

Air Operating Permit AOP 013R2

Tesoro Refining & Marketing Company LLC Anacortes Refinery

Anacortes, WA

June 5, 2024



Serving Island, Skagit & Whatcom Counties

PERMIT INFORMATION

**Tesoro Refining & Marketing Company LLC
Anacortes Refinery
10200 West March Point Road, Anacortes, WA 98221**

Responsible Official

Cameron Hunt
Vice President
Anacortes Refinery
(360) 293-9119

Inspection Contact

Monica Bohnert
Environmental Supervisor
(360) 293-9119

Northwest Clean Air Agency

1600 South Second Street
Mount Vernon, WA 98273-5202
(360) 428-1617

Prepared by

M.J. "Lyn" Tober, P.E.
Chemical Engineer
(360) 428-1617 x 228

Expires: June 5, 2029

Renewal Application Due: June 5, 2028

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, Tesoro Refining & Marketing Company LLC is authorized to operate the Anacortes Refinery subject to the terms and conditions of this permit.

Northwest Clean Air Agency Approval:

M.J. "Lyn" Tober, P.E.

Date: 6/5/2024

M.J. "Lyn" Tober, P.E.
Chemical Engineer

Agata McIntyre

Date: 6/5/2024

Agata McIntyre, P.E.
Engineering Manager

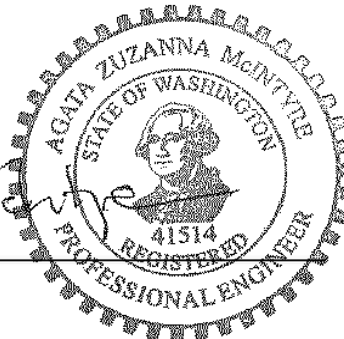


TABLE OF CONTENTS

SECTION 1 EMISSIONS UNIT DESCRIPTIONS	6
1.1 Primary Crude Oil Processing Area (Crude, Vacuum Flasher, and ROSE)	7
1.2 Hydroprocessing Area (CGS, CFH, DHT, CR/NHT, SHU, and JFT)	8
1.3 Catalytic Cracking Unit (CCU)	10
1.4 Benzene Saturation Unit (BenSat & Isom)	12
1.5 Butane Isomerization Unit.....	13
1.6 Alkylation Unit.....	13
1.7 Flare Area	14
1.8 Utilities Plant	14
1.9 Reciprocating Internal Combustion Engines	15
1.10 Truck Rack	15
1.11 Wharf/Logistics Area.....	16
1.12 LPG Loading Facility	16
1.13 Feedstocks Unloading Facility.....	16
1.14 Crude Railcar Offloading Facility (CROF).....	17
1.15 Gasoline Dispensing Facility	17
1.16 Storage Vessels and Tank Farms	17
1.17 Oily Wastewater Collection and Treatment	24
1.18 Paint Spray Booth	24
SECTION 2 STANDARD TERMS AND CONDITIONS	25
2.1 Compliance Requirements	25
2.2 Permit Terms	30
2.3 Permit Shield	33
2.4 Recordkeeping and Reporting	34
2.5 Excess Emissions	41
2.6 Duty to Supplement or Correct Information.....	42
2.7 Prohibitions	43
2.8 Notice of Construction and Application for Approval/New Source Review	45
2.9 Greenhouse Gas Regulation	47
SECTION 3 STANDARD TERMS AND CONDITIONS FOR NSPS AND NESHAP	48
3.1 Part 60 – New Source Performance Standard Requirements.....	48
3.2 Part 61 – National Emission Standard for Hazardous Air Pollutant Requirements.....	55
3.3 Part 63 – National Emission Standard for Hazardous Air Pollutant Requirements.....	60
SECTION 4 GENERALLY APPLICABLE REQUIREMENTS	88
SECTION 5 SPECIFICALLY APPLICABLE REQUIREMENTS	103
5.1 Primary Crude Oil Processing Area.....	104

5.2	Hydroprocessing Area	112
5.3	Catalytic Cracking Unit	125
5.4	Benzene Saturation Unit	144
5.5	Butane Isomerization Unit.....	150
5.6	Alkylation Unit.....	153
5.7	Flare Area	156
5.8	Utilities Plant	177
5.9	Reciprocating Internal Combustion Engines	183
5.10	Truck Rack	190
5.11	Wharf/Logistics Area.....	201
5.12	LPG Loading Facility	203
5.13	Feedstocks Unloading Facility.....	204
5.14	Crude Railcar Offloading Facility	207
5.15	Gasoline Dispensing Facility	208
5.16	Storage Vessels and Tank Farms	209
5.17	Oily Wastewater Collection and Treatment	261
5.18	Paint Spray Booth	272
SECTION 6 COMMON REQUIREMENTS		275
6.1	Visible Emission Monitoring	276
6.2	40 CFR 60 Subpart VV LDAR for Equipment Leaks.....	277
6.3	40 CFR 60 Subpart VVa LDAR for Equipment Leaks	299
6.4	Pressure Relief Devices (PRD) under 40 CFR 63 Subpart CC.....	322
6.5	Individual Drain Systems under 40 CFR 60 Subpart QQQ	325
SECTION 7 MONITORING PLANS		328
7.1	Alternate Monitoring Plan for Boiler F-753 (dated May 14, 1996)	328
7.2	Alternate Monitoring Plan for the Catalytic Reformer	333
7.3	Alternate Monitoring Plan for NSPS Subpart NNN.....	342
7.4	Compliance Assurance Monitoring Plan for Opacity/PM at the Catalytic Cracking Unit	346
SECTION 8 INAPPLICABLE REQUIREMENTS.....		349

SECTION 1 EMISSIONS UNIT DESCRIPTIONS

Section 1 lists emission units and activities included in the AOP that are located at the Anacortes Refinery, hereinafter referred to as the facility, the refinery, owner or operator, or the permittee. The information presented here in Section 1 is for informational purposes only. For consistency in tracking all potential emission sources in each process area, the list may include some insignificant emission units (IEU).

OACs marked with a "(hollow)" notation are listed in AOP Section 1 to indicate that the equipment has been modified and gone through NSR review but are not listed in AOP Section 5 because they have no ongoing requirements.

The lists of emission units and activities is segregated into different areas within the refinery and presented in the following order.

Processing Unit/Area

- | | |
|------|--|
| 1.1 | Primary Crude Oil Processing Area |
| 1.2 | Hydroprocessing Area |
| 1.3 | Catalytic Cracking Unit (CCU) |
| 1.4 | Benzene Saturation Unit (BenSat) |
| 1.5 | Butane Isomerization Unit (BI) |
| 1.6 | Alkylation Unit (Alky) |
| 1.7 | Flare Area |
| 1.8 | Utilities Plant |
| 1.9 | Reciprocating Internal Combustion Engines (RICE) |
| 1.10 | Truck Rack |
| 1.11 | Wharf/Logistics Area |
| 1.12 | LPG Loading Facility |
| 1.13 | Feedstocks Unloading Facility |
| 1.14 | Crude Rail Offloading Facility (CROF) |
| 1.15 | Gasoline Dispensing Facility (GDF) |
| 1.16 | Storage Vessels and Tank Farms |
| 1.17 | Oily Wastewater Collection and Treatment |
| 1.18 | Paint Spray Booth |

1.1 Primary Crude Oil Processing Area (Crude, Vacuum Flasher, and ROSE)

Primary Crude Oil Processing Area (Crude, Vacuum Flasher (VF), and ROSE)		
Emission Unit Type & Description	Construction	Comments
Crude Heater F-101	1955/mod 2011 and 2015	120 MMBtu/hour (refinery fuel gas), low-NO _x burners, NO _x & O ₂ CEMS 40 CFR 60 Subpart Ja (NO _x), 40 CFR 63 Subpart DDDDD, OAC 1184
Crude Heater F-102	1955	120 MMBtu/hour (refinery fuel gas) 40 CFR 63 Subpart DDDDD
Crude Heater F-103	1963 (ULNB 2015)	132 MMBtu/hour (refinery fuel gas), ultra low-NO _x burners 40 CFR 63 Subpart DDDDD, BART Order 7838
Vacuum Flasher Heater F-201	1955	96 MMBtu/hour (refinery fuel gas), low-NO _x burners 40 CFR 60 Subpart J (H ₂ S/SO ₂), 40 CFR 63 Subpart DDDDD, CO23
Equipment Components in VOC/HAP service at the Crude, Vacuum Flasher, and ROSE Units	1955 (Crude & VF)/mod 2015 2002 (ROSE)	40 CFR 60 Subpart GGGa, 40 CFR 63 Subpart CC, CO23 (all), OAC 1205 (Crude and Vacuum Flasher), OAC 744a (ROSE)
Compressors J-205 and J-206 in VOC/HAP service in the Vacuum Flasher unit	1985/2015 (J-205) 1986/2015 (J-206)	40 CFR 60 Subpart GGGa, 40 CFR 63 Subpart CC, OAC 1205
Compressor J-5700 in VOC service in the ROSE unit	2001	40 CFR 60 Subpart GGG
Pressure Relief Devices in organic HAP service		40 CFR 63 Subpart CC
Crude unit process vents: 1-1273-003, 1-272-004, & 1-1290-006		Vented to fuel gas system
Vacuum Flasher process vents: 2-632-005, 2-647-007 and 2-683-002		Vented to fuel gas system

Primary Crude Oil Processing Area (Crude, Vacuum Flasher (VF), and ROSE)		
Emission Unit Type & Description	Construction	Comments
Vacuum Flasher Miscellaneous Process Vent: 2-645-013		Normally recovered to process. vented to Boilers F-751 or F-752 when CCU and Gas Plant is down 40 CFR 63 Subpart CC Group 1
Process Drains - ROSE Unit	2001	40 CFR 60 Subpart QQQ, 40 CFR 61 Subpart FF

1.2 Hydroprocessing Area (CGS, CFH, DHT, CR/NHT, SHU, and JFT)

Hydroprocessing Area (CGS, CFH, DHT, CR/NHT, SHU, and JFT)		
Emission Unit Type & Description	Construction	Comments
CGS Reboiler F-104 (column C-113)	1972 (2007 ULNB)	60 MMBtu/hour (refinery fuel gas), ultra-low-NO _x burners 40 CFR 63 Subpart DDDDD, OAC 827c, BART Order 7838
CFH Heater F-654 (feed)	1964	15 MMBtu/hour (refinery fuel gas) 40 CFR 63 Subpart DDDDD, BART Order 7838
DHT Heater F-652 (feed)	1961	67 MMBtu/hour (refinery fuel gas) 40 CFR 63 Subpart DDDDD
NHT Heater F-6600 (feed)	1972	65 MMBtu/hour (refinery fuel gas) 40 CFR 63 Subpart DDDDD, BART Order 7838, OAC 827c
NHT Reboiler F-6601 (column C-6600)	1972	68 MMBtu/hour (refinery fuel gas) 40 CFR 63 Subpart DDDDD, BART Order 7838, OAC 827c
CR Heater F-6650 (feed)	1972	143 MMBtu/hour (refinery fuel gas), shares stack with F-6651 40 CFR 63 Subpart DDDDD, BART Order 7838, OAC 827c

Hydroprocessing Area (CGS, CFH, DHT, CR/NHT, SHU, and JFT)		
Emission Unit Type & Description	Construction	Comments
CR Heater 1, F-6651 (inter-reactor)	1972	143 MMBtu/hour (refinery fuel gas), shares stack with F-6650 40 CFR 63 Subpart DDDDD, BART Order 7838, OAC 827c
CR Heater 2, F-6652 (inter-reactor)	1972	67 MMBtu/hour (refinery fuel gas), shares stack with F-6653 40 CFR 63 Subpart DDDDD, BART Order 7838, OAC 827c
CR Heater 3, F-6653 (inter-reactor)	1972	38 MMBtu/hour (refinery fuel gas), shares stack with F-6652 40 CFR 63 Subpart DDDDD, BART Order 7838, OAC 827c
CR Heater F-6654 (column C-6650)	1972	32 MMBtu/hour (refinery fuel gas) 40 CFR 63 Subpart DDDDD, BART Order 7838, OAC 827c
CR Heater F-6655 (regeneration)	1972	27 MMBtu/hour (refinery fuel gas) 40 CFR 63 Subpart DDDDD, BART Order 7838
CR Reactor Vent	1972	HCl controlled by a caustic water wash column 40 CFR 63 Subpart UUU (inorganic HAP AMP)
Equipment components in VOC/HAP service at the Cat Gas Splitter (CGS), Clean Fuels Hydrotreater (CFH), Distillate Hydrotreater (DHT) Catalytic Reformer/Naphtha Hydrotreater (CR/NHT), Selective Hydrogenation (SHU) and Jet Fuel Treater (JFT) units	1972/mod 2006 (CGS), 1961/mod 2006 (DHT), 2006 (CFH), 2007 (SHU), 1999 (JFT)	40 CFR 60 Subpart GGGa, 40 CFR 63 Subpart CC, CO23 (all), OAC 651a (hollow) (DHT), OAC 705 (hollow) (JFT), OAC 827c (CGS, CR/NHT), OAC 896a (CSG, CFH/DHT), OAC 901a (CFH/DHT), OAC 989b (SHU), OAC 1205 (CFH/DHT), OAC 1222a (CR/NHT), PSD 17-01 (CR/NHT)

Hydroprocessing Area (CGS, CFH, DHT, CR/NHT, SHU, and JFT)		
Emission Unit Type & Description	Construction	Comments
Compressors J-606, J-6651, J-6654, J-6655 in hydrogen service at the NHT	2015	In hydrogen service 40 CFR 60 Subpart GGGa, 40 CFR 63 Subpart CC, OAC 1222a
Compressor J-600 in VOC/HAP service at the DHT – out of service 2019	2006	Out of service (2019) 40 CFR 60 Subpart GGG, 40 CFR 63 Subpart CC, OAC 901a
Compressors J-650, J-651, & J-652 in hydrogen service at the CFH/DHT	1971 (J-651 & J-652), 2006 (J-650)	In hydrogen service, normally vents to flare 40 CFR 60 Subpart GGGa, 40 CFR 63 Subpart CC
Compressors J-6650 & J-6653 in hydrogen service at the CR		In hydrogen service 40 CFR 60 Subpart GGG, 40 CFR 63 Subpart CC
Pressure Relief Devices in organic HAP service		40 CFR 63 Subpart CC
Process Drains - CFH, DHT, SHU, and JFT	1961/mod 2006 (DHT), 2007 (SHU), 1999 (JFT), 2006 (CFH)	40 CFR 60 Subpart QQQ, 40 CFR 61 Subpart FF, OAC 705 (hollow) (JFT)

1.3 Catalytic Cracking Unit (CCU)

Catalytic Cracking Unit (CCU)		
Emission Unit Type & Description	Construction	Comments
Catalytic Cracking Unit (CCU), Carbon Monoxide Boilers (COBs) F-302 (COB1) and F-304 (COB2) with Flue Gas Scrubber (FGS) Stack and FGS Diversion Stack (for upsets & emergencies)	1955 (CCU & F-302) 1964 (F-304) 2005 (FGS) 2023 (SNCR F-304)	COBs combust CCU regenerator vent gas, refinery fuel gas, caustic regenerator vent gas, and SWS tops; deSOx catalyst additive; SNCR F-304; SO2 & O2 CEMS, NOx CEMS 40 CFR 63 Subpart UUU, BART Order 7838 (F-304), OAC 946c, OAC 1395 (F-304)

Catalytic Cracking Unit (CCU)		
Emission Unit Type & Description	Construction	Comments
Amine Treatment Unit 2 (Amine 2) and ancillary equipment; acid gas line to sulfur treatment plant, absorber tower (C-1110), regenerator (C-1120), and small amine tank (Tk-1140)	2007	OAC 308a, OAC 952c
Fuel Gas Blend Drum V-213		H2S CEMS BART Order 7838, OAC 952c
Startup air Preheater F-303	1955	69 MMBtu/hour (natural gas), discharges to the CCU regenerator
CCU Heater F-301 (feed)	1955	128 MMBtu/hour (refinery fuel gas), low-NO _x burners 40 CFR 63 Subpart DDDDD
Multi-loader catalyst adder system V-397	2020	Dual cartridge filter system OAC 1309
Fresh catalyst hopper V-307	1955; 1983 & 1984, 2007 upgrades	Baghouse OAC 947
Spent catalyst hopper V-308	1955; 1983 & 1984, 2007 upgrades	Baghouse OAC 947
Equilibrium catalyst hopper V-353	1997	Baghouse OAC 633a
Catalyst additive hopper (DeSO _x) V-356	2001	Baghouse OAC 946c
C-404 De-Propanizer Column	Mod 2020	40 CFR 60 Subpart NNN (AMP for MR&R)
Equipment components in VOC/HAP service	1955/mod 2002 (CCU) 2007 (Amine 2)	40 CFR 60 Subpart GGGa, 40 CFR 63 Subpart CC, CO23 (all), OAC 952c (Amine 2), OAC 1182 (CCU), OAC 1190 (CCU)
Compressors J-401, J-403, & J-404 in VOC/HAP service in the CCU		40 CFR 60 Subpart GGGa, 40 CFR 63 Subpart CC

Catalytic Cracking Unit (CCU)		
Emission Unit Type & Description	Construction	Comments
Pressure Relief Devices in organic HAP service		40 CFR 63 Subpart CC
Process Drains - Amine 2	2007	40 CFR 60 Subpart QQQ, 40 CFR 61 Subpart FF
CCU Miscellaneous Process Vents 3-655-009 & 3-655-011		Vented to F-302/304 (COBs) or F-751/752 (Boilers) 40 CFR 63 Subpart CC Group 1
CCU process vent 65-667-004		Vented to fuel gas system

1.4 Benzene Saturation Unit (BenSat & Isom)

Benzene Saturation Unit (BenSat & Isom)		
Emission Unit Type & Description	Construction	Comments
BenSat Reboiler F-6602 (column C-6601)	1972/mod 2011	73.5 MMBtu/hour (natural gas), low NO _x burners, NO _x & O ₂ CEMS 40 CFR 63 Subpart DDDDD, BART Order 7838, OAC 1037b (NO _x CEMS)
Equipment components in VOC/HAP/benzene service at the BenSat Unit	2011	40 CFR 60 Subpart GGGa, 40 CFR 61 Subpart J (benzene), 40 CFR 63 Subpart CC, CO23, OAC 1037b
Equipment components in VOC/HAP/benzene/ perchloroethylene service at the Isomerization (Isom) Unit	2018	40 CFR 60 Subpart GGGa, 40 CFR 61 Subpart J (benzene), 40 CFR 63 Subpart CC, OAC 1222a, PSD 17-01
Perchloroethylene Storage Vessel and Transfer Rack	2018	40 CFR 63 Subpart EEEE
Process Drains - BenSat	2011	40 CFR 60 Subpart QQQ, 40 CFR 61 Subpart FF
Process Drains - Isom	2018	40 CFR 60 Subpart QQQ, 40 CFR 61 Subpart FF

1.5 Butane Isomerization Unit

Butane Isomerization Unit (BI)		
Emission Unit Type & Description	Construction	Comments
C-916 Stabilizer Column and C-910 De-Isobutanizer Column	Mod 2020	40 CFR 60 Subpart NNN (AMP for MR&R)
Equipment components in VOC/HAP service	1963/Reaction Section replaced 1995	40 CFR 60 Subpart GGGa, 40 CFR 63 Subpart CC, CO23, NWCAA 580.8, OAC 1031a (hollow)
Pressure Relief Devices in organic HAP service		40 CFR 63 Subpart CC
Butane Isomerization process vent 95-648-022	1963/mod 1995	Vented to fuel gas recovery
Process Drains - Butane Isomerization	1963/mod 1995	40 CFR 60 Subpart QQQ

1.6 Alkylation Unit

Alkylation Unit (Alky)		
Emission Unit Type & Description	Construction	Comments
Equipment components in VOC/HAP service at the Alkylation Unit	1957/mod 2015	40 CFR 60 Subpart GGGa, 40 CFR 63 Subpart CC, CO23, NWCAA 580.8, OAC 1182
Compressor J-920 in VOC service (non-HAP) at the Alkylation Unit	2018	40 CFR 60 Subpart GGGa, NWCAA 580.8, OAC 1249
Pressure Relief Devices in organic HAP service		40 CFR 63 Subpart CC

1.7 Flare Area

Flare Area		
Emission Unit Type & Description	Construction	Comments
Primary Flare X-813 and Secondary Flare X-814	1955, mod 2015	H2S & TS CEMS CO23, 40 CFR 60 Subpart Ja, 40 CFR 63 Subpart A
Equipment components in VOC/HAP service	1955/mod 2015	40 CFR 60 Subpart GGa, 40 CFR 63 Subpart CC, CO23, OAC 1182
Compressors J-818 & J-819 in VOC/HAP service in the FGR	2015	40 CFR 60 Subpart GGa, 40 CFR 63 Subpart CC, OAC 1182

1.8 Utilities Plant

Utilities Plant		
Emission Unit Type & Description	Construction	Comments
Boiler F-751	1954	268 MMBtu/hour with oxygen trim (refinery fuel gas including vacuum flasher tail gas and SWS tops) 40 CFR 63 Subpart DDDDD
Boiler F-752	1954	268 MMBtu/hour with oxygen trim (refinery fuel gas including vacuum flasher tail gas and SWS tops) 40 CFR 63 Subpart DDDDD
Boiler F-753	1994	220 MMBtu/hour with oxygen trim (natural gas and propane), low NOx burners; NO _x & O ₂ CEMS; AMP for propane combustion 40 CFR 60 Subpart Db (NO _x), 40 CFR 60 Subpart J (SO ₂ AMP), 40 CFR 63 Subpart DDDDD, OAC 390e (NO _x CEMS)
Cooling Water Towers (CWT) CWT 1, CWT 2, CWT 2a and CWT 2b	1955 (CWT 1), 1971 (CWT 2), 1963 (CWT 2a), 1991 (CWT 2b)	40 CFR 63 Subpart CC, BART Order 7838 (CWT 2 & CWT 2a)

1.9 Reciprocating Internal Combustion Engines

Reciprocating Internal Combustion Engines (RICE)		
Emission Unit Type & Description	Construction	Comments
Boilerhouse Emergency Generator GEN-763	2001	465 hp diesel 40 CFR 63 Subpart ZZZZ
Radio Tower Emergency Generator GEN-764	1990	75 hp diesel 40 CFR 63 Subpart ZZZZ
Administration Building Emergency Generator GEN-765	2010	250 hp diesel, Tier 3 40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ
Emergency Fire Water Pump ENG-811	2008	250 hp diesel 40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ
Emergency Fire Water Pump ENG-812	2008	250 hp diesel 40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ
Emergency Portable Air Compressor J-750	mod 2015	563 hp diesel, Tier 3 40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ

1.10 Truck Rack

Truck Rack		
Emission Unit Type & Description	Construction	Comments
Truck Rack	2015	Vacuum vapor collection system (VaVaCS), vapor recovery unit (VRU) using activated carbon, CEMS Organic Vapors 40 CFR 60 Subpart XX, 40 CFR 63 Subpart CC, OAC 1171a, WAC 173-491-040, NWCAA 580.4, NWCAA 580.10
Equipment components in VOC/HAP service	1955/mod 2019	40 CFR 60 Subpart GGGa, 40 CFR 63 Subpart CC, CO23, OAC 1171a, OAC 1317
Process Drains - Truck Rack	2015	40 CFR 60 Subpart QQQ, 40 CFR 61 Subpart FF

1.11 Wharf/Logistics Area

Wharf/Logistics Area		
Emission Unit Type & Description	Construction	Comments
Marine Terminal	1993	40 CFR 63 Subpart Y
Equipment components in VOC/HAP service	1993	40 CFR 60 Subpart GGGa, 40 CFR 63 Subpart CC, CO23
Process Drains - Wharf	1993	40 CFR 60 Subpart QQQ, 40 CFR 61 Subpart FF

1.12 LPG Loading Facility

LPG Loading		
Emission Unit Type & Description	Construction	Comments
Equipment components in VOC service	1955	NWCAA 580.8

1.13 Feedstocks Unloading Facility

Feedstocks Unloading Facility		
Emission Unit Type & Description	Construction	Comments
Feedstocks Unloading Facility - General	2014	40 CFR 63 Subpart EEEE, OAC 649b (hollow), OAC 1190
Equipment components in VOC/HAP service	2014	40 CFR 60 Subpart GGGa, 40 CFR 63 Subpart CC, CO23, OAC 649b (hollow), OAC 1190
Process Drains	1998	40 CFR 60 Subpart QQQ, 40 CFR 61 Subpart FF, OAC 649b (hollow)

1.14 Crude Railcar Offloading Facility (CROF)

Crude Rail Offloading Facility (CROF)		
Emission Unit Type & Description	Construction	Comments
CROF - General	2012	OAC 1101 (hollow)
Equipment components in VOC/HAP service	2012	40 CFR 60 Subpart GGGa, 40 CFR 63 Subpart CC, CO23, OAC 1101 (hollow)
Process Drains	2012	40 CFR 60 Subpart QQQ, 40 CFR 61 Subpart FF

1.15 Gasoline Dispensing Facility

Gasoline Dispensing Facility		
Emission Unit Type & Description	Construction	Comments
Gasoline Dispensing Facility (GDF) with 4,000-gallon fixed roof tank equipped with a pressure vacuum vent cap	1991	Dispenses gasoline & diesel to fleet vehicles, No stage I controls NWCAA 580.6

1.16 Storage Vessels and Tank Farms

Storage Vessels and Tank Farms		
Emission Unit Type & Description	Construction	Comments
Equipment components in VOC/HAP service	1955/mod 2014	40 CFR 60 Subpart GGGa, 40 CFR 63 Subpart CC, CO23, OAC 750a (hollow), OAC 1171a, NWCAA 580.8 (LPG)
Process Drains - Tanks 202, 203, 231, 247 and 248	1993 (Tanks 202 & 203) 1994 (Tank 231) 2010 (Tanks 247 & 248)	40 CFR 60 Subpart QQQ, 40 CFR 61 Subpart FF

Tank	Service	Construction	Capacity (gallons)	Tank Type*	Comments
1	CRUDE	1954	6,342,000	DD-EFR	Two seals 40 CFR 63 Subpart CC Group 1, NWCAA 560/580
2	CC FEED / CRUDE	1954	6,342,000	DD-EFR	Two seals 40 CFR 63 Subpart CC Group 1, NWCAA 560/580
3	CRUDE	1954	6,342,000	DD-EFR	Two seals 40 CFR 63 Subpart CC Group 1, NWCAA 560/580, OAC 750a (hollow)
4	CRUDE	1954	6,342,000	DD-EFR	Two seals 40 CFR 63 Subpart CC Group 1, NWCAA 560/580
5	CRUDE	1954	6,342,000	DD-EFR	Two seals 40 CFR 63 Subpart CC Group 1, NWCAA 560/580
6	CC FEED	1954	6,342,000	SD-EFR	One seal 40 CFR 63 Subpart CC Group 2
7	CC FEED	1954	6,342,000	DD-EFR	One seal 40 CFR 63 Subpart CC Group 2
8	DECANT	1954	3,402,000	FIXED	40 CFR 63 Subpart CC Group 2
9	DECANT	1954	3,402,000	FIXED	40 CFR 63 Subpart CC Group 2
10	CCLVGO	1954	2,352,000	FX-IFR	One seal 40 CFR 63 Subpart CC Group 2
11	CR FEED	1954	3,402,000	FIXED	To install chiller by 1/30/26 to remain 40 CFR 63 Subpart CC Group 2
12	SR HGO	1954	3,402,000	FX-IFR	One seal 40 CFR 63 Subpart CC Group 2
13	REFORMATE	1954	3,402,000	DD-EFR	Two seals 40 CFR 63 Subpart CC Group 1, NWCAA 560/580
14	REFORMATE	1954	3,402,000	DD-EFR	Two seals 40 CFR 63 Subpart CC Group 1, NWCAA 560/580

Tank	Service	Construction	Capacity (gallons)	Tank Type*	Comments
15	CC GASOLINE	1954	2,352,000	DD-EFR	Two seals 40 CFR 63 Subpart CC Group 1, NWCAA 560/580
16	CC GASOLINE	1954	2,352,000	DD-EFR	Two seals 40 CFR 63 Subpart CC Group 1, NWCAA 560/580
17	SR GASOLINE	1954	2,352,000	DD-EFR	Two seals 40 CFR 63 Subpart CC Group 1, NWCAA 560/580
18	CC GASOLINE	1954	2,352,000	DD-EFR	Two seals 40 CFR 63 Subpart CC Group 1, NWCAA 560/580
19	SLOPS / LGO	1954	1,260,000	DD-EFR	Two seals 40 CFR 63 Subpart CC Group 1, NWCAA 560/580
20	ALKYLATE	1954	1,260,000	SD-EFR	Two seals 40 CFR 63 Subpart CC Group 1, NWCAA 560/580
21	ALKYLATE	1954	1,260,000	DD-EFR	Two seals 40 CFR 63 Subpart CC Group 1, NWCAA 560/580
22	ALKYLATE	1954	1,260,000	DD-EFR	Two seals 40 CFR 63 Subpart CC Group 1, NWCAA 560/580
23	JET FUEL	1954	1,260,000	FIXED	40 CFR 63 Subpart CC Group 2
24	NHT FEED	1954	3,402,000	SD-EFR	Two seals 40 CFR 63 Subpart CC Group 1, NWCAA 560/580
25	DIESEL	1954	1,260,000	FIXED	40 CFR 63 Subpart CC Group 2
26	DIESEL	1954	3,402,000	FIXED	40 CFR 63 Subpart CC Group 2
27	GASOLINE	1954	1,260,000	DD-EFR	Two seals 40 CFR 63 Subpart CC Group 1, NWCAA 560/580
28	GASOLINE	1954	1,260,000	DD-EFR	Two seals 40 CFR 63 Subpart CC Group 1, NWCAA 560/580
29	GASOLINE	1954	3,402,000	DD-EFR	Two seals 40 CFR 63 Subpart CC Group 1, NWCAA 560/580

Tank	Service	Construction	Capacity (gallons)	Tank Type*	Comments
30	GASOLINE	1954	1,260,000	DD-EFR	Two seals 40 CFR 63 Subpart CC Group 1, NWCAA 560/580
31	GASOLINE	1954	1,260,000	DD-EFR	Two seals 40 CFR 63 Subpart CC Group 1, NWCAA 560/580
32	GASOLINE	1954	3,402,000	DD-EFR	Two seals 40 CFR 63 Subpart CC Group 1, NWCAA 560/580
33	IFO	1954	1,260,000	FIXED	40 CFR 63 Subpart CC Group 2
34	ASPHALT	1954	3,402,000	FIXED	40 CFR 63 Subpart CC Group 2
35	IFO	1954	3,402,000	FIXED	40 CFR 63 Subpart CC Group 2
36	IFO	1954	3,402,000	FIXED	40 CFR 63 Subpart CC Group 2
39	SLOPS (backup)	1954/1992	1,260,000	FX-IFR	One seal 40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC, NWCAA 560/580
40	SLOPS (pre-processed)	1954/1992	420,000	FX-IFR	One seal 40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC, NWCAA 560/580
41	EMPTY	1954	38,640	FIXED	40 CFR 63 Subpart CC Group 2
42	EMPTY	1954	38,640	FIXED	40 CFR 63 Subpart CC Group 2
43	EMPTY	1954	126,000	FIXED	40 CFR 63 Subpart CC Group 2
44	CR WASH WATER / CCU SPENT CAUSTIC	1954	840,000	FIXED	40 CFR 63 Subpart CC Group 2
45	MDEA	1954	12,600	FIXED	-
46	EMPTY	1954	12,600	FIXED	-
47	EMPTY	1954	12,600	FIXED	-
49	BOILER FEED WATER	1954	378,000	FIXED	-

Tank	Service	Construction	Capacity (gallons)	Tank Type*	Comments
53	CAUSTIC	1954	42,000	FIXED	-
54	CAUSTIC	1954	42,000	FIXED	-
55	EMPTY	1954	42,000	FIXED	-
56	SPENT CAUSTIC	1954	21,000	FIXED	40 CFR 63 Subpart CC Group 2
57	SPENT CAUSTIC	1954	39,900	FIXED	40 CFR 63 Subpart CC Group 2
60	CRUDE	1958	6,342,000	SD-EFR	Two seals 40 CFR 63 Subpart CC Group 1, NWCAA 560/580
87	FUEL OIL	1955	21,000	FIXED	40 CFR 63 Subpart CC Group 2
88	EMPTY	1957	420,000	DD-EFR	Out of service
89	EMPTY	1957	420,000	DD-EFR	One seal 40 CFR 63 Subpart CC Group 2
90	EMPTY	1957	420,000	DD-EFR	Two seals Out of service
91	L.S. DIESEL	1957	1,260,000	SD-EFR	One seal 40 CFR 63 Subpart CC Group 2
92	GASOLINE	1957	6,342,000	SD-EFR	Two seals 40 CFR 63 Subpart CC Group 1, NWCAA 560/580
96	FRESH ACID	1957	38,640	FIXED	40 CFR 63 Subpart CC Group 2
97	SPENT ACID	1957	38,640	FIXED/ CLOSED VENT	Closed vent system to flare (in service 2 nd quarter 2024) 40 CFR 63 Subpart CC Group 2, NWCAA 580.3
109	SPENT CAUSTIC	1964	21,000	FIXED	40 CFR 63 Subpart CC Group 2
113	NHT FEED	1960/ 2017	1,260,000	SD-EFR	Two seals 40 CFR 63 Subpart CC Group 1, 40 CFR 60 Subpart Kb, NWCAA 560/580, OAC 1261 (hollow)

Tank	Service	Construction	Capacity (gallons)	Tank Type*	Comments
114	L.S. DIESEL	1961	5,292,000	FX-IFR	One seal 40 CFR 63 Subpart CC Group 2
115	SPENT CAUSTIC	1964	21,000	FIXED	40 CFR 63 Subpart CC Group 2
129	AQUEOUS AMMONIA	1969	16,800	FIXED	-
134	GASOLINE	1964	4,074,000	SD-EFR	Two seals 40 CFR 63 Subpart CC Group 1, NWCAA 560/580
135	CC FEED	1963	7,224,000	SD-EFR	Two seals 40 CFR 63 Subpart CC Group 2
136	CRUDE	1964	7,224,000	SD-EFR	Two seals 40 CFR 63 Subpart CC Group 1, NWCAA 560/580
138	CHEM ADDITIVE	1965	11,802	FIXED	40 CFR 63 Subpart CC Group 2
142	JET FUEL	1968	6,342,000	FIXED	40 CFR 63 Subpart CC Group 2
148	JET FUEL	1968	6,342,000	SD-EFR	One seal 40 CFR 63 Subpart CC Group 2
160	FRESH CAUSTIC	1972	84,000	FIXED	-
161	BALLAST/DESALTER BRINE	1972/ 1990	2,268,000	FX-IFR	One seal 40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC, NWCAA 560/580
165	CRUDE	1978	25,410,000	DD-EFR	Two seals 40 CFR 63 Subpart CC Group 1, 40 CFR 60 Subpart K, NWCAA 560/580
166	CRUDE	1978	25,410,000	DD-EFR	Two seals 40 CFR 63 Subpart CC Group 1, 40 CFR 60 Subpart K, NWCAA 560/580
171	DIESEL	1981	5,544,000	FIXED	40 CFR 63 Subpart CC Group 2

Tank	Service	Construction	Capacity (gallons)	Tank Type*	Comments
202	GASOLINE	1993	8,568,000	DD-EFR	Two seals 40 CFR 60 Subpart Kb, 40 CFR 63 Subpart CC Group 1, NWCAA 560/580, OAC 358a
203	GASOLINE	1993	8,442,000	DD-EFR	Two seals 40 CFR 60 Subpart Kb, 40 CFR 63 Subpart CC Group 1, NWCAA 560/580, OAC 358a
216	EFFLUENT TREATMENT PLANT BACKUP	1993/ 2008	4,284,000	EFR	One seal 40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC Group 1, NWCAA 560/580
231	LIGHT NAPHTHA	1994	4,662,000	SD-EFR	Two seals 40 CFR 60 Subpart Kb, 40 CFR 63 Subpart CC Group 1, NWCAA 560/580, OAC 1050a (hollow)
232	EMPTY	1994	12,600	FX-IFR	One seal 40 CFR 63 Subpart CC Group 2
247	CCU FEED	1998	840,000	FX-IFR	Two seals; heated 40 CFR 60 Subpart Kb, 40 CFR 63 Subpart CC Group 1, xNWCAA 560/580, OAC 1190
248	CCU FEED	1998	840,000	FX-IFR	Two seals; heated 40 CFR 60 Subpart Kb, 40 CFR 63 Subpart CC Group 1, NWCAA 560/580, OAC 1190
1406	DIESEL	2014	42,000	FIXED	40 CFR 63 Subpart CC Group 2, OAC 1171a
1407	GASOLINE	2014	84,000	FX-IFR	Two seals 40 CFR 60 Subpart Kb, 40 CFR 63 Subpart CC Group 1, NWCAA 560/580, OAC 1171a
1408	ETHANOL	2014	42,000	FX-IFR	Two seals 40 CFR 60 Subpart Kb, 40 CFR 63 Subpart CC Group 2, NWCAA 560/580, OAC 1171a

* Tank Type Notes: DD-EFR = Double Deck External Floating Roof; SD-EFR = Single Deck External Floating Roof; FX-IFR = Fixed Roof with Internal Floating Roof; FIXED = Fixed Roof

1.17 Oily Wastewater Collection and Treatment

Oily Wastewater Collection and Treatment		
Emission Unit Type & Description	Construction	Comments
Facility-wide process individual drain systems and treatment systems	1955	2 Mg option 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC
API Separator (X-701), Sludge Thickener (X-715), Primary Clarifiers (X-702 and X-703), Clarifier Sludge Reservoir (X-708)	1955/mod 1992	Fixed covers with water spray tower, carbon adsorption canisters, and water seals 40 CFR 61 Subpart FF (2 Mg), 40 CFR 63 Subpart CC, OAC 362b (hollow)
Diversion Sump	1955	Fixed cover, carbon adsorption canisters 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC

1.18 Paint Spray Booth

Paint Spray Booth		
Emission Unit Type & Description	Construction	Comments
Paint Spray Booth used for plant maintenance activities	2021	Controlled by dry fabric filtration. OAC 1353 (hollow) NWCAA Section 508

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) (11/4/93), a requirement designated "State Only" is enforceable only by the NWCAA, and not by EPA or through citizen suits. "State only" WAC citations in effect as of August 24, 2022 are enforceable by the NWCAA because they are adopted by reference in NWCAA 104.1 as amended November 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) (10/17/02)), or the NWCAA's "sufficiency monitoring" authority (WAC 173-401-630(1) (3/5/16)), 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) (11/4/93)

The permittee must comply with all terms and conditions of this permit. Any permit noncompliance constitutes a violation of RCW 70A.15 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 322.3 (11/17/11)

It shall be unlawful for any person to cause or allow the operation of any source 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) (3/20/93), WAC 173-400-240 (3/22/91), NWCAA Section 131 (3/14/13), NWCAA Sections 132 (8/13/15) & 133 (2/10/22), 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 State Only: WAC 173-400-250 (9/20/93) and NWCAA 133.2 (2/10/22)

Penalties, decisions, and orders issued may be appealed to the PCHB within 30 days after notice of violation 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) (11/4/93)

The permittee shall furnish to the permitting authority, within a reasonable time, any information that the permitting authority 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 permitting authority 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 administrator along with a claim of confidentiality. The permitting authority shall maintain confidentiality of such information in accordance with RCW 70A.15.2510.

