 5	<u>Pumps in Light Liquid Service with Dual Mechanical Seals Including a Barrier Fluid System</u> Operate the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure, route barrier fluid degassing reservoir to process or fuel gas system or control device or purge the barrier fluid into a process stream with zero VOC emissions to the atmosphere. The barrier fluid system should be in heavy liquid service or not in VOC service. Equip each barrier fluid system with a sensor that will detect failure of the seal system, the barrier fluid system, or both. Check each sensor daily or equip the sensor with an audible alarm. Determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both. If the sensor indicates a failure of the seal system, the barrier fluid system, or both, a leak is detected. If there are indications of liquids dripping from the pump seal, monitor the pump within 5 days or designate that a leak is detected. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected. Repair a leak as soon as practicable, but not later than 15 calendar days after it is detected, except as provided under delay of repair in AOP Term 6.2.9. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected. A pump equipped with a closed vent system capable of capturing and transporting any leakage from the seal(s) to a process or fuel gas system or control device is exempt from this requirement.	Each calendar week, visually inspect each pump for indications of liquids dripping from the pump seal. If the sensor is not equipped with an audible alarm, check sensor daily. When appropriate, instrument monitor using EPA Method 21. The instrument used to monitor leaks shall be calibrated before use each day of use. The following calibration gases shall be used: Zero air (less than 10 ppm of hydrocarbon in air); and a mixture of methane or n-hexane and air at a concentration of about, but not less than, 10,000 ppm methane or n-hexane. The design criterion required must be recorded in a log and kept readily accessible. Also record an explanation of the design criterion and any changes to the criterion (and reasons for the changes). When a leak is detected, comply with AOP Term 6.2.12. Record in a log in a readily accessible location the information required in 60.486(e). Submit a semiannual report as required in AOP Term 6.2.13. ***Directly Enforceable:*** For those units complying with a lower leak definition, calibrate using a mixture of n-hexane or methane and air at a concentration approximately equal to the leak definition.

LDAR Requirements under 40 CFR 60 Subpart VV			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping & Reporting**
6.2.4 VOC/ HAP	As referenced: 40 CFR 60 Subpart VV 60.482-3, 60.486(a), (b), (c), (e) and (h) and 60.487(a) & (c) (11/16/2007)	<u>Compressors</u> Equip each compressor with a seal system that includes a barrier fluid system and that prevents leakage of VOC to the atmosphere. Operate the seal system with a barrier fluid at a pressure that is greater than the compressor stuffing box pressure; or route to a process or fuel gas system or connect by a closed vent system to a control device; or purge the barrier fluid into a process stream with zero VOC emissions to the atmosphere. The barrier fluid system shall be in heavy liquid service or shall not be in VOC service. Equip each barrier fluid system with a sensor that will detect failure of the seal system, the barrier fluid system, or both. Check each sensor daily or equip the sensor with an audible alarm. Determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both. If the sensor indicates failure of the seal system, the barrier fluid system, or both, a leak is detected. Repair a leak as soon as practicable, but not later than 15 calendar days after it is detected, except as provided under delay of repair in AOP Term 6.2.9. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected. A compressor 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 is exempt from this requirement.	If the sensor is not equipped with an audible alarm, check sensor daily. When a leak is detected, comply with AOP Term 6.2.12. The design criterion required must be recorded in a log and kept readily accessible. Also record an explanation of the design criterion and any changes to the criterion (and reasons for the changes). Record in a log in a readily accessible location the information required in 60.486(e). Submit a semiannual report as required in AOP Term 6.2.13.

LDAR Requirements under 40 CFR 60 Subpart VV			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping & Reporting**
6.2.5 VOC/ HAP	As referenced: 40 CFR 60 Subpart VV 60.482-5 and 60.486(a) & (e) (11/16/2007)	Sampling Connection Systems Each sampling connection system shall be equipped with a closed-purge, closed-loop, or closed-vent system (except for in situ sampling systems and sampling systems without purges). Gases displaced during sample container filling are not required to be collected or captured. Containers that are part of a closed-purge system must be covered or closed when not being filled or emptied. 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. The purged process fluid must be returned directly to the process line; collected and recycled to a process; captured and transported to a control device; or collected and transported to a waste management unit subject to 40 CFR 63 Subpart G, or a treatment, storage, or disposal facility submit to 40 CFR 262, 264, 265, or 266, or a facility permitted, licensed, or registered by a State to manage municipal or industrial solid waste, if the process fluids are not hazardous waste, or a waste management unit operated in compliance with 61.348(a).	Record in a log in a readily accessible location the information required in 60.486(e).

LDAR Requirements under 40 CFR 60 Subpart VV			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping & Reporting**
6.2.6 VOC/ HAP	As referenced: 40 CFR 60 Subpart VV 60.482-6 and 60.486(a) & (e) (11/16/2007)	<u>Open-ended Valves or Lines</u> Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve that seals the open end at all times except during operations requiring process fluid flow. 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. 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 remain closed at other times. 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. Likewise, open-ended valves or lines containing materials which would polymerize or would present an explosion, serious overpressure, or other safety hazard if capped or equipped with a double block and bleed system is exempt.	Record in a log in a readily accessible location the information required in 60.486(e).
6.2.7 VOC/ HAP	As referenced: 40 CFR 60 Subpart VV 60.482-8, 60.485(a) & (b) and 60.486(a), (b), (c) & (e) (11/16/2007) WAC 173-401-630(1) (3/5/16) Also as modified by specifically applicable Permit Terms in Section 5	<u>Pumps and Valves in Heavy Liquid Service, Pressure Relief Devices in Light Liquid or Heavy Liquid Service, and Connectors</u> If evidence of a potential leak is found by visual, audible, olfactory, or any other detection method, within 5 days, either monitor using EPA Method 21 or eliminate the visual, audible, olfactory, or other indication of potential leak. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected. 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 under delay of repair in AOP Term 6.2.9. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.	Instrument monitor using EPA Method 21. The instrument used to monitor leaks shall be calibrated before use each day of use. The following calibration gases shall be used: Zero air (less than 10 ppm of hydrocarbon in air); and a mixture of methane or n-hexane and air at a concentration of about, but not less than, 10,000 ppm methane or n-hexane. When a leak is detected, comply with AOP Term 6.2.12. Record in a log in a readily accessible location the information required in 60.486(e). ***Directly Enforceable:*** For those units complying with a lower leak definition, calibrate using a mixture of n-hexane or methane and air at a concentration approximately equal to the leak definition.