2.1.5 Confidential Information

State Only: NWCAA Section 114 (11/8/07)

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) (9/20/93) and WAC 173-401-630(2) (3/5/16).

PSD 17-01 Conditions XII and IV (7/18/17)

State Only: WAC 173-400-105(3) (11/25/18) and NWCAA Sections 110 & 111 (1/8/69)

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 (1/8/69)

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) (9/20/93)

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) (11/25/18)

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 (7/14/05)

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 360.1 (2/14/73)

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 (7/14/05)

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 365.1 (2/8/89)

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 insure compliance with the NWCAA Regulation.

2.1.10.2 State Only: NWCAA Section 367 and Appendix A (7/14/05)

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 log book 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 on a monthly basis 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 $\leq 90\%$ 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 (2/24/97)

For the purpose of 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 (11/4/93) and WAC 173-401-710 (10/17/02)

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) (11/4/93)

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) (11/4/93)

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 WAC 173-400-136 (4/1/11)
State Only: WAC 173-400-136 (12/29/12)

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) (11/4/93)

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) (11/4/93) and WAC 173-401-735 (5/3/97)

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) (11/4/93)

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 (11/4/93)

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 18 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 (10/17/02) and WAC 173-401-724 (3/5/16)

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 (11/4/93)

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) (11/4/93)

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

2.2.12 Definitions

NWCAA Section 200 (4/11/19)

State Only: NWCAA Section 200 (2/10/22)

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) (3/5/16)

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) (11/4/93)

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 322.4 (11/17/11)

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 (2/14/73)

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 (2/10/22)

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 Section 300.

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.

Upon permanent shutdown, the source no longer has authorization to operate and any associated Orders become invalid. Prior to resumption of operation after a permanent shutdown, the source shall obtain, as applicable, a new Order of Approval as a new source and re-register.

2.3 Permit Shield

2.3.1 Shield Requirement

WAC 173-401-640(1) (11/4/93)

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) (11/4/93)

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) (11/4/93)

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 70A.15.2330.

2.3.4 Reasonably Available Control Technology

2.3.4.1 WAC 173-401-605(3) (11/4/93)

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 (3/22/91)

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) (9/16/18)

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 70A.15.2230, 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 (11/8/22)

Reasonably Available Control Technology (RACT) is required for all existing sources except as otherwise provided in RCW 70A.15.3000. 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 Section 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 (11/4/93)

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) (3/5/16)

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:

U.S. EPA, Region 10, Mail Stop: 20-C04
Attn: Clean Air Act Compliance Manager
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 (11/4/93)

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 (10/17/02) and -630 (3/5/16)

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.

Directly enforceable under WAC 173-401-630(1) (3/5/16)

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) (10/17/02)

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

2.4.2.1 State Only: NWCAA Section 112 (11/12/99)

No person shall willfully make a false or misleading oral statement to the Board, Control Officer, or their duly authorized representatives 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, registration certificate, 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

WAC 173-401-615(2) (10/17/02)

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.

Directly enforceable under WAC 173-401-630(1) (3/5/16)

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 (9/8/93) and WAC 173-400-105(1) (9/20/93)

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, PM₁₀, 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) (11/25/18)

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.

The owner or operator must submit the calendar year annual emissions inventory no later than April 15th after the end of the calendar year for which the emissions inventory was requested. If April 15th falls on a weekend, then the deadline to file shall be the next business day.

2.4.4.3 State Only: NWCAA Section 150 (2/10/22)

Every person operating a registered air contaminant source or a Chapter 401 source, as defined in WAC 173-401-200, which includes portable sources, shall file annually 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) The estimated calendar year emissions which may include each criteria air pollutant, hazardous air pollutant, toxic air pollutant, and volatile organic compounds. Every person filing an annual emissions inventory shall retain at the facility the calculations, associated production data, and emission factors used to obtain the estimates.

Annual emission reports shall be submitted to the NWCAA no later than April 15 of the following calendar year, unless otherwise specified by NWCAA. 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 322.4, then potential to emit may be used to determine said fees.

Every person operating any source or sources which directly or indirectly emits or contributes air contaminants within the jurisdictional area of the NWCAA may be required to report to the Control Officer, at a time or times selected by the Control Officer, production rates, sales or other data (including quantities of products used or any other information) as may be required to estimate the emissions from the various air contaminant sources.

2.4.5 Greenhouse Gas (GHG) Reporting

2.4.5.1 State Only: WAC 173-441-030(1), (2), (5), and (6) (3/12/22)

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), and
- (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 reporter 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 (3/12/22)

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 (3/12/22)

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 reporter, 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 (3/12/22)

All requests, notifications, and communications to Ecology pursuant to this chapter, must be submitted in a format as specified by Ecology 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

2.4.6.1 State Only: WAC 173-400-720(4)(b)(iii)(G) (12/19/22)

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.

2.4.6.2 PSD 17-01 Conditions IV, VIII.D, and IX.A, B, & D (7/18/17)

Tesoro must follow the recordkeeping requirements in WAC 173-400-720(4)(b)(iii)(D) to monitor compliance in circumstances where there is a reasonable possibility (as defined in WAC 173-400-720(4)(b)(iii)(D)) that a project that is not a part of a major modification may result in a significant emissions increase of such pollutant. Tesoro must keep records and submit reports with regard to Condition VIII.D as specified in WAC 173-400-720(4)(b)(iii)(D).

The calculation must be calculated for the immediate past 12 months. Records must be retained for not less than 5 years after their origination. At a minimum, the most recent 2 years of data must be retained onsite (or be electronically accessible at the site). The remaining 3 years of data may be retained offsite. Records must be available for inspection by Ecology and NWCAA within 10 days of request.

2.4.7 Reporting of Deviations from Permit Conditions

WAC 173-401-615(3)(b) (10/17/02)

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.

Directly enforceable under WAC 173-401-630(1) (3/5/16)

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 340.1, 340.2 and 340.3 (10/13/94)

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 12 hours to the NWCAA.
- (ii) The person responsible shall, upon the request of the Control Officer, submit a full report within 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 340.1, 340.2 and 340.3 (11/8/07)

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:

- (iii) 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
- (iv) 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 (9/8/93)

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 Section 341 (7/14/05)

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 (9/8/93)

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 Section 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 (7/14/05)

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 Emissions

WAC 173-400-107 (9/20/93) (State Only - 9/16/18)

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 340.4 (11/8/07) and 341.4 (7/14/05)

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) (10/17/02)

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) (3/22/91)
State Only: WAC 173-400-040(8) (9/16/18)

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 (1/8/69)

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 (3/22/91)

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 (10/18/90) and WAC 173-425-045 (1/3/89), WAC 173-435-050(2) (1/3/89) 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: garbage, dead animals, asphaltic products, waste petroleum products, paints, rubber products, plastics, treated wood, and 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 (4/13/00), NWCAA Section 502 (9/11/14)

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 (11/10/22)

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

- 2.7.4.2 40 CFR 61.145 (4/7/93), 61.148 (11/20/90) and 61.150 (9/18/03)

The permittee shall comply with 40 CFR Subparts 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 (3/11/20)

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

NWCAA Section 124 (2/14/73)

Any order, registration certificate, or other certificate obtained by the Regulations of the NWCAA shall be available on the premises designated on the order or certificate. 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) (11/25/18)

No person shall make any false material statement, representation or certification in any form, notice or report required under chapter 70A.15 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) (11/25/18)

No person shall render inaccurate any monitoring device or method required under chapter 70A.15 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 (12/3/18)

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 580.7 (4/14/93)

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 (2/10/05)

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 and Application for Approval/New Source Review

2.8.1 Minor New Source Review (NSR)

2.8.1.1 NWCAA Sections 300 (4/11/19), 324.2 (10/13/94), WAC 173-400-111 (7/1/16), and -113 (12/29/12)

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 173-460-010 through -030 (6/20/09), -040 (12/23/19), -050 through -071 (6/20/09), -080 (12/23/19), -090 and -100 (6/20/09), -140 (9/18/91), -150 (12/23/19), NWCAA Section 300 (2/10/22) and 303 (4/11/19) and NWCAA 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 beginning actual construction of any new source or making any modification, except for those emissions units that are exempt under NWCAA 300.3 or 300.4, or any emissions unit covered under a General Order of Approval and operating in accordance with NWCAA 300.16. For purposes of this section "establishment" shall mean to "begin actual construction" as that phrase is defined in NWCAA Section 200, and "new source" shall include any "modification" to an existing "stationary source" as those terms are defined in NWCAA Section 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 conduct an investigation 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 Nonroad Engines

State Only: NWCAA Section 304 (4/11/19)

This section applies to nonroad engines, as defined in NWCAA Section 200. Nonroad engines are not subject to new source review, control technology determinations, or emission limits set by the state implementation plan, or WAC 173-460.

Nonroad engines must use ultra-low sulfur diesel or ultra-low sulfur bio-diesel, gasoline, natural gas, propane, liquefied petroleum gas, hydrogen, ethanol, methanol, or liquefied/compressed natural gas.

For each nonroad engine as specified in this section greater than 500 brake horsepower (bhp), the owner or operator must notify NWCAA within 15 calendar days prior to surpassing the engine remaining at a facility for 12 consecutive months. This notification must include the make, model, serial number, rating, fuel type, date the engine was brought to the facility, and engine function or purpose.

2.8.3 General Order

2.8.3.1 NWCAA 121.4 (11/15/88)

Any orders issued by NWCAA are subject to appeal.

2.8.3.2 State Only: WAC 173-400-560 (12/29/12), NWCAA 121.4 (3/14/13)

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.

2.8.4 Requirements to Comply

2.8.4.1 NWCAA 300.13 (2/10/22) State Only: NWCAA 300.13 (2/10/22)

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.

2.8.4.2 PSD 17-01 Conditions XIV & IV (7/18/17)

Pursuant to 40 CFR 52.21(r)(1), Tesoro must install and operate the proposed emissions units in accordance with this PSD permit and the application on which this permit is based.

Pursuant to 40 CFR 52.21(r)(3), this PSD permit shall not relieve Tesoro of the responsibility to comply fully with applicable provisions of the State Implementation Plan and any other requirements under local, state, or federal law.

Any applicant who fails to submit any relevant facts or who has submitted materially incorrect relevant information in a permit application must, upon becoming aware of such failure, or incorrect submittal, promptly submit such supplementary facts or corrected information.

To the extent provided by 40 CFR 52.12(c), for the purpose of establishing whether or not Tesoro has violated or is in violation of any requirement of this permit, nothing in this permit shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether Tesoro would have been in compliance with applicable requirements if the appropriate performance or reference test or procedure had been performed.

2.8.5 Prevention of Significant Deterioration (PSD)

WAC 173-400-117 (12/29/12) State Only: WAC 173-400-700 (4/1/11), WAC 173-400-710 (7/1/16), -720 (12/19/22), -730 (12/19/22), -740 (9/16/18), -750 (12/29/12)

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).

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

State Only: NWCAA 300.25 (2/10/22)

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.

2.8.7 Major Stationary Source and Major Modification in a Nonattainment Area

WAC 173-400-800 (4/1/11), -810 (7/1/16), -820 (12/29/12), -830 (7/1/16), -840 (7/1/16), -850 (7/1/16), and -860 (4/1/11)

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) (3/5/16)

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 CO₂ equivalent emissions and the source is otherwise required to have an operating permit.

The term "tpy (tons per year) CO₂ 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}.

"Subject to regulation" means, for any air pollutant, that the pollutant is subject to either a provision in the FCAA, or a nationally applicable regulation codified by EPA in subchapter C of 40 CFR chapter 1 (in effect on October 6, 2010), that requires actual control of the quantity of emissions of that pollutant, and that such a control requirement has taken effect and is operative to control, limit or restrict the quantity of emissions of that pollutant released from the regulated activity.

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 of the federal regulations listed in Section 3 in effect as of August 24, 2022 have been adopted by reference in Section 104.2 of the NWCAA Regulation. NWCAA 104.2 was last amended by the Agency on November 10, 2022.

3.1 Part 60 – New Source Performance Standard Requirements

3.1.1 Address for Reports, Notifications, and Submittals

40 CFR 60.4(a) and (b) (4/25/75) (as amended by Delegation Letter dated 5/10/23 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) (2/12/99) (as amended by Delegation Letter dated 5/10/23 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) (2/12/99)

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) (8/30/16)

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 5/10/23 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) (9/12/12)

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) (2/12/99)

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) (8/30/16)

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 seven 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:

- (v) 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.
- (vi) 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.
- (vii) 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.
- (viii) 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.
- (ix) 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.
- (x) 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) (8/30/16)

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) (10/17/00)

Compliance with opacity standards in 40 CFR Part 60 shall be determined by EPA Method 9 in Appendix A. For purposes of determining initial compliance, the minimum total time of observations shall be three hours (30 six-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) (10/17/00)

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) (10/17/00)

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 (3/8/74)

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 (6/30/16)

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 one-hour averages for time periods as defined in §60.2.

For continuous monitoring systems other than opacity, one-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 (10/17/00)

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 (1/19/21) and 60.116b(a) (10/15/03)

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 (11/23/88)

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) (10/17/00)

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) (10/17/00)

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) (10/17/00)

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) (6/29/21) and 60.4208(a), (b), (h), (i) (6/28/11)

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:

- (i) 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.
- (ii) 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.
- (iii) 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.
- (iv) 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.
- (v) 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.
- (vi) 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.
- (vii) 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 Pollutant Requirements

3.2.1 Address for Reports, Notifications and Submittals

40 CFR 61.04 (4/25/75) (as amended by Delegation Letter dated 5/10/23 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 (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:

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 (11/7/85), and 61.10(a) and (c) (3/16/94)

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:

The name and address of the owner or operator;

- (viii) The location of the source;
- (ix) The type of hazardous pollutants emitted by the stationary source;
- (x) 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.
- (xi) 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.

- (xii) A description of the existing control equipment for each emission point including – (i) each control device for each hazardous pollutant; and (ii) estimated control efficiency (percent) for each control device.
- (xiii) 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) (11/7/85)

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 (11/7/85)

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) (11/7/85)

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) (2/24/97)

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) (2/24/97)

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) (8/30/16)

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) (8/30/16), and 61.356 (11/12/02)

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 (11/7/85)

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 (11/7/85)

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 (11/7/85)

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 Pollutant Requirements**

3.3.1 Prohibited Activities and Circumvention

40 CFR 63.4 (4/5/02)

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) (4/5/02)

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 t 63.6(e)(1)(i) & (ii) do not apply to Subparts CC, UUU, ZZZZ & DDDDD) 40 CFR 63.6(e)(1)(i),(ii), and (iii) (3/11/21)

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 Affected Sources 40 CFR 63.1564(a)(3) & (c)(2) (11/26/18); 63.1565(a)(3) & (c)(2) (11/26/18); 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) (11/26/18); 63.1574(f) (11/19/20); and 63.1576(e) (11/26/18)

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 data rather than direct measurement), and the rate of combustion of liquid or solid fossil fuels if you use an incinerator-waste heat boiler to burn the exhaust gases from a catalyst regenerator.
- (iv) Procedures and analytical methods you will use to determine the equilibrium catalyst Ni concentration, the equilibrium catalyst Ni concentration monthly rolling average, and the hourly or hourly average Ni operating value.
- (v) Procedures you will use to determine the pH of the water (or scrubbing liquid) exiting a wet scrubber if you use pH strips.
- (vi) 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.
- (vii) Procedures you will use to determine the gas flow rate for a catalytic cracking unit if you use the alternative procedure based on air flow rate and temperature.
- (viii) Monitoring schedule, including when you will monitor and when you will not monitor an affected source (e.g., during the coke burn-off, regeneration process).
- (ix) 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.
- (x) 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.
- (xi) If you use a fixed-bed gas-solid adsorption system to control emissions from a catalytic reforming unit, you must implement corrective action procedures if the HCl concentration measured at the selected compliance monitoring sampling location within the bed exceeds the operating limit. These procedures must require, at minimum, repeat measurement and recording of the HCl concentration in the adsorption system exhaust gases and at the selected compliance monitoring sampling location within the bed. If the HCl concentration at the selected compliance monitoring location within the bed is above the operating limit during the repeat measurement while the HCl concentration in the adsorption system exhaust gases remains below the operating limit, the adsorption bed must be replaced as soon as practicable. Your procedures must specify the sampling frequency that will be used to monitor the HCl concentration in the adsorption system exhaust gases subsequent to the repeat measurement and prior to replacement of the sorbent material (but not less frequent than once every 4 hours during coke burn-off). If the HCl concentration of the adsorption system exhaust gases is above the operating limit when measured at any time, the adsorption bed must be replaced within 24 hours or before the next regeneration cycle, whichever is longer.

- (xii) Procedures that will be used for purging the catalyst if you do not use a control device to comply with the organic HAP emission limits for catalytic reforming units. These procedures will include, but are not limited to, specification of the minimum catalyst temperature and the minimum cumulative volume of gas per mass of catalyst used for purging prior to uncontrolled releases (i.e., during controlled purging events); the maximum purge gas temperature for uncontrolled purge events; and specification of the monitoring systems that will be used to monitor and record data during each purge event.

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
40 CFR 63.7500(a)(3) (10/6/22)

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.

3.3.4 Compliance With Nonopacity Emission Standards

Nonopacity emission standards for Part 63 NESHAP Sources (except Subparts CC, UUU, ZZZZ & DDDDD)
40 CFR 63.6(f)(1) (3/11/21)

The non-opacity emission standards set forth in this part shall apply at all times except as otherwise specified in an applicable subpart. If a startup, shutdown, or malfunction of one portion of an affected source does not affect the ability of particular emission points within other portions of the affected source to comply with the non-opacity emission standards set forth in this part, then that emission point must still be required to comply with the non-opacity emission standards and other applicable requirements.

3.3.5 Compliance With Opacity and Visible Emission Standards

Compliance with opacity and visible emission standards for Part 63 NESHAP Sources (except Subparts CC, UUU, ZZZZ & DDDDD)
40 CFR 63.6(h)(1) (3/11/21)

The opacity and visible emission standards set forth in this part must apply at all times except as otherwise specified in an applicable subpart. If a startup, shutdown, or malfunction of one portion of an affected source does not affect the ability of particular emission points within other portions of the affected source to comply with the opacity and visible emission standards set forth in this part, then that emission point shall still be required to comply with the opacity and visible emission standards and other applicable requirements.

3.3.6 Extension of Compliance for Early Reductions and Other Reductions

40 CFR 63.6(i) (3/11/21) and 63.9(c) (11/19/20)

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).

3.3.7 Notification of Performance Tests

3.3.7.1 Notification of Performance Tests for Part 63 NESHAP Sources (as modified for Subparts CC and UUU) 40 CFR 63.7(b) (11/14/18) and 63.9(e) (11/19/20)

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.

3.3.7.2 Notification of Performance Tests for 40 CFR 63 Subpart CC Affected Sources 40 CFR 63.642(d)(2) (12/1/15)

The requirements for notification of performance tests for Subpart CC affected sources are the same as noted in AOP Term 0 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.

3.3.7.3 Notification of Performance Tests for 40 CFR 63 Subpart UUU Affected Sources 40 CFR 63.1574(a)(2) (11/19/20)

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).

3.3.8 Conduct of Performance Tests

Conduct of Performance Tests for Part 63 NESHAP Sources (except as modified by individual Subparts) 40 CFR 63.7 (11/14/18), 63.9(e) (11/19/20)

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.

3.3.9 Operation and Maintenance of Continuous Monitoring Systems (CMS)

*3.3.9.1 O&M of CMS for Part 63 NESHAP Sources (except as modified by Subparts CC and UUU; no SSMP is required for Subpart DDDDD; no COMS is 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:

- (iii) 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).
- (iv) 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.

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:

- (v) 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.
- (vi) 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.

3.3.9.2 *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."

3.3.9.3 *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.

3.3.10 Continuous Monitoring Systems (CMS) Out of Control Periods

3.3.10.1 *CMS Out of Control Periods for Part 63 NESHAP Sources (except Subpart CC)*
40 CFR 63.8(c)(7) and (8) (11/14/18)

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).

3.3.10.2 CMS Out of Control Periods for Part 63 Subpart CC Affected Sources
40 CFR 63.671(c) (12/1/15)

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 (i) and (ii).

- (i) A CPMS is out-of-control if the zero (low-level), mid-level (if applicable) or high-level calibration drift exceeds two times the accuracy requirement of table 13 of this subpart.
- (ii) When the CPMS is out of control, the owner or operator shall take the necessary corrective action and repeat all necessary tests that indicate 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 CPMS is out of control in data averages and calculations, used to report emissions or operating levels.

3.3.11 Continuous Monitoring Systems (CMS) Quality Control Program

3.3.11.1 CMS Quality Control 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) (11/14/18), 63.9(g)(1) (11/19/20)

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—

- (vii) 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,
- (viii) 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 containing the information specified in §63.7(g)(2)(i) through (vi) 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.

*3.3.11.2 CMS Quality Control 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 **Error! Reference source not found.**, 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 (i) through (v) of this section.

- (i) 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).
- (ii) Identification of the parameter to be monitored by the CPMS and the expected parameter range, including worst case and normal operation.
- (iii) Description of the monitoring equipment, including the information specified in paragraphs (a) through (g) of this section.
 - a. Manufacturer and model number for all monitoring equipment components installed to comply with applicable provisions in §63.670.
 - b. Performance specifications, as provided by the manufacturer, and any differences expected for this installation and operation.
 - c. The location of the CPMS sampling probe or other interface and a justification of how the location meets the requirements of this section.
 - d. Placement of the CPMS readout, or other indication of parameter values, indicating how the location meets the requirements of this section.
 - e. Span of the CPMS. The span of the CPMS sensor and analyzer must encompass the full range of all expected values.
 - f. 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.
 - g. 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.

- (iv) Description of the data collection and reduction systems, including the information specified in paragraphs (a) through (c) of this section.
 - a. 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.
 - b. 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.
 - c. 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.
- (v) Routine quality control and assurance procedures, including descriptions of the procedures listed in paragraphs (a) through (f) of this section and a schedule for conducting these procedures. The routine procedures must provide an assessment of CPMS performance.
 - a. Initial and subsequent calibration of the CPMS and acceptance criteria.
 - b. Determination and adjustment of the calibration drift of the CPMS.
 - c. 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.
 - d. Preventive maintenance of the CPMS, including spare parts inventory.
 - e. Data recording, calculations and reporting.
 - f. Program of corrective action for a CPMS that is not operating properly.

3.3.12 Continuous Monitoring Systems (CMS) Data Reduction

3.3.12.1 CMS Data Reduction for Part 63 NESHAP Sources (except for Subparts CC, & UUU; and as modified for Subpart ZZZZ) 40 CFR 63.8(g) (11/14/18)

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 nonreduced form (e.g., ppm pollutant and percent O₂ 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.

3.3.12.2 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.
 - i. The automated data compression recording system shall be designed to:
 - 1. Measure the operating parameter value at least once every hour.
 - 2. Record at least 24 values each day during periods of operation.
 - 3. Record the date and time when monitors are turned off or on.
 - 4. Recognize unchanging data that may indicate the monitor is not functioning properly, alert the operator and record the incident.
 - 5. Compute the daily average values of the monitored operating parameter based on recorded data.
 - ii. 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 (vi) through (viii) of this section.

- (vi) The owner or operator may round the data to the same number of significant digits used in that operating limit.
- (vii) 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.
- (viii) Periods when the CPMS is out of control must not be included in the 15-minute block averages.

3.3.12.3 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 (i) through (iv) of this section.

- (i) You must install, operate, and maintain each continuous emission monitoring system according to the requirements in Table 40 of this subpart.
- (ii) If you use a continuous emission monitoring system to meet the NSPS CO or SO₂ 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.
- (iii) 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.
- (iv) 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 (v) through (ix) of this section. For flares, you must install, operate, calibrate, and maintain monitoring systems as specified in 63.670 and 63.671.

- (v) 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.
- (vi) 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).

- (vii) 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.
- (viii) 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.
- (ix) 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 (x) and (xi) of this section.

- (x) 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.
- (xi) 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.

3.3.12.4 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.

3.3.13 Address for Reports, Notifications and Submittals

40 CFR 63.9(a) (11/19/20), 63.10(a), 63.12(c), 63.13 (11/19/20), (as amended by Delegation Letter dated 5/10/23 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:

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

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.

3.3.14 Notification

3.3.14.1 Notification Requirements for New or Reconstructed Part 63 NESHAP Sources (except as modified by 63 Subpart UUU) 40 CFR 63.9(b)(4) (11/19/20)

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.

3.3.14.2 Notification Requirements for Existing Part 63 NESHAP Sources Except 40 CFR Part 63 Subpart CC Affected Sources 40 CFR 63.9(b)(2) and (j) (11/19/20)

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. The owner or operator of a major source that reclassifies to area source status is also subject to the notification requirements of

this paragraph. The owner or operator may use the application for reclassification with the regulatory authority (e.g., permit application) to fulfill the requirements of this paragraph. A source which reclassified after January 25, 2018, and before January 19, 2021, and has not yet provided the notification of a change in information is required to provide such notification no later than February 2, 2021, according to the requirements of paragraph (k) of this section. Beginning January 19, 2021, the owner or operator of a major source that reclassifies to area source status must submit the notification according to the requirements of paragraph (k) of this section. A notification of reclassification must contain 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 standard being reclassified from and to (if applicable); and
- (iv) Date of effectiveness of the reclassification.

3.3.14.3 Notification Requirements for New or Reconstructed Part 63 Subpart UUU Affected Sources
40 CFR 63.1574(c) (11/19/20)

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:

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.

3.3.15 Recordkeeping

3.3.15.1 Recordkeeping for Part 63 NESHAP Sources (except for Subparts CC & UUU, and for Subpart DDDDD where 63.10(b)(3) does not apply)
40 CFR 63.10(b)(1) and (3) (11/19/20)

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 existing or new stationary source is in the source category regulated by a standard established pursuant to section 112 of the Act, but that source is not subject to the relevant standard (or other requirement established under this part) because of enforceable limitations on the source's potential to emit, or the source otherwise qualifies for an exclusion, the owner or operator must keep a record of the applicability determination. The applicability determination must be kept 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 subject to the relevant standard (or other requirement established under this part), whichever comes first if the determination is made prior to January 19, 2021. The applicability determination must be kept until the source changes its operations to become an affected source subject to the relevant standard (or other requirement established under this part) if the determination was made on or after January 19, 2021. The record of the applicability determination must be signed by the person making the determination and include an emissions analysis (or other information) that demonstrates the owner or operator's conclusion that 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 an applicability finding for the source with regard to the relevant standard or other requirement. If applicable, 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 of the Act, if any.

3.3.15.2 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.

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

You must keep the records specified in paragraphs (i) through (iii) of this section.

- (i) 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).
- (ii) The records specified in paragraphs (a) through (d) of this section.
 - a. 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).
 - b. 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.
 - c. 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.
 - d. 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.
- (iii) 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 (iv) through (viii) of this section.

- (iv) Records described in 63.10(b)(2)(vi) through (xi).
- (v) Monitoring data for continuous opacity monitoring systems during a performance evaluation as required in 63.6(h)(7)(i) and (ii).
- (vi) 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).
- (vii) Requests for alternatives to the relative accuracy test for continuous emission monitoring systems as required in 63.8(f)(6)(i).

(viii) 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.

3.3.16 Startup, Shutdown, and Malfunction Recordkeeping and Reports

3.3.16.1 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) 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.

3.3.16.2 SSM Reports for 40 CFR 63 Subpart DDDDD Affected Sources
40 CFR 63.7555(d)(7) (10/6/22) and 63.7550(c)(5)(xiii) and (xviii)
(11/20/15)

The requirements for startup, shutdown and malfunction reports for Subpart DDDDD affected sources are the same as noted in AOP Term 3.3.16.1 above with the following exceptions:

- (i) Keep records of actions taken during periods of malfunction to minimize emission in accordance with the general duty to minimize emissions in §63.7500(a)(3), including corrective actions to restore the malfunctioning boiler or process heater, air pollution control, or monitoring equipment to its normal or usual manner of operation.
- (ii) Report all malfunctions that occurred during the reporting period. The report must include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by you during a malfunction of a boiler, process heater, or associated air pollution control device or CMS to minimize emissions in accordance with §63.7500(a)(3), including actions taken to correct the malfunction.
- (iii) Report each instance of startup and shutdown, including the information required to be monitored, collected, or recorded according to the requirements of §63.7555(d).

3.3.16.3 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 (i) through (iv) of this section.

- (i) The total operating time of each affected source during the reporting period and identification of the sources for which there was a deviation.
- (ii) Information on the number, date, time, duration, and cause of deviations (including unknown cause, if applicable).
- (iii) 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).
- (iv) 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 (v) through (xvii) of this section.

- (v) [Reserved]
- (vi) 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.
- (vii) 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).
- (viii) 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.
- (ix) 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.
- (x) 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.
- (xi) 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.
- (xii) 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.

- (xiii) An identification of each HAP that was monitored at the affected source.
- (xiv) A brief description of the process units.
- (xv) The monitoring equipment manufacturer(s) and model number(s).
- (xvi) The date of the latest certification or audit for the continuous opacity monitoring system or continuous emission monitoring system.
- (xvii) A description of any change in the continuous emission monitoring system or continuous opacity monitoring system, processes, or controls since the last reporting period.

3.3.17 Reports

3.3.17.1 Periodic Reports for Part 63 Subpart CC Affected Sources 40 CFR 63.655(g) (2/4/20)

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 (NOCS) 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.

3.3.17.2 Report Requirements for Part 63 Subpart UUU Affected Sources 40 CFR 63.1575(a) & (b) and Table 43 (11/26/18)

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.

3.3.17.3 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.
- (v) 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.

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.

3.3.18 Deviation Reporting

Deviation Reporting Requirements for 40 CFR 63 Subpart UUU Affected Sources 40 CFR 63.1570(f) (12/1/15), 63.1575(a)-(g), (i) & (k) (11/26/18) and Table 43 (11/26/18)

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 from 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/or (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.

3.3.19 Recordkeeping Requirements for Sources with Continuous Monitoring Systems

*3.3.19.1 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) (11/19/20)*

In addition to complying with the requirements specified in paragraphs (b)(1) and (b)(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)–(iv) [Reserved]
- (v) The date and time identifying each period during which the CMS was inoperative except for zero (low-level) and high-level checks;
- (vi) The date and time identifying each period during which the CMS was out of control, as defined in §63.8(c)(7);
- (vii) 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;
- (viii) 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;
- (ix) [Reserved]
- (x) The nature and cause of any malfunction (if known);
- (xi) The corrective action taken or preventive measures adopted;
- (xii) The nature of the repairs or adjustments to the CMS that was inoperative or out of control;
- (xiii) The total process operating time during the reporting period; and
- (xiv) All procedures that are part of a quality control program developed and implemented for CMS under §63.8(d).

3.3.19.2 Recordkeeping Requirements for CMS for Part 63 Subpart CC Affected Sources
40 CFR 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 (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.

3.3.19.3 Recordkeeping Requirements for CMS for Part 63 Subpart UUU Affected Sources
40 CFR 63.1576(b) (11/26/18)

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.

3.3.20 Additional 40 CFR Part 63 Subpart CC Process Units Added or Process Changes Not Meeting Construction or Reconstruction Definition

40 CFR 63.640(l) and (m) (2/4/20)

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 be in compliance 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 be in compliance 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).

3.3.21 Recordkeeping Requirements for 40 CFR Part 63 Subpart CC Equipment

40 CFR 63.642(e) (12/1/15) and 63.655(i) 2/4/20)

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.

3.3.22 Notification of Compliance Status (NOCS)

3.3.22.1 NOCS for Part 63 NESHAPs Sources (except for Subpart CC; and as modified for Subparts UUU & DDDDD) 40 CFR 63.9(h) (11/19/20)

Each time a notification of compliance status (NOCS) 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 NOCS 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.

3.3.22.2 NOCS 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 (NOCS) 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).

3.3.22.3 NOCS for 40 CFR 63 Subpart UUU Affected Sources
40 CFR 63.1574(a)(3) & (d) (11/19/20) and Table 42 (2/9/05)

The requirements for Notifications of Compliance Status (NOCS) for 63 Subpart UUU affected sources are the same as noted in AOP Term 3.3.22.1 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.

3.3.22.4 NOCS for 40 CFR 63 Subpart DDDDD Affected Sources
40 CFR 63.7545(a), (e), (e)(1), and (e)(6) (10/6/22)

The requirements for Notifications of Compliance Status (NOCS) for Subpart DDDDD affected sources are the same as noted in AOP Term 3.3.22.1 with the following clarifications, exceptions, or differences:

The NOCS shall be submitted by close of business on the 60th day following the completion of all performance test and/or other initial compliance demonstrations for all boiler or process heaters at the facility according to §63.10(d)(2). 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 NOCS 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)."

3.3.23 General Compliance Requirements for 40 CFR 63 Subpart ZZZZ

40 CFR 63.6605 (1/30/13)

Comply with the emission limitations and operating limitations in 40 CFR 63 Subpart ZZZZ that apply at all times.

At all times, operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available 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.

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 NWCAA, and not by the EPA or through citizen suits. "State Only" WAC citations in effect as of August 24, 2022 are enforceable by NWCAA because they are adopted by reference in NWCAA 104.1, as amended November 10, 2022. All of the federal regulations in effect as of August 24, 2022 listed in Section 4 have been adopted by reference in NWCAA 104.2, as amended November 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 the underlying requirement or by WAC 173-401-605(1) or -615. MR&R obligations do not apply to insignificant emission units.

The requirements in the MR&R column labeled as "*Directly Enforceable*" are legally enforceable requirements added under either the NWCAA's "gap-filling" authority (WAC 173-401-615(1)(b) & (c) (10/17/02)), or the NWCAA's "sufficiency monitoring" authority (WAC 173-401-630(1) (3/5/16)), as cited in each permit term. Other requirements not labeled "*Directly Enforceable*" 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.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
4.1 General	WAC 173-401-630(1) (3/5/16) WAC 173-401-520 (11/4/93) 40 CFR 60 Subpart A 60.19(c) (2/12/99) 40 CFR 61 Subpart A 61.10(g) (3/16/94) 40 CFR 63 Subpart A 63.10(a)(5) (11/19/20)	<u>Required Monitoring Reports</u> 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.	All required reports must be certified by a responsible official consistent with WAC 173-401-520. - <i>Directly enforceable</i> - 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 2.4.5.2 - Annual GHG emissions AOP Term 4.35- Fenceline Benzene Monitoring AOP Term 5.17.2 - Annual BWON TAB – due April 7 th If the report submittal deadline falls on a weekend, then the deadline to submit shall be the next business day.
4.2 General	NWCAA Section 342 (9/8/93) (7/14/05 State Only) WAC 173-401-630(1) (3/5/16)	<u>Operation and Maintenance</u> 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. - <i>Directly enforceable</i> - Monitor, keep records and report in accordance with the terms of this permit.
4.3 Nuisance	NWCAA Section 530 (3/9/00 State Only) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>General Nuisance</u> 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.	- <i>Directly enforceable</i> - A written air contaminant complaint response plan will be maintained at the facility. 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

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
4.4 Nuisance	WAC 173-400-040(5) (3/22/91) WAC 173-400-040(6) (9/16/18 State Only) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>Emission Detrimental to Persons or Property</u> 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.	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.
4.5 Odor	NWCAA Section 535 (3/9/00 State Only) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>Odor Control Measures</u> 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.	Receipt of a nuisance complaint in itself shall not necessarily be a violation.
4.6 Odor	WAC 173-400-040(5) (9/16/18 State Only) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>Odors</u> 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.	- <i>Directly enforceable</i> - Follow MR&R under AOP Term Error! Reference source not found..

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
4.7 PM	NWCAA Section 550 (4/14/93) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>Preventing Particulate Matter from Becoming Airborne</u> Best Available Control Technology (BACT) required to prevent the release of fugitive matter to the ambient air. Nuisance particulate fallout is prohibited.	- <i>Directly enforceable</i> - Follow MR&R under AOP Terms 4.3 and 6.1.
4.8 PM	NWCAA Section 550 (9/11/14 State Only) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>Preventing Particulate Matter from Becoming Airborne</u> The owner or operator of a source or activity that generates fugitive dust, including, but not limited to, material handling, building construction or demolition, abrasive blasting, roadways and lots, shall employ reasonable precautions to prevent fugitive dust from becoming airborne and must maintain and operate the source or activity to minimize emissions. It shall be unlawful for any person to cause or allow the emission of particulate matter which becomes deposited upon the property of others in sufficient quantities and of such characteristics and duration as is, or is likely to be, injurious to human health, plant or animal life, or property, or which unreasonably interferes with enjoyment of life and property.	
4.9 PM	WAC 173-400-040(3) (9/16/18 State Only) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>Fallout</u> 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.	

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
4.10 PM	WAC 173-400-040(3)(a) (3/22/91) WAC 173-400-040(4)(a) (9/16/18 State Only) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>Fugitive Emissions</u> Take reasonable precautions to prevent the release of air contaminants from an emissions unit engaging in materials handling, construction, demolition, or other operation which is a source of fugitive emissions.	- <i>Directly enforceable</i> - Follow MR&R under AOP Terms 4.3 and 6.1.
4.11 PM	WAC 173-400-040(8)(a) (3/22/91) WAC 173-400-040(9)(a) (9/16/18 State Only) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>Fugitive Dust</u> Reasonable precautions to prevent release of fugitive dust required. Maintain and operate source to minimize emissions.	
4.12 VE	NWCAA 451.1 (10/13/94) NWCAA 451.1 (11/8/20 State Only) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>Emission of Air Contaminant - Visual Standard – All sources except CCU</u> 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 (Ecology Method 9A) 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.	- <i>Directly enforceable</i> - Follow MR&R under AOP Term 6.1.
4.13 VE	WAC 173-400-040(1) (3/22/91) WAC 173-400-040(2) (9/16/18 State Only) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>Visible Emissions – All sources except CCU</u> 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 twenty percent opacity (Ecology Method 9A) 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.	

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
4.14 PM	NWCAA 455.1 & 455.11 (4/14/93) (5/11/95 State Only) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>Emission of Particulate Matter – All sources except CCU</u> No person shall cause or permit emission of particulate matter in excess of 0.10 grain/dry standard cubic foot (dscf) (0.23 g/m ³) (combustion emissions shall be corrected to 7% O ₂) except: From all gaseous and distillate fuel burning equipment, emissions shall not exceed 0.05 grain/dscf (0.11 g/m ³) corrected to 7% oxygen.	- <i>Directly enforceable</i> - Follow MR&R under AOP Term 6.1.
4.15 PM	WAC 173-400-060 (11/25/18) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>Emission Standards for General Process Units</u> Particulate emissions greater than 0.1 grain/dscf prohibited.	
4.16 PM	WAC 173-400-050(1) and (3) (9/16/18) (12/19/22 State Only) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>Emission Standards for Combustion and Incineration Units</u> Particulate emissions from combustion units greater than 0.1 grains/dscf corrected to 7% oxygen prohibited. The permitting authority may determine that an alternate oxygen correction factor is more representative of normal operations such as the correction factor included in an applicable NSPS or NESHAP, actual operating characteristics, or the manufacturer's specifications for the emission unit.	
4.17 SO ₂	NWCAA Section 460 (4/11/19 State Only)	<u>Ambient SO₂</u> Install, calibrate, maintain, and operate the following monitoring equipment in accordance with the provisions of NWCAA 367: • At least one continuous recording meteorological station equipped to record wind speed and direction • At least one SO₂ ambient station.	Continuously operate and maintain an ambient SO ₂ air monitor and report to the NWCAA as per the requirements in NWCAA Regulations Appendix A (7/14/05).

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
4.18 SO ₂	NWCAA Section 460 (4/14/93) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>Weight/Heat Rate Standard – Emission of Sulfur Compounds</u> 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.	- <i>Directly enforceable</i> - Maintain records of facility calendar monthly average SO ₂ lb/MMBtu, including records of type, quantity, and sulfur content of all fuel combusted, onsite and available for review. Records shall be made available for inspection upon request.
4.19 SO ₂	NWCAA Section 462 (10/13/94) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>Emission of Sulfur Compounds</u> 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.	- <i>Directly enforceable</i> - Monitor and record the concentration of stack SO ₂ , or alternatively fuel gas H ₂ S and/or total sulfur (TS), in accordance with the applicable permit terms listed in AOP Section 5.
4.20 SO ₂	NWCAA Section 462 (3/13/97 State Only) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>Emission of Sulfur Compounds</u> 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 (3/22/91) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>Sulfur Dioxide</u> 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 (4/14/93) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>Sulfur Compounds in Fuel</u> 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%	- <i>Directly enforceable</i> - 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, 520.15, 520.2 (5/9/96 State Only) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>Sulfur Compounds in Fuel</u> 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 (12/13/89) (2/8/96 State Only) WAC 173-401-630(1) (3/5/16)	<u>Process Turnarounds</u> 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. - <i>Directly enforceable</i> - Report emissions from turnarounds in the annual emissions inventory pursuant to AOP Term 2.4.4.3.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
4.25 VOC	NWCAA 580.25 (12/13/89) (2/8/96 State Only) WAC 173-401-615(1)(b) & (c) (10/17/02)	Equipment for the reduction, collection or disposal of VOC shall be maintained and operated in a manner commensurate with accepted industrial practices.	- <i>Directly enforceable</i> - Maintain appropriate records.
4.26 HAP	40 CFR 63 Subpart GGGGG 63.7881(c) (12/22/22), 63.7884(b) (11/29/06), and 63.7936 (10/8/03)	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 61 Subpart FF 61.340(a) (11/12/02) and 61.342(b) (10/17/00) 40 CFR 63 Subpart CC 63.647 (12/1/15)	<u>40 CFR 61 Subpart FF Benzene Waste Operations - Wastewater Provisions:</u> 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 3.3).	See MR&R terms in AOP Section 5.13 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 40 CFR 61 Subpart FF. No testing, monitoring, recordkeeping, or reporting is required under 40 CFR 61 Subpart FF for any gaseous stream from a waste management unit, treatment process, or wastewater treatment unit routed to a fuel gas system.
4.28 HAP	40 CFR 63 Subpart CC 63.642(b) (12/1/15)	<u>63 Subpart CC - Continuous Compliance</u> Emission standards apply to affected sources at all times.	The Responsible Official shall certify compliance with these terms under AOP Term 2.4.1.
4.29 HAP	40 CFR 63 Subpart CC 63.642(n) (12/1/15)	<u>63 Subpart CC – General Duty to Minimize Emissions</u> 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.	

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
4.30 HAP	40 CFR 63 Subpart UUU 63.1570(a) (12/1/15)	<u>63 Subpart UUU - Continuous Compliance</u> Non-opacity standards apply to affected sources at all times.	The Responsible Official shall certify compliance with these terms under AOP Term 2.4.1.
4.31 HAP	40 CFR 63 Subpart UUU 63.1570(b) (12/1/15)	<u>63 Subpart UUU - Continuous Compliance - Opacity</u> Opacity and visible emission standards apply to affected sources at all times.	
4.32 HAP	40 CFR 63 Subpart UUU 63.1570(c) (12/1/15)	<u>63 Subpart UUU - General Duty to Minimize Emissions</u> 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.	
4.33 HAP	40 CFR 63 Subpart ZZZZ 63.6605(a) (1/30/13)	<u>RICE MACT</u> Emission limits and operating limits apply to affected sources at all times.	The Responsible Official shall certify compliance with these terms under AOP Term 2.4.1.
4.34 HAP	40 CFR 63 Subpart ZZZZ 63.6605(b) (1/30/13)	<u>RICE MACT - General Duty to Minimize Emissions</u> 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.	

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
4.35 HAP	40 CFR 63 Subpart CC 63.658(a), (b), (c), (e), (f) & (j) (11/26/18), 63.655(h)(8) & (i)(8) (2/4/20) and Table 11(4)(vi) (11/19/20)	<u>Fenceline Benzene Monitoring – Sampling</u> Conduct a fenceline monitoring program for benzene using a sampling grid setup in accordance with Method 325A of 40 CFR 63 Appendix A, and a monitoring method conducted in accordance with Method 325A and 325B of 40 CFR 63 Appendix A. Sampling shall be conducted once every 14 days for a period of no less than 2 consecutive years. After 52 consecutive samples at or below 0.9 µg/m³, sampling may be relaxed to: - Once per month After 26 consecutive “monthly” samples at or below 0.9 µg/m³, sampling may be relaxed to: - Once per quarter After 8 consecutive “quarterly” samples at or below 0.9 µg/m³, sampling may be relaxed to: - Semiannual After 4 consecutive “semiannual” samples at or below 0.9 µg/m³, sampling may be relaxed to: - Annual (sampling must occur at least 10 months but no more than 14 months apart) If a sample at any site exceeds 0.9 µg/m³, 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/m³, 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/m³, 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) within 45 days of completing the first 12 months of sampling, and once every quarter thereafter. The first report must include the location of each monitoring site within 3 meters. Subsequent reports must include this information whenever monitoring sites are added or moved. The reported sampling results shall include: - The beginning and end dates for each sampling period - The sampling result at each site in µg/m³, including data flags for results below the method detection limit - Data flags that indicate each monitor that was skipped for the sampling period, if an alternative sampling frequency is used - The biweekly concentration difference for each sampling period and the annual average concentration difference for each site in µg/m³ - Data flags for each value that indicates whether a background correction was used, as well as the individual sample result prior to correction - A notation when an outlier was removed from the sampling period data set, as well as the individual sample result of the outlier and the evidence used to conclude that the result is an outlier

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
4.36 HAP	40 CFR 63 Subpart CC 63.658(d) (11/26/18) and 63.655(i)(8) (2/4/20)	<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 hourly 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.
4.37 HAP	40 CFR 63 Subpart CC 63.658(f)(3) & (g) (11/26/18) and 63.655(i)(8)(viii) (2/4/20)	<u>Fenceline Benzene Monitoring – Root Cause Analysis and Initial Corrective Action Analysis</u> Within 5 days of determining that the action level of $\mu\text{g}/\text{m}^3$ 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 $9 \mu\text{g}/\text{m}^3$ annual average action level is exceeded.

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
4.38 HAP	40 CFR 63 Subpart CC 63.658(h) (11/26/18)	<u>Fenceline Benzene Monitoring – Corrective Action Plan</u> If either of the following occur: • Upon completion of corrective action required under AOP Term 4.37, sampling for the next 14-day period finds that the annual average is still above 9.0 ug/m³. • All corrective action measures identified under AOP Term 4.37 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 4.37 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 4.37, submit the corrective action plan to the Administrator no later than 60 days following the completion of the corrective action analysis.
4.39	BART Order 7838 Condition 15 (7/7/10 State only): F-103, F-104, F-304, F-654, F-6600, F-6601, F-6602, F-6650, F-6651, F-6652, F-6653, F-6654, F-6655, CWT2, and CWT2a	Tesoro may request this compliance Order be rescinded after all BART units at the plant have continuously complied with the emissions limitations for a period of three years and emission limitations have been incorporated into enforceable orders or permits and those orders or permits have been incorporated into the AOP.	- none -

Term	Citation	Description	Monitoring, Recordkeeping & Reporting
4.40 HAP	40 CFR 63 Subpart CC 63.643(c) (2/4/20) and 63.655(i)(12) & (g)(13) (2/4/20)	<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.

SECTION 5 SPECIFICALLY APPLICABLE REQUIREMENTS

The cited requirements in the "Citation" column and incorporated herein by reference are applicable to 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 in effect as of August 24, 2022 are enforceable by NWCAA because they are adopted by reference in NWCAA 104.1, as amended November 10, 2022. All of the federal regulations in effect as of August 24, 2022 listed in Section 5 have been adopted by reference in NWCAA 104.2, as amended November 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" (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), (10/17/02)), or the NWCAA's "sufficiency monitoring" authority (WAC 173-401-630(1), (3/5/16)), as cited in each permit term. Other requirements not labeled "Directly Enforceable" 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 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 as AOP Section 7.4.

The provisions of federally approved NWCAA Sections 365, 366 and the "Guidelines for Industrial Monitoring Equipment and Data Handling" have been replaced in this section by NWCAA Section 367 and Appendix A – "Ambient Monitoring, Emission Testing, and Continuous Emission and Opacity Monitoring". NWCAA Section 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.

5.1 Primary Crude Oil Processing Area

Primary Crude Oil Processing Area (Crude, Vacuum Flasher (VF), and ROSE Units)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Process Heaters & Boilers			
40 CFR 60 NSPS and 40 CFR 63 NESHAP General Provisions in AOP Section 3 apply to the affected facilities			
5.1.1 NOx	40 CFR 60 Subpart Ja 60.102a(g)(2)(i)(A) (7/13/16) and 60.107a(c) (12/1/15)	<u>NSPS NOx Limit - Heater F-101</u> Natural draft heaters > 40 MMBtu/hour shall not exceed 40 ppmvd NOx at 0% O ₂ , 30-day rolling average	Install, operate, calibrate, and maintain an instrument for continuously monitoring and recording the concentration (dry basis, 0-percent excess air) of NOx & O ₂ emissions into the atmosphere according to 40 CFR 60 Appendices B and F. The span value of this NOx monitor must be between 2 and 3 times the applicable emissions limit, inclusive.
5.1.2 CO	OAC 1184 Conditions 1 and 2 (11/26/14)	<u>BACT CO Limit – Heater F-101</u> Emissions from the heater shall not exceed 0.03 lb CO/MMBtu (HHV)	At least once every 12 months, conduct stack testing comprising 3 1-hour test runs to demonstrate compliance with the CO limit in accordance with 40 CFR 60 Appendix A Method 10, 10A or 10B, and 19. Stack testing shall also be conducted in accordance with the NWCAA Section 367 and Appendix A. The F-factor must be determined from fuel gas composition from the day of the test.

Primary Crude Oil Processing Area (Crude, Vacuum Flasher (VF), and ROSE Units)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.1.3 NOx	BART Order 7838 Conditions 2.1, 6, 9.1, 9.3, 9.4, 9.5, 12, & 13 (7/7/10)	<u>BART NOx Limit - Heater F-103</u> Emissions of NOx from Crude Heater F-103 is limited to 59.1 tons NOx per 365-day total (calculated daily).	Compliance will be determined by use of a CEMS with a continuous flow meter or development of a source-specific emission factor in lb/MMBtu. The CEMS shall meet the more stringent of 40 CFR Part 60 Appendices B and F, or NWCAA Section 367 and Appendix A. QA for the CEMS shall be conducted in accordance with BART Order Condition 13. To develop a unit-specific emission factor, at least once each calendar year, conduct NOx source test using 40 CFR Part 60 Appendix A Method 7E. During the source test, collect production rate through the unit, fuel firing rate, specific gravity of the refinery fuel gas, and heat content of the refinery fuel gas. Using collected process information and emissions data from each test, recalculate the unit-specific emission factor for use in the following calendar year. Calculate and record daily, each calendar day's average NOx emissions. The rolling annual total nitrogen oxides emissions shall be recalculated and recorded daily. Continuous emission monitoring data and/or emission factor based emissions shall be submitted on a semiannual basis, January through June and July through December. The semiannual report shall be provided within 45 days of completion of the reporting period. The submittal shall be electronically in a format acceptable to NWCAA.
5.1.4 SO2	BART Order 7838 Conditions 3.1.1, 3.4.1, 8.3.1, & 8.3.2 (7/7/10)	<u>BART H₂S Limit - Heater F-103</u> The heater shall be fired on refinery fuel gas or natural gas. Refinery fuel gas combusted in the heater must be from Blend Drum V-213 and meet AOP Terms 5.3.19 and 5.3.20.	Comply with AOP Terms 5.3.19 and 5.3.20 for Blend Drum V-213.

Primary Crude Oil Processing Area (Crude, Vacuum Flasher (VF), and ROSE Units)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.1.5 PM	BART Order 7838 Conditions 1.2, 1.3, 1.5.3, 1.5.4, 1.5.5, 1.5.6, 7.2 (7/7/10)	<u>BART PM Limit - BART-eligible combustion units – Heater F-103</u> Particulate matter emissions shall not exceed 0.05 grain/dscf (0.11 g/m3), 1-hour average, corrected to 7% oxygen.	Visually observe stacks monthly to qualitatively assess whether emissions are visible. The frequency may be reduced to quarterly if no visible emissions are observed for six consecutive months. Tesoro shall revert to monthly observations of individual stacks if any visible emissions are noted during the observation. If visible emissions are observed reduce emissions to zero as soon as possible. If emissions cannot be reduced to zero, the permittee may monitor by Ecology Method 9A no later than 24 hours after detection and daily thereafter until opacity is shown to be less than 20 percent or the permittee will conduct a Method 5 assessment within 30 days. Upon request of NWCAA or Ecology, compliance will be determined using EPA methods in 40 CFR Part 60 Appendix A. Particulate testing will use EPA Method 5. Particulate emissions stack test results shall be submitted to NWCAA and Ecology upon request. Visual emissions monitoring data shall be recorded and retained at the facility available for review by the NWCAA or Ecology inspectors. Visible emissions observation records are to be retained at the facility for at least five years.
5.1.6 SO2	40 CFR 60 Subpart J 60.104(a)(1) (6/24/08); 60.105(a)(4) & (e)(3)(ii) (12/1/15); and 60.106(e)(1) (9/12/12) Compliance Order 1006-23-08 (CO23) Condition (V)(A) (8/18/23)	<u>NSPS H₂S Limit – Heater F-201</u> Fuel gas is limited to 162 ppmvd H ₂ S based on a 3-hour rolling average.	Install and operate a continuous monitoring system for H ₂ S concentration on a dry basis in the refinery's main fuel mix drum in accordance with 40 CFR 60 Subparts A and J and 40 CFR 60 Appendices B and F.

Primary Crude Oil Processing Area (Crude, Vacuum Flasher (VF), and ROSE Units)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.1.7 HAP	40 CFR 63 Subpart DDDDD 63.7500(a)(3) (11/20/15)	<u>Boiler MACT – General Duty to Minimize Emissions - Heaters F-101, F-102, F-103, and F-201</u> 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 Official under AOP Term 2.4.1.
5.1.8 SO2	40 CFR 52 Subpart WW 52.2501 (6/11/14)	<u>Better than BART Alternative SO2 Limit – non-BART eligible process heaters and boilers – Heaters F-101, F-102, and F-201</u> Refinery fuel gas used in F-101, F-102, and F-201 from Blend Drum V-213 must meet Terms 5.3.19 and 5.3.20.	Comply with AOP Terms 5.3.19 and 5.3.20 for Blend Drum V-213.
5.1.9 HAP	40 CFR 63 Subpart DDDDD 63.7500(a), (e), Table 3 Line 3, 63.7505(a), 63.7515(d), 63.7540(a)(10) & (b), 63.7550(a), (b), Table 9, (c)(1), (c)(5)(i)-(iv), (xiv), & (xvii), (h)(3) & 63.7555(a) and 63.7545(a) & (e)(8)(i) (11/20/15)	<u>Boiler MACT Tune-Ups for Gas 1 Heaters without oxygen trim - Heaters F-101, F-102, F-103 and F-201</u> Conduct a tune-up of the process heater annually while burning the type of fuel that provided the majority of the heat input over the prior year. Tune-ups shall be conducted no more than 13 months after the previous tune-up. The inspection shall include: inspect the burner, clean and replace components as necessary; inspect the flame pattern, adjust as necessary; inspect air-to-fuel ratio system control, as applicable to ensure it is correctly calibrated and functioning properly; optimize total emissions of CO; measure CO concentrations before and after adjustments are made; and maintain on-site an annual report summarizing inspection.	Submit a compliance report every calendar year. Reports are due, in accordance with AOP Term 4.1, 30 days after the close of the period that the reports cover. If available, the compliance reports shall 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.

Primary Crude Oil Processing Area (Crude, Vacuum Flasher (VF), and ROSE Units)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
General			
5.1.10 VOC	NWCAA 580.221 (2/8/96) WAC 173-401- 615(1)(b) & (c) (10/17/02)	Non-condensable VOC shall be piped to an appropriate firebox, incinerator or to a closed refinery system.	- <i>Directly enforceable</i> - Record operation and maintenance activities associated controlling VOC emissions in close vent systems routed to flares or other appropriate control device.
5.1.11 VOC	NWCAA 580.222 (2/8/96) WAC 173-401- 615(1)(b) & (c) (10/17/02)	Hot wells associated with contact condensers shall be tightly covered and the collected VOC introduced into a closed refinery system.	- <i>Directly enforceable</i> - Record operation and maintenance activities associated with hot wells with contact condensers.
Fugitive Components in VOC/HAP Service (excluding Compressors)			
40 CFR 60 NSPS and 40 CFR 63 NESHAP General Provisions in AOP Section 3 apply to the affected facilities			
5.1.12 VOC	40 CFR 60 Subpart GGGa 60.590a- 60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a-60.487a (11/16/07) Compliance Order 1006-23-08 (CO23) Condition (V)(C) (8/18/23)	<u>NSPS for Equipment Leaks – Crude, VF, & ROSE</u> Comply with 40 CFR 60 Subpart GGGa for equipment leaks in VOC service.	Conduct a Leak Detection and Repair (LDAR) program on equipment in VOC service as specified in AOP Section 6.3.

Primary Crude Oil Processing Area (Crude, Vacuum Flasher (VF), and ROSE Units)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.1.13 HAP	40 CFR 63 Subpart CC 63.640(p) (2/4/20) → 40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a-60.487a (11/16/07) Compliance Order 1006-23-08 (CO23) Condition (V)(C) (8/18/23)	<u>MACT for Equipment Leaks – Crude & VF</u> Comply with 40 CFR 63 Subpart CC for equipment leaks in HAP service.	Conduct a Leak Detection and Repair (LDAR) program on equipment in HAP service as specified in AOP Section 6.3.
5.1.14 VOC	OAC 744a Condition 1 (3/3/09) → 40 CFR 60 Subpart VV 60.482-60.487 (11/16/07, 12/14/00)	<u>BACT for Equipment Leaks - ROSE</u> Equipment subject to 40 CFR 60 Subpart GGG (VOC) at the ROSE unit shall be in an enhanced LDAR program conducted in accordance with 40 CFR 60 Subpart VV as modified as follows: • 40 CFR 60.482-2(b) – the leak definition for pumps in light liquid service shall be 2,000 ppm • 40 CFR 60.482-7(b) – the leak definition for valves in gas/vapor or light liquid service shall be 1,000 ppm	Conduct a Leak Detection and Repair (LDAR) program on equipment in VOC service as specified in accordance with this AOP Term and AOP Section 6.2 except with monitoring as modified as follows: 40 CFR 60.485(b)(ii) – use a calibration gas methane or n-hexane in air at a concentration no more than 2,000 ppm greater than the leak definition concentration of the equipment monitored. If the monitoring instrument's design allows for multiple calibration scales, then the lower scale shall be calibrated with a calibration gas that is no higher than 2,000 ppm above the concentration specified as a leak, and the highest scale shall be calibrated with a calibration gas that is approximately equal to 10,000 ppm. If only one scale on an instrument will be used during monitoring, the owner or operator need not calibrate the scales that will not be used during that day's monitoring
5.1.15 VOC	OAC 1205 Condition 1 (2/13/15) → 40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a-60.487a (11/16/07)	<u>BACT for Equipment Leaks – Crude & Vacuum Flasher</u> All fugitive components associated with the Crude Oil Distillation process unit, Vacuum Flasher process unit, and CFH/DHT process unit must be maintained using a leak detection and repair (LDAR) program meeting the standards, monitoring, recordkeeping, and reporting requirements of 40 CFR Part 60 Subpart GGGa.	Conduct a Leak Detection and Repair (LDAR) program on equipment in VOC service as specified in AOP Section 6.3.

Primary Crude Oil Processing Area (Crude, Vacuum Flasher (VF), and ROSE Units)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.1.16 HAP	40 CFR 63 Subpart CC 63.640(p) (2/4/20) → 63.648(j) (2/4/20)	<u>MACT for Pressure Relief Devices in organic HAP service</u> Comply with 40 CFR 63 Subpart CC for pressure relief devices in organic HAP service.	Conduct a Leak Detection and Repair (LDAR) program on equipment in HAP service as applicable in AOP Section 6.4.
Compressor Leaks in VOC/HAP Service			
40 CFR 60 NSPS and 40 CFR 63 NESHAP General Provisions in AOP Section 3 apply to the affected facilities			
5.1.17 VOC	40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a-60.487a (11/16/07)	<u>NSPS for Compressor Leaks - J-205 & J-206 (VF)</u> Comply with 40 CFR 60 Subpart GGGa for compressors in VOC service. Compressors J-205 and J-206 (VF) shall be equipped with a barrier fluid system as required under 60.482-3a.	Conduct a Leak Detection and Repair (LDAR) program on compressors in VOC service as specified in AOP Section 6.3.
5.1.18 HAP	40 CFR 63 Subpart CC 63.640(p) (2/4/20) → 40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a-60.487a (11/16/07)	<u>MACT for Compressor Leaks - J-205 & J-206 (VF)</u> Comply with 40 CFR 63 Subpart CC for compressors in HAP service. Compressors J-205 and J-206 shall be equipped with a barrier fluid system as required under 60.482-3a.	Conduct a Leak Detection and Repair (LDAR) program on compressors in HAP service as specified in AOP Section 6.3.

Primary Crude Oil Processing Area (Crude, Vacuum Flasher (VF), and ROSE Units)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.1.19 VOC	40 CFR 60 Subpart GGG 60.590-60.593 (6/2/08, 11/16/07) → 40 CFR 60 Subpart VV 60.482-60.487 (11/16/07, 12/14/00)	<u>NSPS for Compressor Leaks - J-5700 (ROSE)</u> Comply with 40 CFR 60 Subpart GGG for compressors in VOC service. Compressors designated for no detectable emissions (NDE), as indicated by an instrument reading of less than 500 ppm above background, is exempt from this monitoring if the compressor is tested annually to demonstrate it is operating with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background.	Conduct a Leak Detection and Repair (LDAR) program on compressors in VOC service as specified in AOP Section 6.2.
Miscellaneous Process Vents			
40 CFR 63 NESHAP General Provisions in AOP Section 3 apply to the affected facilities			
5.1.20 VOC	40 CFR 63 Subpart CC 63.643(a)(2) & (b) (2/4/20) and 63.644(a)(3) (11/26/18) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>Group 1 Miscellaneous Process Vents - Vacuum Flasher Vent 2-645-013 when the gas plant is down</u> When the gas plant is down, reduce organic HAP emissions by introducing the gas stream into the flame zone of a boiler or process heater that has a design heat input capacity ≥ 44 megawatt (150 MMBtu/hour).	- <i>Directly enforceable</i> - Keep records indicating where the MPV is introduced in the boiler.
Process Drains			
40 CFR 60 NSPS General Provisions in AOP Section 3 apply to the affected facilities			
5.1.21 VOC	40 CFR 60 Subpart QQQ 60.690 (11/23/88)	<u>Individual Drain Systems – ROSE Unit</u> Comply with 40 CFR 60 Subpart QQQ except when handling 63 Subpart CC Group 1 wastewater streams regulated under 40 CFR 63 Subpart CC (i.e., 63.640(o)), then comply with 40 CFR 61 Subpart FF.	Comply with the requirements in AOP Section 6.5 (60 Subpart QQQ) or AOP Section 5.17 (61 Subpart FF), as appropriate.

5.2 Hydroprocessing Area

Hydroprocessing Area (CGS, CFH, DHT, CR/NHT, SHU, and JFT Units)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Catalytic Reformer			
40 CFR 63 NESHAP General Provisions in AOP Section 3 apply to the affected facilities			
5.2.1 HAP	40 CFR 63 Subpart UUU 63.1566 (7/13/16), Table 15 option 1 (12/1/15), Table 16 Option 1 (12/1/15), 63.1570 (12/1/15), 63.1574(f) (11/19/20), and 63.1575 (11/26/18)	<u>CR Reactor Vent - Organic HAPs</u> During active depressuring or purging operations regardless of the reactor vent pressure control emissions with a flare meeting the requirements of 63.670. Prepare an operation, maintenance, and monitoring plan and operate at all times according to the procedures in the plan.	Comply with the requirements for flares in AOP Terms 5.7.13, 5.7.15, 5.7.17, 5.7.19, 5.7.23, and 5.7.29. Demonstrate continuous compliance with the work practice standards by maintaining records to document conformance with the procedures in the operation, maintenance, and monitoring plan. Semiannually, report each deviation these requirements and any revision to the methods used to determine compliance.
5.2.2 HAP	40 CFR 63 Subpart UUU 63.1567 (2/9/05), Table 22 Line 2 (12/1/15), Table 23 Line 1 (2/9/05), Table 24 (12/1/15), Table 27 Line 2 (2/9/05), Table 28 (12/1/15), 63.1570 (12/1/15), 63.1574(f) (11/19/20), and 63.1575 (11/26/18)	<u>CR Reactor Vent - Inorganic HAPs</u> Reduce uncontrolled emissions to a concentration of 10 ppmvd HCl at 3% O ₂ Prepare an operation, maintenance, and monitoring plan and operate at all times according to the procedures in the plan.	The daily average pH or alkalinity of the scrubbing liquid exiting the scrubber must not fall below the limit established during the performance test, and the daily average liquid-to-gas ratio must not fall below the limit established during the performance test. These operating limits apply during coke burn-off and catalyst rejuvenation. Follow the Alternative Monitoring Plan in AOP Section 7.2. Demonstrate continuous compliance with the work practice standards by maintaining records to document conformance with the procedures in the operation, maintenance, and monitoring plan. Semiannually, report each deviation these requirements and any revision to the methods used to determine compliance.
5.2.3 HAP	40 CFR 63 Subpart UUU 63.1569 (11/26/18), Table 36 Option 3, Table 39 Option 3 & Line 5 (2/9/05), 63.1570 (12/1/15), 63.1574(f) (11/19/20)	<u>CR Reactor Vent Bypass line</u> Seal the bypass line by installing a solid blind between piping flanges. Prepare an operation, maintenance, and monitoring plan and operate at all times according to the procedures in the plan	Visually inspect the blind at least once a month; and record whether the blind is maintained in the correct position such that the vent stream cannot be diverted through the bypass line. Record and report the time and duration of any bypass. Demonstrate continuous compliance with the work practice standards by maintaining records to document conformance with the procedures in the operation, maintenance, and monitoring plan.

Hydroprocessing Area (CGS, CFH, DHT, CR/NHT, SHU, and JFT Units)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.2.4 HAP	40 CFR 63 Subpart UUU 63.1566(a)(5) (7/13/16), 63.1570 (12/1/15), 63.1574(f) (11/19/20), and 63.1576(e) (11/26/18)	<u>CR Reactor Vent - OMMP</u> Prepare an operation, maintenance, and monitoring plan (OMMP) and operate at all times according to the procedures in the plan. The OMMP must contain process and control device parameters to be monitored, along with established operating limits.	Follow the Alternative Monitoring Plan in AOP Section 7.2. Keep a current copy of your OMMP onsite and available for inspection. Keep records to show continuous compliance with the procedures in your OMMP. Submit any OMMP changes to NWCAA for review and approval and comply with the plan until the change is approved.
Process Heaters and Boilers			
40 CFR 63 NESHAP General Provisions in AOP Section 3 apply to the affected facilities			
5.2.5 NOx	OAC 827c Condition 3 (7/6/23)	<u>OAC NOx Limit - CGS Reboiler F-104</u> NOx emissions shall not exceed 0.035 lb NO _x /MMBtu (HHV)	Stack test the heater once every 5 years. Testing shall be conducted in accordance with 40 CFR 60 Appendix A Method 7E and NWCAA Regulation 367 and Appendix A or other methods otherwise pre-approved by NWCAA.
5.2.6 SO2	OAC 827c Condition 4 (7/6/23)	<u>OAC SO2 Limit - CGS Reboiler F-104</u> On a rolling 12-month average basis, total sulfur oxides from heater F-104 shall not exceed 186 tons per year.	Sulfur oxides shall be determined based on calculations derived from the measured H2S concentration in unit fuel.
5.2.7 SO2	BART Order 7838 Conditions 3.3, 3.4.1, 8.3.1, & 8.3.2 (7/7/10)	<u>BART H₂S Limit – BART-Eligible Combustion Units - F-104, F-654, F-6600, F-6601, F-6650, F-6651, F-6652, F-6653, F-6654, and F-6655</u> F-104, F-654, F-6600, F-6601, F-6650, F-6651, F-6652, F-6653, F-6654, and F-6655 shall only fire refinery gas meeting the Blend Drum V-213 requirements in Terms 5.3.19 and 5.3.20 or natural gas.	Comply with AOP Terms 5.3.19 and 5.3.20 for Blend Drum V-213.

Hydroprocessing Area (CGS, CFH, DHT, CR/NHT, SHU, and JFT Units)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.2.8 PM	BART Order 7838 Conditions 1.2, 1.3, 1.5.3, 1.5.4, 1.5.5, 1.5.6, 7.2 (7/7/10)	<u>BART PM Limit – BART-eligible combustion units - F-104, F-654, F-6600, F-6601, F-6650, F-6651, F-6652, F-6653, F-6654, and F-6655</u> Particulate matter emissions shall not exceed 0.05 grain/dscf (0.11 g/m3), 1-hour average, corrected to 7% oxygen.	Visually observe stacks monthly to qualitatively assess whether emissions are visible. The frequency may be reduced to quarterly if no visible emissions are observed for six consecutive months. Tesoro shall revert to monthly observations of individual stacks if any visible emissions are noted during the observation. If visible emissions are observed reduce emissions to zero as soon as possible. If emissions cannot be reduced to zero, the permittee may monitor by Ecology Method 9A no later than 24 hours after detection and daily thereafter until opacity is shown to be less than 20 percent or the permittee will conduct a Method 5 assessment within 30 days. Upon request of NWCAA or Ecology, compliance will be determined using EPA methods in 40 CFR Part 60 Appendix A. Particulate testing will use EPA Method 5. Particulate emissions stack test results shall be submitted to NWCAA and Ecology upon request. Visual emissions monitoring data shall be recorded and retained at the facility available for review by the NWCAA or Ecology inspectors. Visible emissions observation records are to be retained at the facility for at least five years.
5.2.9 SO2	40 CFR 52 Subpart WW 52.2501 (6/11/14)	<u>Better than BART Alternative SO2 Limit – non-BART eligible process heaters and boilers - F-652</u> Refinery fuel gas used in F-652 from Blend Drum V-213 must meet AOP Terms 5.3.19 and 5.3.20.	Comply with AOP Terms 5.3.19 and 5.3.20 for Blend Drum V-213.