LDAR Requirements under 40 CFR 60 Subpart VV			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping & Reporting**
6.2.8 VOC/ HAP	40 CFR 60 Subpart VV 60.482-4, 60.485(a), (b) & (c) and 60.486(a) & (e) (11/16/2007)	Pressure Relief Devices Except during pressure releases, each pressure relief device in gas/vapor service that vents to the atmosphere shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background. After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions as soon as practicable, but no later than 5 calendar days after the pressure release, except as provided under delay of repair provisions. Any pressure relief device equipped with a rupture disk upstream of the pressure relief device is exempt from this requirement, provided that after each release a new rupture disk is installed as soon as practicable, but no later than 5 calendar days after each pressure release.	Instrument monitor using EPA Method 21. 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 is compared with 500 ppm for determining compliance. The instrument used to monitor leaks shall be calibrated before use each day of use. The following calibration gases shall be used: Zero air (less than 10 ppm of hydrocarbon in air); and a mixture of methane or n-hexane and air at a concentration of about, but not less than, 10,000 ppm methane or n-hexane. Record in a log in a readily accessible location the information required in 60.486(e).

LDAR Requirements under 40 CFR 60 Subpart VV			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping & Reporting**
6.2.9 VOC/ HAP	As referenced: 40 CFR 60 Subpart VV 60.482-9, 60.486(a) & (c) and 60.487(a) & (c) (11/16/2007)	Delay of Repair 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 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. Delay is also allowed for equipment isolated from the process and which does not remain in VOC service. Valves: Delay of repair will be allowed if (1) it is demonstrated that 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. Delay of repair beyond a process unit shutdown will be allowed if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and supplies had been sufficiently stocked before they 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. Pumps: Delay of repair 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. A leaking valve or pump may be considered to be repaired and no longer subject to delay of repair requirements if two consecutive monthly instrument readings are below the leak definition.	When each leak is detected and a delay of repair is utilized, record in a log in a readily accessible location: "repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery, the signature of the person whose decision it was that repair could not be effected without a process shutdown, the expected date of successful repair of the leak if a leak is not repaired within 15 days, dates of process unit shutdowns that occur while the equipment is unrepaired, and date of successful repair of the leak. Submit a semiannual report as required in AOP Term 6.2.13.

LDAR Requirements under 40 CFR 60 Subpart VV			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping & Reporting**
6.2.10 VOC/ HAP	As referenced: 40 CFR 60 Subpart VV 60.482-10(a), (d), (e), & (m) (12/14/00); 60.485(a) & (g) (11/16/2007); and 60.486(a), (d) & (e) (11/16/2007) → 40 CFR 60 Subpart A 60.18 (12/22/2008) as revised by 40 CFR 63 Subpart CC 63.640(s) (2/4/2020)	Standards for Control Devices Flares used as a control device shall comply with the Refinery MACT requirements of 63.670.	Comply with AOP Terms 5.8.1 through 5.8.12 as applicable. Monitor control devices used to comply to ensure that they are operated and maintained in conformance with their designs. For the control devices, record and keep in a readily accessible location detailed schematics, design specifications, and piping and instrumentation diagrams; dates and descriptions of any changes in the design specifications; periods when the control devices are not operated as designed including periods when a flare pilot light does not have a flame; and dates of startups and shutdowns of the control devices. Record in a log in a readily accessible location the information required in 60.486(e).

LDAR Requirements under 40 CFR 60 Subpart VV			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping & Reporting**
6.2.11 VOC/ HAP	As referenced: 40 CFR 60 Subpart VV 60.482-10(a), (f) - (m) (12/14/2000), 60.485(a) & (b) and 60.486(a), (d) & (e) (11/16/2007)	Inspections of Closed Vent Systems For closed vent systems constructed of hard piping, conduct annual visual inspections for visible, audible, or olfactory indications of leaks. For closed vent systems constructed of ductwork, conduct annual instrument monitoring inspections. If an instrument reading of 500 ppm above background is detected or by visual inspection, a leak is detected. 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 under delay of repair. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected. A delay of repair is allowed if the repair is technically infeasible without a process unit shutdown or if it is determined 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. If a closed vent system is operated under a vacuum, it is exempt from the monitoring requirement. If it is designated as unsafe to inspect or difficult to inspect, it is also exempt from the inspection requirements if it is identified and a written plan in place for inspection. Equipment designated as difficult to inspect must not exceed 3% of the total number of equipment in the system.	Instrument monitor using EPA Method 21. The instrument used to monitor leaks shall be calibrated before use each day of use. The following calibration gases shall be used: Zero air (less than 10 ppm of hydrocarbon in air); and a mixture of methane or n-hexane and air at a concentration of about, but not less than, 10,000 ppm methane or n-hexane. For each visual and instrumental inspection conducted during which no leaks are detected, record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected. If a leak is detected, record the monitoring instrument and operator identification numbers, the leaking equipment identification number, the date the leak was detected, the leak value in ppm, the date of each attempt at repair, and the repair methods used. If a delay of repair is utilized; record the reason for the delay and the signature of the person whose decision it was that repair could not be done without a process shutdown, the expected date of successful repair, the dates of process unit shutdowns that occurred while the equipment was unrepaired, and the date of successful repair. For the closed vent systems, record and keep in a readily accessible location detailed schematics, design specifications, and piping and instrumentation diagrams; dates and descriptions of any changes in the design specifications; periods when the closed vent systems are not operated as designed; and dates of startups and shutdowns of the closed vent systems. Record in a log in a readily accessible location the information required in 60.486(e).

LDAR Requirements under 40 CFR 60 Subpart VV			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping & Reporting**
6.2.12 VOC/ HAP	As referenced: 40 CFR 60 Subpart VV 60.486(a), (b) & (c) (11/16/2007)	Maintain Records for Equipment Found Leaking When each leak is detected, attach a weatherproof and readily visible identification, marked with the equipment identification number to the leaking equipment. The identification on a valve may be removed after it has been monitored for 2 successive months and no leak has been detected. Identification on equipment except valves may be removed after it has been repaired.	When each leak is detected, record in a log in a readily accessible location: the instrument and operator identification numbers and equipment identification number, date of leak detection and each attempt at repair, repair methods applied for each attempt, instrument leak reading, and date of successful repair of leak.
6.2.13 VOC/ HAP	As referenced: 40 CFR 60 Subpart VV 60.487(a) & (c) (11/16/2007)	Semiannual Report Submit semiannual reports to the NWCAA summarizing the results of LDAR monitoring.	The semiannual reports shall include the following information: (1) Process unit identification. (2) For each month during the semiannual reporting period, (i) Number of valves for which leaks were detected as described in 60.482-7(b) or 60.483-2, (ii) Number of valves for which leaks were not repaired as required in 60.482-7(d)(1), (iii) Number of pumps for which leaks were detected as described in 60.482-2(b), (d)(4)(ii)(A) or (B), or (d)(5)(iii), (iv) Number of pumps for which leaks were not repaired as required in 60.482-2(c)(1) and (d)(6), (v) Number of compressors for which leaks were detected as described in 60.482-3(f), (vi) Number of compressors for which leaks were not repaired as required in 60.482-3(g)(1), and (vii) 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 in the initial semiannual report if changes have occurred since the initial report or subsequent revisions to the initial report.