Hydroprocessing Area (CGS, CFH, DHT, CR/NHT, SHU, and JFT Units)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.2.10 HAP	40 CFR 63 Subpart DDDDD 63.7500(a), (e), Table 3 Line 3, 63.7505(a), 63.7515(d), 63.7540(a)(10) & (b), 63.7550(a), (b), Table 9, (c)(1), (c)(5)(i)-(iv), (xiv), & (xvii), (h)(3) & 63.7555(a) and 63.7545(a) & (e)(8)(i) (11/20/15)	<u>Boiler MACT Tune-Ups for Gas 1 Heaters without oxygen trim - Heaters F-104, F-654, F-652, F-6600, F-6601, F-6650, F-6651, F-6652, F-6653, F-6654 and F-6655</u> Conduct a tune-up of the process heater annually while burning the type of fuel that provided the majority of the heat input over the prior year. Tune-ups shall be conducted no more than 13 months after the previous tune-up. The inspection shall include: inspect the burner, clean and replace components as necessary; inspect the flame pattern, adjust as necessary; inspect air-to-fuel ratio system control, as applicable to ensure it is correctly calibrated and functioning properly; optimize total emissions of CO; measure CO concentrations before and after adjustments are made; and maintain on-site an annual report summarizing inspection.	Submit a compliance report every calendar year. Reports are due, in accordance with AOP Term 4.1, 30 days after the close of the period that the reports cover. If available, the compliance reports shall 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.
5.2.11 HAP	40 CFR 63 Subpart DDDDD 63.7500(a)(3) (11/20/15)	<u>Boiler MACT – General Duty to Minimize Emissions - Heaters F-104, F-654, F-652, F-6600, F-6601, F-6650, F-6651, F-6652, F-6653, F-6654 and F-6655</u> 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 Official under AOP Term 2.4.1.

Hydroprocessing Area (CGS, CFH, DHT, CR/NHT, SHU, and JFT Units)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Fugitive Components in VOC/HAP Service (excluding Compressors)			
40 CFR 60 NSPS and 40 CFR 63 NESHAP General Provisions in AOP Section 3 apply to the affected facilities			
5.2.12 VOC	40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a-60.487a (11/16/07) Compliance Order 1006-23-08 (CO23) Condition (V)(C) (8/18/23)	<u>NSPS for Equipment Leaks - CGS, CFH, DHT, CR, NHT, SHU & JFT</u> Comply with 40 CFR 60 Subpart GGGa for equipment leaks in VOC service.	Conduct a Leak Detection and Repair (LDAR) program on equipment in VOC service as specified in AOP Section 6.3.
5.2.13 HAP	40 CFR 63 Subpart CC 63.640(p) (2/4/20) → 40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a-60.487a (11/16/07) Compliance Order 1006-23-08 (CO23) Condition (V)(C) (8/18/23)	<u>MACT for Equipment Leaks - CGS, CFH, DHT, CR, NHT, SHU & JFT</u> Comply with 40 CFR 63 Subpart CC for equipment leaks in HAP service.	Conduct a Leak Detection and Repair (LDAR) program on equipment in HAP service as specified in AOP Section 6.3.
5.2.14 VOC	OAC 827c Condition 2 (7/6/23) → 40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a-60.487a (11/16/07)	<u>BACT for Equipment Leaks - CGS, CR, & NHT</u> All on-plot equipment associated with the CGS, NHT, and CR units and subject to 40 CFR Part 60 Subpart GGG and/or 40 CFR Part 63 Subpart CC shall be included in a leak detection and repair (LDAR) program conducted in accordance with 40 CFR 60 Subpart GGGa	Conduct a Leak Detection and Repair (LDAR) program on equipment in VOC/HAP service as specified in AOP Section 6.3.

Hydroprocessing Area (CGS, CFH, DHT, CR/NHT, SHU, and JFT Units)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.2.15 VOC	OAC 896a Conditions 1 & 2 (3/3/09) → 40 CFR 60 Subpart VV 60.482-60.487 (11/16/07, 12/14/00)	<u>BACT for Equipment Leaks – CGS, CFH, & DHT</u> Equipment subject to 40 CFR 60 Subpart GGG (VOC) and/or 40 CFR 63 Subpart CC (HAP) at the CGS, CFH and DHT shall be in an enhanced LDAR program conducted in accordance with 40 CFR 60 Subpart VV as modified as follows: • 40 CFR 60.482-2(b) – the leak definition for pumps in light liquid service shall be 2,000 ppm • 40 CFR 60.482-7(b) – the leak definition for valves in gas/vapor or light liquid service shall be 1,000 ppm The calculation of percentages of pumps and valves leaking for the CGS, and CFH/DHT units shall be on a unit-by-unit basis, with the CFH/DHT defined as one process unit.	Conduct a LDAR program on equipment in VOC/HAP service in accordance with AOP Section 6.2 except with monitoring as modified as follows: 40 CFR 60.485(b)(ii) – use a calibration gas methane or n-hexane in air at a concentration no more than 2,000 ppm greater than the leak definition concentration of the equipment monitored. If the monitoring instrument’s design allows for multiple calibration scales, then the lower scale shall be calibrated with a calibration gas that is no higher than 2,000 ppm above the concentration specified as a leak, and the highest scale shall be calibrated with a calibration gas that is approximately equal to 10,000 ppm. If only one scale on an instrument will be used during monitoring, the owner or operator need not calibrate the scales that will not be used during that day’s monitoring
5.2.16 VOC	OAC 901a Condition 1 (3/3/09) → 40 CFR 60 Subpart VV 60.482-60.487 (11/16/07, 12/14/00)	<u>BACT for Equipment Leaks - DHT</u> All on-plot equipment associated with the DHT and subject to 40 CFR 60 Subpart GGG (VOC) and/or 40 CFR 63 Subpart CC (HAP) shall be in an enhanced LDAR program conducted in accordance with 40 CFR 60 Subpart VV as modified as follows: • 40 CFR 60.482-2(b) – the leak definition for pumps in light liquid service shall be 2,000 ppm • 40 CFR 60.482-7(b) – the leak definition for valves in gas/vapor or light liquid service shall be 1,000 ppm	Conduct a LDAR program on equipment in VOC/HAP service in accordance with AOP Section 6.2 except with monitoring as modified as follows: 40 CFR 60.485(b)(ii) – use a calibration gas methane or n-hexane in air at a concentration no more than 2,000 ppm greater than the leak definition concentration of the equipment monitored. If the monitoring instrument’s design allows for multiple calibration scales, then the lower scale shall be calibrated with a calibration gas that is no higher than 2,000 ppm above the concentration specified as a leak, and the highest scale shall be calibrated with a calibration gas that is approximately equal to 10,000 ppm. If only one scale on an instrument will be used during monitoring, the owner or operator need not calibrate the scales that will not be used during that day’s monitoring

Hydroprocessing Area (CGS, CFH, DHT, CR/NHT, SHU, and JFT Units)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.2.17 VOC	OAC 989b Condition 1 (4/13/23) → 40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a-60.487a (11/16/07)	<u>BACT for Equipment Leaks - SHU</u> All on-plot equipment associated with the SHU and subject to 40 CFR 60 Subpart GGG (VOC) and/or 40 CFR 63 Subpart CC (HAP) shall be in an LDAR program conducted in accordance with 40 CFR 60 Subpart GGGa.	Conduct a LDAR program on equipment in VOC/HAP service in accordance with AOP Section 6.3.
5.2.18 VOC	OAC 1205 Condition 1 (2/13/15) → 40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a-60.487a (11/16/07)	<u>BACT for Equipment Leaks – CFH & DHT</u> All fugitive components associated with the Crude Oil Distillation process unit, Vacuum Flasher process unit, and CFH/DHT process unit must be maintained using a leak detection and repair (LDAR) program meeting the standards, monitoring, recordkeeping, and reporting requirements of 40 CFR Part 60 Subpart GGGa.	Conduct a LDAR program on equipment in VOC service in accordance with AOP Section 6.3.
5.2.19 VOC	OAC 1222a Condition 1 (1/25/24) → 40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a-60.487a (11/16/07)	<u>BACT for Equipment Leaks – CR & NHT</u> Maintain all fugitive components associated with the CR/NHT process units using a leak detection and repair (LDAR) program meeting the standards, monitoring, recordkeeping, and reporting requirements of 40 CFR Part 60 Subpart GGGa.	Conduct a LDAR program on equipment in VOC/HAP service in accordance with AOP Section 6.3.

Hydroprocessing Area (CGS, CFH, DHT, CR/NHT, SHU, and JFT Units)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.2.20 CO2e	PSD 17-01 Condition VI.C & IV (7/18/17) → 40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/08, 11/16/07) & 40 CFR 63 Subpart CC 63.640(p) (2/4/20) → 40 CFR 60 Subpart VVa 60.482a-60.487a (11/16/07)	<u>PSD BACT for Equipment Leaks – CR/NHT</u> Implement a Leak Detection and Repair (LDAR) program consistent with 40 CFR 60 Subpart GGGa and 40 CFR 63 Subpart CC (including recordkeeping requirements contained within each regulation).	Conduct a LDAR program on equipment in VOC/HAP service in accordance with AOP Section 6.3.
5.2.21 CO2e	PSD 17-01 Conditions X.A & B and IV (7/18/17) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>PSD Operation and Maintenance – CR/NHT Fugitive Components</u> At all times, Tesoro must, to the extent practicable, maintain and operate the CR/NHT fugitive components, including any associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to Ecology, NWCAA, EPA and/or their authorized representatives, which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.	- <i>Directly enforceable</i> - Comply with AOP Term 4.2.

Hydroprocessing Area (CGS, CFH, DHT, CR/NHT, SHU, and JFT Units)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.2.22 CO2e	PSD 17-01 Conditions XI.B & C and IV (7/18/17)	<u>PSD Deviation Reporting – CR/NHT Fugitive Components</u> Tesoro shall report to NWCAA the discovery of any malfunction of air pollution control equipment, process equipment, or of a process, which results in an increase in emissions above the allowable emission limits specified in this permit, pursuant to the deviation reporting requirements and, if applicable, pursuant to the unavoidable excess emissions reporting requirements of AOP Term 2.4.7. Compliance with the malfunction notification requirements, as applicable, will not excuse or otherwise constitute a defense to any violation of this PSD permit or any law or regulation such malfunction may cause.	Comply with AOP Term 2.4.7.
5.2.23 HAP	40 CFR 63 Subpart CC 63.640(p) (2/4/20) → 63.648(j) (2/4/20)	<u>MACT for Pressure Relief Devices in organic HAP service</u> Comply with 40 CFR 63 Subpart CC for pressure relief devices in organic HAP service.	Conduct a Leak Detection and Repair (LDAR) program on equipment in HAP service as applicable in AOP Section 6.4.

Hydroprocessing Area (CGS, CFH, DHT, CR/NHT, SHU, and JFT Units)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Compressor Leaks in VOC/HAP Service			
40 CFR 60 NSPS and 40 CFR 63 NESHAP General Provisions in AOP Section 3 apply to the affected facilities			
5.2.24 VOC	40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a-60.487a (11/16/07) WAC 173-401-630(1) (3/5/16)	<u>NSPS for Compressor Leaks - J-606, J-6651, J-6654, J-6655 (NHT)</u> Comply with 40 CFR 60 Subpart GGGa for compressors in VOC service. Compressors in hydrogen service are exempt from the standards under 60.592a. For a compressor to be considered in hydrogen service, it must be determined that the percent hydrogen content can be reasonably expected always to exceed 50 percent by volume using either the specified methods or engineering judgment.	Conduct a Leak Detection and Repair (LDAR) program on compressors in VOC service as specified in AOP Section 6.3. - <i>Directly enforceable</i> - For compressors in hydrogen service, keep records of the hydrogen service demonstration and update the demonstration as appropriate when operation changes.
5.2.25 HAP	40 CFR 63 Subpart CC 63.640(p) (2/4/20) → 40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a-60.487a (11/16/07) WAC 173-401-630(1) (3/5/16)	<u>MACT for Compressor Leaks - J-606, J-6651, J-6654, J-6655 (NHT)</u> Comply with 40 CFR 63 Subpart CC for compressors in HAP service. Compressors in hydrogen service are exempt from the standards under 60.592a. For a compressor to be considered in hydrogen service, it must be determined that the percent hydrogen content can be reasonably expected always to exceed 50 percent by volume using either the specified methods or engineering judgment.	Conduct a Leak Detection and Repair (LDAR) program on compressors in HAP service as specified in AOP Section 6.3. - <i>Directly enforceable</i> - For compressors in hydrogen service, keep records of the hydrogen service demonstration and update the demonstration as appropriate when operation changes.

Hydroprocessing Area (CGS, CFH, DHT, CR/NHT, SHU, and JFT Units)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.2.26 VOC	40 CFR 60 Subpart GGG 60.590-60.593 (6/2/08, 11/16/07) → 40 CFR 60 Subpart VV 60.482-60.487 (11/16/07, 12/14/00) WAC 173-401-630(1) (3/5/16)	<u>NSPS for Compressor Leaks - J-650, J-651, & J-652 (CFH/DHT)</u> Comply with 40 CFR 60 Subpart GGG for compressors in VOC service. Compressors in hydrogen service are exempt from the standards under 60.592. For a compressor to be considered in hydrogen service, it must be determined that the percent hydrogen content can be reasonably expected always to exceed 50 percent by volume using either the specified methods or engineering judgment.	Conduct a Leak Detection and Repair (LDAR) program on compressors in VOC service as specified in AOP Section 6.2. - <i>Directly enforceable</i> - For compressors in hydrogen service, keep records of the hydrogen service demonstration and update the demonstration as appropriate when operation changes.
5.2.27 HAP	40 CFR 63 Subpart CC 63.640(p) (2/4/20) → 40 CFR 60 Subpart VV 60.482-60.487 (11/16/07, 12/14/00) WAC 173-401-630(1) (3/5/16)	<u>MACT for Compressor Leaks - J-650, J-651, & J-652 (CFH/DHT)</u> Comply with 40 CFR 63 Subpart CC for compressors in HAP service. Compressors in hydrogen service are exempt from the standards under 60.592. For a compressor to be considered in hydrogen service, it must be determined that the percent hydrogen content can be reasonably expected always to exceed 50 percent by volume using either the specified methods or engineering judgment.	Conduct a Leak Detection and Repair (LDAR) program on compressors in HAP service as specified in AOP Section 6.2. - <i>Directly enforceable</i> - For compressors in hydrogen service, keep records of the hydrogen service demonstration and update the demonstration as appropriate when operation changes.
5.2.28 VOC	40 CFR 60 Subpart GGG 60.590-60.593 (6/2/08, 11/16/07) → 40 CFR 60 Subpart VV 60.482-60.487 (11/16/07, 12/14/00)	<u>NSPS for Compressor Leaks - J-600 (DHT)</u> Comply with 40 CFR 60 Subpart GGG for compressors in VOC service.	Conduct a Leak Detection and Repair (LDAR) program on compressors in VOC service as specified in AOP Section 6.2.

Hydroprocessing Area (CGS, CFH, DHT, CR/NHT, SHU, and JFT Units)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.2.29 HAP	40 CFR 63 Subpart CC 63.640(p) (2/4/20) → 40 CFR 60 Subpart VV 60.482-60.487 (11/16/07, 12/14/00)	<u>MACT for Compressor Leaks - - J-600 (DHT)</u> Comply with 40 CFR 63 Subpart CC for compressors in HAP service.	Conduct a Leak Detection and Repair (LDAR) program on compressors in HAP service as specified in AOP Section 6.2.
5.2.30 VOC	OAC 901a Condition 2 (3/3/09) → 40 CFR 60 Subpart VVa 60.482-3a (11/16/07)	<u>BACT for Compressor Leaks - J-600 (DHT)</u> Compressor J-600 shall be equipped with a barrier fluid system as required under §60.482-3a.	Maintain a barrier fluid system on the compressor in accordance with AOP Section 6.3.
5.2.31 VOC	40 CFR 60 Subpart GGG 60.590-60.593 (6/2/08, 11/16/07) → 40 CFR 60 Subpart VV 60.482-60.487 (11/16/07, 12/14/00) WAC 173-401-630(1) (3/5/16)	<u>NSPS for Compressor Leaks - J-6650 & J-6653 (CR)</u> Comply with 40 CFR 60 Subpart GGG for compressors in VOC service. Compressors in hydrogen service are exempt from the 60.592 standards. For a compressor to be considered in hydrogen service, it must be determined that the percent hydrogen content can be reasonably expected always to exceed 50 percent by volume using either the specified methods or engineering judgment.	Conduct a Leak Detection and Repair (LDAR) program on compressors in VOC service as specified in AOP Section 6.2. <i>- Directly enforceable -</i> For compressors in hydrogen service, keep records of the hydrogen service demonstration and update the demonstration as appropriate when operation changes.
5.2.32 HAP	40 CFR 63 Subpart CC 63.640(p) (2/4/20) → 40 CFR 60 Subpart VV 60.482-60.487 (11/16/07, 12/14/00) WAC 173-401-630(1) (3/5/16)	<u>MACT for Compressor Leaks - J-6650 & J-6653 (CR)</u> Comply with 40 CFR 63 Subpart CC for compressors in HAP service. Compressors in hydrogen service are exempt from the standards under 60.592. For a compressor to be considered in hydrogen service, it must be determined that the percent hydrogen content can be reasonably expected always to exceed 50 percent by volume using either the specified methods or engineering judgment.	Conduct a Leak Detection and Repair (LDAR) program on compressors in HAP service as specified in AOP Section 6.2. <i>- Directly enforceable -</i> For compressors in hydrogen service, keep records of the hydrogen service demonstration and update the demonstration as appropriate when operation changes.

Hydroprocessing Area (CGS, CFH, DHT, CR/NHT, SHU, and JFT Units)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Process Drains			
40 CFR 60 NSPS General Provisions in Section 3 apply to the affected facilities			
5.2.33 VOC	40 CFR 60 Subpart QQQ 60.690 (11/23/88)	<u>Individual Drain Systems - CFH, DHT, SHU, and JFT</u> Comply with 40 CFR 60 Subpart QQQ except when handling 63 Subpart CC Group 1 wastewater streams regulated under 40 CFR 63 Subpart CC (i.e., 63.640(o)), then comply with 40 CFR 61 Subpart FF.	Comply with the requirements in AOP Section 6.5 (60 Subpart QQQ) or AOP Section 5.17 (61 Subpart FF), as appropriate.

5.3 Catalytic Cracking Unit

Catalytic Cracking Unit (CCU & Amine 2)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Catalytic Cracking Unit, CO Boilers, Flue Gas Scrubber			
40 CFR 63 NESHAP General Provisions in Section 3 apply to the affected facilities			
5.3.1 HAP (PM)	40 CFR 63 Subpart UUU 63.1564 (11/26/18), Table 1 Option 2 (12/1/15), Table 2 Item 7.b.ii (Option 2) & Item 10 (7/13/16), Table 3 Item 2 (Option 2) & Item 12 (12/26/18), Table 4 Item 3 (Option 2) (2/4/20), Table 6 Item 9 (11/26/18), Table 7 Item 7.c.i (12/1/15), 63.1570 (12/1/15), 63.1571(a)(5), (b), (c), (d) & (e) (12/26/18), 63.1572 (11/26/18), Table 41 (12/1/15), 63.1574(f) (11/19/20) and 63.1576 (11/26/18) BART Order 7838 Conditions 1.1.2, 1.5.1.1, 1.5.1.3, 7.1.1, & 7.1.3, (7/7/10): F-304	<u>CCU Regenerator Vent Metal HAPs</u> Emissions must not exceed 1.0 lb PM/1,000 lb coke burn-off in the catalyst regenerator for a non-venturi jet-ejector design scrubber. Maintain the 3-hour rolling average liquid-to-gas (L/G) ratio above the limit established in the performance test. Install, operate, and maintain continuous parameter monitoring systems for the gas flow rate exiting the scrubber and total scrubbing liquid flow rate. During periods of startup, shutdown, and hot standby, either maintain the liquid to gas ratio operating limit (the pressure drop operating limit does not apply) or maintain the inlet velocity to the primary internal cyclones of the catalytic cracking unit catalyst regenerator at or above 20 feet per second. Install, operate, and maintain a continuous parameter monitoring system to measure and record the gas flow rate exiting the catalyst regenerator. Prepare an operation, maintenance, and monitoring plan and operate at all times according to the procedures in the plan.	Monitor and record the hourly and 3-hour rolling average flue gas and total scrubbing liquid flow rate consistent with the following continuous parameter monitoring system requirements: • Complete a minimum of one cycle of operation for each successive 15-minute period. A minimum of four successive cycles of operation are required 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). • Have valid hourly average data from at least 75 percent of the hours during which the process operated. • Determine and record the hourly average of all recorded readings and the daily average of all recorded readings for each operating day. The daily average must cover a 24-hour period. • Record the results of each inspection, calibration, and validation check. Determine and record each day the average coke burn-off rate and the hours of operation and the hours of operation for each catalyst regenerator by Equation 1 of 63.1564 (you can use process data to determine the volumetric flow rate). Conduct a periodic performance test for PM at least once every 5 years beginning by August 1, 2017 according to the requirements in Table 4. Demonstrate continuous compliance with the work practice standards by maintaining records to document conformance with the procedures in the operation, maintenance, and monitoring plan. Submit a semiannual report that includes any deviations and a statement that there were none if that was the case. The report shall include a notice if there were any changes in monitoring options elected under 63 Subpart UUU and the results of any performance tested used to comply with Subpart UUU.

Catalytic Cracking Unit (CCU & Amine 2)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.3.2 PM	OAC 946c Condition (2) (2/16/24)	<u>CCU FGS - PM-10</u> PM-10 from the FGS stack shall not exceed 0.11 grains/dscf, corrected to 7% oxygen.	Demonstration of continued compliance with this PM limit shall be ongoing compliance with the CCU 1.0 lb/1000 lb coke burn standard according to appropriate continuous parameter monitoring system limits and work practice standards in 40 CFR Part 63 Subpart UUU.
5.3.3 PM	BART Order 7838 Conditions 1.1.1, 1.5.1.1, 1.5.1.2, and 7.1. (7/7/10): F-304 WAC 173-401-630(1) (3/5/16)	<u>CCU FGS - PM-10</u> PM-10 from the FGS stack shall not exceed 0.11 grains/dscf, 1-hour average, corrected to 7% oxygen.	Compliance will be demonstrated through use and continuous operation of the Flue Gas Scrubber as described in the unit's Operation and Maintenance Manual, including all unit start-up, shutdown, and malfunction procedures. - <i>Directly enforceable</i> - Follow MR&R under AOP Term 5.3.1.
5.3.4 PM	NWCAA 455.13 (4/14/93) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>Emission of Particulate Matter – CCU</u> During all other operation, CCU emissions shall not exceed 0.20 grain/dscf (0.46 g/m3) of exhaust gas as corrected to 7% oxygen.	- <i>Directly enforceable</i> - Follow MR&R under AOP Term 5.3.1.
5.3.5 PM	NWCAA 455.13 & 455.15 (5/11/95 State Only) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>Emission of Particulate Matter – CCU</u> Pursuant to the NWCAA 455.15 determination letter dated 8/4/23, during catalytic cracking unit (CCU) hot standby operation to the Diversion Stack, particulate matter emissions shall not exceed 0.10 grain/dry standard cubic foot (dscf) (0.23 g/m3) uncorrected. During all other operation, CCU emissions shall not exceed 0.20 grain/dscf (0.46 g/m3) of exhaust gas as corrected to 7% oxygen.	- <i>Directly enforceable</i> - Monitor and keep records of appropriate CCU operating parameters to demonstrate hot standby operation. Follow MR&R under AOP Term 5.3.15.

Catalytic Cracking Unit (CCU & Amine 2)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.3.6 VE	NWCAA 451.1 (10/13/94) 40 CFR 64.3(b); 64.6(c); 64.7(c),(d), & (e); and 64.9(a) & (b) (10/22/97) (CAM)	<u>Emission of Air Contaminant - Visual Standard – CCU</u> Emissions from a catalytic cracking unit shall not exceed 40% opacity for more than an aggregate of 3 minutes in any one hour.	- CAM - Comply with CAM Plan in AOP Term 7.4, which includes compliance with AOP Term 5.3.1. An excursion is defined as a 3-hour rolling average L/G ratio below the limit established in the performance test. An excursion is also a deviation. Excursions/deviations trigger an inspection, corrective action, and a reporting requirement.
5.3.7 VE	NWCAA 451.1 (11/8/07 State Only) 40 CFR 64.3(b); 64.6(c); 64.7(c),(d), & (e); and 64.9(a) & (b) (10/22/97) (CAM)	<u>Emission of Air Contaminant - Visual Standard – CCU</u> 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 (Ecology Method 9A) 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.	
5.3.8 VE	WAC 173-400-040(1) (3/22/91) WAC 173-400-040(2) (9/16/18 State Only) 40 CFR 64.3(b); 64.6(c); 64.7(c), (d), & (e); and 64.9(a) & (b) (10/22/97) (CAM)	<u>Visible Emissions – CCU</u> 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 twenty percent opacity (Ecology Method 9A) 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.	

Catalytic Cracking Unit (CCU & Amine 2)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.3.9 HAP (CO)	40 CFR 63 Subpart UUU 63.1565, Table 8 Item 2 (12/1/15), Table 9 Line 3 (12/1/15), Table 13 Line 2.b (12/1/15), Table 14 Line 3 (12/1/15), 63.1570 (12/1/15), 63.1572(c) (11/26/18), Table 41 (12/1/15), 63.1574(f) (11/19/20)	<u>CCU Organic HAPs</u> CO emissions from the catalyst regenerator vent shall not exceed 500 ppmvd, 1-hour average. During startup, shutdown and hot standby an alternative limit of 1 vol% oxygen (wet or dry basis) in the regenerator exhaust gas may be used in lieu of meeting the CO limit. Prepare an operation, maintenance, and monitoring plan and operate at all times according to the procedures in the plan.	Demonstrate continuous compliance with the 500 ppmvd CO limit by operating in conformance with the work practice standard and by maintaining records documenting that the procedures in the OMMP are being followed. During startup, shutdown, and hot standby, collect the hourly average oxygen concentration monitoring data and maintain the hourly average oxygen concentration at or above 1 vol% (wet or dry basis). Maintain a record of the date, time, and duration of each startup/shutdown period when the regenerator exhaust gas limit of 1% oxygen was used in lieu the 500 ppmvd CO limit. Submit a semiannual report that includes any deviations and a statement that there were none if that was the case. The report shall include a notice if there were any changes in monitoring options elected under Subpart UUU and the results of any performance tested used to comply with Subpart UUU.
5.3.10 CO	OAC 946c Condition (7) (2/16/24)	<u>OAC CCU FGS CO</u> CO emissions from the catalyst regenerator vent shall not exceed 500 ppmvd, 1-hour average. During startup, shutdown and hot standby an alternative limit of 1 vol% oxygen (wet or dry basis) in the regenerator exhaust gas may be used in lieu of meeting the CO limit. CCU CO emissions from the Diversion Stack shall be determined based on engineering calculations using available monitoring data and included when demonstrating compliance with the CCU CO limit.	To demonstrate compliance, calibrate, maintain, and operate a continuous emission monitoring system (CEMS) to measure CO from the FGS stack. The CEMS shall meet the appropriate specifications of 40 CFR 60 Appendices B and F and NWCAA Regulation 367 and Appendix A.

Catalytic Cracking Unit (CCU & Amine 2)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.3.11 SO ₂	OAC 946c Condition (3) & (4) (2/16/24) BART Order 7838 Conditions 3.2.1.1, 3.2.1.2, 3.2.1.3, 8.2, 13 (7/7/10): F-304	<u>CCU FGS - SO₂ Limit</u> Sulfur dioxide (SO ₂) emissions from the FGS shall not exceed any of the following limits as demonstrated by a continuous emissions monitor: • 25 ppmvd at 0% O₂, 365-day rolling average • 50 ppmvd at 0% O₂, 7-day rolling average	A CEMS shall be installed, calibrated, maintained, and operated to measure oxygen and SO ₂ concentrations from the FGS stack. The monitor shall meet the appropriate specifications of 40 CFR 60 Appendices B and F and the NWCAA Regulation 367 and Appendix A.
5.3.12 NO _x	OAC 946c Condition (8) (2/16/24)	<u>CCU FGS - NO_x Limit</u> Nitrogen oxide (as NO ₂) emissions from the FGS stack shall not exceed 1,770 tons per any rolling 12-month period.	To demonstrate compliance, calibrate, maintain, and operate a continuous emission monitoring system to measure nitrogen oxides from the FGS stack. The monitor shall meet the appropriate specifications of 40 CFR 60 Appendices B and F and NWCAA Regulation 367 and Appendix A. Keep records of sour water stripper (SWS) vent gas valve position on an hourly basis.

Catalytic Cracking Unit (CCU & Amine 2)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.3.13 NH3	OAC 1395 Conditions (1), (2), (3), & (4) (9/9/22)	<u>CCU F-304 – NH3 Limit</u> Upon completion of the initial compliance testing, emissions of ammonia from COB2 shall not exceed 3.8 lb/hr as a 24-hour average rolled hourly. This limit may be adjusted depending on the results of the compliance testing or future NOx emission limits.	Conduct compliance tests initially to mark the end of shakedown no more than 120 days after SNCR startup and annually thereafter (i.e., at least once every 4 calendar quarters from the previous test). SNCR startup is marked by the CCU operating at normal production rates in partial burn after the turnaround and the SWS stream is fed to the SNCR. Upon completion of 3 compliant consecutive annual tests, Tesoro may reduce the frequency of compliance testing to once every 12 calendar quarters from the previous test. Compliance shall be determined by performance testing at the flue gas scrubber (FGS) stack. Tesoro may exclude the ammonia contribution by COB1 when demonstrating compliance. The ammonia contribution from COB1 shall be determined as described in the Ammonia Emissions Monitoring Plan. Compliance shall be determined using Bay Area Air Quality Management District Source Test Procedure 1B (BAAQMD ST-1B), EPA Method 320, or other alternative method approved by the NWCAA. Results shall be the average of three 60-minute test runs at the conditions described in the Ammonia Emissions Monitoring Plan (e.g., representative operating rate of the CCU in partial burn, maximum COB2 operation relative to COB1, maximum operational SWS SNCR injection, etc.). During any testing, the permittee shall record the relevant operating parameters as described in the Ammonia Emissions Monitoring Plan and submit them in the written test report.

Catalytic Cracking Unit (CCU & Amine 2)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.3.14 NH3	OAC 1395 Conditions (5) & (6) (9/9/22)	<u>CCU F-304 – Ammonia Emissions Monitoring Plan</u> Develop an Ammonia Emissions Monitoring Plan to establish a predictive relationship between the CCU, COBs, and SNCR operating parameters and emissions of ammonia.	A draft plan shall be submitted to NWCAA for approval at least 30 days prior to the initial SNCR compliance testing and shall include specific operating parameters and proposed testing plan. A final plan shall be submitted to NWCAA for approval within 180 days after conducting the initial ammonia compliance test and shall contain source test results and the established relationship between the CCU, COBs, and SNCR operating parameters and ammonia emissions. This plan shall define QA/QC procedures and corrective actions when parameter monitoring indicates the F-304 ammonia emission limit may be exceeded. Update the plan as necessary to better reflect operation or to incorporate the periodic testing results. Submit revisions to NWCAA for review and approval. Upon completion of the initial compliance testing, record the predictive parameters identified by the Ammonia Emissions Monitoring Plan at least once every hour. Report as a deviation each period listed in the Ammonia Emissions Monitoring Plan when parameter monitoring indicates that ammonia emissions may have exceeded the F-304 ammonia limit.
5.3.15 HAP	40 CFR 63 Subpart UUU 63.1569 (11/26/18), Table 36 Option 1 (2/9/05), Table 37 (2/9/05), Table 39 Lines 1 & 5 (2/9/05), 63.1570 (12/1/15), 63.1572 (11/26/18), 63.1574(f) (11/19/20), and 63.1576 (11/26/18)	<u>CCU FGS Bypass Monitoring</u> Monitor the bypass around the CCU Flue Gas Scrubber (FGS) using a temperature indicator on the CCU Diversion Stack. Install, operate, and maintain the temperature monitoring system in a manner consistent with the manufacturer's specifications. Prepare an operation, maintenance, and monitoring plan and operate at all times according to the procedures in the plan.	Continuously monitor temperature in the CCU Diversion stack to detect flow in the bypass line. The temperature monitoring system must complete a minimum of one cycle of operation for each successive 15-minute period. A minimum of four successive cycles of operation are required to have a valid hour of data (or at least two if a calibration check is performed during that hour or if the monitoring system is out-of-control). The temperature monitoring system must have valid hourly data from at least 75 percent of the hours during which the process operated. Determine and record the hourly average of all recorded readings and for each operating day. Record the results of each inspection, calibration, and validation check. Submit a semiannual report that includes any deviations and a statement that there were none if that was the case. The report shall include a notice if there were any changes in monitoring options elected under Subpart UUU.

Catalytic Cracking Unit (CCU & Amine 2)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.3.16 SO ₂	OAC 946c Condition (5) (2/16/24) BART Order 7838 Conditions 3.2.1.4.2 and 3.2.1.4.3 (7/7/10)	<u>OAC SO₂ Limit during FGS Bypass</u> Sulfur dioxide (SO ₂) emissions during bypass of the FGS shall not exceed 1,000 ppmvd at 7% O ₂ , averaged for 60 consecutive minutes. Demonstrate compliance by mass balance or continuous emissions monitoring.	Mass balance calculations must assume all incoming sulfur is oxidized to sulfur dioxide and released to the stack unless demonstrated otherwise by process data and/or analytical methods at representative operating conditions.
5.3.17 SO ₂	OAC 946c Condition (6) (2/16/24) BART Order 7838 Conditions 3.2.1.4.1, 3.2.1.4.4, and 3.2.1.4.5 (7/7/10)	<u>OAC SO₂ Minimization during FGS Bypass</u> Sulfur dioxide (SO ₂) emissions during bypass of the FGS shall be minimized to the extent reasonably practicable by CCU feed rate reduction, CCU feed sulfur content consideration, catalyst utilization, and/or other actions.	Procedures regarding minimization of SO ₂ emissions during bypass shall be incorporated into CCU operations and maintenance procedures. Compliance with this provision shall be demonstrated by records of bypass event beginning and end times and specific actions taken during each bypass event, and may take the form of a checklist. Records must be taken during each Flue Gas Scrubber bypass event. The records shall contain the date and time of the beginning and end of the bypass event, all actions taken to reduce SO ₂ emissions during the bypass, all actions required to restart the Flue Gas Scrubber and end bypassing. The record may take the form of a checklist. Records of each bypass event shall be retained at the facility for at least five years and be made available to NWCAA or Ecology upon request.
Amine Treatment System			
5.3.18 SO ₂	OAC 308a Conditions 1 & 2 (10/14/09) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>Sulfur Curtailment Plan</u> Submit and maintain an up-to-date Sulfur Curtailment Plan that is approved by the NWCAA. The plan shall delineate mitigating actions to be followed minimizing emissions of sulfur dioxide (SO ₂) and maintaining compliance with NWCAA emission standards during curtailment periods. When Chemtrade curtails sulfur acceptance, the facility shall immediately implement the approved sulfur curtailment plan	- <i>Directly enforceable</i> - Report all sulfur curtailment events to the NWCAA in the monthly report. For events potentially resulting in excess emissions, report to the NWCAA in accordance with AOP Term 2.4.7. The reports shall include a summary of the steps taken to implement the Sulfur Curtailment Plan.