6.3 LDAR Requirements under Modified 40 CFR 60 Subpart VV

LDAR Requirements under Modified 40 CFR 60 Subpart VV per OAC 727a, OAC 733f, and OAC 795a			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping & Reporting**
6.3.1 VOC/ HAP	As referenced: 40 CFR 60 Subpart VV 60.482-7, 60.483-2, 60.485(a), (b) & (h), 60.486(a), (b), (c), (e), (f) & (g) and 60.487(a), (c) & (d) (11/16/2007) as revised by OAC 727a Condition 1 (6/9/16) OAC 733e Condition 1 (9/30/16) OAC 795a Condition 1 (6/9/16) OAC 1047a Condition 1 (10/21/14)	Valves in Gas/Vapor Service and in Light Liquid Service Monitor valves monthly for leaks at ≥ 1,000 ppm VOC, except as provided for valves designated for no detectable emissions, as unsafe-to-monitor, or as difficult-to-monitor. Monitoring may be relaxed to quarterly for each valve monitored and found not to be leaking for two consecutive months. When a leak is detected, monitoring shall revert back to monthly. Quarterly monitoring may be relaxed to semiannually in process units found to be leaking ≤ 2% for two consecutive quarters. Monitoring may be relaxed to annually in process units found to be leaking ≤ 2% for five consecutive quarters. Monitoring with a process unit shall revert to monthly when the leak rate is found to be > 2%. Leaks shall be repaired as soon as practicable and no less than 15 days after the leak is detected, except as provided in AOP Term 6.2.9 for delay of repairs. A first attempt at repair shall be made no later than 5 days after the leak is detected. New valves installed after initial startup of a process unit must be monitored within 30 days, unless the valve is replacing a leaking valve, or the valve is assumed to be leaking.	Monthly, instrument monitor using EPA Method 21. Calibrate the instrument each day before use with zero air (< 10 ppm) and no more than 3,000 ppm using a mixture of methane or n-hexane and air. 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 3,000 ppm 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 owner or operator need not calibrate the scales that will not be used during that day's monitoring. A calibration drift assessment shall be performed, at a minimum, at the end of each monitoring day. Check the instrument using the same calibration gases that were used to calibrate the instrument before use. Follow the procedures specified in Method 21 of Appendix A–7, 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 60.486a(e)(8). Calculate the average algebraic difference between the three-meter readings and the most recent calibration value. Divide this algebraic difference by the initial calibration value and multiply by 100 to express the calibration drift as a percentage. If any calibration drift assessment shows a negative drift of > 10% from the initial calibration value, then all equipment monitored since the last calibration with instrument readings below the appropriate leak definition and above the leak definition multiplied by (100 minus the percent of negative drift/divided by 100) must be re-monitored. Keep a record of the percent of valves found leaking during each leak detection period. Keep a record of the monitoring schedule. When a leak is detected, comply with the recordkeeping requirements in AOP Term 6.2.12. Keep a monitoring log with the information required in 60.486(e). Submit a 90-day advanced notice before using relaxed monitoring provisions. Submit semiannual monitoring reports in accordance with AOP Term 6.2.13

LDAR Requirements under Modified 40 CFR 60 Subpart VV per OAC 727a, OAC 733f, and OAC 795a			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping & Reporting**
6.3.2 VOC/ HAP	As referenced: 40 CFR 60 Subpart VV 60.482-2(a), (b), (c), (e), (f), & (g), 60.485(a) & (b), 60.486(a), (b), (c), (e), & (f) and 60.487(a) & (c) (11/16/2007) as revised by OAC 727a Condition 1 (6/9/16) OAC 733f Condition 1 (12/10/2019) OAC 795a Condition 1 (6/9/16)	<u>Pumps in Light Liquid Service without Dual Mechanical Seals</u> Visually inspect each calendar week. If there are visible indications of liquids dripping from the pump seal, monitor the pump within 5 days or designate that a leak is detected, except when the pump was monitored during the previous week and found to be less than the leak definition and the pump was not repaired since that monitoring event. Monitor each pump monthly to detect leaks. A pump that begins operation after the initial startup date 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 or except that is provided for as pumps designated as no detectable emissions, equipped with a closed vent system, or unsafe-to-monitor. If an instrument reading of 2,000 ppm or greater is measured, a leak is detected. 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 under delay of repair in AOP Term 6.2.9. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.	Each calendar week, visually inspect each pump for indications of liquids dripping from the pump seal. Monthly, instrument monitor using EPA Method 21. The instrument shall be calibrated before use each day. The following calibration gases shall be used: Zero air (less than 10 ppm of hydrocarbon in air), and a mixture of methane or n-hexane and air at a concentration no more than 4,000 ppm. 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 4,000 ppm 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 owner or operator need not calibrate the scales that will not be used during that day's monitoring. A calibration drift assessment shall be performed, at a minimum, at the end of each monitoring day. Check the instrument using the same calibration gases that were used to calibrate the instrument before use. Follow the procedures specified in Method 21 of Appendix A–7, 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 60.486a(e)(8). Calculate the average algebraic difference between the three-meter readings and the most recent calibration value. Divide this algebraic difference by the initial calibration value and multiply by 100 to express the calibration drift as a percentage. If any calibration drift assessment shows a negative drift of more than 10 percent from the initial calibration value, then all equipment monitored since the last calibration with instrument readings below the appropriate leak definition and above the leak definition multiplied by (100 minus the percent of negative drift/divided by 100) must be re-monitored. When a leak is detected, comply with AOP Term 6.2.12. Record in a log in a readily accessible location the information required in 60.486(e). Submit a semiannual report as required in AOP Term 6.2.13.

6.3.3 VOC/ HAP	As referenced: 40 CFR 60 Subpart VV 60.482-2(d), (e), (f) & (g) (11/16/2007); 60.485(a) & (b) (11/16/2007); 60.486(a), (b), (c), (e), (f) & (h) (11/16/2007); and 60.487(a) & (c) (11/16/2007) as revised by OAC 727a Condition 1 (6/9/16) OAC 733f Condition 1 (12/10/2019) OAC 795a Condition 1 (6/9/16)	<u>Pumps in Light Liquid Service with Dual Mechanical Seals Including a Barrier Fluid System</u> Operate the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure, route barrier fluid degassing reservoir to process or fuel gas system or control device or purge the barrier fluid into a process stream with zero VOC emissions to the atmosphere. The barrier fluid system should be in heavy liquid service or not in VOC service. Equip each barrier fluid system with a sensor that will detect failure of the seal system, the barrier fluid system, or both. Check each sensor daily or equip the sensor with an audible alarm. Determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both. If the sensor indicates a failure of the seal system, the barrier fluid system, or both, a leak is detected. If there are indications of liquids dripping from the pump seal, monitor the pump within 5 days or designate that a leak is detected. If an instrument reading of 2,000 ppm or greater is measured, a leak is detected. Repair a leak as soon as practicable, but not later than 15 calendar days after it is detected, except as provided under delay of repair in AOP Term 6.2.9. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected. A pump equipped with a closed vent system capable of capturing and transporting any leakage from the seal(s) to a process or fuel gas system or control device is exempt from this requirement.	Each calendar week, visually inspect each pump for indications of liquids dripping from the pump seal. If the sensor is not equipped with an audible alarm, check sensor daily. When appropriate, instrument monitor using EPA Method 21. The instrument shall be calibrated before use each day. The following calibration gases shall be used: Zero air (less than 10 ppm of hydrocarbon in air), and a mixture of methane or n-hexane and air at a concentration no more than 4,000 ppm. 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 4,000 ppm 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 owner or operator need not calibrate the scales that will not be used during that day's monitoring. A calibration drift assessment shall be performed, at a minimum, at the end of each monitoring day. Check the instrument using the same calibration gases that were used to calibrate the instrument before use. Follow the procedures specified in Method 21 of Appendix A–7, 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 60.486a(e)(8). Calculate the average algebraic difference between the three-meter readings and the most recent calibration value. Divide this algebraic difference by the initial calibration value and multiply by 100 to express the calibration drift as a percentage. If any calibration drift assessment shows a negative drift of more than 10 percent from the initial calibration value, then all equipment monitored since the last calibration with instrument readings below the appropriate leak definition and above the leak definition multiplied by (100 minus the percent of negative drift/divided by 100) must be re-monitored. The design criterion required must be recorded in a log and kept readily accessible. Also record an explanation of the design criterion and any changes to the criterion (and reasons for the changes). When a leak is detected, comply with AOP Term 6.2.12. Record in a log in a readily accessible location the information required in 60.486(e). Submit a semiannual report as required in AOP Term 6.2.13.

6.4 LDAR Requirements under 40 CFR 60 Subpart VVa

LDAR Requirements under 40 CFR 60 Subpart VVa			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping & Reporting**
6.4.1 VOC/ HAP	As referenced: 40 CFR 60 Subpart VVa 60.482-7a, 60.483-2a, 60.485a(a), (b) & (h), 60.486a(a), (b), (c), (e), (f) & (g) and 60.487a(a), (c) & (d) (11/16/2007)	Valves in Gas/Vapor Service and in Light Liquid Service Monitor valves monthly for leaks at ≥ 1,000 ppm VOC, except as provided for valves designated for no detectable emissions, as unsafe-to-monitor, or as difficult-to-monitor. Monitoring may be relaxed to quarterly for each valve monitored and found not to be leaking for two consecutive months. When a leak is detected, monitoring shall revert back to monthly. Quarterly monitoring may be relaxed to semiannually in process units found to be leaking ≤ 2% for two consecutive quarters. Monitoring may be relaxed to annually in process units found to be leaking ≤ 2% for five consecutive quarters. Monitoring with a process unit shall revert to monthly when the leak rate is found to be > 2%. Leaks shall be repaired as soon as practicable and no less than 15 days after the leak is detected, except as provided in AOP Term 6.4.9 for delay of repairs. A first attempt at repair shall be made no later than 5 days after the leak is detected. New valves installed after initial startup of a process unit must be monitored within 30 days, unless the valve is replacing a leaking valve, or the valve is assumed to be leaking.	Monthly, instrument monitor using EPA Method 21. Calibrate the instrument each day before use and a calibration drift assessment shall be performed at the end of each monitoring day. Calibrate with zero air (< 10 ppm) and no more than 3,000 ppm using a mixture of methane or n-hexane and air. Keep a record of the percent of valves found leaking during each leak detection period. Keep a record of the monitoring schedule. When a leak is detected, comply with the recordkeeping requirements in AOP Term 6.4.12. Keep a monitoring log with the information required in 60.486(e). Submit a 90-day advanced notice before using relaxed monitoring provisions. Submit semiannual monitoring reports in accordance with AOP Term 6.4.13

LDAR Requirements under 40 CFR 60 Subpart VVa			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping & Reporting**
6.4.2 VOC/ HAP	As referenced: 40 CFR 60 Subpart VVa 60.482-2a(a), (b), (c), (e), (f), & (g), 60.485a(a) & (b), 60.486a(a), (b), (c), (e) & (f) and 60.487a(a) & (c) (11/16/2007)	<u>Pumps in Light Liquid Service without Dual Mechanical Seals</u> Visually inspect each calendar week. If there are visible indications of liquids dripping from the pump seal, monitor the pump within 5 days or designate that a leak is detected, except when the pump was monitored during the previous week and found to be less than the leak definition and the pump was not repaired since that monitoring event. Monitor each pump monthly to detect leaks. A pump that begins operation after the initial startup date 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 or except that is provided for as pumps designated as no detectable emissions, equipped with a closed vent system, or unsafe-to-monitor. A leak is detected if an instrument reading is measured of 2,000 ppm or greater for pumps. 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 under delay of repair in AOP Term 6.4.9. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.	Each calendar week, visually inspect each pump for indications of liquids dripping from the pump seal. Monthly, instrument monitor using EPA Method 21. The instrument shall be calibrated before use each day and a calibration drift assessment shall be performed at the end of each monitoring day. The following calibration gases shall be used: Zero air (less than 10 ppm of hydrocarbon in air), and 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. For each monitoring event, record the monitoring instrument identification, operator identification, equipment identification, date of monitoring, and instrument reading. When a leak is detected, comply with AOP Term 6.4.12. Record in a log in a readily accessible location the information required in 60.486a(e). Submit a semiannual report as required in AOP Term 6.4.13.