Catalytic Cracking Unit (CCU & Amine 2)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.3.19 SO2	OAC 827c Condition 5 (7/6/23)	<u>Amine Contactor C-501 - H₂S Limits</u> Refinery fuel gas H ₂ S from the main fuel gas drum V-213 shall not exceed 400 ppmvd on a rolling 24-hour average basis.	Continuous emission monitor system(s) (CEMS) for H ₂ S concentration shall be installed, calibrated, maintained, and operated in the main fuel gas drum V-213. The monitor shall be maintained and certified in accordance with Performance Specification 7 (40 CFR 60 Appendix B) and operated in accordance with 40 CFR 60 Appendix F and NWCAA Regulation 367 and Appendix A.
5.3.20 SO2	OAC 952c Conditions 1 & 2 (7/6/23) BART Order 7838 Conditions 3.4.1, 8.3.1, 8.3.2, & 13 (7/7/10 State Only): F-104, F-654, F-6600, F-6601, F-6602, F-6650, F-6651, F-6652, F-6653, F-6654, and F-6655 40 CFR 52 Subpart WW 52.2501 (6/11/14): F-101, F-102, F-201, F-301, F-652, F-751, and F-752	<u>Fuel Gas Blend Drum V-213</u> Fuel gas in Blend Drum V-213 shall not contain greater than 0.10% by volume H ₂ S, 365-day rolling average.	A continuous emissions monitoring system (CEMS) for hydrogen sulfide concentration shall be calibrated, maintained, and operated measuring the outlet stream of the fuel gas blend drum subsequent to all unmonitored incoming sources of sulfur compounds to the system and prior to any fuel gas combustion device. The monitor shall be certified in accordance with 40 CFR 60 Appendix B and operated in accordance with 40 CFR 60 Appendix F and the NWCAA Regulation Section 367 and Appendix A. Record the calendar day average H ₂ S concentration of the refinery fuel gas as measured by the H ₂ S CEMS. The daily averages shall be used to calculate the 365-day rolling average. Records of the daily average H ₂ S concentration and 365-day rolling averages are to be retained at the facility for at least five years and be made available upon request. F-101, F-102, F-201, F-301, F-652, F-751, and F-752: Calendar day and 365-day rolling average refinery fuel gas H ₂ S concentrations must be reported to the EPA Region 10 at the same time that the semi-annual monitoring reports required by the Part 70 operating permit for the Tesoro oil refinery are submitted to NWCAA. All documents and reports must be sent to the EPA Region 10 electronically, in a format approved by the EPA Region 10, to the following email address: R10-AirPermitReports@epa.gov.

Catalytic Cracking Unit (CCU & Amine 2)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.3.21 SO ₂	OAC 952c Condition 3 (7/6/23) BART Order 7838 Condition 3.4.2 (7/7/10 State Only)	<u>Acid Gas Bypass via PC5265A</u> Bypass of acid gas from the amine regenerator C-1120 system away from the normal processing flow to the adjacent sulfur treatment plant (i.e., Sulfur Recovery Unit (SRU) and acid plant) shall be recorded and reported to the NWCAA (i.e., any period that PC5265A is opened). A root-cause analysis shall be conducted and recorded for each bypass event.	Record each period that PC5265A is opened (acid gas bypass event). Report each acid gas bypass event as a breakdown or upset as required under AOP Term 2.4.8 along with results of root cause analysis.
C-404 De-Propanizer Column			
40 CFR 60 NSPS General Provisions in AOP Section 3 apply to the affected facilities			
5.3.22 VOC	40 CFR 60 Subpart NNN 60.662(a) (6/29/90) → (via AMP) 60.703(c), 60.704(b)(5), 60.705(b)(2), (c)(4), & (k)	<u>NSPS for Distillation Operations – Refinery Fuel Gas</u> For each subject vent stream routed to the refinery fuel gas system, reduce emissions of TOC by introducing the vent stream into the flame zone of the boiler or process heater.	AMP approved by NWCAA November 12, 2020, (see AOP Section 7.3) allows use of the monitoring, recordkeeping, and reporting provisions under 40 CFR 60 Subpart RRR as an alternative to those under 40 CFR 60 Subpart NNN: Keep an up-to-date, readily accessible record of a description of the location at which the vent stream is introduced into the boiler or process heater. Keep up-to-date, readily accessible continuous records of whenever there is a change in the location at which the vent stream is introduced into the flame zone

Catalytic Cracking Unit (CCU & Amine 2)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.3.23 VOC	40 CFR 60 Subpart NNN 60.662(b) (6/29/90) → (via AMP) 60.703(b), 60.704(c), 60.705(b)(3), (e), (k), & (l)	<u>NSPS for Distillation Operations – Refinery Flare Gas System</u> For each subject vent stream routed to the refinery flare gas system, combust the emissions in a flare that meets the requirements of 60.18.	AMP approved by NWCAA November 12, 2020, (see AOP Section 7.3) allows use of the monitoring, recordkeeping, and reporting provisions under 40 CFR 60 Subpart RRR as an alternative to those under 40 CFR 60 Subpart NNN: Install, calibrate, maintain, and operate according to manufacturer's specifications a heat sensing device, such as an ultraviolet beam sensor or thermocouple, at the pilot light to indicate the continuous presence of a flame. Comply with AOP Terms 5.7.13, 5.7.15, 5.7.17, 5.7.19, 5.7.23, and 5.7.29. Keep up-to-date, readily accessible continuous records of the flare pilot flame monitoring, as well as up-to-date, readily accessible records of all periods of operations in which the pilot flame is absent. Submit semiannual reports of all periods in which the pilot flame of the flare was absent.
Process Heaters and Boilers			
40 CFR 63 NESHAP General Provisions in AOP Section 3 apply to the affected facilities			
5.3.24 SO2	40 CFR 52 Subpart WW 52.2501 (6/11/14)	<u>Better than BART Alternative SO2 Limit – non-BART eligible process heaters and boilers – F-301</u> Refinery fuel gas used in F-301 from Blend Drum V-213 must meet AOP Terms 5.3.19 and 5.3.20.	Comply with AOP Terms 5.3.19 and 5.3.20 for Blend Drum V-213.

Catalytic Cracking Unit (CCU & Amine 2)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.3.25 HAP	40 CFR 63 Subpart DDDDD 63.7500(a), (e), Table 3 Line 3, 63.7505(a), 63.7515(d), 63.7540(a)(10) & (b), 63.7550(a), (b), Table 9, (c)(1), (c)(5)(i)-(iv), (xiv), & (xvii), (h)(3) & 63.7555(a) and 63.7545(a) & (e)(8)(i) (11/20/15)	<u>Boiler MACT Tune-Ups for Gas 1 Heaters without oxygen trim - Heater F-301</u> Conduct a tune-up of the process heater annually while burning the type of fuel that provided the majority of the heat input over the prior year. Tune-ups shall be conducted no more than 13 months after the previous tune-up. The inspection shall include: inspect the burner, clean and replace components as necessary; inspect the flame pattern, adjust as necessary; inspect air-to-fuel ratio system control, as applicable to ensure it is correctly calibrated and functioning properly; optimize total emissions of CO; measure CO concentrations before and after adjustments are made; and maintain on-site an annual report summarizing inspection.	Submit a compliance report every calendar year. Reports are due, in accordance with AOP Term 4.1, 30 days after the close of the period that the reports cover. If available, the compliance reports shall 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.
5.3.26 HAP	40 CFR 63 Subpart DDDDD 63.7500(a)(3) (11/20/15)	<u>Boiler MACT – General Duty to Minimize Emissions - Heater F-301</u> 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 Official under AOP Term 2.4.1.
CCU Hoppers			
5.3.27 PM	OAC 1309 Condition 2 (2/7/19)	<u>Multi-Loader Catalyst Adder System (V-397)</u> Control with a filter system meeting at least 99.4% control for PM-2 (2 microns aerodynamic diameter) using ASHRAE 52.1, ASHRAE 52.2 or other method approved by NWCAA in writing.	Maintain information demonstrating that the filters used on the system meet or exceed 99.4% control of PM-2 using ASHRAE 52.1, ASHRAE 52.2, or other method approved by NWCAA in writing.

Catalytic Cracking Unit (CCU & Amine 2)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.3.28 VE	OAC 1309 Condition (3) (2/7/19) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>Multi-Loader Catalyst Adder V-397 – Opacity</u> Visible emission from the multi-loader system V-397 are prohibited that exceed 0% opacity for more than an aggregate of 3 minutes in any consecutive 60-minute period as determined by Washington State Department of Ecology Method 9A.	- <i>Directly enforceable</i> - Comply with AOP Term 6.1.
5.3.29 PM	OAC 1309 Condition 4 (2/7/19)	<u>Multi-Loader Catalyst Adder System (V-397)</u> Check filter system to ensure there are no visible gaps.	Once per operating day, inspect filters for gaps and record in a log: time and date, inspection results and inspector's initials.
5.3.30 VE	OAC 947 Conditions 1, 2, 3, 4, & 5 (12/19/05)	<u>Catalyst Hoppers V-307 & V-308</u> Exhaust from catalyst hoppers V-307 & V-308 shall be controlled by baghouses, with maximum visible emissions not to exceed 5% opacity for more than 3 minutes in any consecutive 60-minute period as determined by Washington State Department of Ecology Method 9A.	A differential pressure gauge shall be installed on each baghouse. Acceptable differential pressure ranges shall be established by the manufacturer or through good engineering judgment and posted on or near the gauges. Continuous compliance shall be demonstrated by qualitative visible emissions monitoring of the baghouse exhaust during material addition. Baghouse exhaust shall be observed for visible emissions during any catalyst transfer. A log of catalyst transfer time and date and visible emission observations shall be kept by the facility, and available to the NWCAA upon request. Excess emissions from the V-307 and V-308 exhaust shall be reported if any opacity is observed. Actions shall be taken to identify and correct the cause of excess emissions immediately. A written operation and maintenance (O/M) manual shall be developed for the baghouses and kept up-to-date. The O/M manual shall be consistent with the manufacturer's recommendations and shall include internal inspection schedules, maintenance requirements and operating procedures. The O/M manual shall be kept on-site and readily available for inspection by the NWCAA. The facility shall keep a (written or electronic) log of all maintenance and repair work performed on the baghouses. The log shall include, at minimum, any differential pressure gauge measurements, all external and internal inspections, any fabric filtration failures, repairs or replacements, the time and date that each activity was performed, and the name of the person performing the work.

Catalytic Cracking Unit (CCU & Amine 2)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.3.31 VE	OAC 633a Conditions 1, 2, 3, 4, & 5 (3/6/06)	<u>Catalyst Hopper V-353</u> Catalyst hopper V-353 exhaust shall be controlled by a baghouse, and visible emissions must not exceed 5% opacity for more than 3 minutes in any consecutive 60-minute period as determined by Washington State Department of Ecology Method 9A.	A differential pressure gauge shall be installed on each baghouse. Acceptable differential pressure ranges shall be established by the manufacturer or through good engineering judgment and posted on or near the gauges. Continuous compliance shall be demonstrated by qualitative visible emissions monitoring of the baghouse exhaust during catalyst transfers to V-353. A log of catalyst transfer time and date and visible emission observations shall be kept by the facility, and available to the NWCAA upon request. Excess emissions from the V-353 exhaust shall be reported to the NWCAA if any opacity is observed. Actions shall be taken to identify and correct the cause of excess emissions immediately. A written operation and maintenance (O/M) manual shall be developed for the baghouses and kept up-to-date. The O/M manual shall be consistent with the manufacturer's recommendations and shall include internal inspection schedules, maintenance requirements and operating procedures. The O/M manual shall be kept on-site and readily available for inspection by the NWCAA. The facility shall keep a (written or electronic) log of all maintenance and repair work performed on the baghouses. The log shall include, at minimum, any differential pressure gauge measurements, all external and internal inspections, any fabric filtration failures, repairs or replacements, the time and date that each activity was performed, and the name of the person performing the work.

Catalytic Cracking Unit (CCU & Amine 2)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.3.32 VE/PM	OAC 946c Condition (1) (2/16/24)	<u>Catalyst Hopper V-356</u> Catalyst hopper V-356 exhaust shall be controlled by a baghouse, and: - Visible emissions must not exceed 5% opacity for more than 3 minutes in any consecutive 60-minute period as determined by Washington State Department of Ecology Method 9A and - Particulate emissions must not exceed 0.02 grains PM/dscf Compliance with the grain loading requirement shall be demonstrated by visible emissions monitoring results during material addition.	A differential pressure gauge shall be installed on each baghouse. Acceptable differential pressure ranges shall be established by the manufacturer or through good engineering judgment and posted on or near the gauges. Continuous compliance with this emission limit shall be demonstrated by qualitative visible emissions monitoring results during material addition. Baghouse exhaust shall be observed for visible emissions during any catalyst transfer to V-356. Excess emissions from the V-356 exhaust shall be reported to the NWCAA if any opacity is observed. Actions shall be taken to identify and correct the cause of excess emissions immediately. A log of catalyst transfer time and date and visible emission observations shall be kept by the facility, and available to the NWCAA upon request. A written operation and maintenance (O/M) manual shall be developed for the baghouse and kept up to date. The O/M manual shall be consistent with the manufacturer's recommendations and shall include internal inspection schedules, maintenance requirements and operating procedures. The O/M manual shall be kept on-site and readily available for inspection by the NWCAA. The facility shall keep a (written or electronic) log of all maintenance and repair work performed on the baghouse. The log shall include, at minimum, any differential pressure gauge measurements, all external and internal inspections, any fabric filtration failures, repairs or replacements, the time and date that each activity was performed, and the name of the person performing the work.
5.3.33 PM	OAC 1309 Conditions (2) & (4) (2/7/19)	<u>Multi-Loader Catalyst Adder V-397 – Filter Efficiency</u> Use a filter that meets at least 99.4% control for PM2 using ASHRAE 52.1, ASHRAE 52.2, or other method approved by NWCAA in writing.	Compliance may be demonstrated using vendor information maintained onsite. Once per operating day, inspect the filter and ensure it is seated with no gaps. Keep a written log of results of this inspection, time, date, and inspector initials.

Catalytic Cracking Unit (CCU & Amine 2)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Fugitive Components in VOC/HAP Service (excluding Compressors)			
40 CFR 60 NSPS and 40 CFR 63 NESHAP General Provisions in AOP Section 3 apply to the affected facilities			
5.3.34 VOC	40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a-60.487a (11/16/07) Compliance Order 1006-23-08 (CO23) Condition (V)(C) (8/18/23)	<u>NSPS for Equipment Leaks</u> Comply with 40 CFR 60 Subpart GGGa for equipment leaks in VOC service.	Conduct a Leak Detection and Repair (LDAR) program on equipment in VOC service as specified in AOP Section 6.3.
5.3.35 HAP	40 CFR 63 Subpart CC 63.640(p) (2/4/20) → 40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a-60.487a (11/16/07) Compliance Order 1006-23-08 (CO23) Condition (V)(C) (8/18/23)	<u>MACT for Equipment Leaks</u> Comply with 40 CFR 63 Subpart CC for equipment leaks in HAP service.	Conduct a Leak Detection and Repair (LDAR) program on equipment in HAP service as specified in AOP Section 6.3.
5.3.36 VOC	OAC 1182 Condition 1 (5/30/14) → 40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a-60.487a (11/16/07)	<u>BACT for Equipment Leaks - CCU</u> New equipment components associated with the CCU shall be in a leak detection and repair program meeting the monitoring, recordkeeping and reporting provisions of 40 CFR Part 60 Subpart GGGa including referenced requirements under Subpart VVa.	Conduct a Leak Detection and Repair (LDAR) program on new equipment components associated with the CCU as specified in AOP Section 6.3.

Catalytic Cracking Unit (CCU & Amine 2)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.3.37 VOC	OAC 1190 Condition 4 (9/15/14) → 40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a-60.487a (11/16/07)	<u>BACT for Equipment Leaks - CCU</u> New and repurposed equipment components associated with this project that are part of the CCU process unit must be in a leak detection and repair program meeting the monitoring, recordkeeping and reporting provisions of 40 CFR Part 60 Subpart GGGa.	Conduct a Leak Detection and Repair (LDAR) program on new and repurposed equipment components associated with this project that are part of the CCU process unit as specified in AOP Section 6.3.
5.3.38 VOC	OAC 952c Condition 4 (7/6/23) → 40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a-60.487a (11/16/07)	<u>BACT for Equipment Leaks – Amine 2</u> All on-plot equipment associated with the Amine 2 and in VOC/HAP service shall be included in an LDAR program conducted in accordance with 40 CFR 60 Subpart GGGa.	Conduct a LDAR program on all on-plot equipment associated with the Amine 2 and in VOC/HAP service as specified in AOP Section 6.3.
5.3.39 HAP	40 CFR 63 Subpart CC 63.640(p) (2/4/20) → 63.648(j) (2/4/20)	<u>MACT for Pressure Relief Devices in organic HAP service</u> Comply with 40 CFR 63 Subpart CC for pressure relief devices in organic HAP service.	Conduct a Leak Detection and Repair (LDAR) program on equipment in HAP service as applicable in AOP Section 6.4.

Catalytic Cracking Unit (CCU & Amine 2)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Compressor Leaks in VOC/HAP Service			
40 CFR 60 NSPS and 40 CFR 63 NESHAP General Provisions in AOP Section 3 apply to the affected facilities			
5.3.40 VOC	40 CFR 60 Subpart GGG 60.590-60.593 (6/2/08, 11/16/07) → 40 CFR 60 Subpart VV 60.482-60.487 (11/16/07, 12/14/00)	<u>NSPS for Compressor Leaks - J-401, J-403, & J-404 (CCU)</u> Comply with 40 CFR 60 Subpart GGG for compressors in VOC service. Compressors designated for no detectable emissions (NDE), as indicated by an instrument reading of less than 500 ppm above background, is exempt from this monitoring if the compressor is tested annually to demonstrate it is operating with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background.	Conduct a Leak Detection and Repair (LDAR) program on compressors in VOC service as specified in AOP Section 6.2.
5.3.41 HAP	40 CFR 63 Subpart CC 63.640(p) (2/4/20) → 40 CFR 60 Subpart VV 60.482-60.487 (11/16/07, 12/14/00)	<u>MACT for Compressor Leaks - J-401, J-403, & J-404 (CCU)</u> Comply with 40 CFR 63 Subpart CC for compressors in HAP service. Compressors designated for no detectable emissions (NDE), as indicated by an instrument reading of less than 500 ppm above background, is exempt from this monitoring if the compressor is tested annually to demonstrate it is operating with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background.	Conduct a Leak Detection and Repair (LDAR) program on compressors in HAP service as specified in AOP Section 6.2.

Catalytic Cracking Unit (CCU & Amine 2)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Miscellaneous Process Vents			
40 CFR 63 NESHAP General Provisions in Section 3 apply to the affected facilities			
5.3.42 HAP	40 CFR 63 Subpart CC 63.643(a)(2) & (b) (2/4/20) and 63.644(a)(3) (11/26/18) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>Group 1 Miscellaneous Process Vents – CCU Vents 3-655-009 & 3-655-011</u> Reduce organic HAP emissions by introducing the gas stream into the flame zone of a boiler or process heater that has a design heat input capacity $\geq$ 44 megawatt (150 MMBtu/hour).	- <i>Directly enforceable</i> – Keep records indicating where the MPV is introduced in the boiler.
Process Drains			
40 CFR 60 NSPS General Provisions in Section 3 apply to the affected facilities			
5.3.43 VOC	40 CFR 60 Subpart QQQ 60.690 (11/23/88)	<u>Individual Drain Systems – Amine 2</u> Comply with 40 CFR 60 Subpart QQQ except when handling 63 Subpart CC Group 1 wastewater streams regulated under 40 CFR 63 Subpart CC (i.e., 63.640(o)), then comply with 40 CFR 61 Subpart FF.	Comply with the requirements in AOP Section 6.5 (60 Subpart QQQ) or AOP Section 5.17 (61 Subpart FF), as appropriate.

5.4 Benzene Saturation Unit

Benzene Saturation Unit (BenSat & Isom)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Process Heaters and Boilers			
40 CFR 63 NESHAP General Provisions in AOP Section 3 apply to the affected facilities			
5.4.1 NO _x	OAC 1037b Condition 3 (4/13/23)	<u>BenSat Heater F-6602 - NO_x Limit</u> NO _x emissions from BenSat Heater F-6602 shall not exceed any of the following: • 4.4 lb/hr, 1-hour average, at all times • 53 ppmvd, 3-hour average, except during period of startup or shutdown. A continuous emissions monitoring system (CEMS) shall be installed, calibrated, maintained, and operated on the heater for NO _x .	Monitor NO _x using a CEMS certified in accordance with 40 CFR 60 Appendix B and operated in accordance with 40 CFR 60 Appendix F and the NWCAA Regulation 367 and Appendix A.
5.4.2 CO	OAC 1037b Condition 4 (4/13/23)	<u>BenSat Heater F-6602 - CO Limit</u> CO emissions from BenSat Heater F-6602 shall not exceed 0.040 lb/MMBtu (net heat input), 1-hour average	Annually, conduct stack testing to demonstrate compliance with the CO limit in accordance with 40 CFR 60 Appendix A Method 10, and NWCAA 367 and Appendix A.
5.4.3 SO ₂	OAC 1037b Condition 2 (4/13/23) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>BenSat Heater F-6602 - Fuel</u> Combust only natural gas in BenSat Heater F-6602.	- <i>Directly enforceable</i> - Keep records of heater design and/or fuel combusted.
5.4.4 SO ₂	BART Order 7838 Conditions 3.3, 3.4.1, 8.3.1, & 8.3.2 (7/7/10)	<u>BART Order H₂S Limit – BART-Eligible Combustion Units</u> F-6602 shall only fire refinery gas meeting the Blend Drum V-213 requirements in AOP Terms 5.3.19 and 5.3.20 or natural gas.	Comply with AOP Terms 5.3.19 and 5.3.20 for Blend Drum V-213.

Benzene Saturation Unit (BenSat & Isom)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.4.5 PM	BART Order 7838 Conditions 1.2, 1.3, 1.5.3, 1.5.4, 1.5.5, 1.5.6, 7.2 (7/7/10)	<u>Emission of Particulate Matter – BART-eligible combustion units – F-6602</u> Particulate matter emissions shall not exceed 0.05 grain/dscf (0.11 g/m3), 1-hour average, corrected to 7% oxygen.	Visually observe stacks monthly to qualitatively assess whether emissions are visible. The frequency may be reduced to quarterly if no visible emissions are observed for six consecutive months. Tesoro shall revert to monthly observations of individual stacks if any visible emissions are noted during the observation. If visible emissions are observed reduce emissions to zero as soon as possible. If emissions cannot be reduced to zero, the permittee may monitor by Ecology Method 9A no later than 24 hours after detection and daily thereafter until opacity is shown to be less than 20 percent or the permittee will conduct a Method 5 assessment within 30 days. Upon request of NWCAA or Ecology, compliance will be determined using EPA methods in 40 CFR Part 60 Appendix A. Particulate testing will use EPA Methods 5. Particulate emissions stack test results shall be submitted to NWCAA and Ecology upon request. Visual emissions monitoring data shall be recorded and retained at the facility available for review by the NWCAA or Ecology inspectors. Visible emissions observation records are to be retained at the facility for at least five years.
5.4.6 HAP	40 CFR 63 Subpart DDDDD 63.7500(a), (e), Table 3 Line 3, 63.7505(a), 63.7515(d), 63.7540(a)(10) & (b), 63.7550(a), (b), Table 9, (c)(1), (c)(5)(i)-(iv), (xiv), & (xvii), (h)(3) & 63.7555(a) and 63.7545(a) & (e)(8)(i) (11/20/15)	<u>Boiler MACT Tune-Ups for Gas 1 Heaters without oxygen trim – Heater F-6602</u> Conduct a tune-up of the process heater annually while burning the type of fuel that provided the majority of the heat input over the prior year. Tune-ups shall be conducted no more than 13 months after the previous tune-up. The inspection shall include: inspect the burner, clean and replace components as necessary; inspect the flame pattern, adjust as necessary; inspect air-to-fuel ratio system control, as applicable to ensure it is correctly calibrated and functioning properly; optimize total emissions of CO; measure CO concentrations before and after adjustments are made; and maintain on-site an annual report summarizing inspection.	Submit a compliance report every calendar year. Reports are due, in accordance with AOP Term 4.1, 30 days after the close of the period that the reports cover. If available, the compliance reports shall 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.

Benzene Saturation Unit (BenSat & Isom)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.4.7 HAP	40 CFR 63 Subpart DDDDD 63.7500(a)(3) (11/20/15)	<u>Boiler MACT – General Duty to Minimize Emissions - Heater F-6602</u> 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 Official under AOP Term 2.4.1.
Perchloroethylene Storage Vessel and Transfer Rack			
40 CFR 63 NESHAP General Provisions in AOP Section 3 apply to the affected facilities			
5.4.8 HAP	40 CFR 63 Subpart EEEE 63.2343(a) (7/7/20)	<u>MACT for Organic Liquid Distribution – Perchloroethylene Storage Vessel and Transfer Rack</u> Perchloroethylene storage and handling at the Isom is exempt from controls under 40 CFR 63 Subpart EEEE provided proper documentation that the tank is less than 5,000 gallons and the transfer rack is used only to unload perchloroethylene for refilling the tank.	Maintain up-to-date documentation verifying the storage tank and transfer rack are not required to be controlled under 40 CFR 63 Subpart EEEE. The documentation may consist of identification of the tank and transfer rack on a plant site plan, or process and instrumentation diagram (P&ID).
Fugitive Components in VOC/HAP Service			
40 CFR 60 NSPS, 40 CFR 61 NESHAP, and 40 CFR 63 NESHAP General Provisions in AOP Section 3 apply to the affected facilities			
5.4.9 VOC	40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a-60.487a (11/16/07) Compliance Order 1006-23-08 (CO23) Condition (V)(C) (8/18/23)	<u>NSPS for Equipment Leaks – BenSat & Isom</u> Comply with 40 CFR 60 Subpart GGGa for equipment leaks in VOC service.	Conduct a Leak Detection and Repair (LDAR) program on equipment in VOC service as specified in AOP Section 6.3.

Benzene Saturation Unit (BenSat & Isom)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.4.10 HAP	40 CFR 63 Subpart CC 63.640(p) (2/4/20) → 40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a-60.487a (11/16/07) Compliance Order 1006-23-08 (CO23) Condition (V)(C) (8/18/23)	<u>MACT for Equipment Leaks – BenSat & Isom</u> Comply with 40 CFR 63 Subpart CC for equipment leaks in HAP service.	Conduct a Leak Detection and Repair (LDAR) program on equipment in HAP service as specified in AOP Section 6.3.
5.4.11 Benz	40 CFR 61 Subpart J → 40 CFR 63 Subpart CC 63.640(p) (2/4/20) → 40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a-60.487a (11/16/07)	<u>NESHAP for Benzene Equipment Leaks – BenSat & Isom</u> Comply with 40 CFR 63 Subpart GGGa for equipment leaks in benzene service.	Conduct a Leak Detection and Repair (LDAR) program on equipment in benzene service as specified in AOP Section 6.3.
5.4.12 Benz	40 CFR 61 Subpart J 61.110(c) (12/14/00) → 40 CFR 61 Subpart V 61.246(i) (12/14/00)	<u>NESHAP for Benzene Equipment Leaks – Surge Control Vessels & Bottoms Receivers</u> Surge control vessels & bottoms receivers (e.g., Vessels V-6606 & V-6705) at the BenSat and Isom units shall maintain records as required in 61.246(i).	Record the amount of benzene produced or used each year by refinery equipment in benzene service in a log that is kept in a readily accessible location.

Benzene Saturation Unit (BenSat & Isom)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.4.13 VOC	OAC 1037b Condition 1 (4/13/23) → 40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a-60.487a (11/16/07)	<u>BACT for Equipment Leaks - BenSat</u> Notwithstanding the 40 CFR 63 Subpart CC overlap provision of 63.640(p), a leak detection and repair (LDAR) program that conforms with the requirements of 40 CFR 60 Subpart GGGa and Subpart VVa (as referenced by Subpart GGGa), shall be conducted for subject equipment associated with the BenSat unit.	Conduct a Leak Detection and Repair (LDAR) program on subject equipment as specified in AOP Section 6.3.
5.4.14 VOC	OAC 1222a Condition 1 (1/25/24) → 40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a-60.487a (11/16/07)	<u>BACT for Equipment Leaks - Isom</u> Maintain all fugitive components associated with the Isom Unit using a leak detection and repair (LDAR) program meeting the standards, monitoring, recordkeeping, and reporting requirements of 40 CFR Part 60 Subpart GGGa.	Conduct a LDAR program on equipment in VOC/HAP service in accordance with AOP Section 6.3.
5.4.15 CO2e	PSD 17-01 Conditions VI.C & IV (7/18/17) → 40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/08, 11/16/07) & 40 CFR 63 Subpart CC 63.640(p) (2/4/20) → 40 CFR 60 Subpart VVa 60.482a-60.487a (11/16/07)	<u>PSD BACT for Equipment Leaks - Isom</u> Implement a Leak Detection and Repair (LDAR) program consistent with 40 CFR 60 Subpart GGGa and 40 CFR 63 Subpart CC (including recordkeeping requirements contained within each regulation).	Conduct a LDAR program on equipment in VOC/HAP service in accordance with AOP Section 6.3.

Benzene Saturation Unit (BenSat & Isom)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.4.16 CO2e	PSD 17-01 Conditions X.A & B and IV (7/18/17) WAC 173-401- 615(1)(b) & (c) (10/17/02)	<u>PSD Operation and Maintenance – Isom Fugitive Components</u> At all times, Tesoro must, to the extent practicable, maintain and operate the Isom fugitive components, including any associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to Ecology, NWCAA, EPA and/or their authorized representatives, which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.	- <i>Directly enforceable</i> - Comply with AOP Term 4.2.
5.4.17 CO2e	PSD 17-01 Conditions XI.B & C and IV (7/18/17)	<u>PSD Deviation Reporting – Isom Fugitive Components</u> Tesoro shall report to NWCAA the discovery of any malfunction of air pollution control equipment, process equipment, or of a process, which results in an increase in emissions above the allowable emission limits specified in this permit, pursuant to the deviation reporting requirements and, if applicable, pursuant to the unavoidable excess emissions reporting requirements of AOP Term 2.4.7. Compliance with the malfunction notification requirements, as applicable, will not excuse or otherwise constitute a defense to any violation of this PSD permit or any law or regulation such malfunction may cause.	Comply with AOP Term 2.4.7.

Benzene Saturation Unit (BenSat & Isom)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Process Drains			
40 CFR 60 NSPS General Provisions in AOP Section 3 apply to the affected facilities			
5.4.18 VOC	40 CFR 60 Subpart QQQ 60.690 (11/23/88)	<u>Individual Drain Systems – BenSat & Isom</u> Comply with 40 CFR 60 Subpart QQQ except when handling 63 Subpart CC Group 1 wastewater streams regulated under 40 CFR 63 Subpart CC (i.e., 63.640(o)), then comply with 40 CFR 61 Subpart FF.	Comply with the requirements in AOP Section 6.5 (60 Subpart QQQ) or AOP Section 5.17 (61 Subpart FF), as appropriate.

5.5 Butane Isomerization Unit

Butane Isomerization Unit (BI)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
C-916 Stabilizer Column and C-910 De-Isobutanizer Column			
40 CFR 60 NSPS General Provisions in Section 3 apply to the affected facilities			
5.5.1 VOC	40 CFR 60 Subpart NNN 60.662(a) (6/29/90) → (via AMP) 60.703(c), 60.704(b)(5), 60.705(b)(2), (c)(4), & (k)	<u>NSPS for Distillation Operations – Refinery Fuel Gas</u> For each subject vent stream routed to the refinery fuel gas system, reduce emissions of TOC by introducing the vent stream into the flame zone of the boiler or process heater.	AMP approved by NWCAA November 12, 2020, (see AOP Section 7.3) allows use of the monitoring, recordkeeping, and reporting provisions under 40 CFR 60 Subpart RRR as an alternative to those under 40 CFR 60 Subpart NNN: Keep an up-to-date, readily accessible record of a description of the location at which the vent stream is introduced into the boiler or process heater. Keep up-to-date, readily accessible continuous records of whenever there is a change in the location at which the vent stream is introduced into the flame zone

Butane Isomerization Unit (BI)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.5.2 VOC	40 CFR 60 Subpart NNN 60.662(b) (6/29/90) → (via AMP) 60.703(b), 60.704(c), 60.705(b)(3), (e), (k), & (l)	<u>NSPS for Distillation Operations – Refinery Flare Gas System</u> For each subject vent stream routed to the refinery flare gas system, combust the emissions in a flare that meets the requirements of 60.18.	AMP approved by NWCAA November 12, 2020, (see AOP Section 7.3) allows use of the monitoring, recordkeeping, and reporting provisions under 40 CFR 60 Subpart RRR as an alternative to those under 40 CFR 60 Subpart NNN: Install, calibrate, maintain, and operate according to manufacturer's specifications a heat sensing device, such as an ultraviolet beam sensor or thermocouple, at the pilot light to indicate the continuous presence of a flame. Comply with AOP Terms 5.7.13, 5.7.15, 5.7.17, 5.7.19, 5.7.23, and 5.7.29. Keep up-to-date, readily accessible continuous records of the flare pilot flame monitoring, as well as up-to-date, readily accessible records of all periods of operations in which the pilot flame is absent. Submit semiannual reports of all periods in which the pilot flame of the flare was absent.
Fugitive Components in VOC/HAP Service			
40 CFR 60 NSPS and 40 CFR 63 NESHAP General Provisions in Section 3 apply to the affected facilities			
5.5.3 VOC	40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a-60.487a (11/16/07) Compliance Order 1006-23-08 (CO23) Condition (V)(C) (8/18/23)	<u>NSPS for Equipment Leaks</u> Comply with 40 CFR 60 Subpart GGGa for equipment leaks in VOC service.	Conduct a Leak Detection and Repair (LDAR) program on equipment in VOC service as specified in AOP Section 6.3.

Butane Isomerization Unit (BI)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.5.4 HAP	40 CFR 63 Subpart CC 63.640(p) (2/4/20) → 40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a-60.487a (11/16/07) Compliance Order 1006-23-08 (CO23) Condition (V)(C) (8/18/23)	<u>MACT for Equipment Leaks</u> Comply with 40 CFR 63 Subpart CC for equipment leaks in HAP service.	Conduct a Leak Detection and Repair (LDAR) program on equipment in HAP service as specified in AOP Section 6.3.
5.5.5 VOC	NWCAA 580.8 (12/13/89) → 40 CFR 60 Subpart GGG 60.590-60.593 (6/2/08, 11/16/07) → 40 CFR 60 Subpart VV 60.482-60.487 (11/16/07, 12/14/00)	<u>RACT for Equipment Leaks</u> Comply with 40 CFR 60 Subpart GGG for equipment leaks in VOC service.	Conduct a Leak Detection and Repair (LDAR) program on subject equipment as specified in AOP Section 6.2.
5.5.6 HAP	40 CFR 63 Subpart CC 63.640(p) (2/4/20) → 63.648(j) (2/4/20)	<u>MACT for Pressure Relief Devices in organic HAP service</u> Comply with 40 CFR 63 Subpart CC for pressure relief devices in organic HAP service.	Conduct a Leak Detection and Repair (LDAR) program on equipment in HAP service as applicable in AOP Section 6.4.

Butane Isomerization Unit (BI)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Process Drains			
40 CFR 60 NSPS General Provisions in Section 3 apply to the affected facilities			
5.5.7	40 CFR 60 Subpart QQQ 60.690 (11/23/88)	<u>Individual Drain Systems – Butane Isomerization</u> Comply with 40 CFR 60 Subpart QQQ except when handling 63 Subpart CC Group 1 wastewater streams regulated under 40 CFR 63 Subpart CC (i.e., 63.640(o)), then comply with 40 CFR 61 Subpart FF.	Comply with the requirements in AOP Section 6.5 (60 Subpart QQQ) or AOP Section 5.17 (61 Subpart FF), as appropriate.

5.6 Alkylation Unit

Alkylation Unit (Alky)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Fugitive Components in VOC/HAP Service (excluding Compressors)			
40 CFR 60 NSPS and 40 CFR 63 NESHAP General Provisions in Section 3 apply to the affected facilities			
5.6.1 VOC	40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a-60.487a (11/16/07) Compliance Order 1006-23-08 (CO23) Condition (V)(C) (8/18/23)	<u>NSPS for Equipment Leaks</u> Comply with 40 CFR 60 Subpart GGGa for equipment leaks in VOC service.	Conduct a Leak Detection and Repair (LDAR) program on equipment in VOC service as specified in AOP Section 6.3.