LDAR Requirements under 40 CFR 60 Subpart VVa			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping & Reporting**
6.4.3 VOC/ HAP	As referenced: 40 CFR 60 Subpart VVa 60.482-2a(d), (e), (f) & (g), 60.485a(a) & (b), 60.486a(a), (b), (c), (e), (f), & (h) and 60.487a(a) & (c) (11/16/2007)	<u>Pumps in Light Liquid Service with Dual Mechanical Seals Including a Barrier Fluid System</u> Operate the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure, route barrier fluid degassing reservoir to process or fuel gas system or control device or purge the barrier fluid into a process stream with zero VOC emissions to the atmosphere. The barrier fluid system should be in heavy liquid service or not in VOC service. Equip each barrier fluid system with a sensor that will detect failure of the seal system, the barrier fluid system, or both. Check each sensor daily or equip the sensor with an audible alarm. Determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both. If the sensor indicates a failure of the seal system, the barrier fluid system, or both, a leak is detected. If there are indications of liquids dripping from the pump seal, monitor the pump within 5 days or designate that a leak is detected. If an instrument reading of 2,000 ppm or greater is measured, a leak is detected. Repair a leak as soon as practicable, but not later than 15 calendar days after it is detected, except as provided under delay of repair in AOP Term 6.4.9. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected. A pump equipped with a closed vent system capable of capturing and transporting any leakage from the seal(s) to a process or fuel gas system or control device is exempt from this requirement.	Each calendar week, visually inspect each pump for indications of liquids dripping from the pump seal. If the sensor is not equipped with an audible alarm, check sensor daily. When appropriate, instrument monitor using EPA Method 21. The instrument shall be calibrated before use each day and a calibration drift assessment shall be performed at the end of each monitoring day. The following calibration gases shall be used: Zero air (less than 10 ppm of hydrocarbon in air), and 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. The design criterion required must be recorded in a log and kept readily accessible. Also record an explanation of the design criterion and any changes to the criterion (and reasons for the changes). For each monitoring event, record the monitoring instrument identification, operator identification, equipment identification, date of monitoring, and instrument reading. When a leak is detected, comply with AOP Term 6.4.12. Record in a log in a readily accessible location the information required in 60.486a(e). Submit a semiannual report as required in AOP Term 6.4.13.

LDAR Requirements under 40 CFR 60 Subpart VVa			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping & Reporting**
6.4.4 VOC/ HAP	As referenced: 40 CFR 60 Subpart VVa 60.482-3a, 60.486a(a), (b), (c), (e) and (h), and 60.487a(a) & (c) (11/16/2007)	Compressors Equip each compressor with a seal system that includes a barrier fluid system and that prevents leakage of VOC to the atmosphere. Operate the seal system with a barrier fluid at a pressure that is greater than the compressor stuffing box pressure; or route to a process or fuel gas system or connect by a closed vent system to a control device; or purge the barrier fluid into a process stream with zero VOC emissions to the atmosphere. The barrier fluid system shall be in heavy liquid service or shall not be in VOC service. Equip each barrier fluid system with a sensor that will detect failure of the seal system, the barrier fluid system, or both. Check each sensor daily or equip the sensor with an audible alarm. Determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both. If the sensor indicates failure of the seal system, the barrier fluid system, or both, a leak is detected. Repair a leak as soon as practicable, but not later than 15 calendar days after it is detected, except as provided under delay of repair in AOP Term 6.4.9. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected. A compressor 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 is exempt from this requirement.	If the sensor is not equipped with an audible alarm, check sensor daily. For each monitoring event, record the monitoring instrument identification, operator identification, equipment identification, date of monitoring, and instrument reading. When a leak is detected, comply with AOP Term 6.4.12. The design criterion required must be recorded in a log and kept readily accessible. Also record an explanation of the design criterion and any changes to the criterion (and reasons for the changes). Record in a log in a readily accessible location the information required in 60.486a(e). Submit a semiannual report as required in AOP Term 6.4.13.

LDAR Requirements under 40 CFR 60 Subpart VVa			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping & Reporting**
6.4.5 VOC/ HAP	As referenced: 40 CFR 60 Subpart VVa 60.482-5a and 60.486a(a) & (e) (11/16/2007)	Sampling Connection Systems Each sampling connection system shall be equipped with a closed-purged, closed-purge, closed-loop, or closed-vent system (except for in situ sampling systems and sampling systems without purges). Gases displaced during sample container filling are not required to be collected or captured. Containers that are part of a closed-purge system must be covered or closed when not being filled or emptied. 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. The purged process fluid must be returned directly to the process line; collected and recycled to a process; captured and transported to a control device; or collected and transported to a waste management unit subject to 40 CFR 63 Subpart G, or a treatment, storage, or disposal facility submit to 40 CFR 262, 264, 265, or 266, or a facility permitted, licensed, or registered by a State to manage municipal or industrial solid waste, if the process fluids are not hazardous waste, or a waste management unit operated in compliance with 61.348(a).	Record in a log in a readily accessible location the information required in 60.486a(e).

LDAR Requirements under 40 CFR 60 Subpart VVa			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping & Reporting**
6.4.6 VOC/ HAP	As referenced: 40 CFR 60 Subpart VVa 60.482-6a and 60.486a(a) & (e) (11/16/2007)	Open-ended Valves or Lines Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve that seals the open end at all times except during operations requiring process fluid flow. 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. 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 remain closed at other times. 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. Likewise, open-ended valves or lines containing materials which would polymerize or would present an explosion, serious overpressure, or other safety hazard if capped or equipped with a double block and bleed system are exempt.	Record in a log in a readily accessible location the information required in 60.486a(e).
6.4.7 VOC/ HAP	As referenced: 40 CFR 60 Subpart VVa 60.482-8a, 60.485a(a) & (b) and 60.486a(a), (b), (c) & (e) (11/16/2007)	Pumps and Valves in Heavy Liquid Service, Pressure Relief Devices in Light Liquid or Heavy Liquid Service If evidence of a potential leak is found by visual, audible, olfactory, or any other detection method, within 5 days, either monitor using EPA Method 21 or eliminate the visual, audible, olfactory, or other indication of potential leak. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected. 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 under delay of repair in AOP Term 6.4.9. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.	Instrument monitor using EPA Method 21. The instrument shall be calibrated before use each day and a calibration drift assessment shall be performed at the end of each monitoring day. The following calibration gases shall be used: zero air (less than 10 ppm of hydrocarbon in air), and 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. For each monitoring event, record the monitoring instrument identification, operator identification, equipment identification, date of monitoring, and instrument reading. When a leak is detected, comply with AOP Term 6.4.12. Record in a log in a readily accessible location the information required in 60.486a(e).