Alkylation Unit (Alky)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.6.2 HAP	40 CFR 63 Subpart CC 63.640(p) (2/4/20) → 40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a-60.487a (11/16/07) Compliance Order 1006-23-08 (CO23) Condition (V)(C) (8/18/23)	<u>MACT for Equipment Leaks</u> Comply with 40 CFR 63 Subpart CC for equipment leaks in HAP service.	Conduct a Leak Detection and Repair (LDAR) program on equipment in HAP service as specified in AOP Section 6.3.
5.6.3 VOC	NWCAA 580.8 (12/13/89) → 40 CFR 60 Subpart GGG 60.590-60.593 (6/2/08, 11/16/07) → 40 CFR 60 Subpart VV 60.482-60.487 (11/16/07, 12/14/00)	<u>RACT for Equipment Leaks</u> Comply with 40 CFR 60 Subpart GGG for equipment leaks in VOC service.	Conduct a Leak Detection and Repair (LDAR) program on subject equipment as specified in AOP Section 6.2.
5.6.4 VOC	OAC 1249 Condition 1 (11/19/16) → 40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a-60.487a (11/16/07)	<u>BACT for Equipment Leaks – Alky</u> New equipment components associated with the Alky shall be in a leak detection and repair program meeting the monitoring, recordkeeping and reporting provisions of 40 CFR Part 60 Subpart GGGa including referenced requirements under Subpart VVa.	Conduct a Leak Detection and Repair (LDAR) program on new equipment components associated with the Alky as specified in AOP Section 6.3.
5.6.5 HAP	40 CFR 63 Subpart CC 63.640(p) (2/4/20) → 63.648(j) (2/4/20)	<u>MACT for Pressure Relief Devices in organic HAP service</u> Comply with 40 CFR 63 Subpart CC for pressure relief devices in organic HAP service.	Conduct a Leak Detection and Repair (LDAR) program on equipment in HAP service as applicable in AOP Section 6.4.

Alkylation Unit (Alky)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Compressor Leaks in VOC/HAP Service			
40 CFR 60 NSPS General Provisions in Section 3 apply to the affected facilities			
5.6.6 VOC	40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a-60.487a (11/16/07)	<u>NSPS for Compressor Leaks - J-920 (Alky)</u> Comply with 40 CFR 60 Subpart GGGa for compressors in VOC service. Compressors designated for no detectable emissions (NDE), as indicated by an instrument reading of less than 500 ppm above background, is exempt from this monitoring if the compressor is tested annually to demonstrate it is operating with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background.	Conduct a Leak Detection and Repair (LDAR) program on compressors in VOC service as specified in AOP Section 6.3.
5.6.7 VOC	NWCAA 580.8 (12/13/89) → 40 CFR 60 Subpart GGG 60.590-60.593 (6/2/08, 11/16/07) → 40 CFR 60 Subpart VV 60.482-60.487 (11/16/07, 12/14/00)	<u>RACT for Compressor Leaks - J-920 (Alky)</u> Comply with 40 CFR 60 Subpart GGG for compressors in VOC service.	Conduct a Leak Detection and Repair (LDAR) program on subject compressors as specified in AOP Section 6.2.
5.6.8 VOC	OAC 1249 (11/10/06) → 40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a-60.487a (11/16/07)	<u>BACT for Compressor Leaks - J-920 (Alky)</u> Maintain Compressor J-920 using a program meeting the standards, monitoring, recordkeeping, and reporting requirements of 40 CFR 60 Subpart GGGa.	Conduct a Leak Detection and Repair (LDAR) program on compressors in VOC service as specified in AOP Section 6.3.

5.7 Flare Area

Flare Area			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Fugitive Components in VOC/HAP Service (excluding Compressors)			
40 CFR 60 NSPS and 40 CFR 63 NESHAP General Provisions in AOP Section 3 apply to the affected facilities			
5.7.1 VOC	40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a-60.487a (11/16/07) Compliance Order 1006-23-08 (CO23) Condition (V)(C) (8/18/23)	<u>NSPS for Equipment Leaks</u> Comply with 40 CFR 60 Subpart GGGa for equipment leaks in VOC service.	Conduct a Leak Detection and Repair (LDAR) program on equipment in VOC service as specified in AOP Section 6.3.
5.7.2 HAP	40 CFR 63 Subpart CC 63.640(p) (2/4/20) → 40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a-60.487a (11/16/07) Compliance Order 1006-23-08 (CO23) Condition (V)(C) (8/18/23)	<u>MACT for Equipment Leaks</u> Comply with 40 CFR 63 Subpart CC for equipment leaks in HAP service.	Conduct a Leak Detection and Repair (LDAR) program on equipment in HAP service as specified in AOP Section 6.3.

Flare Area			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.7.3 VOC	OAC 1182 Condition 1 (5/30/14) → 40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a-60.487a (11/16/07)	<u>BACT for Equipment Leaks</u> New equipment components associated with the Flare Area shall be in a leak detection and repair program meeting the monitoring, recordkeeping and reporting provisions of 40 CFR Part 60 Subpart GGGa including referenced requirements under Subpart VVa.	Conduct a Leak Detection and Repair (LDAR) program on new equipment components associated with the Flare Area as specified in AOP Section 6.3.
Compressor Leaks in VOC/HAP Service			
40 CFR 60 NSPS and 40 CFR 63 NESHAP General Provisions in AOP Section 3 apply to the affected facilities			
5.7.4 VOC	40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a-60.487a (11/16/07)	<u>NSPS for Compressor Leaks - J-818 & J-819</u> Comply with 40 CFR 60 Subpart GGGa for compressors in VOC service. Compressors J-818 and J-819 (flare gas recovery) shall be equipped with a barrier fluid system as required under §60.482-3a.	Conduct a Leak Detection and Repair (LDAR) program on compressors in VOC service as specified in AOP Section 6.3.
5.7.5 HAP	40 CFR 63 Subpart CC 63.640(p) (2/4/20) → 40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a-60.487a (11/16/07)	<u>MACT for Compressor Leaks - J-818 & J-819</u> Comply with 40 CFR 63 Subpart CC for compressors in HAP service. Compressors J-818 and J-819 (flare gas recovery) shall be equipped with a barrier fluid system as required under §60.482-3a.	Conduct a Leak Detection and Repair (LDAR) program on compressors in HAP service as specified in AOP Section 6.3.
5.7.6 VOC	OAC 1182 Condition 1 (5/30/14) → 40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a-60.487a (11/16/07)	<u>BACT for Compressor Leaks - J-818 & J-819</u> New compressors associated with the OAC 1182 project shall be in a leak detection and repair program meeting the monitoring, recordkeeping and reporting provisions of 40 CFR Part 60 Subpart GGGa including referenced requirements under Subpart VVa.	Conduct a Leak Detection and Repair (LDAR) program on new compressors associated with the Flare Area as specified in AOP Section 6.3.

Flare Area			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Flares (X-813 and X-814) and Flare Gas Recovery (Compressors J-818 and J-819)			
40 CFR 60 NSPS and 40 CFR 63 NESHAP General Provisions in Section 3 apply to the affected facilities			
5.7.7	Compliance Order 1006-23-08 (CO23) Condition (V)(B)(13)(a) and (V)(B)(19)(c), (l), (V)(B)(21), and (V)(B)(22) (8/18/23)	<u>CD Flare Operation</u> Operate each flare at all times when waste gas may be vented to it. This requirement is not violated if the noncompliance results from downtime of monitoring systems due to monitoring system malfunction, repair, and QA/QC as long as this downtime does not exceed 5% of the time that the flare is in operation and capable of receiving sweep, supplemental, or waste gas in any six month period.	Calculate monitoring system downtime in accordance with 40 CFR 60.13(h)(2) and CO23 Attachment F. For any deviations from this term, record the following: • Duration of the deviation • Explanation of the cause(s) • Description of the corrective action(s) taken. Retain all records for a period of no less than 5 years unless required to keep longer.
5.7.8	Compliance Order 1006-23-08 (CO23) Condition (V)(B)(13)(f), and (V)(B)(19)(c), (l), (V)(B)(21), and (V)(B)(22) (8/18/23)	<u>CD Good Air Pollution Control Practices</u> Implement good air pollution control practices to minimize emissions from flares including during periods of startup, shutdown, and/or malfunction. This requirement is not violated if the noncompliance results from downtime of monitoring systems due to monitoring system malfunction, repair, and QA/QC as long as this downtime does not exceed 5% of the time that the flare is in operation and capable of receiving sweep, supplemental, or waste gas in any six month period.	Calculate monitoring system downtime in accordance with 40 CFR 60.13(h)(2) and CO23 Attachment F. For any deviations from this term, record the following: • Duration of the deviation • Explanation of the cause(s) • Description of the corrective action(s) taken. Retain all records for a period of no less than 5 years unless required to keep longer.
5.7.9	Compliance Order 1006-23-08 (CO23) Condition (V)(B)(15) and (V)(B)(21) (8/18/23)	<u>CD Operate Flares According to Design</u> Operate and maintain each flare in accordance with its design with the following exceptions: • It conflicts with compliance with requirements of CO23. • It is necessary to achieve personnel and process safety or prevent equipment damage.	-none -

Flare Area			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.7.10	Compliance Order 1006-23-08 (CO23) Condition (V)(B)(9)(a) and (V)(B)(21) (8/18/23)	<u>CD Minimize Flaring with FGR Systems</u> Operate each FGR system in a manner to minimize waste gas to flares and while ensuring safe refinery operations. Operate each FGR system consistent with good engineering and maintenance practices and in accordance with its design and the manufacturer's specifications.	-none -
5.7.11	Compliance Order 1006-23-08 (CO23) Condition (V)(B)(8) and (V)(B)(21) (8/18/23)	<u>CD FGR System Capacity</u> The flare gas recovery (FGR) system must have a minimum operating design capacity of 120,000 scf/hour and shall consist of at least two FGR compressors each with a minimum operating capacity of 60,000 scf/hour.	- none -
5.7.12	Compliance Order 1006-23-08 (CO23) Condition (V)(B)(9)(b) and (V)(B)(21) (8/18/23) WAC 173-401-630(1) (3/5/16)	<u>CD FGR Compressor Availability</u> At least one FGR compressor shall be available for operation or in operation 98% of the time on an 8,760-hour rolling sum, rolled hourly. Both FGR compressors shall be available for operation or in operation 95% of the time on an 8,760-hour rolling sum, rolled hourly. Maintenance and subsequent restart of the equipment that is shared by both FGR compressors such that the entire FGR system is shutdown may be included in the amount of time that a compressor is available; however, these periods shall not exceed 1,344 hours in a 5-year rolling sum period, rolled daily. Best efforts shall be made to schedule maintenance activities during scheduled turnarounds. To the extent it is not practicable to undertake maintenance activities during scheduled turnarounds, best efforts shall be used to minimize the generation of waste gas during the maintenance periods.	Calculate compressor availability based on hours when potentially recoverable gas was generated during all or part of the hour. If no potentially recoverable gas was generated during an entire hour, that hour shall not be used in the calculation. In addition, exclude hours during which flows that could not have been prevented through reasonable planning and were in anticipation of, or caused by a natural disaster, act of war or terrorism, or external power loss. - <i>Directly enforceable</i> - Monitor and record FGR compressor availability on an 8,760-hour rolling sum basis, rolled hourly and supporting data used in the calculation.

Flare Area			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.7.13 VE	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) (2/4/20) 40 CFR 63 Subpart CC 63.640(s) (2/4/20) → 40 CFR 63 Subpart CC 63.640-63.671 40 CFR 63 Subpart CC 63.648(j)(4)(v) (2/4/20) 40 CFR 60 Subpart A 60.18 (12/22/08) 40 CFR 63 Subpart A 63.11 (12/22/08) Compliance Order 1006-23-08 (CO23) Condition (V)(B)(13)(e) & (V)(B)(19)(c) (monitoring only) and (V)(B)(21) (8/18/23)	<u>MACT Flare Visible Emissions</u> 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.

5.7.14 VE	Compliance Order 1006-23-08 (CO23) Condition (V)(B)(4), (V)(B)(5), (V)(B)(6), (V)(B)(7), (V)(B)(13)(b), (V)(B)(14), (V)(B)(19)(b), (c), (e), (j), (k), & (l), (V)(B)(21), and (V)(B)(22) (8/18/23)	<u>CD Flare Visible Emissions</u> Flares shall operate with no visible emissions when the vent gas flow rate is less than the smokeless design capacity of the flare, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours. This requirement is not violated if the video camera cannot discern the flare combustion zone or smoke emissions due to weather conditions provided that the recordings are created and retained. This requirement is not violated if the noncompliance results from downtime of monitoring systems due to monitoring system malfunction, repair, and QA/QC as long as this downtime does not exceed 5% of the time that the flare is in operation and capable of receiving sweep, supplemental, or waste gas in any six month period. Instrumentation and monitoring system downtime due to malfunction, repair, and QA/QC shall not exceed 5% of the time that the flare is in operation and capable of receiving sweep, supplemental, or waste gas in any six month period.	Monitor visible emissions from each flare when in operation using one of the following methods. - Observe the flare daily using 40 CFR 60 Appendix A Method 22 using an observation period of 5 minutes. If emissions are observed, immediately begin an observation period of 5 minutes using Method 22. If emissions are observed for more than 1 continuous minute, the 5-minute period is extended to 2 hours or until 5 minutes with no visible emissions observed. - Use a video surveillance camera to continuously record (at least 1 frame every 15 seconds with time/date stamps) images of the flare flame and a reasonable distance above the flame at an angle suitable for visible emission observations. Provide real-time images from the camera in the control room, or other continuously manned location. Instrumentation and monitoring systems associated with flare visible emissions shall be continuous except as provided in CO23 Condition (V)(B)(7) (i.e., malfunction, repair, and QA/QC). The systems shall be able to produce and record data measurements and calculations and meet or exceed the technical specifications and QA/QC requirements of CO23 Attachment F. Specify and maintain a record of the smokeless design capacity of each flare. Record date, time, and duration when the flow of vent gas exceeds the smokeless capacity of the flare. Record each Method 22 observation and all video surveillance camera images with time/date stamps. Record and report any instances where visible emissions are observed for more than 5 minutes during any 2 consecutive hours, including the date and time of the 2 hour period and an estimate of the cumulative number of minutes in the 2 hour period for which emissions were visible. Calculate monitoring system downtime in accordance with 40 CFR § 60.13(h)(2) and CO23 Attachment F. Record and report the following for each video camera downtime that is > 5% of the time that the flare is in operation and capable of receiving sweep, supplemental, or waste gas in any six month period. - Duration of the deviation - Explanation of the cause(s) - Description of the corrective action(s) taken. For each deviation from this term, record the following: - Duration of the deviation - Explanation of the cause(s) - Description of the corrective action(s) taken. Retain all records except for the video camera data for a period of no less than 5 years unless required to keep longer. For data recorded by the video camera retain for six months.
----------------------	---	---	--

Flare Area			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.7.15 HAP	40 CFR 63 Subpart CC 63.670(b) & (g) and 63.655 (g)(6)(i)(B), (g)(11)(i) and (i)(9)(i) (2/4/20) 40 CFR 63 Subpart CC 63.640(s) (2/4/20) → 40 CFR 63 Subpart CC 63.640-63.671 40 CFR 63 Subpart CC 63.648(j)(4)(v) (2/4/20) 40 CFR 60 Subpart A 60.18 (12/22/08) 40 CFR 63 Subpart A 63.11 (12/22/08) Compliance Order 1006-23-08 (CO23) Condition (V)(B)(13)(e) & (V)(B)(19)(c) (monitoring only) and (V)(B)(21) (8/18/23)	<u>MACT Flare Pilot Flame Presence</u> 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.

Flare Area			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.7.16	Compliance Order 1006-23-08 (CO23) Condition (V)(B)(4), (V)(B)(13)(c), (V)(B)(19)(c), (d), (j), & (l), (V)(B)(21), and (V)(B)(22) (8/18/23)	<u>CD Flare Pilot Flame Presence</u> Operate flares with a pilot flame present when the flare is in operation. A deviation of the pilot flame standard is each 15-minute block with ≥ 1 minute that monitoring indicates that no pilot flame is present while vent gas is being routed to the flare. This requirement is not violated if the video camera cannot discern the flare combustion zone or smoke emissions due to weather conditions provided that the recordings are created and retained. The flare pilot flame presence requirement is not violated if the noncompliance results from downtime of monitoring systems due to monitoring system malfunction, repair, and QA/QC as long as this downtime does not exceed 5% of the time that the flare is in operation and capable of receiving sweep, supplemental, or waste gas in any six month period.	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 output of monitoring device. Record each deviation of this term that includes the following information; • Duration of the deviation • Explanation of the cause(s) • Description of the corrective action(s) taken Retain all records for a period of no less than 5 years unless required to keep longer. Calculate monitoring system downtime in accordance with 40 CFR 60.13(h)(2) and CO23 Attachment F.

Flare Area			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.7.17 HAP	40 CFR 63 Subpart CC 63.670(d), (i), (k), (o)(3)(ii), (o)(7)(iii) & (o)(7)(v), 63.655(g)(11) & (i)(9) (2/4/20), 63.671 (12/1/15) and Table 13 (11/19/20) 40 CFR 63 Subpart CC 63.640(s) (2/4/20) → 40 CFR 63 Subpart CC 63.640-63.671 40 CFR 63 Subpart CC 63.648(j)(4)(v) (2/4/20) 40 CFR 60 Subpart A 60.18 (12/22/08) 40 CFR 63 Subpart A 63.11 (12/22/08) Compliance Order 1006-23-08 (CO23) Condition (V)(B)(13)(e) & (V)(B)(19)(c) (monitoring only), and (V)(B)(21) (8/18/23)	<u>MACT Flare Tip Velocity Limits</u> 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: $\text{Log}_{10} (V_{max}) = (\text{NHV}_{vg} + 1,212) / 850$ 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. The flare is exempt from these flare tip velocity limits when the vent gas has a $\text{NHV}_{vg} > 1,000$ Btu/scf.	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. $V_{tip} = Q_{cum} / (\text{Area} \times 900)$ Where: Q_{cum} = Cumulative volumetric flow over 15-minute block average period, actual cubic feet Area = Unobstructed area of the flare tip, square feet. Flow monitoring using a CPMS and heat content monitoring using gas chromatograph must meet the requirements of 63.671. 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.

Flare Area			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.7.18	Compliance Order 1006-23-08 (CO23) Condition (V)(B)(3), (V)(B)(13)(d) and (V)(B)(19)(c), (h), (i), (k), & (l), (V)(B)(21), and (V)(B)(22) (8/18/23)	<u>CD Flare Tip Velocity Limits</u> Whenever the flare vent gas flow rate is less than the smokeless design capacity of the flare, comply with either of the following: - 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: $\text{Log}_{10} (V_{max}) = (\text{NHV}_{vg} + 1,212) / 850$ Where: V_{max} = Maximum allowed flare tip velocity, ft/sec. NHV_{vg} = Net heating value of flare vent gas, Btu/scf, as determined by the equations in CO23 Attachment D and AOP Term 5.7.28 [VG comp]. The flare tip velocity limit is not violated if the noncompliance results from downtime of monitoring systems due to monitoring system malfunction, repair, and QA/QC as long as this downtime does not exceed 5% of the time that the flare is in operation and capable of receiving sweep, supplemental, or waste gas in any six month period.	Monitor V_{tip} as 15-minute block average by a system capable of continuously determining the volumetric flow rate of vent gas to the flare and any supplemental gas used, and assist steam in accordance with AOP Terms 5.7.26 [VG flow] and 5.7.27 [steam flow], applied to the following equation. $V_{tip} = Q_{cum} / (\text{Area} \times 900)$ Where: V_{tip} = Flare tip velocity, feet per second Q_{cum} = Cumulative volumetric flow over 15-minute block average period, actual cubic feet Area = Unobstructed area of the flare tip, square feet. Record each calculated 15-minute block average operating parameter and each period when the operating values are outside the applicable limits. Record when the flow of vent gas exceeds the smokeless capacity of the flare, including start and stop time and dates of the flaring event. Specify and maintain a record of the smokeless design capacity of each flare. Record date, time, and duration when the flow of vent gas exceeds the smokeless capacity of the flare. Record each deviation of this term that includes the following information: - Duration of the deviation - Explanation of the cause(s) - Description of the corrective action(s) taken Retain all records for a period of no less than 5 years unless required to keep longer. Calculate monitoring system downtime in accordance with 40 CFR 60.13(h)(2) and CO23 Attachment F.

Flare Area			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.7.19 HAP	40 CFR 63 Subpart CC 63.670(o)(1) & (o)(2) (2/4/20) 40 CFR 63 Subpart CC 63.640(s) (2/4/20) → 40 CFR 63 Subpart CC 63.640-63.671 40 CFR 63 Subpart CC 63.648(j)(4)(v) (2/4/20) 40 CFR 60 Subpart A 60.18 (12/22/08) 40 CFR 63 Subpart A 63.11 (12/22/08)	<u>MACT Flare Management Plan</u> 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.	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 NWCAA.
5.7.20 VOC	40 CFR 60 Subpart Ja 60.103a(a) & (b) and 60.108a(c)(1) (9/12/12) Compliance Order 1006-23-08 (CO23) Conditions (V)(B)(21) and (V)(B)(23) (8/18/23)	<u>NSPS Flare Management Plan</u> 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.

Flare Area			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.7.21 SO ₂	40 CFR 60 Subpart Ja 60.103a(f) & (h) (9/12/12) and 60.107a(a)(2) & (i)(2) (12/1/15) Compliance Order 1006-23-08 (CO23) Condition (V)(B)(13)(e) & (V)(B)(19)(c) (monitoring only); (V)(B)(21), and (V)(B)(23) (8/18/23)	<u>NSPS H₂S limit for Flares</u> The H₂S 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 ₂ S 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.
5.7.22 VOC	40 CFR 60 Subpart Ja 60.103a(c)(1), (d), (e), & (f) (9/12/12) 60.107a(e)(1) & (f)(1) (12/1/15) and 60.108a(c)(6) (9/12/12) Compliance Order 1006-23-08 (CO23) Condition (V)(B)(13)(e) & (V)(B)(19)(c) (monitoring only); (V)(B)(21), and (V)(B)(23) (8/18/23)	<u>NSPS Root Cause Analysis</u> Conduct a root cause analysis and a corrective action analysis for any of the following flaring events: - greater than 500,000 scf/day above baseline flaring in any 24-hour period - for events resulting in greater than 500 lb SO₂ 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).

Flare Area			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.7.23 HAP	40 CFR 63 Subpart CC 63.670(o)(3)-(5) & (o)(7)(i) and 63.655(g)(11) & (i)(9) (2/4/20) 40 CFR 63 Subpart CC 63.640(s) (2/4/20) → 40 CFR 63 Subpart CC 63.640-63.671 40 CFR 63 Subpart CC 63.648(j)(4)(v) (2/4/20) 40 CFR 60 Subpart A 60.18 (12/22/08) 40 CFR 63 Subpart A 63.11 (12/22/08) Compliance Order 1006-23-08 (CO23) Condition (V)(B)(13)(e) & (V)(B)(19)(c) (monitoring only); and (V)(B)(21) (8/18/23)	<u>MACT Root Cause Analysis and Corrective Action</u> 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 day 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 V_{max}. - 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 Area			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.7.24	Compliance Order 1006-23-08 (CO23) Condition (V)(B)(10), (V)(B)(11), and (V)(B)(12), and (V)(B)(21) (8/18/23) WAC 173-401-630(1) (3/5/16)	<u>CD Limitations on Waste Gas to Flare</u> Waste gas* routed through the flares shall not exceed any of the following limits; • 662,670 scf/day, 30-day rolling average, rolled daily • 441,780 scf/day, 365-day rolling average, rolled daily Upon approval, these may be adjusted pursuant to CO23 Condition (V)(B)(11). The following may be excluded from the waste gas flow limit to the flares: • If properly measured through instrumentation, hydrogen, nitrogen, oxygen, carbon monoxide, carbon dioxide, and water (steam) may be excluded from the waste gas flow rate calculation. • Flows that could not be prevented through reasonable planning and are caused by a natural disaster, act of war or terrorism, or an external power loss. * Waste gas means the mixture of all gases from facility operations that is directed to a flare for the purpose of disposing of the gas. Waste gas does not include gas introduced to a flare exclusively to make it operate safely (pilot gas, steam, supplemental gas and purge gas as minimally needed). It does not include hydrogen, nitrogen, oxygen, carbon dioxide, carbon monoxide, or water/steam determined through instrumentation.	Report semiannually, the following information for each event that caused the flaring of waste gas flow that could not be prevented through reasonable planning and are caused by a natural disaster, act of war or terrorism, or external power, • Date(s) and duration(s) of the flows caused by the event, • Estimated VOC and SO₂ emissions during the event, • Whether flows from the event are anticipated to persist after the notice, and if so, for how long, and • Measures taken or to be taken to prevent or minimize the flows, including, for future anticipated flow, the schedule by which those measures will be implemented. - <i>Directly enforceable</i> - Monitor and record the flow of waste gas routed through each flare on a 15-minute basis. The record shall include all data used to calculate the waste gas flow and all assumptions used in the calculations.

Flare Area			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.7.25	Compliance Order 1006-23-08 (CO23) Condition (V)(B)(1), (V)(B)(5), (V)(B)(6), (V)(B)(7), (V)(B)(14), (V)(B)(19)(b), (j), (l), (V)(B)(21), (V)(B)(22) and Attachment F (8/18/23)	<u>CD Automation of Flare Gas Flow</u> Ensure an acceptable level of control over flow by using adequate sweep gas and purge gas meters. Operate a system that automates the control of the supplemental gas flow rates to each flare. Instrumentation and monitoring system downtime due to malfunction, repair, and QA/QC shall not exceed 5% of the time that the flare is in operation and capable of receiving sweep, supplemental, or waste gas in any six month period. This requirement is not violated if the noncompliance results from downtime of monitoring systems due to monitoring system malfunction, repair, and QA/QC as long as this downtime does not exceed 5% of the time that the flare is in operation and capable of receiving sweep, supplemental, or waste gas in any six month period.	Instrumentation and monitoring systems associated with sweep gas and purge gas flows shall be continuous except as provided in CO23 Condition (V)(B)(7) (i.e., malfunction, repair, and QA/QC). The systems shall be able to produce and record data measurements and calculations and meet or exceed the technical specifications and QA/QC requirements of CO23 Attachment F. Calculate monitoring system downtime in accordance with 40 CFR 60.13(h)(2) and CO23 Attachment F. Record the following for each instrumentation and monitoring system downtime that is > 5% of the time that the flare is in operation and capable of receiving sweep, supplemental, or waste gas in any six month period. • Duration of the deviation • Explanation of the cause(s) • Description of the corrective action(s) taken. Retain all records for a period of no less than 5 years unless required to keep longer.

5.7.26	Compliance Order 1006-23-08 (CO23) Condition (V)(B)(2), (V)(B)(5), (V)(B)(6), (V)(B)(7), (V)(B)(14), (V)(B)(19)(b), (f), (j), (l), (V)(B)(21), (V)(B)(22), and Attachment F (8/18/23)	<u>CD Vent Gas Flow Rate Monitoring</u> Operate, calibrate, and maintain a monitoring system capable of continuously measuring, calculating, and recording the vent gas volumetric flow rate in the header to each flare as well as any supplemental gas used. Vent gas includes waste gas, sweep gas, purge gas and supplemental gas routed through the flare. It does not include pilot gas, or steam. Different flow monitoring methods may be used to measure different gaseous streams that make up the vent gas provided that the flow rates of all gas streams that contribute to the vent gas are determined. Flow rate monitoring systems shall correct to 68°F and 1 atmosphere. Mass flow monitors may be used for determining volumetric flow rate of the vent gas provided the molecular weight (MWt) of the vent gas is determined using compositional analysis as specified in AOP Term 5.7.28 so that the mass flow rate can be converted to volumetric flow at 68 °F and 1 atmosphere using the following equation: $Q_{vol} = (Q_{mass} \times 385.3) / MWt$ Where: Q_{vol} = Volumetric flow rate, standard cubic feet per second Q_{mass} = Mass flow rate, pounds per second 385.3 = Conversion factor, standard cubic feet per pound-mole MWt = Molecular weight of the gas at the flow monitoring location, pounds per pound-mole Continuous pressure/temperature monitoring system(s) and appropriate engineering calculations may be used in lieu of a continuous volumetric flow monitoring system provided the MWt of the gas is determined using compositional analysis specified in AOP Term 5.7.28. This requirement is not violated if the noncompliance results from downtime of monitoring systems due to monitoring system malfunction, repair, and QA/QC as long as this downtime does not exceed 5% of the time that the flare is in operation and capable of receiving sweep, supplemental, or waste gas in any six month period. Instrumentation and monitoring system downtime due to malfunction, repair, and QA/QC shall not exceed 5% of the time that the flare is in operation and capable of receiving sweep, supplemental, or waste gas in any six month period.	Monitor and record the cumulative vent gas flow rate to each flare on a 15-minute block average basis along with the date and time. Instrumentation and monitoring systems associated with vent gas flows shall be continuous except as provided in CO23 Condition (V)(B)(7) (i.e., malfunction, repair, and QA/QC). The systems shall be able to produce and record data measurements and calculations and meet or exceed the technical specifications and QA/QC requirements of CO23 Attachment F. Record the following for each instrumentation and monitoring system downtime that is > 5% of the time that the flare is in operation and capable of receiving sweep, supplemental, or waste gas in any six month period. • Duration of the deviation • Explanation of the cause(s) • Description of the corrective action(s) taken Retain all records for a period of no less than 5 years unless required to keep longer. Instrumentation and monitoring systems associated with vent gas composition monitoring shall be continuous, except as provided in CO23 Condition (V)(B)(7) (i.e., malfunction, repair, and QA/QC). Calculate monitoring system downtime in accordance with 40 CFR 60.13(h)(2) and CO23 Attachment F.
--------	--	--	---

Flare Area			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.7.27	Compliance Order 1006-23-08 (CO23) Condition (V)(B)(2), (V)(B)(5), (V)(B)(6), (V)(B)(7), (V)(B)(14), (V)(B)(19)(b), (f), (j), (l), (V)(B)(21), (V)(B)(22), and Attachment F (8/18/23)	<u>CD Assist Steam Flow Rate Monitoring</u> Operate, calibrate, and maintain a monitoring system capable of continuously measuring, calculating, and recording the volumetric flow rate of assist steam used in each flare. Flow rate monitoring systems shall correct to 68°F and 1 atmosphere. Mass flow monitors may be used for determining volumetric flow rate of the assist steam. Use the following equation to convert mass flow to volumetric flow rate with 18 lb/lb-mole used for the molecular weight (MWt) of assist steam. $Q_{vol} = (Q_{mass} \times 385.3) / MWt$ Where: Q_{vol} = Volumetric flow rate, standard cubic feet per second Q_{mass} = Mass flow rate, pounds per second 385.3 = Conversion factor, standard cubic feet per pound-mole MWt = Molecular weight of the gas at the flow monitoring location, pounds per pound-mole Continuous pressure/temperature monitoring system(s) and appropriate engineering calculations may be used in lieu of a continuous volumetric flow monitoring system, provided the MWt of the assist steam used in the calculation is 18 lb/lb-mole. Instrumentation and monitoring system downtime due to malfunction, repair, and QA/QC shall not exceed 5% of the time that the flare is in operation and capable of receiving sweep, supplemental, or waste gas in any six month period. This requirement is not violated if the noncompliance results from downtime of monitoring systems due to monitoring system malfunction, repair, and QA/QC as long as this downtime does not exceed 5% of the time that the flare is in operation and capable of receiving sweep, supplemental, or waste gas in any six month period.	Monitor and record the cumulative assist steam flow rate to each flare on a 15-minute block average basis along with the date and time. Instrumentation and monitoring systems associated with assist steam flow rate shall be continuous except as provided in CO23 Condition (V)(B)(7), (i.e., malfunction, repair, and QA/QC). The systems shall be able to produce and record data measurements and calculations and meet or exceed the technical specifications and QA/AC requirements of CO23 Attachment F. Calculate monitoring system downtime in accordance with 40 CFR 60.13(h)(2) and CO23 Attachment F. Record the following for each instrumentation and monitoring system downtime that is > 5% of the time that the flare is in operation and capable of receiving sweep, supplemental, or waste gas in any six month period. • Duration of the deviation • Explanation of the cause(s) • Description of the corrective action(s) taken. Retain all records for a period of no less than 5 years unless required to keep longer.

Flare Area			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.7.28	Compliance Order 1006-23-08 (CO23) Condition (V)(B)(3), (V)(B)(5), (V)(B)(6), (V)(B)(7), (V)(B)(14), (V)(B)(19)(b), (c), (g), (j), (l), (V)(B)(21), (V)(B)(22) and Attachment F (8/18/23)	<u>CD Vent Gas Composition Monitoring</u> Determine the NHV of individual components of the vent gas by compositional analysis. Vent gas includes waste gas, sweep gas, purge gas and supplemental gas routed through the flare. It does not include pilot gas, or steam. Instrumentation and monitoring system downtime due to malfunction, repair, and QA/QC shall not exceed 5% of the time that the flare is in operation and capable of receiving sweep, supplemental, or waste gas in any six month period. This requirement is not violated if the noncompliance results from downtime of monitoring systems due to monitoring system malfunction, repair, and QA/QC as long as this downtime does not exceed 5% of the time that the flare is in operation and capable of receiving sweep, supplemental, or waste gas in any six month period.	Determine and record the NHV of individual components by compositional analysis of the vent gas using gas chromatography. Chromatography may be continuous (once every 15 minutes), or by grab samples taken once every 8-hours. The NHV of the vent gas may also be determined directly using continuous (once every 15 minutes) calorimetry at 68°F and 1 atmosphere. If continuous calorimetry is used the hydrogen concentration may be monitored using a hydrogen analyzer. Direct compositional or calorimeter monitoring is not required for pipeline quality natural gas if the NHV is determined using annual or more frequent grab sampling at any one representative location. Alternatively, the NHV can be assumed to be 920 BTU/scf. Different monitoring methods for different gaseous streams that make up the vent gas may be used provided the composition or net heating value of all gas streams that contribute to the vent gas are determined. A constant MWt and composition for sweep gas, purge gas, or supplemental gas can be assumed when it is demonstrated to be representative of natural gas, fuel gas, or other appropriate gas supplied at each flare. Instrumentation and monitoring systems associated with vent gas composition monitoring shall be continuous, except as provided in CO23 Condition (V)(B)(7) (i.e., malfunction, repair, and QA/QC). The systems shall be able to produce and record data measurements and calculations and meet or exceed the technical specifications and QA/QC requirements of CO23 Attachment F. Calculate monitoring system downtime in accordance with 40 CFR 60.13(h)(2) and CO23 Attachment F. For any periods exceeding the 5% standard, record the following: • Duration of the deviation • Explanation of the cause(s) • Description of the corrective action(s) taken. Retain all records for a period of no less than 5 years unless required to keep longer.

Flare Area			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.7.29 HAP	40 CFR 63 Subpart CC 63.670(e), (j) (l), (m) & (n), 63.655(g)(11) & (i)(9) (2/4/20) 63.671 (12/1/15) and Table 13 (11/19/20) 40 CFR 63 Subpart CC 63.640(s) (2/4/20) → 40 CFR 63 Subpart CC 63.640-63.671 40 CFR 63 Subpart CC 63.648(j)(4)(v) (2/4/20) 40 CFR 60 Subpart A 60.18 (12/22/08) 40 CFR 63 Subpart A 63.11 (12/22/08) Compliance Order 1006-23-08 (CO23) Condition (V)(B)(13)(e) & (V)(B)(19)(c) (monitoring only); (V)(B)(21) (8/18/23)	<u>MACT Limit on NHV of the Combustion Zone</u> 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. Flow monitoring using a CPMS and heat content monitoring using gas chromatograph must meet the requirements of 63.671. Maintain a record of each period that $NHV_{cz} \geq 270$ 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} exceeds ≥ 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.

Flare Area			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.7.30	Compliance Order 1006-23-08 (CO23) Condition (V)(B)(3), (V)(B)(6), (V)(B)(16), (V)(B)(18), (V)(B)(19)(a), (i), (l); (V)(B)(21), (V)(B)(22) and Attachment B (8/18/23)	<u>CD Limit on NHV of the Combustion Zone</u> Operate each flare to maintain the net heating value of the combustion zone (NHVcz) ≥ 270 Btu/scf on a 15-minute block average period calculated by one of the following methods. • Direct Calculation Method based on the 15-minute block average vent gas and assist gas flow rates using the equation Compliance Order 11 Attachment B. For periods when there is no assist steam flow, $NHVcz = NHVvg$ • Feed-Forward Calculation Method based on the methodology in CO23 Attachment B. The gas composition or NHV must be monitored in a location representative of the cumulative vent gas stream, and the supplemental gas flow must be directly monitored to determine the 15-minute block average NHVcz. The NHVcz limit does not apply when only pilot gas and purge gas are routed to the flare. The NHVcz limit is not violated if the noncompliance results from downtime of monitoring systems due to monitoring system malfunction, repair, and QA/QC as long as this downtime does not exceed 5% of the time that the flare is in operation and capable of receiving sweep, supplemental, or waste gas in any six month period.	Calculate and record NHVcz and NHVvg each in Btu/scf on a 15-minute block average basis for each flare. For any deviations from the NHV standards, record the following: • Duration of the deviation • Explanation of the cause(s) • Description of the corrective action(s) taken. Retain all records for a period of no less than 5 years unless required to keep longer. Calculate monitoring system downtime in accordance with 40 CFR 60.13(h)(2) and CO23 Attachment F. Conduct a monitoring program for Vent Gas Composition in accordance with AOP Terms 5.7.28 (Vent Gas Composition) & 5.7.27 (Assist Steam Monitoring).
5.7.31	Compliance Order 1006-23-08 (CO23) Condition (V)(B)(16), (V)(B)(17) and (V)(B)(18) (V)(B)(19)(c), (l), and (V)(B)(21) (8/18/23)	<u>CD Flare Combustion Efficiency</u> Flares shall meet a minimum of 96.5% combustion efficiency at all times when waste gases are vented to them. The combustion efficiency limit does not apply when only pilot gas and purge gas are routed to the flare. Comply with AOP Term 5.7.30 [NHV].	For any deviations from the standard, record the following: • Duration of the deviation • Explanation of the cause(s) • Description of the corrective action(s) taken. Retain all records for a period of no less than 5 years unless required to keep longer. Comply with AOP Term 5.7.30 [NHV].

Flare Area			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Portable Flares (when used)			
5.7.32	Compliance Order 1006-23-08 (CO23) Condition (V)(B)(20)(b), (c) & (e) (8/18/23)	<u>CD Flare Outage ≤ 504 hours*</u> During an outage of Flare X-813 or X-814 that can reasonably be anticipated to last 504 hours or less based on a 1,095-day rolling sum period, rolled daily, make good faith efforts to ensure that the portable flare meets the requirements for the flare that it replaced.	Make good faith efforts to comply with AOP Terms: 5.7.7, 5.7.8, 5.7.9, 5.7.10, 5.7.14, 5.7.16, 5.7.18, 5.7.24, 5.7.25, 5.7.26, 5.7.27, 5.7.28, 5.7.30, and 5.7.31. Maintain records sufficient to document compliance with the requirements of this term any time a portable flare is utilized during an outage of Flare X-813 or X-814.
5.7.33	Compliance Order 1006-23-08 (CO23) Condition (V)(B)(20)(b), (d)(ii) & (e) (8/18/23)	<u>CD Unplanned Flare Outage > 504 hours</u> During an outage of Flare X-813 or X-814 that is unplanned or that is scheduled less than 30 days in advance, and that, in advance of the outage, cannot reasonably be anticipated to last more than 504 hours based on a 1,095-day rolling sum period, rolled daily, ensure that the portable flare meets the requirements for the flare that it replaced by no later than 30 days after the date that the permittee knows, or reasonably should have known, that the outage would last more than 504 hours.	Within 30 days of the permittee knowing, or should have known, that the flare outage would last more than 504 hours, comply with AOP Terms: 5.7.7, 5.7.8, 5.7.9, 5.7.10, 5.7.14, 5.7.16, 5.7.18, 5.7.24, 5.7.25, 5.7.26, 5.7.27, 5.7.28, 5.7.30, and 5.7.31. Maintain records sufficient to document compliance with the requirements of this term any time a portable flare is utilized during an outage of Flare X-813 or X-814.
5.7.34	Compliance Order 1006-23-08 (CO23) Condition (V)(B)(20)(b), (d)(i) & (e) (8/18/23)	<u>CD Planned Flare Outage > 504 hours</u> During a planned outage of Flare X-813 or X-814 that is scheduled 30 days or more in advance and can reasonably be anticipated to last longer than 504 hours based on a 1,095-day rolling sum period, rolled daily, ensure that the portable flare meets the requirements for the flare that it replaced.	Comply with AOP Terms: 5.7.7, 5.7.8, 5.7.9, 5.7.10, 5.7.14, 5.7.16, 5.7.18, 5.7.24, 5.7.25, 5.7.26, 5.7.27, 5.7.28, 5.7.30, and 5.7.31. Maintain records sufficient to document compliance with the requirements of this term any time a portable flare is utilized during an outage of Flare X-813 or X-814.

5.8 Utilities Plant

Utilities Plant			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Process Heaters & Boilers			
40 CFR 60 NSPS and 40 CFR 63 NESHAP General Provisions in Section 3 apply to the affected facilities			
5.8.1 NOx	40 CFR 60 Subpart Db 60.44b(a)(1), (h), & (i), 60.46b(a), 60.48b(b)(1), (c), (d), (e)(2), (f), (g)(1) and 60.49b(d)(1) & (g), (h), (i), (o), (v), (w) (2/16/12)	<u>NSPS NOx Limitation - Boiler F-753</u> NOx emissions from the boiler shall not exceed 0.20 lb/MMBtu as NO2 (HHV), 30-day rolling average including periods of startup, shutdown, or malfunction	Install, calibrate, maintain, and operate CEMS for measuring NOx and O2 emissions discharged to the atmosphere, and record the output of the system. The CEMS shall be operated and data recorded during all periods of operation of the affected facility except for CEMS breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments. Use a CEMS NOx span value of 500 ppm. Express 1-hour averages in lb/MMBtu heat input and use to calculate compliance with emission limits. Record and maintain records of the amounts of each fuel combusted during each day and calculate and record the annual capacity factor for each fuel combusted on a 12-month rolling average basis. Maintain records of the following information for each steam generating unit operating day and submit periodically: (1) Calendar date; (2) The average hourly NOx emission rates (expressed as NO2) (lb/MMBtu heat input); (3) The 30-day average NOx emission rates (lb/MMBtu heat input) calculated at the end of each steam generating unit operating day from the hourly nitrogen oxide emission rates for the preceding 30 steam generating unit operating days; (4) Identification of the steam generating unit operating days when the calculated 30-day average NOx emission rates are in excess of the NOx emissions standards, with the reasons for such excess emissions as well as a description of corrective actions taken; (5) Identification of the steam generating unit operating days for which pollutant data have not been obtained, including reasons for not obtaining sufficient data and a description of corrective actions taken; (6) Identification of the times when emission data have been excluded from the calculation of average emission rates and the reasons for excluding data; (7) Identification of "F" factor used for calculations, method of determination, and type of fuel combusted; (8) Identification of the times when the pollutant concentration exceeded full span of the CEMS; (9) Description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specification 2 or 3; and

Utilities Plant			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
			(10) Results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1 of this part. Submit excess emission reports for any excess emissions that occurred during the reporting period. Submit written reports of required data semiannually, postmarked by the 30th day following the end of the reporting period. Or submit electronic reports quarterly in coordination with NWCAA. The electronic report(s) shall be submitted no later than 30 days after the end of the calendar quarter and shall be accompanied by a certification statement from the owner or operator, indicating whether compliance with the applicable emission standards and minimum data requirements of this subpart was achieved during the reporting period.
5.8.2 NOx	OAC 390e Conditions 2, 3, 4, 6, & 7 (12/19/07)	<u>BACT NOx Limit - F-753</u> NOx emissions from Boiler F-753 shall not exceed 0.06 lb/MMBtu, 30-day average	Operate a continuous emissions monitor system (CEMS) to measure NOx emissions from the Boiler F-753 stack. The CEMS shall meet 40 CFR 60 Appendix B Performance Specification 2 and the quality control procedures in 40 CFR 60 Appendix F, and NWCAA Regulation 367 and Appendix A. Submit monthly emission monitoring reports to NWCAA by no later than 30 days after the previous calendar month. The report shall include the following information: reason and duration of any monitor down time and corrective action planned or taken, results of any stack emission tests or quality assurance tests, and periods of excessive drift. The report shall include each occurrence of excess emissions including: the time of the occurrence, magnitude of the emission excess (concentration and mass), duration of the excess, probable cause, corrective actions taken or planned, and agencies notified.
5.8.3 SO2	40 CFR 60 Subpart J 60.104(a)(1) (6/24/08) and 60.105(e)(3) (12/1/15) 40 CFR 60 Subpart Db 60.40b(c) (2/16/12)	<u>NSPS for Refinery Fuel Gas - F-753</u> Refinery fuel gas (i.e., propane) combusted in Boiler F-753 shall not exceed 0.10 gr/dscf, 3-hour rolling average (equivalent to 230 mg H₂S/dscm). Or the SO₂ in the boiler exhaust shall not exceed 20 ppmvd @ 0% excess air (3-hour rolling average). Note that this standard does not apply to the combustion of purchased natural gas.	Monitor, keep records, and report in accordance with the Alternative Monitoring Plan in AOP Section 7.1 when burning propane.

Utilities Plant			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.8.4 SO2	OAC 390e Condition 5 (12/18/07) WAC 173-401- 615(1)(b) & (c) (10/17/02)	<u>Sulfur Dioxide Limit - F-753</u> Boiler F-753 shall combust only purchased natural gas or propane.	- <i>Directly enforceable</i> - Maintain a record of the type of fuel combusted in the boiler.
5.8.5 VE	OAC 390e Condition 1 (12/19/07) WAC 173-401- 615(1)(b) & (c) (10/17/02)	<u>Visible Emissions Limit - Boiler F-753</u> Visible Emissions from Boiler F-753 shall not exceed 5% opacity for more than six minutes in any one-hour period as determined by EPA Method 9	- <i>Directly enforceable</i> - Comply with AOP Term 6.1.
5.8.6 SO2	40 CFR 52 Subpart WW 52.2501 (6/11/14)	<u>Better than BART Alternative SO2 Limit – non-BART eligible process heaters and boilers – F-751 & F-752</u> Refinery fuel gas used in F-751 and F-752 from Blend Drum V-213 must meet AOP Terms 5.3.19 and 5.3.20.	Comply with AOP Terms 5.3.19 and 5.3.20 for Blend Drum V-213.

Utilities Plant			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.8.7 HAP	40 CFR 63 Subpart DDDDD 63.7500(a), (e), Table 3 Line 1, 63.7505(a), 63.7515(d), 63.7540(a)(12) & (b), 63.7550(a), (b), Table 9, (c)(1), (c)(5)(i)- (iv), (xiv), & (xvii)- (viii), (h)(3) & 63.7555(a) and 63.7545 (11/20/15)	<u>Boiler MACT Tune-Ups for Gas 1 Boilers with oxygen trim - Boilers F-751, F-752 and F-753</u> Conduct a tune-up of the process heater every 5 years while burning the type of fuel that provided the majority of the heat input over the 5 years prior to the tune-up. Tune-ups shall be conducted no more than 61 months after the previous tune-up. If an oxygen trim system is utilized on a unit without emission standards to reduce the tune-up frequency to once every 5 years, set the oxygen level no lower than the oxygen concentration measured during the most recent tuneup. The inspection shall include inspect the burner, clean and replace components as necessary; inspect the flame pattern, adjust as necessary; inspect air-to-fuel ratio system control, as applicable to ensure it is correctly calibrated and functioning properly; optimize total emissions of CO; measure CO concentrations before and after adjustments are made; and maintain on-site an annual report summarizing inspection.	Submit a compliance report every five calendar years. Reports are due, in accordance with AOP Term 4.1, 30 days after the close of the period that the reports cover. If available, the compliance reports shall 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.
5.8.8 HAP	40 CFR 63 Subpart DDDDD 63.7500(a)(3) (11/20/15)	<u>Boiler MACT – General Duty to Minimize Emissions - Boilers F-751, F-752 and F-753</u> 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 Official under AOP Term 2.4.1.

Utilities Plant			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Heat Exchangers & Cooling Towers			
40 CFR 63 NESHAP General Provisions in AOP Section 3 apply to the affected facilities			
5.8.9 HAP	40 CFR 63 Subpart CC 63.654(c)(1), (c)(3), (c)(4), (c)(6), (d), & (e) (6/20/13); and 63.655(g)(9), (h)(7) & (i)(5) (2/4/20)	<u>MACT for Heat Exchangers - Leak Checks</u> 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 5.8.10. 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 delay of repair in AOP Term 5.8.10. Repair includes remonitoring after repair to verify concentrations are below action levels.	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 Notify the NWCAA at least 30 calendar days prior to changing between the monthly and quarterly monitoring options. Keep a record of: - Identification of subject heat exchangers and average annual HAP concentrations of process fluid estimated when developing the NOCS - 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 or taken out of service.

Utilities Plant			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.8.10 HAP	40 CFR 63 Subpart CC 63.654(f) & (g) (6/20/13); and 63.655(g)(9) & (i)(5) (2/4/20)	<u>MACT for Heat Exchangers - Delay of Repair</u> 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. The lack of necessary equipment, parts, or personnel must be demonstrated. 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 as soon as practical • Monitoring data (date and concentration) • An estimate of potential strippable hydrocarbon emissions from the leaking heat exchange system 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. Keep a record of: the reason for the delay; schedule for completing the repair; heat exchange exit line flow or cooling tower return line average flow rate at the monitoring location; and estimate of potential emissions for each required monitoring interval during the delay of repair.
5.8.11 PM/VE	BART Order 7838 Conditions 1.4, 1.5.5, 7.2 (7/7/10) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>Emission of Particulate Matter – CWT2 & 2a</u> Particulate matter emissions shall not exceed 0.10 grain/dscf (0.23 g/m3), 1-hour average.	- <i>Directly enforceable</i> - Follow MR&R under AOP Term 6.1.

5.9 Reciprocating Internal Combustion Engines

Reciprocating Internal Combustion Engines (RICE)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Existing, Emergency, Compression-Ignition RICE ≤ 500 hp (GEN-763 and GEN-764)			
40 CFR 63 NESHAP General Provisions in AOP Section 3 apply to the affected facilities			
5.9.1 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) WAC 173-401-630(1) (3/5/16)	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). 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. - <i>Directly enforceable</i> - Keep records of the operation of the engine in emergency and non-emergency service.
5.9.2 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) (8/10/22)	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.

Reciprocating Internal Combustion Engines (RICE)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.9.3 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, except that 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 to these engines as existing stationary emergency RICE.	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).
Model Year 2009, Emergency, Compression-Ignition RICE ≤ 500 hp (GEN-765)			
40 CFR 60 NSPS and 40 CFR 63 NESHAP General Provisions in AOP Section 3 apply to the affected facilities			
5.9.4 VOC/ HAP	40 CFR 60 Subpart IIII 60.4207(b) (12/4/20) 40 CFR 63 Subpart ZZZZ 63.6590(c)(7) (8/10/22) → 40 CFR 60 Subpart IIII 60.4200-60.4219 (6/29/21, 1/24/23, 6/28/11, 12/4/20, 8/10/22, 1/24/23, 2/24/14) WAC 173-401-615(1)(b) & (c) (10/17/02)	Diesel fuel combusted in the engine shall meet the requirements of 40 CFR 1090.305 for nonroad diesel fuel including: • ≤ 15 ppm sulfur by weight, and • Cetane index ≥ 40, or an aromatic content ≤ 35% by volume.	- <i>Directly enforceable</i> - Keep a record of the type of fuel and its sulfur content for fuels combusted in the engine.

Reciprocating Internal Combustion Engines (RICE)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.9.5 VOC/ HAP	40 CFR 60 Subpart IIII 60.4205(b) (6/29/21), 60.4208(h) (6/28/11), 60.4209(a) (6/28/11), 60.4206 (6/28/11), 60.4211(a), (c), (f), (g) (8/10/22), 60.4212 (6/29/21), 60.4214(b) (8/10/22), Table 8 (7/11/06) 40 CFR 63 Subpart ZZZZ 63.6590(c)(7) (8/10/22) → 40 CFR 60 Subpart IIII 60.4200- 60.4219 (6/29/21, 1/24/23, 6/28/11, 12/4/20, 8/10/22, 1/24/23, 2/24/14) WAC 173-401- 630(1) (3/5/16)	Meet the Tier 2 or Tier 3 emission standards for new nonroad CI engines for the same rated power as described in 40 CFR Part 1039 Appendix I, for all pollutants and the smoke standards as specified in 40 CFR 1039.105. 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.	Operate and maintain according to the manufacturer's emission-related written instructions. Change only those emission-related settings that are permitted by the manufacturer. 40 CFR 60.4211(g) includes provisions for when the engine's emission-related settings are changed beyond what is allowed by the manufacturer. If the emergency CI engine does not meet the standards applicable to non-emergency engines, install a non-resettable hour meter prior to startup of the engine. If the emergency engine does not meet the standards applicable to a non-emergency engine, keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. Record the time of operation of the engine and the reason the engine was in operation during that time. - <i>Directly enforceable</i> - Keep a record of: • Engine manufacturer data indicating compliance with 40 CFR 60 Subpart IIII standards, • A copy of the manufacturer's emission-related written instructions, • A log of each maintenance and repair activity performed on the engine.

Reciprocating Internal Combustion Engines (RICE)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Model Year 2008, Emergency, Compression-Ignition Fire Pump RICE ≤ 500 hp (ENG-811 and ENG-812)			
40 CFR 60 NSPS and 40 CFR 63 NESHAP General Provisions in AOP Section 3 apply to the affected facilities			
5.9.6 VOC/ HAP	40 CFR 60 Subpart IIII 60.4207(b) (12/4/20) 40 CFR 63 Subpart ZZZZ 63.6590(c)(7) (8/10/22) → 40 CFR 60 Subpart IIII 60.4200- 60.4219 (6/29/21, 1/24/23, 6/28/11, 12/4/20, 8/10/22, 1/24/23, 2/24/14) WAC 173-401- 615(1)(b) & (c) (10/17/02)	Diesel fuel combusted in the engine shall meet the requirements of 40 CFR 1090.305 for nonroad diesel fuel including: • ≤ 15 ppm sulfur by weight, and • Cetane index ≥ 40, or an aromatic content ≤ 35% by volume.	- <i>Directly enforceable</i> - Keep a record of the type of fuel and its sulfur content for fuels combusted in the engine.

Reciprocating Internal Combustion Engines (RICE)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.9.7 VOC/ HAP	40 CFR 60 Subpart IIII 60.4205(c) (6/29/21), Table 4 (7/11/06), 60.4208(h) (6/28/11), 60.4209(a) (6/28/11), 60.4206 (6/28/11), 60.4211(a), (b), (f), (g) (8/10/22), 60.4212 (6/29/21), 60.4214(b) (8/10/22), Table 8 (7/11/06) 40 CFR 63 Subpart ZZZZ 63.6590(c)(7) (8/10/22) → 40 CFR 60 Subpart IIII 60.4200-60.4219 (6/29/21, 1/24/23, 6/28/11, 12/4/20, 8/10/22, 1/24/23, 2/24/14) WAC 173-401-630(1) (3/5/16)	Comply with the following emission standards for stationary fire pump engines for model years 2008 and earlier: • NMHC + NOX: 10.5 g/kW-hr • CO: 3.5 g/kW-hr • PM: 0.54 g/kW-hr 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.	Operate and maintain according to the manufacturer's emission-related written instructions. Change only those emission-related settings that are permitted by the manufacturer. 40 CFR 60.4211(g) includes provisions for when the engine's emission-related settings are changed beyond what is allowed by the manufacturer. Demonstrate compliance according to one of the following methods: • Purchase an engine certified to emission standards for the same model year and maximum engine power as described in 40 CFR parts 1039 and 1042, as applicable. The engine must be installed and configured according to the manufacturer's specifications. • Keep records of performance test results for each pollutant for a test conducted on a similar engine. The test must have been conducted using the same methods specified in this subpart and these methods must have been followed correctly. • Keep records of engine manufacturer data indicating compliance with the standards. • Keep records of control device vendor data indicating compliance with the standards. • Conduct an initial performance test to demonstrate compliance with the emission standards according to the requirements specified in 60.4212, as applicable. If the emergency CI engine does not meet the standards applicable to non-emergency engines, install a non-resettable hour meter prior to startup of the engine. If the emergency engine does not meet the standards applicable to a non-emergency engine, keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. Record the time of operation of the engine and the reason the engine was in operation during that time. - <i>Directly enforceable</i> - Keep a record of: • Engine manufacturer data indicating compliance with 40 CFR 60 Subpart IIII standards, • A copy of the manufacturer's emission-related written instructions, • A log of each maintenance and repair activity performed on the engine.

Reciprocating Internal Combustion Engines (RICE)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Model Year 2015, Emergency, Compression-Ignition RICE > 500 hp (Engine J-750)			
40 CFR 60 NSPS and 40 CFR 63 NESHAP General Provisions in AOP Section 3 apply to the affected facilities			
5.9.8 VOC/ HAP	40 CFR 60 Subpart IIII 60.4205(b) (6/29/21), 60.4209(a) (6/28/11), 60.4206 (6/28/11), 60.4211(a), (c), (f), (g) (8/10/22), 60.4212 (6/29/21), 60.4204(e) (6/29/21), 60.4214(b) (8/10/22), Table 8 (7/11/06) 40 CFR 63 Subpart ZZZZ 63.6590(c)(7) (8/10/22) → 40 CFR 60 Subpart IIII 60.4200- 60.4219 (6/29/21, 1/24/23, 6/28/11, 12/4/20, 8/10/22, 1/24/23, 2/24/14) WAC 173-401- 630(1) (3/5/16)	Meet the Tier 2 or Tier 3 emission standards for new nonroad CI engines for the same rated power as described in 40 CFR Part 1039 Appendix I, for all pollutants and the smoke standards as specified in 40 CFR 1039.105. 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.	Operate and maintain according to the manufacturer's emission-related written instructions. Change only those emission-related settings that are permitted by the manufacturer. 40 CFR 60.4211(g) includes provisions for when the engine's emission-related settings are changed beyond what is allowed by the manufacturer. If the emergency CI engine does not meet the standards applicable to non-emergency engines, install a non-resettable hour meter prior to startup of the engine. If the emergency engine does not meet the standards applicable to a non-emergency engine, keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. Record the time of operation of the engine and the reason the engine was in operation during that time. - <i>Directly enforceable</i> - Keep a record of: • Engine manufacturer data indicating compliance with 40 CFR 60 Subpart IIII standards. • A copy of the manufacturer's emission-related written instructions. • A log of each maintenance and repair activity performed on the engine.

Reciprocating Internal Combustion Engines (RICE)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.9.9	40 CFR 60 Subpart IIII 60.4207(b) (12/4/20) 40 CFR 63 Subpart ZZZZ 63.6590(c)(7) (8/10/22) → 40 CFR 60 Subpart IIII 60.4200- 60.4219 (6/29/21, 1/24/23, 6/28/11, 12/4/20, 8/10/22, 1/24/23, 2/24/14) WAC 173-401- 615(1)(b) & (c) (10/17/02)	Diesel fuel combusted in the engine shall meet the requirements of 40 CFR 1090.305 for nonroad diesel fuel including: • ≤ 15 ppm sulfur by weight, and • Cetane index ≥ 40, or an aromatic content $\leq 35\%$ by volume.	- <i>Directly enforceable</i> - Keep a record of the type of fuel and its sulfur content for fuels combusted in the engine.

5.10 Truck Rack

Truck Rack			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Fugitive Components in VOC/HAP Service			
40 CFR 60 NSPS and 40 CFR 63 NESHAP General Provisions in AOP Section 3 apply to the affected facilities			
5.10.1 VOC	40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a-60.487a (11/16/07) Compliance Order 1006-23-08 (CO23) Condition (V)(C) (8/18/23)	<u>NSPS for Equipment Leaks</u> Comply with 40 CFR 60 Subpart GGGa for equipment leaks in VOC service.	Conduct a Leak Detection and Repair (LDAR) program on equipment in VOC service as specified in AOP Section 6.3.
5.10.2 HAP	40 CFR 63 Subpart CC 63.640(p) (2/4/20) → 40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a-60.487a (11/16/07) Compliance Order 1006-23-08 (CO23) Condition (V)(C) (8/18/23)	<u>MACT for Equipment Leaks</u> Comply with 40 CFR 63 Subpart CC for equipment leaks in HAP service.	Conduct a Leak Detection and Repair (LDAR) program on equipment in HAP service as specified in AOP Section 6.3.

Truck Rack			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.10.3	OAC 1171a Condition 10 (4/14/23) → 40 CFR 60 Subpart GGGa 60.590a- 60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a- 60.487a (11/16/07)	<u>BACT for Equipment Leaks</u> All equipment components (i.e., pumps, valves and flanges) installed as part of this project shall be in a leak detection and repair program meeting the monitoring, recordkeeping and reporting requirements of 40 CFR 60 Subpart GGGa and its referenced requirements under 40 CFR 60 Subpart VVa.	Conduct a Leak Detection and Repair (LDAR) program on new components in VOC service associated with the OAC 1171a project as specified in AOP Section 6.3.
5.10.4	OAC 1317 Condition 2 (2/27/19) → 40 CFR 60 Subpart GGGa 60.590a- 60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a- 60.487a (11/16/07)	<u>BACT for Equipment Leaks</u> Maintain all equipment components in VOC service associated with the Diesel Additive Project using a leak detection and repair (LDAR) program meeting the standards, monitoring, recordkeeping, and reporting requirements of 40 CFR 60 Subpart GGGa.	Conduct a Leak Detection and Repair (LDAR) program on new components in VOC service associated with the OAC 1317 project as specified in AOP Section 6.3.
Process Drains			
40 CFR 60 NSPS General Provisions in AOP Section 3 apply to the affected facilities			
5.10.5	40 CFR 60 Subpart QQQ 60.690 (11/23/88)	<u>Individual Drain Systems – Truck Rack</u> Comply with 40 CFR 60 Subpart QQQ except when handling 63 Subpart CC Group 1 wastewater streams regulated under 40 CFR 63 Subpart CC (i.e., 63.640(o)), then comply with 40 CFR 61 Subpart FF.	Comply with the requirements in AOP Section 6.5 (60 Subpart QQQ) or AOP Section 5.17 (61 Subpart FF), as appropriate.

Truck Rack			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Truck Rack			
40 CFR 60 NSPS and 40 CFR 63 NESHAP General Provisions in Section 3 apply to the affected facilities			
5.10.6 General	WAC 173-491-040(6)(e) (12/23/97 State Only) WAC 173-401-615(1)(b) & (c) (10/17/02)	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.	- <i>Directly enforceable</i> - Operate in a manner consistent with good air pollution control practices for minimizing emissions.
5.10.7 VOC	OAC 1171a Condition (1) (4/14/23) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>Truck Rack Product Loading Restriction</u> Only gasoline and diesel products shall be loaded at the truck loading rack. Gasoline includes ethanol that is used as a blending component in gasoline.	- <i>Directly enforceable</i> - Maintain a contemporaneous record the type of material loaded at the Truck Rack.
5.10.8 VOC	NWCAA 580.421 (12/13/89) WAC 173-491-040(2)(b)(i) (12/23/97 State Only) WAC 173-401-615(1)(b) & (c) (10/17/02)	The loading terminal shall employ submerged or bottom loading and be equipped with a vapor control system.	- <i>Directly enforceable</i> - Operate a functioning interlock system that prevents loading when the load lines or vapor lines are not properly attached to the truck, a cargo tank is not in compliance, or when the vapor combustion unit is not operating properly.

Truck Rack			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.10.9 HAP/ VOC	40 CFR 63 Subpart CC 63.650(a) (12/1/15) → 40 CFR 63 Subpart R 63.422(a) (3/19/03) → 40 CFR 60 Subpart XX 60.502(a) & (d) (2/12/99) 40 CFR 60 Subpart XX 60.500-60.506 (8/18/83, 12/19/03, 2/12/99)	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 -
5.10.10 VOC/ TAP	OAC 1171a Condition (2) (4/14/23) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>Truck Rack Control System Operation</u> The vapor recovery unit (VRU) shall be operating during all loading events at the truck loading rack. The vacuum vapor collection system (VaVaCS) shall be operating during all loading events at the truck loading rack, except for events taking place during periods of maintenance and repair as specified in OAC 1171a Condition (4).	- Directly enforceable - Comply with the recordkeeping requirement for maintenance and repair periods under AOP Term 5.10.19.

Truck Rack			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.10.11 VOC	NWCAA 580.423 (12/13/89) WAC 173-491-040(2)(b)(ii) and (iii) (1/23/98 State Only) WAC 173-401-615(1)(b) & (c) (10/17/02)	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. This 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.	- <i>Directly enforceable</i> - Operate a functioning interlock system that prevents loading when the load lines or vapor lines are not properly attached to the truck, a cargo tank is not in compliance, or when the vapor combustion unit is not operating properly.
5.10.12 VOC	WAC 173-491-040(6)(a) (12/23/97 State Only) WAC 173-401-615(1)(b) & (c) (10/17/02)	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.	- <i>Directly enforceable</i> - Record each event during the months of May through September that the vapor collection system failed and gasoline transfer was not discontinued.
5.10.13 VOC	NWCAA 580.425 (12/13/89) NWCAA 580.425 (6/14/01 State Only) WAC 173-401-615(1)(b) & (c) (10/17/02)	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.	- <i>Directly enforceable</i> - Operate a functioning interlock system that prevents loading when the load lines or vapor lines are not properly attached to the truck, a cargo tank is not in compliance, or when the vapor combustion unit is not operating properly.

Truck Rack			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.10.14 VOC	NWCAA 580.422 (12/13/89) WAC 173-491- 040(2)(b)(iv) (12/23/97 State Only) WAC 173-401- 615(1)(b) & (c) (10/17/02)	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.	- <i>Directly enforceable</i> - Keep design specifications and written procedures on-site specifying that all product loading and vapor control lines shall be equipped with vapor-tight fittings that close automatically and that the lines are designed to prevent leaks.
5.10.15 VOC	NWCAA 580.426 (12/13/89) NWCAA 580.426 (6/14/01 State Only) WAC 173-401- 615(1)(b) & (c) (10/17/02)	All loading arms shall be designed, maintained and operated to prevent overfill, fugitive liquid or vapor leaks, and excess gasoline drainage during disconnect.	
5.10.16 VOC	NWCAA 580.104 (12/13/89) NWCAA 580.103 (11/12/99 State Only) WAC 173-491-040 (6)(b)(iii)(A)(II), (III), (IV) and (B), -040(6)(b)(iv), and -040(6)(c) (12/23/97 State Only)	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 (4 drops per minute per WAC 173-491-040) and no more than 10 ml per disconnect. Repair and retest a vapor collection system that exceeds these limits within ten days (15 days per WAC 173-491-040).	The source shall demonstrate compliance at its own expense upon request. All tests shall be made by, or under the direction of, a person qualified to perform the tests and approved by the NWCAA. Testing to determine compliance shall use procedures approved by the NWCAA. Monitoring to confirm continuing leak tight conditions shall use procedures approved by the NWCAA. The NWCAA may, at any time, monitor a gasoline transport tank and vapor collection system during loading or unloading operations to confirm continuing compliance.

Truck Rack			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.10.17 HAP/ VOC	40 CFR 63 Subpart CC 63.650(a) (12/1/15) & 63.655(b) (2/4/20) → 40 CFR 63 Subpart R 63.422(b) (3/19/03), 63.425(a), (b), & (c) (12/19/03), 63.427(a)(3) (12/19/03) & (b), 63.428(c) & (h)(1) (4/6/06) 40 CFR 60 Subpart XX 60.500-60.506 (8/18/83, 12/19/03, 2/12/99) WAC 173-401-615(1)(b) & (c) (10/17/02)	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.	- <i>Directly enforceable</i> - Comply with AOP Terms 5.10.18 and 5.10.19.
5.10.18 VOC/ TAP	OAC 1171a Conditions (3), (5), & (8) (4/14/23)	<u>Truck Rack VOC Limit during Normal Operations</u> Volatile organic compounds (VOC) emitted from the VRU stack shall not exceed 2.4 mg VOC emitted per liter of product loaded, except as provided in OAC 1171a Condition (4).	Operate a CEMS for organic compounds in the VRU stack that is installed, operated, and maintained in accordance 63.427(a)(1) of 40 CFR 63 Subpart R, and 40 CFR 63 Subpart A. Performance test with the VaVaCS operating once every 60 months in accordance with 40 CFR 60 Appendix A, Methods 1, 2, 3A, and 2SA or 258, and 63.425(a)(1)(I) of 40 CFR 63 Subpart R, unless an alternative method is approved in advance by the NWCAA.

Truck Rack			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.10.19 VOC/ TAP	OAC 1171a Conditions (4), (5), & (8) (4/14/23)	<u>Truck Rack VOC Limit during Maintenance & Repair</u> Volatile organic compounds (VOC) emitted from the VRU stack shall not exceed 10 mg VOC emitted per liter of product loaded during maintenance or repair activities on the VRU/VaVaCS. The maintenance and repair period shall not exceed 384 hours per calendar year.	Operate a CEMS for organic compounds in the VRU stack that is installed, operated, and maintained in accordance 63.427(a)(1) of 40 CFR 63 Subpart R, and 40 CFR 63 Subpart A. Performance test without the VaVaCS operating once every 60 months in accordance with 40 CFR 60 Appendix A, Methods 1, 2, 3A, and 2SA or 258, and 63.425(a)(1)(I) of 40 CFR 63 Subpart R, unless an alternative method is approved in advance by the NWCAA. Maintain a contemporaneous record of each maintenance and repair period exercised under OAC 1171a Condition (4) that includes the beginning and end time and date of each maintenance and repair period, and a description of each maintenance and repair activity performed. During months when this maintenance and repair provision is used, report the number of hours used and the total number of hours used during the calendar year in the refinery's monthly report.
5.10.20 VOC	NWCAA 580.424 (12/13/89)	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 35 milligrams per liter of gasoline transferred.	Per OAC 1171a, performance test once every 60 months in accordance with 40 CFR 60 Appendix A, Methods 1, 2, 3A, and 2SA or 258, and 63.425(a)(1)(I) of 40 CFR 63 Subpart R, unless an alternative method is approved in advance by the NWCAA. Comply with AOP Terms 5.10.18 and 5.10.19.
5.10.21 VOC	NWCAA 580.424 (6/14/01 State Only)	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.	

Truck Rack			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.10.22 VOC	WAC 173-491-040(2)(c)(i) and (ii) (12/23/97 State Only) WAC 173-401-615(1)(b) & (c) (10/17/02)	The vapor control system shall not allow organic vapors emitted to the ambient air to exceed 35 milligrams per liter (322 milligrams per gallon) of gasoline loaded. The vapor control system shall be equipped with a device to monitor the system while the vapor control system is in operation.	- <i>Directly enforceable</i> - Comply with AOP Terms 5.10.18 through 5.10.21
5.10.23 VOC	WAC 173-491-040 (6)(b)(iii)(A)(1) and (B), (12/23/97 State Only) WAC 173-401-615(1)(b) & (c) (10/17/02)	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 15 days.	
5.10.24 VOC	WAC 173-491-040(2)(c)(iii) (12/23/97 State Only) WAC 173-401-615(1)(b) & (c) (10/17/02)	The backpressure in the vapor collection system shall not exceed the transport tank's pressure relief settings.	
5.10.25 HAP/ VOC	40 CFR 63 Subpart CC 63.650(a) (12/1/15) → 40 CFR 63 Subpart R 63.422(a) (3/19/03) → 40 CFR 60 Subpart XX 60.502(h) & (i) (2/12/99) and 60.503(d) (12/19/03) 40 CFR 60 Subpart XX 60.500-60.506 (8/18/83, 12/19/03, 2/12/99) WAC 173-401-615(1)(b) & (c) (10/17/02)	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.	

Truck Rack			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.10.26 VOC/ TAP	OAC 1171a Conditions (6) & (7) (4/14/23)	<u>VRU Emissions Monitoring Plan</u> Maintain a written vapor recovery unit (VRU) emissions monitoring plan that establishes a predictive relationship between VRU operating parameters and CEMS data as it relates to determining compliance with VOC limits. The plan shall include a description of corrective action(s) to be taken when monitoring indicates that the numeric value of the VOC emission limit may be exceeded. The plan shall be reevaluated and amended as appropriate after each performance test required by OAC 1171a Condition (8) has been conducted and the results finalized.	Maintain a copy of the vapor recovery unit emissions monitoring plan for the Truck Rack.
5.10.27 VOC/ TAP	OAC 1171a Condition (7) (4/14/23)	A pressure monitoring system, as recommended by the vendor, shall be installed, operated and maintained to ensure proper operation of the VaVaCS. During loading events, except during periods of maintenance and repair, the VaVaCS operating pressure shall be monitored using the methods specified in the monitoring plan; and the VRU shall be operated such that the pressure monitoring parameters do not depart from the operating ranges specified in the monitoring plan.	Operate a pressure monitoring system, as recommended by the vendor, that is installed, operated, and maintained to ensure proper operation of the VaVaCS. An alarm system shall be on the system that notifies operating personnel when the VaVaCS is operating outside the monitoring parameters established in the monitoring plan.