LDAR Requirements under 40 CFR 60 Subpart VVa			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping & Reporting**
6.4.8 VOC/ HAP	40 CFR 60 Subpart VV 60.482-4a, 60.485a(a), (b) & (c) and 60.486a(a) & (e) (11/16/2007)	Pressure Relief Devices Except during pressure releases, each pressure relief device in gas/vapor service that vents to the atmosphere shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background. After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions as soon as practicable, but no later than 5 calendar days after the pressure release, except as provided under delay of repair provisions. Any pressure relief device equipped with a rupture disk upstream of the pressure relief device is exempt from this requirement, provided that after each release a new rupture disk is installed as soon as practicable, but no later than 5 calendar days after each pressure release.	No later than 5 calendar days after a pressure release to the atmosphere, instrument monitor to confirm no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background. Used EPA Method 22 to in Instrument monitor using EPA Method 21 and traverse all potential leak interfaces as close to the interface as possible. The arithmetic difference between the maximum concentration indicated by the instrument and the background is compared with 500 ppm for determining compliance. The instrument used to monitor leaks shall be calibrated before use each day of use. The following calibration gases shall be used: Zero air (less than 10 ppm of hydrocarbon in air); and a mixture of methane or n-hexane and air at a concentration of about, but not less than, 10,000 ppm methane or n-hexane. Record in a log in a readily accessible location the information required in 60.486(e).

LDAR Requirements under 40 CFR 60 Subpart VVa			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping & Reporting**
6.4.9 VOC/ HAP	As referenced: 40 CFR 60 Subpart VVa 60.482-9a, 40.486a(a) & (c)(5) – (c)(9) and 60.487a(a) & (c) (11/16/2007)	<u>Delay of Repair</u> 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 shall occur before the end of the next process unit shutdown. Delay is also allowed for equipment isolated from the process and which does not remain in VOC service. Valves and connectors: Delay of repair will be allowed if (1) it is demonstrated that 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. Delay of repair beyond a process unit shutdown will be allowed if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and supplies had been sufficiently stocked before they 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. Pumps: Delay of repair 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. A leaking valve, connector, or pump may be considered to be repaired and no longer subject to delay of repair requirements if two consecutive monthly instrument readings are below the leak definition.	Monitoring to verify repair must occur within 15 days after startup of the process unit. When each leak is detected and a delay of repair is utilized, record in a log in a readily accessible location: "repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery, the signature of the person whose decision it was that repair could not be effected without a process shutdown, the expected date of successful repair of the leak if a leak is not repaired within 15 days, dates of process unit shutdowns that occur while the equipment is unrepaired, and date of successful repair of the leak. Submit a semiannual report as required in AOP Term 6.4.13.

LDAR Requirements under 40 CFR 60 Subpart VVa			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping & Reporting**
6.4.10 VOC/ HAP	As referenced: 40 CFR 60 Subpart VVa 60.482-10a(a), (d), (e), & (m), 60.485a(a) & (g) and 60.486a(a), (d) & (e) (11/16/2007) → 40 CFR 60 Subpart A 60.18 (12/22/08) as revised by 40 CFR 63 Subpart CC 63.640(s) (2/4/2020)	Standards for Control Devices Flares used as a control device shall comply with the Refinery MACT requirements of 63.670.	Comply with AOP Terms 5.8.1 through 5.8.12 as applicable.

LDAR Requirements under 40 CFR 60 Subpart VVa			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping & Reporting**
6.4.11 VOC/ HAP	As referenced: 40 CFR 60 Subpart VVa 60.482-10a(a), (f) - (m), 60.485a(a) & (b) and 60.486a(a), (d) & (e) (11/1620/07)	Inspections of Closed Vent Systems For closed vent systems constructed of hard piping, conduct annual visual inspections for visible, audible, or olfactory indications of leaks. For closed vent systems constructed of ductwork, conduct annual instrument monitoring inspections. If an instrument reading of 500 ppm above background is detected or by visual inspection, a leak is detected. 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 under delay of repair. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected. A delay of repair is allowed if the repair is technically infeasible without a process unit shutdown or if it is determined 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. If a closed vent system is operated under a vacuum, it is exempt from the monitoring requirement. If it is designated as unsafe to inspect or difficult to inspect, it is also exempt from the inspection requirements if it is identified and a written plan in place for inspection. Equipment designated as difficult to inspect must not exceed 3% of the total number of equipment in the system.	Instrument monitor using EPA Method 21. The instrument shall be calibrated before use each day and a calibration drift assessment shall be performed at the end of each monitoring day. The following calibration gases shall be used: Zero air (less than 10 ppm of hydrocarbon in air), and 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. For each visual and instrumental inspection conducted during which no leaks are detected, record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected. If a leak is detected, record the information listed in AOP Term 6.4.12. If a delay of repair is utilized, record the reason for the delay and the signature of the person whose decision it was that repair could not be completed without a process shutdown, the expected date of successful repair, the dates of process unit shutdowns that occurred while the equipment was unrepaired, and the date of successful repair. Record and keep in a readily accessible location detailed schematics, design specifications, and piping and instrumentation diagrams; dates and descriptions of any changes in the design specifications; periods when the closed vent systems are not operated as designed; and dates of startups and shutdowns of the closed vent systems. Record in a log in a readily accessible location the information required in 60.486a(e).

LDAR Requirements under 40 CFR 60 Subpart VVa			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping & Reporting**
6.4.12 VOC/ HAP	As referenced: 40 CFR 60 Subpart VVa 60.486a(b) & (c) (11/16/2007)	Maintain Records for Equipment Found Leaking When each leak is detected, attach a weatherproof and readily visible identification, marked with the equipment identification number to the leaking equipment. The identification on a valve may be removed after it has been monitored for 2 successive months and no leak has been detected. Identification on equipment except valves may be removed after it has been repaired.	When each leak is detected, record in a log in a readily accessible location: the instrument and operator identification numbers and equipment identification number, date of leak detection and each attempt at repair, repair methods applied for each attempt, instrument leak reading, and date of successful repair of leak.
6.4.13 VOC/ HAP	As referenced: 40 CFR 60 Subpart VVa 60.487a(a) & (c) (11/16/2007)	Semiannual Report Submit semiannual reports to the NWCAA summarizing the results of LDAR monitoring.	The semiannual reports shall include the following information summarized from the information in 60.486a: (1) Process unit identification. (2) For each month during the semiannual reporting period, (i) Number of valves for which leaks were detected as described in 60.482-7a(b) or 60.483-2a, (ii) Number of valves for which leaks were not repaired as required in 60.482-7a(d)(1), (iii) Number of pumps for which leaks were detected as described in 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 60.482-2a(c)(1) and (d)(6), (v) Number of compressors for which leaks were detected as described in 60.482-3a(f), (vi) Number of compressors for which leaks were not repaired as required in 60.482-3a(g)(1), and (vii) 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 in the initial semiannual report if changes have occurred since the initial report or subsequent revisions to the initial report.

6.5 LDAR Requirements of NWCAA 580.8

LDAR Requirements of NWCAA 580.8			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping & Reporting**
6.5.1 VOC	As referenced: NWCAA 580.846 (3/13/1997) WAC 173-401615 (10/17/2002)	Pressure Relief Valves in areas with Butane or Lighter Feedstocks Visually inspect the relief valve within 24-hours after it has vented to the atmosphere.	***Directly Enforceable**:* Maintain a record of each visual inspection of relief valves that release to the atmosphere including the date and time of the release, the date and time of the inspection, and the results of the inspection.

6.6 Effluent Drain System Requirements under 40 CFR 60 Subpart QQQ

Effluent Drain System Requirements under 40 CFR 60 Subpart QQQ			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping & Reporting**
6.6.1 VOC	40 CFR 60 Subpart QQQ 60.692-2(a) (1 & 5), 60.697(b)(1) & (e), and 60.698(b & c) (10/17/2000)	Individual Drain Systems in Active Service Each drain shall be equipped with water seal controls. 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 under 60.692-6, delay of repair. Delay of repair is allowed if the repair is technically impossible without a complete or partial refinery or process unit shutdown. Repair of such equipment shall occur before the end of the next refinery or process unit shutdown.	Check each drain visually or physically monthly for indications of low water levels or other conditions that would reduce water seal control effectiveness. For each problem identified during inspection that could result in VOC emissions, record the location, date, and corrective action. If an emission point cannot be repaired or corrected without a process unit shutdown, record the expected date of repair, the reason for the delay, the person's signature whose decision it was that the repair would be delayed, and the date of successful repair or corrective action. Certify semiannually that all of the required inspections have been carried out and summarizing 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 and how they were corrected.

Effluent Drain System Requirements under 40 CFR 60 Subpart QQQ			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping & Reporting**
6.6.2 VOC	40 CFR 60 Subpart QQQ 60.692-2(a)(3-5), 60.692-6, 60.697(b)(1), (e & g), and 60.698(b & c) (10/17/2000)	Individual Drain Systems Out of Active Service Each drain shall be equipped with water seal controls. Alternatively, install a tightly sealed cap or plug over a drain that is out of service. Whenever low water levels are identified 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. Delay of repair is allowed if the repair is technically impossible without a complete or partial refinery or process unit shutdown. Repair of such equipment shall occur before the end of the next refinery or process unit shutdown.	Check each drain visually or physically weekly for indications of low water levels or other problems that could result in VOC emissions. If a cap or plug has been installed, inspect semiannually to ensure caps or plugs are in place and properly installed. If a cap or plug has been installed over a drain, keep plans or specifications indicating the location of the drains readily accessible for the life of the facility. Certify semiannually that all of the required inspections have been carried out and summarizing 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 and how they were corrected.
6.6.3 VOC	40 CFR 60 Subpart QQQ 60.692-2(b)(1-4), 60.692-6, 60.697(b)(2) & (e) and 60.698(b & c) (10/17/2000)	Junction Boxes Junction boxes shall be equipped with a cover and may have an open vent pipe of at least 3 feet in length and no more than 4 inches in diameter. Covers shall have a tight seal around the edge and shall be kept in place at all times, except during inspection and maintenance. If a broken seal or gap is identified, first efforts at repair shall be made as soon as practicable, but not later than 15 calendar days after the broken seal or gap is identified. Delay of repair is allowed if the repair is technically impossible without a complete or partial refinery or process unit shutdown. Repair of such equipment shall occur before the end of the next refinery or process unit shutdown.	Visually inspect semiannually to ensure that the cover is in place and to ensure that the cover has a tight seal around the edge. When a broken seal, gap, or other problem is identified by inspection that could result in VOC emissions, record the location, date, and corrective action. If an emission point cannot be repaired or corrected without a process unit shutdown, the expected date of a successful repair, the reason for the delay, the signature of the person whose decision it was that the repair would be delayed, and the date of successful repair or corrective action shall be recorded. Certify semiannually that all of the required inspections have been carried out in accordance with these standards. Certify semiannually that all of the required inspections have been carried out and summarizing 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 and how they were corrected.

Effluent Drain System Requirements under 40 CFR 60 Subpart QQQ			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping & Reporting**
6.6.4 VOC	40 CFR 60 Subpart QQQ 60.692-2(c) (1-3), 60.692-6, 60.697(b)(3) & (e) and 60.698(b & c) (10/17/2000)	Sewer Lines 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. 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. Delay of repair is allowed if the repair is technically impossible without a complete or partial refinery or process unit shutdown. Repair of such equipment shall occur before the end of the next refinery or process unit shutdown.	Visually inspect semiannually the portion of each unburied sewer line for cracks, gaps, or other problems that could result in VOC emissions. When a problem is identified by inspection that could result in VOC emissions, record the location, date, and corrective action. If an emission point cannot be repaired or corrected without a process unit shutdown, record the expected date of a successful repair, the reason for the delay, the signature of the person whose decision it was that the repair would be delayed, and the date of successful repair or correction action. Certify semiannually that all of the required inspections have been carried out and summarizing 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 and how they were corrected.

6.7 40 CFR 63 Subpart DDDDD— National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters

40 CFR 63 Subpart DDDDD — Boilers and Process Heaters			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
6.7.1 HAP	40 CFR 63 Subpart DDDDD 63.7500(a), (e), Table 3 Line 3, 63.7505(a), 63.7510(f), 63.7515(d), 63.7530(d), 63.7540(a)(10), (a)(13) & (b), 63.7545(a), (e)(1) & (e)(8)(i), 63.7550(a), (b), (c)(1), (c)(5)(i) -(iv), (xiv), & (xvii)-(viii), (h)(3) & 63.7555(a), and Table 9 (11/20/2015)	Boiler & Process Heater Tune-Up – without Continuous Oxygen Trim Conduct a tune-up of the process heater annually. Tune-ups shall be conducted no more than 13 months after the previous tune-up. If unit is not operating on the required date for a tune-up, conduct tune-up within 30 calendar days of startup. Conduct tune-up and maintain as per 40 CFR 63.7540(a)(10)(i)-(vi).	Submit a signed certification in the Notification of Compliance Status (NCS) in accordance with AOP Term 3.3.21.4 that indicates a tune-up was completed. Include a statement in the NCS, as applicable, "This facility complies with the initial tune-up according to the procedures in 63.7540(a)(10)(i) through (iv)." Include information discussed in 40 CFR 63.7545(e)(1). Submit a compliance report every calendar year. If available, the compliance reports shall also be submitted electronically via CEDRI (www.epa.gov/cdx). The compliance report shall include, among other things, the date of the most recent tune-up and burner inspection; if applicable, a statement that no deviations occurred; and be certified by the Responsible Official.

40 CFR 63 Subpart DDDDD — Boilers and Process Heaters			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
6.7.2 HAP	40 CFR 63 Subpart DDDDD 63.7500(a)(3) (11/20/2015)	Boiler MACT – General Duty to Minimize Emissions At all times, operate and maintain the 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.	Certification by responsible office under AOP Term 2.4.1.

SECTION 7 INAPPLICABLE REQUIREMENTS

The regulations identified in Section 7 do not apply to at Ferndale Refinery as of the date of permit issuance.

Citation	Title	Basis
Northwest Clean Air Agency Regulation		
NWCAA 320 - 321	General Requirements for Registration	NWCAA registration requirements do not apply to sources subject to the air operating permit program.
NWCAA 458	Incinerators - Wood Waste Burners	Facility does not have this source category.
NWCAA 465	Sulfuric Acid Plants	Facility does not have this source category.
NWCAA 470	Fluorides - Forage	Facility does not have this source category.
NWCAA 480	Solid Fuel Burning Device	Facility does not have this source category.
NWCAA 510	Incinerator Burning	Facility does not have this source category.
NWCAA 511	Refuse Burning - Time Restriction	Facility does not have this source category.
NWCAA 520.14	Gaseous Fuel Sulfur Standards	The regulation does not apply to sources that must comply with NWCAA 460.
NWCAA 580.5	Bulk Gasoline Plants	Facility does not have this source category.
NWCAA 590	Perchloroethylene Dry Cleaners	Facility does not have this source category.
Washington State Regulation		
WAC 173-400-050(2)	Incinerator	Facility does not have this source category.
WAC 173-400-091	Voluntary Limits on Emissions	The facility has not requested a regulatory order to limit potential to emit.
WAC 173-400-100 through -104	Registration	The registration requirements do not apply to sources or emission units subject to Air Operating Permits.
WAC 173-425-075	Commercial Open Burning	Facility does not have this source category.
WAC 173-425-085	Agricultural Open Burning	Facility does not have this source category.
WAC 173-434	Solid Waste Incineration	Facility does not have this source category.

Citation	Title	Basis
Federal Regulation (NSPS)		
40 CFR 60 Subpart D	Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After August 17, 1971	Facility does not have any affected sources.
40 CFR 60 Subpart Da	Standards of Performance for Electric Utility Steam Generating Units for Which Construction is Commenced After September 18, 1978.	Facility does not have any affected sources.
40 CFR 60 Subpart Dc	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units	Facility does not have any affected sources.
40 CFR 60 Subpart GG	Standards of Performance for Stationary Gas Turbines	Facility does not have any affected sources.
40 CFR 60 Subpart UU	Standards of Performance for Asphalt Processing and Asphalt Roofing Manufacture	Facility does not have any affected sources. All storage tanks other than Tanks 247 and 248 process non-asphaltic materials.
40 CFR 60 Subpart NNN	Standards of Performance for Volatile Organic Compound (VOC) Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations	Facility does not have any affected sources and does not produce any of the chemicals listed in §60.667 as a product, co-product, by-product, or intermediate.
40 CFR 60 Subpart RRR	Volatile Organic Compound Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes	Refinery does not operate any SOCMI operations that utilize reactor processes.
40 CFR 60 Subpart JJJJ	Standards of Performance for Stationary Spark Ignition Internal Combustion Engines	There are no stationary spark ignition engines located at the refinery constructed after January 1, 2009, that are not considered test cell engines.
Federal Regulation (NESHAP/MACT)		
40 CFR 61 Subpart J	National Emission Standard for Equipment Leaks (Fugitive Emission Sources) of Benzene	Facility does not have equipment *In Benzene Service* as that term is defined in the regulation.
40 CFR 61 Subpart V	National Emission Standard for Equipment Leaks (Fugitive Emission Sources)	Facility does not have equipment *In Volatile Hazardous Air Pollutant Service* as that term is defined in the regulation.

Citation	Title	Basis
40 CFR 61 Subpart Y	National Emission Standard for Benzene Emissions from Benzene Storage Vessels	Facility does not have any affected sources.
40 CFR 61 Subpart BB	National Emission Standard for Benzene Emissions from Benzene Transfer Operations	Facility does not have any affected sources.
40 CFR 63 Subpart F	National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry (SOCMI)	Facility is not a SOCMI source.
40 CFR 63 Subpart G	National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry (SOCMI) for Process Vents, Storage Vessels, Transfer Operations, and Wastewater	Facility is not a SOCMI source.
40 CFR 63 Subpart I	National Emission Standards for Organic Hazardous Air Pollutants for Certain Processes Subject to the Negotiated Regulation for Equipment Leaks	Facility is not subject to the Negotiated Regulation for Equipment Leaks.
40 CFR 63 Subpart Q	National Emission Standards for Hazardous Air Pollutants for Industrial Process Cooling Towers	The cooling towers do not use chromium-based treatment chemicals as of August 12, 1993.
40 CFR 63 Subpart Y	National Emission Standards for Marine Tank Vessel Loading Operations	Facility is not subject as the marine loading dock is an existing source with emissions less than 10/25 tons HAPs.
40 CFR 63 Subpart EEEE	National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline)	Affected sources are subject to another MACT and therefore are excluded from this regulation.