Truck Rack			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.10.28 HAP/ VOC	40 CFR 63 Subpart CC 63.650(a) (12/1/15) → 40 CFR 60 Subpart XX 60.502(e), (f) & (g) (2/12/99) as modified by 63.422(c) (3/19/03) 40 CFR 63 Subpart CC 63.650(a) (12/1/15) → 40 CFR 63 Subpart R 63.425(e), (f), (g) & (h) (12/19/03), 63.428(b), (g)(1), (h)(2) & (h)(3) (4/6/06) 40 CFR 63 Subpart CC 63.655(b) (2/4/20) → 40 CFR 63 Subpart R 63.428(b), (g)(1), & (h)(2) & (3) (4/6/06) 40 CFR 60 Subpart XX 60.500-60.506 (8/18/83, 12/19/03, 2/12/99)	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).

Truck Rack			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.10.29 VOC	NWCAA 580.102, 103, and 105 (12/13/89) NWCAA 580.102 (11/12/99 State Only) WAC 173-491-040(6)(b)(i), (b)(ii), and (d) (12/23/97 State Only)	Gasoline transport tanks have to be vapor-tightness tested annually. Ensure that gasoline is loaded only into cargo tanks that pass annual vapor-tightness checks performed in accordance with 40 CFR 63.425(e).	Maintain a record of leak tightness test results for each gasoline transport tank loaded at the facility.

5.11 Wharf/Logistics Area

Wharf/Logistics Area			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Offshore Loading Terminal			
40 CFR 63 NESHAP General Provisions in AOP Section 3 apply to the affected facilities			
5.11.1	40 CFR 63 Subpart Y 63.560(d)(6) (2/1/16)	Existing offshore loading terminals must meet the submerged fill standards of 46 CFR 153.282: The discharge point of a cargo tank filling line must 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, whichever is greater.	- none -

Wharf/Logistics Area			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Fugitive Components in VOC/HAP Service			
40 CFR 60 NSPS and 40 CFR 63 NESHAP General Provisions in Section 3 apply to the affected facilities			
5.11.2 VOC	40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a-60.487a (11/16/07) Compliance Order 1006-23-08 (CO23) Condition (V)(C) (8/18/23)	<u>NSPS for Equipment Leaks</u> Comply with 40 CFR 60 Subpart GGGa for equipment leaks in VOC service.	Conduct a Leak Detection and Repair (LDAR) program on equipment in VOC service as specified in AOP Section 6.3.
5.11.3 HAP	40 CFR 63 Subpart CC 63.640(p) (2/4/20) → 40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a-60.487a (11/16/07) Compliance Order 1006-23-08 (CO23) Condition (V)(C) (8/18/23)	<u>MACT for Equipment Leaks</u> Comply with 40 CFR 63 Subpart CC for equipment leaks in HAP service.	Conduct a Leak Detection and Repair (LDAR) program on equipment in HAP service as specified in AOP Section 6.3.

Wharf/Logistics Area			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Process Drains			
40 CFR 60 NSPS General Provisions in AOP Section 3 apply to the affected facilities			
5.11.4	40 CFR 60 Subpart QQQ 60.690 (11/23/88)	<u>Individual Drain Systems - Wharf</u> Comply with 40 CFR 60 Subpart QQQ except when handling 63 Subpart CC Group 1 wastewater streams regulated under 40 CFR 63 Subpart CC (i.e., 63.640(o)), then comply with 40 CFR 61 Subpart FF.	Comply with the requirements in AOP Section 6.5 (60 Subpart QQQ) or AOP Section 5.17 (61 Subpart FF), as appropriate.

5.12 LPG Loading Facility

LPG Loading Facility			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Fugitive Components in VOC/HAP Service			
5.12.1 VOC	NWCAA 580.8 (12/13/89) → 40 CFR 60 Subpart GGG 60.590-60.593 (6/2/08, 11/16/07) → 40 CFR 60 Subpart VV 60.482-60.487 (11/16/07, 12/14/00)	<u>RACT for Equipment Leaks</u> Comply with 40 CFR 60 Subpart GGG for equipment leaks in VOC service.	Conduct a Leak Detection and Repair (LDAR) program on subject equipment as specified in AOP Section 6.2.

5.13 Feedstocks Unloading Facility

Feedstocks Unloading Facility			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
General			
40 CFR 63 NESHAP General Provisions in AOP Section 3 apply to the affected facilities			
5.13.1 Benzene	OAC 1190 Condition 1, 2, & 3 (9/15/14)	<u>Benzene Content Limit</u> Feedstock materials unloaded at the Feedstocks Unloading Facility must have a benzene content less than or equal to 4.7% by weight on a 12-month rolling weighted average.	Maintain the following records for each rail shipment received at the Feedstocks Unloading Facility: • Type of material and its origin, • Benzene content in % by weight (feedstock assay or shipment testing), • Volume of the shipment, and • Dates the shipment was unloaded. If an individual shipment of feedstock material is received with a benzene content greater than 4.7% by weight, calculate the 12-month rolling average benzene content by weight for each 12-month rolling period during which such feedstock material was received.
5.13.2	40 CFR 63 Subpart EEEE 63.2343(a) (7/7/20)	<u>MACT for Organic Liquid Distribution – Feedstocks Unloading Rack</u> The Feedstocks Unloading Rack is exempt from controls under 40 CFR 63 Subpart EEEE provided proper documentation that the transfer rack is used only to unload feedstocks.	Maintain up-to-date documentation verifying the transfer rack is not required to be controlled under 40 CFR 63 Subpart EEEE. The documentation may consist of identification of the transfer rack on a plant site plan, or process and instrumentation diagram (P&ID).

Feedstocks Unloading Facility			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Fugitive Components in VOC/HAP Service			
40 CFR 60 NSPS and 40 CFR 63 NESHAP General Provisions in AOP Section 3 apply to the affected facilities			
5.13.3 VOC	40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a-60.487a (11/16/07) Compliance Order 1006-23-08 (CO23) Condition (V)(C) (8/18/23)	<u>NSPS for Equipment Leaks</u> Comply with 40 CFR 60 Subpart GGGa for equipment leaks in VOC service.	Conduct a Leak Detection and Repair (LDAR) program on equipment in VOC service as specified in AOP Section 6.3.
5.13.4 HAP	40 CFR 63 Subpart CC 63.640(p) (2/4/20) → 40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a-60.487a (11/16/07) Compliance Order 1006-23-08 (CO23) Condition (V)(C) (8/18/23)	<u>MACT for Equipment Leaks</u> Comply with 40 CFR 63 Subpart CC for equipment leaks in HAP service.	Conduct a Leak Detection and Repair (LDAR) program on equipment in HAP service as specified in AOP Section 6.3.

Feedstocks Unloading Facility			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.13.5 VOC	OAC 1190 Condition 5 (9/15/14) → 40 CFR 60 Subpart GGGa 60.590a- 60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a- 60.487a (11/16/07)	<u>BACT for Equipment Leaks</u> New and repurposed equipment components associated with the OAC 1190 project that are not located within refinery process units (as defined in 40 CFR Part 60 Subpart GGGa), including the vacuum breaker closed vent system and expansion header, must be in a leak detection and repair program meeting the monitoring, recordkeeping and reporting provisions of 40 CFR Part 60 Subpart GGGa.	Conduct a Leak Detection and Repair (LDAR) program on new and repurposed equipment components associated with the OAC 1190 project that are not located within refinery process units, including the vacuum breaker closed vent system and expansion header, as specified in AOP Section 6.3.
Process Drains			
40 CFR 60 NSPS General Provisions in AOP Section 3 apply to the affected facilities			
5.13.6 VOC	40 CFR 60 Subpart QQQ 60.690 (11/23/88)	<u>Individual Drain Systems – Feedstocks Unloading Facility</u> Comply with 40 CFR 60 Subpart QQQ except when handling 63 Subpart CC Group 1 wastewater streams regulated under 40 CFR 63 Subpart CC (i.e., 63.640(o)), then comply with 40 CFR 61 Subpart FF.	Comply with the requirements in AOP Section 6.5 (60 Subpart QQQ) or AOP Section 5.17 (61 Subpart FF), as appropriate.

5.14 Crude Railcar Offloading Facility

Crude Railcar Offloading Facility (CROF)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Fugitive Components in VOC/HAP Service			
40 CFR 60 NSPS and 40 CFR 63 NESHAP General Provisions in Section 3 apply to the affected facilities			
5.14.1 VOC	40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a-60.487a (11/16/07) Compliance Order 1006-23-08 (CO23) Condition (V)(C) (8/18/23)	<u>NSPS for Equipment Leaks</u> Comply with 40 CFR 60 Subpart GGGa for equipment leaks in VOC service.	Conduct a Leak Detection and Repair (LDAR) program on equipment in VOC service as specified in AOP Section 6.3.
5.14.2 HAP	40 CFR 63 Subpart CC 63.640(p) (2/4/20) → 40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a-60.487a (11/16/07) Compliance Order 1006-23-08 (CO23) Condition (V)(C) (8/18/23)	<u>MACT for Equipment Leaks</u> Comply with 40 CFR 63 Subpart CC for equipment leaks in HAP service.	Conduct a Leak Detection and Repair (LDAR) program on equipment in HAP service as specified in AOP Section 6.3.

Crude Railcar Offloading Facility (CROF)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Process Drains			
40 CFR 60 NSPS General Provisions in Section 3 apply to the affected facilities			
5.14.3 VOC	40 CFR 60 Subpart QQQ 60.690 (11/23/88)	<u>Individual Drain Systems - CROF</u> Comply with 40 CFR 60 Subpart QQQ except when handling 63 Subpart CC Group 1 wastewater streams regulated under 40 CFR 63 Subpart CC (i.e., 63.640(o)), then comply with 40 CFR 61 Subpart FF.	Comply with the requirements in AOP Term 6.1 (60 Subpart QQQ) or AOP Section 5.17 (61 Subpart FF), as appropriate.

5.15 Gasoline Dispensing Facility

Gasoline Dispensing Facility (GDF)			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.15.1	NWCAA 580.6(D) (9/13/18) WAC 173-401- 615(1)(b) & (c) (10/17/02)	<u>PV Vent Cap on Storage Tank</u> Each gasoline tank vent pipe shall be equipped with a properly functioning pressure vacuum vent (PV) cap.	- <i>Directly enforceable</i> - Comply with AOP Term 5.15.2.
5.15.2	NWCAA 580.6(E) (9/13/18) WAC 173-401- 615(1)(b) & (c) (10/17/02)	<u>Vapor-Tight Storage Tank Condition</u> The gasoline tank shall be maintained in a vapor-tight condition and in good working order. This includes, but is not limited to, caps, adaptors, and drain valves.	- <i>Directly enforceable</i> - Conduct quarterly inspections on the gasoline storage tank to ensure equipment is vapor-tight. Maintain a record of each inspection and a description of each item repaired or replaced to ensure the tank remains in a vapor -tight condition.

5.16 Storage Vessels and Tank Farms

40 CFR 63 Subpart CC Group 2 Tanks

Fixed Roof (FR) Tanks 8, 9, 11*, 23, 25, 26, 33, 34, 35, 36, 41, 42, 43, 44, 56, 57, 87, 96, 109, 115, 138, 142, 171, & 1406; External Floating Roof (EFR) Tanks 6, 7, 89, 91, 135, 148; Internal Floating Roof (IFR) Tanks 10, 12, 114, 232

(40 CFR 63 Subpart CC Group 2)

- Tank 1406 (OAC 1171a)

Fixed Roof (FR) with Closed Vent System to Flare Tank 97

(40 CFR 63 Subpart CC Group 2, NWCAA 580.3)

External Floating Roof (EFR) Tanks

External Floating Roof (EFR) Storage Tanks 1, 2, 3, 4, 5, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 24, 27, 28, 29, 30, 31, 32, 60, 92, 134, 136, 165, 166

(40 CFR 63 Subpart CC Group 1, NWCAA Section 560, 580.3, & 580.9)

- Tanks 165 & 166 (40 CFR 60 Subpart K)

External Floating Roof (EFR) Storage Tanks 113, 202, 203 and 231

(40 CFR 63 Subpart CC Group 1, 40 CFR 60 Subpart Kb, NWCAA Section 560, 580.3, & 580.9)

- Tank 202 & 203 (OAC 358a)

Internal Floating Roof (IFR) Tanks

Internal Floating Roof (IFR) Tank 1408

(40 CFR 63 Subpart CC Group 2, 40 CFR 60 Subpart Kb, OAC 1171a, NWCAA Section 560 & 580.3)

Internal Floating Roof (IFR) Tanks 247, 248 & 1407

(40 CFR 63 Subpart CC Group 1, 40 CFR 60 Subpart Kb, NWCAA Section 560 & 580.3)

- Tanks 247 & 248 (OAC 1190)
- Tank 1407 (OAC 1171a)

40 CFR 61 Subpart FF Tanks

External Floating Roof (EFR) Storage Tank 216

(40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC, NWCAA Section 560, 580.3, & 580.9)

Internal Floating Roof (IFR) Storage Tanks 39, 40, and 161

(40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC, NWCAA Section 560 & 580.3)

*Due to changes in 63 Subpart CC, Tank 11 is now potentially subject to CC Group 1 requirements but does not have to be in compliance until 2026.

Storage Vessels and Tank Farms			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Fugitive Components in VOC/HAP Service			
40 CFR 60 NSPS and 40 CFR 63 NESHAP General Provisions in Section 3 apply to the affected facilities			
5.16.1 VOC	40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a-60.487a (11/16/07) Compliance Order 1006-23-08 (CO23) Condition (V)(C) (8/18/23)	<u>NSPS for Equipment Leaks</u> Comply with 40 CFR 60 Subpart GGGa for equipment leaks in VOC service.	Conduct a Leak Detection and Repair (LDAR) program on equipment in VOC service as specified in AOP Section 6.3.
5.16.2 HAP	40 CFR 63 Subpart CC 63.640(p) (2/4/20) → 40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a-60.487a (11/16/07) Compliance Order 1006-23-08 (CO23) Condition (V)(C) (8/18/23)	<u>MACT for Equipment Leaks</u> Comply with 40 CFR 63 Subpart CC for equipment leaks in HAP service.	Conduct a Leak Detection and Repair (LDAR) program on equipment in HAP service as specified in AOP Section 6.3.

Storage Vessels and Tank Farms			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.16.3	OAC 1171a Condition (10) (4/14/23) → 40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a-60.487a (11/16/07)	<u>BACT for Equipment Leaks</u> All equipment components (i.e., pumps, valves and flanges) installed in Tank Farms 1 & 2 associated with the OAC 1171a project shall be in a leak detection and repair program meeting the monitoring, recordkeeping and reporting requirements of 40 CFR 60 Subpart GGGa and its referenced requirements under 40 CFR 60 Subpart VVa.	Conduct a Leak Detection and Repair (LDAR) program on equipment components installed in Tank Farms 1 & 2 associated with the OAC 1171a project as specified in AOP Section 6.3.
5.16.4	NWCAA 580.8 (12/13/89) → 40 CFR 60 Subpart GGG 60.590-60.593 (6/2/08, 11/16/07) → 40 CFR 60 Subpart VV 60.482-60.487 (11/16/07, 12/14/00)	<u>RACT for Equipment Leaks – LPG Storage Vessels</u> Comply with 40 CFR 60 Subpart GGG for equipment leaks in VOC service.	Conduct a Leak Detection and Repair (LDAR) program on subject equipment as specified in AOP Section 6.2.
Process Drains			
40 CFR 60 NSPS General Provisions in AOP Section 3 apply to the affected facilities			
5.16.5	40 CFR 60 Subpart QQQ 60.690 (11/23/88)	<u>Individual Drain Systems - Tanks 202, 203, 231, 247 and 248</u> Comply with 40 CFR 60 Subpart QQQ except when handling 63 Subpart CC Group 1 wastewater streams regulated under 40 CFR 63 Subpart CC (i.e., 63.640(o)), then comply with 40 CFR 61 Subpart FF.	Comply with the requirements in AOP Section 6.5 (60 Subpart QQQ) or AOP Section 5.17 (61 Subpart FF), as appropriate.

**Fixed Roof Tanks 8, 9, 11, 23, 25, 26, 33, 34, 35, 36, 41, 42, 43, 44, 56, 57, 87, 96, 109, 115, 138, 142, 171, & 1406;
External Floating Roof Tanks 6, 7, 89, 91, 135, 148; Internal Floating Roof Tanks 10, 12, 114, 232**

FR Tanks 8, 9, 11, 23, 25, 26, 33, 34, 35, 36, 41, 42, 43, 44, 56, 57, 87, 96, 109, 115, 138, 142, 171, & 1406; EFR Tanks 6, 7, 89, 91, 135, 148; IFR Tanks 10, 12, 114, 232 (40 CFR 63 Subpart CC Group 2) – Tank 1406 (also OAC 1171a)			
40 CFR 63 NESHAP General Provisions in AOP Section 3 apply to the affected facilities			
5.16.6	40 CFR 63 Subpart CC 63.660(a) and 63.655(i)(1)(vi) (2/4/20) → 40 CFR 63 Subpart WW 63.1065(a) (6/29/99) Tank 11 (until compliance with 63.660 as Group 1 or 1/30/26, whichever is sooner): 40 CFR 63 Subpart CC 63.655(i)(1) (6/20/13) → 40 CFR 63 Subpart G 63.123(a) (12/23/04)	<u>Dimensions and Capacities</u> Keep readily accessible records showing the dimensions and capacities of each Group 2 storage vessel.	Maintain records at the facility with dimensions and capacities. Retain as long as storage vessel is subject to Group 2 status and is in operation.
5.16.7	OAC 1171a Condition (9) (4/14/23) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>Tank 1406 Product Storage Limitation</u> Tank 1406 shall be used exclusively to store diesel.	- <i>Directly enforceable</i> - Maintain records documenting the type of products stored in Tank 1406.

Fixed Roof Tank 97

FR Tank 97 (40 CFR 63 Subpart CC Group 2, NWCAA 580.3)			
40 CFR 63 NESHAP General Provisions in AOP Section 3 apply to the affected facilities			
5.16.8	40 CFR 63 Subpart CC 63.660(a) and 63.655(i)(1)(vi) (2/4/20) → 40 CFR 63 Subpart WW 63.1065(a) (6/29/99)	<u>Dimensions and Capacities</u> Keep readily accessible records showing the dimensions and capacities of each Group 2 storage vessel.	Maintain records at the facility with dimensions and capacities. Retain as long as storage vessel is subject to Group 2 status and is in operation.
5.16.9	NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb 60.112b(a)(3) (10/8/97), and 60.113b(d) (8/11/89) NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb 60.112b(a)(3) (10/8/97) → 40 CFR 60 Subpart VV 60.482-10 (12/14/00) and 60.485(b) (11/16/07) WAC 173-401-630(1), (3/5/16)	<u>Storage Vessel with Closed Vent System to Flare</u> Upon start-up of the closed vent system, equip Tank 97 with a closed vent system routed to the flare system. Flares used as a control device shall comply with the requirements of 60.18. The closed vent system shall be designed to collect all VOC vapors and gases discharged from the storage vessel and operated with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background and visual inspections.	Upon start-up of the closed vent system, comply with AOP Terms 6.2.14, 6.2.18, 5.7.13, 5.7.15, 5.7.17, 5.7.19, 5.7.23, and 5.7.29. <i>- Directly enforceable -</i> Submit a report stating the initial start-up date of the closed vent system within 15 days after initial start-up. Upon start-up of the closed vent system, keep records of all periods of operation during which the flare pilot flame is absent and submit in semiannual report. Keep readily accessible records showing the dimensions and capacity of Tank 97.

External Floating Roof Tanks 1, 2, 3, 4, 5, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 24, 27, 28, 29, 30, 31, 32, 60, 92, 134, 136, 165, 166

EFR Tanks 1, 2, 3, 4, 5, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 24, 27, 28, 29, 30, 31, 32, 60, 92, 134, 136, 165, 166 (40 CFR 63 Subpart CC, NWCAA Section 560, 580.3, & 580.9) – Tanks 165 & 166 (also 40 CFR 60 Subpart K)			
40 CFR 63 NESHAP General Provisions in AOP Section 3 apply to the affected facilities; also 40 CFR 60 NSPS General Provisions in AOP Section 3 apply to Tanks 165 & 166			
5.16.10	NWCAA 560.11 (4/14/93) WAC 173-401-615(1)(b) & (c), (10/17/02)	<u>NWCAA Storage of Organic Liquid with a True Vapor Pressure greater than 1.5 psia and less than 11.1 psia</u> 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.	- <i>Directly enforceable</i> - Follow MR&R under AOP Terms 5.16.11 through 5.16.30. Maintain records demonstrating that the stored material has a maximum true vapor pressure (TVP) less than 11.1 pounds per square inch. Notify the NWCAA within 12 hours of discovering a maximum TVP in excess of 11.1 pounds per square inch. Maximum TVP shall be determined using the calendar month maximum average local temperature for ambient tanks or the maximum average monthly storage temperature for heated tanks.

EFR Tanks 1, 2, 3, 4, 5, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 24, 27, 28, 29, 30, 31, 32, 60, 92, 134, 136, 165, 166 (40 CFR 63 Subpart CC, NWCAA Section 560, 580.3, & 580.9) – Tanks 165 & 166 (also 40 CFR 60 Subpart K)			
5.16.11	NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb 60.112b(a)(2)(i) (10/8/97), 60.113b(b) (8/11/89), and 60.115b(b) (1/19/21)	<u>NWCAA External Floating Roof Seal Coverage</u> An external floating roof means a pontoon-type or double-deck type cover that rests on the liquid surface in a vessel with no fixed roof. Each external floating roof shall be equipped with a closure device between the wall of the vessel the roof edge. The closure device shall consist of two seals: a primary (either a metallic shoe seal or a liquid-mounted seal) and a secondary seal. Both the primary and secondary seals shall completely cover the annular space between the external floating roof and the storage vessel wall, except for when necessary repairs are being made or the vessel is empty, as provided in 60.113b(b)(4). For the primary seal, the accumulated area of gaps shall not exceed 212 cm² per meter of tank diameter, and the width of any portion of any gap shall not exceed 3.81 cm. One end of the mechanical shoe should extend into the stored liquid and the other end should be at least 61 cm above the liquid surface. For the secondary seal, the accumulated area of gaps shall not exceed 21.2 cm² per meter of tank diameter and the width of any portion of any gap shall not exceed 1.27 cm. There should be no holes, tears, or other openings in the primary mechanical shoe, the primary or secondary seal fabric, or the seal envelope.	Measure gaps between the vessel wall and the primary seal within 60 days of initial fill and at least every 5 years thereafter. Gap measurement between the vessel wall and the secondary seal shall be performed within 60 days of initial fill and at least once per year thereafter. Seal gaps shall be measured at one or more floating roof levels when the roof is floating off the roof leg supports. Measure around the entire tank circumference in each place where a 0.32-cm diameter uniform probe passes freely between the seal and the vessel wall. Measure the circumferential distance of each such location. The total surface area of each gap shall be determined by using probes of various widths to measure accurately the actual distance from the tank wall to the seal and multiplying each such width by its respective circumferential distance. Add the gap surface area of each gap location for each seal individually and divide the sum by the nominal diameter of the tank. Notify the NWCAA 30 days in advance of any gap measurements or 7 days prior if unforeseen. Keep records of each gap measurement including the date of measurement, the raw data, and the calculation of accumulated gap area. For the primary and secondary seal gap measurements, submit this data to the NWCAA within 60 days of taking the measurement. After each seal gap measurement that detects gaps exceeding the gap area allowance, submit an inspection report to the NWCAA within 30 days of the inspection identifying the vessel, the date of measurement, the raw data, the calculation of accumulated gap area, and date the vessel was emptied or repairs were made.

EFR Tanks 1, 2, 3, 4, 5, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 24, 27, 28, 29, 30, 31, 32, 60, 92, 134, 136, 165, 166 (40 CFR 63 Subpart CC, NWCAA Section 560, 580.3, & 580.9) – Tanks 165 & 166 (also 40 CFR 60 Subpart K)			
5.16.12	40 CFR 63 Subpart CC 63.660 and 63.655(g)(3)(ii) (2/4/20) → 40 CFR 63 Subpart WW 63.1062(a)(2); 63.1063(a)(1)(ii), (c)(2)(i), (ii), & (iv), (d)(3), & (e); 63.1065(b) & (d); and 63.1066(b) (6/29/99) Tanks 165 & 166: 40 CFR 60 Subpart K	<u>MACT Floating Roof Control & Seal Design Requirements</u> Operate and maintain the EFR equipped with one of the following seal configurations: - liquid-mounted seal & secondary seal, or - mechanical shoe seal & secondary seal, with upper end of mechanical shoe extended a minimum of 24 inches above stored liquid surface. The primary seal shall not have an accumulated area of gaps greater than 10 square inch per foot of tank diameter, or a gap wider than 1.5 inches. The secondary seal shall not have an accumulated area of gaps greater than 1 square inch per foot of tank diameter, or a gap wider than 0.5 inches.	Notify Agency 30 days prior to conducting seal gap measurements. If the measurement event is unplanned, notify within 7 days & follow-up with written explanation. Conduct seal gap measurements as follows: - primary & secondary seal: within 90 days of initial tank filling; - secondary seal: annually; and - primary seal: at least once every 5 years. Measure seal gaps while the roof is floating, using probes around the entire circumference of the tank. For each gap over 1/8 inch in width, measure the length of each gap, average gap width, and calculate the ratio of accumulated area of seal gaps to tank diameter. Up to two, 30-day gap measurement inspection extensions may be used if tank is determined to be unsafe & cannot be emptied within 45 days. Repair failures discovered during seal gap measurement within 45 days, or remove tank from service. Up to two, 30-day repair extensions may be used if repairs cannot be completed within 45 days & no alternative storage capacity is available. Maintain records describing results of each seal gap measurement including date, raw data obtained & any calculations performed. Retain records for 5 years. Submit seal gap measurement inspection report for each tank discovered to have a failure with semiannual report. Include documentation for any repair or inspection extensions used.
5.16.13	NWCAA 580.33 (12/13/89) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>NWCAA Seal Condition</u> All seals are to be maintained in good operating condition and the seal fabric shall contain no visible holes, tears, or other openings.	- <i>Directly enforceable</i> - Semiannually, visually inspect the secondary seal. If the secondary seal has holes, tears, or other openings in the seal or fabric, repair the items as necessary. Maintain records of the types of petroleum liquids stored, the maximum true vapor pressure of the liquid as stored, and the results of any inspections performed for a period of two years after the date on which the record was made. 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.

EFR Tanks 1, 2, 3, 4, 5, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 24, 27, 28, 29, 30, 31, 32, 60, 92, 134, 136, 165, 166 (40 CFR 63 Subpart CC, NWCAA Section 560, 580.3, & 580.9) – Tanks 165 & 166 (also 40 CFR 60 Subpart K)			
5.16.14	NWCAA 580.93, 580.94 and 580.99 (12/13/89) WAC 173-401-630(1) (3/5/16)	<u>NWCAA Volatile Organic Compound in External Floating Roof Tanks</u> Store volatile organic compounds in vessels subject to this section that have been fitted with a rim-mounted secondary seal. All of these seals or closure devices shall meet the following requirements: • There must be no visible holes, tears, or other openings in the seal or seal fabric; • The seal shall be intact and uniformly in place around the circumference of the floating roof between the roof and the tank wall. • For vapor-mounted primary seals, the accumulated area of gaps exceeding 0.32 cm (1.8 inch) in width between the secondary seal and the tank wall shall not exceed 21.2 cm² per meter of tank diameter (1.0 in² per foot of tank diameter)	Semiannually, visually inspect the secondary seal gap. Measure the secondary seal gap annually if the floating roof is equipped with a vapor-mounted primary seal. Notify the NWCAA not less than five working days prior to the measurement. Maintain records of the types of petroleum liquids stored, the maximum true vapor pressure of the liquid as stored, and the results of any inspections performed for a period of two years after the date on which the record was made. - <i>Directly enforceable</i> - 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. If the secondary seal has holes, tears, or other openings in the seal or fabric, repair the items as necessary.
5.16.15	NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb 60.113b(b)(4) & (4)(iii) (8/11/89), and 60.115b(b)(4) (1/19/21)	<u>NWCAA External Floating Roof Gap Repairs</u> Repair conditions not meeting the gap allowances, or empty the storage vessel within 45 days of identification of failures found in any inspection. If a failure is detected that cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested in the inspection report.	Submit in the inspection report documentation of each seal gap measurement made in which the seal and seal gap requirements of this part are not met and repairs taken to correct the defect. Documentation of a decision to use an extension shall include a failure description, documentation that alternate storage capacity is unavailable, and an action schedule that will ensure that the control equipment will be repaired or the vessel will be emptied as soon as possible.

EFR Tanks 1, 2, 3, 4, 5, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 24, 27, 28, 29, 30, 31, 32, 60, 92, 134, 136, 165, 166 (40 CFR 63 Subpart CC, NWCAA Section 560, 580.3, & 580.9) – Tanks 165 & 166 (also 40 CFR 60 Subpart K)			
5.16.16	NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb 60.112b(a)(2)(iii) (10/8/97) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>NWCAA External Floating Roof on Surface</u> 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.	- <i>Directly enforceable</i> - Keep records of periods when the floating roof is resting on the leg supports.
5.16.17	40 CFR 63 Subpart CC 63.660 and 63.655(g)(3)(ii) (2/4/20) → 40 CFR 63 Subpart WW 63.1063(b), (c)(2)(iii), (d)(1), & (e); 63.1065(b), (c) & (d); and 63.1066(b) (6/29/99) Tanks 165 & 166: 40 CFR 60 Subpart K WAC 173-401-630(1) (3/5/16)	<u>MACT Operational Requirements</u> Each floating roof shall: - rest on the surface of the stored liquid at all times, except when supported by its leg supports or other support devices; - when stored liquid depth is insufficient to float roof, process of refloating the roof shall be continuous and performed as soon as practical; - keep covers over floating roof openings (except automatic bleeder vents & rim space vents) closed at all times, except when necessary for access; - keep automatic bleeder vents & rim space vents closed at all times, except when required to be open to relieve excess pressure or vacuum; - keep unslotted guidepole cap closed at all times except when gauging liquid level or taking samples	Comply with MR&R under AOP Term 5.16.21. - <i>Directly enforceable</i> - Keep records of periods when the floating roof is resting on the leg supports.

EFR Tanks 1, 2, 3, 4, 5, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 24, 27, 28, 29, 30, 31, 32, 60, 92, 134, 136, 165, 166 (40 CFR 63 Subpart CC, NWCAA Section 560, 580.3, & 580.9) – Tanks 165 & 166 (also 40 CFR 60 Subpart K)			
5.16.18	NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb 60.113b(b)(6) (8/11/89)	<u>NWCAA External Floating Roof Visual Inspection After Degassing</u> Visually inspect the external floating roof, the primary seal, the secondary seal, and fittings each time the vessel is emptied and degassed. If inspection shows that the external floating roof has defects; the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, repair the items as necessary so that none of the conditions specified in this paragraph exist before filling or refilling the storage vessel with VOL.	Notify the NWCAA in writing at least 30 days prior to the filling or refilling of each storage vessel. If the inspection is unplanned and was not foreseen 30 days prior to refilling, notify the NWCAA at least 7 days prior to refilling. Notification may be made by telephone, followed by written documentation.
5.16.19	40 CFR 63 Subpart CC 63.660 and 63.655(i)(1)(v) (2/4/20) → 40 CFR 63 Subpart WW 63.1065(a) (6/29/99) Tanks 165 & 166: 40 CFR 60 Subpart K	<u>MACT Tank Dimensions and Capacities</u> Keep readily accessible records showing the dimensions and capacity of each Group 1 tank.	Maintain records at the facility with dimensions and capacities. Retain as long as tank is subject to Group 1 status and is in operation.
5.16.20	NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb 60.116b (10/15/03)	<u>NWCAA Storage Tank Records</u> Keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. Maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period.	Maintain records at the facility with dimensions and capacities. For storage vessels with design capacity greater than 151 m³ storing a liquid with a maximum true vapor pressure that is normally less than 5.2 kPa or with a design capacity greater than or equal to 75 m³ but less than 151 m³ storing a liquid with a maximum true vapor pressure that is normally less than 27.6 kPa shall notify the NWCAA within 30 days when the maximum true vapor pressure of the liquid exceeds the respective true maximum true vapor pressure values for each volume range.

EFR Tanks 1, 2, 3, 4, 5, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 24, 27, 28, 29, 30, 31, 32, 60, 92, 134, 136, 165, 166 (40 CFR 63 Subpart CC, NWCAA Section 560, 580.3, & 580.9) – Tanks 165 & 166 (also 40 CFR 60 Subpart K)			
5.16.21	40 CFR 63 Subpart CC 63.660 and 63.655(g)(3)(ii) (2/4/20) → 40 CFR 63 Subpart WW 63.1063(a)(2) as modified by 63.660(b)(1) & (2), 63.1063(c)(2)(iii), (d)(1), & (e); 63.1065(b) & (d); and 63.1066(b) (6/29/99) Tanks 165 & 166: 40 CFR 60 Subpart K	<u>MACT Deck Fitting Design Requirements</u> Equip openings through floating roof deck: (except for automatic bleeder vents & rim space vents) with a deck cover equipped with a gasket between cover & deck; - extend lower edge of opening (except automatic bleeder vents, rim space vents, leg sleeves, & deck drains) below surface of stored liquid; - automatic bleeder vents & rim space vents with gasketed lid, pallet, flapper, or other closure device; - unslotted guidepole with a pole wiper & gasketed cap on top of guidepole; and - slotted guidepole with a pole wiper & pole float or pole sleeve; or a flexible enclosure device & either a gasketed or welded cap on top of the guidepole. Wiper & seal of pole float must be at or above height of pole wiper. - ladders with at least one slotted leg with either: pole float on slotted leg & pole wiper on both legs; ladder sleeve & pole wipers for both legs of ladder; or flexible enclosure devices with either gasketed or welded cap on top of slotted leg. Instead of a deck cover, may equip openings for: - fixed roof support columns with a flexible fabric sleeve seal; and/or - sample wells or deck drains with slit fabric seal or similar device that covers at least 90% of opening. Design covers on access hatches & gauge float wells to be bolted or fastened when closed. For those tanks that do not comply with this term as of June 30, 2014, they must be in compliance upon the next time the vessel is degassed or January 30, 2026, whichever occurs first.	Notify Agency 30 days prior to conducting internal visual inspections. If inspection was unplanned, notify within 7 days & follow-up with written explanation. Every time tank is emptied & degassed, or every 10 years, whichever occurs first, conduct internal visual inspections from within the tank. Inspection may be performed entirely from top side of floating roof if there is visual access to all floating roof, deck components & seals. Inspection shall document failures where: - stored liquid was seen on floating roof; - holes or tears were visible in seals; - floating roof deck, deck fittings or rim seals were not functioning as designed; - floating roof was not resting on the surface of the stored liquid; (when stored liquid depth is insufficient to float roof) process to refloat roof was not continuous or performed as soon as practical; - openings were uncovered when not being accessed; - automatic bleeder vents & rim space vents were open when not required to relieve excess pressure or vacuum; - unslotted guidepoles cap were open when liquid-level gauging or sampling was not occurring; and - gaps greater than 1/8 inch were found between any deck fitting gasket, seal or wiper & surface it was intended to seal. Keep records of each inspection, including date, tank ID, description of inspection failures or defects, description & date of repairs, & date tank removed from service (if applicable). Repair failures within 45 days, or remove tank from service. Up to two, 30-day repair extensions may be used if repairs cannot be completed within 45 days & no alternative storage capacity is available. Document decision to use repair extension. Retain records for 5 years. Report in semiannual periodic report each tank where inspection revealed failures. Include documentation for any repair or inspection extension(s) used.

EFR Tanks 1, 2, 3, 4, 5, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 24, 27, 28, 29, 30, 31, 32, 60, 92, 134, 136, 165, 166 (40 CFR 63 Subpart CC, NWCAA Section 560, 580.3, & 580.9) – Tanks 165 & 166 (also 40 CFR 60 Subpart K)			
5.16.22	NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb 60.112b(a)(2)(ii) (10/8/97) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>NWCAA Roof Openings</u> 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 leg supports or at the manufacturer's recommended setting. Automatic bleeder vents and rim space vents are to be gasketed. Each emergency roof drain is to be provided with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening.	- <i>Directly enforceable</i> - Visually inspect the vessel openings semiannually. If inspection shows that openings not related to safety are not sealed, close the opening. Document inspection results and any action taken to seal openings. Visually inspect the bleeder vents semiannually. If inspection shows that vents are not sealed and the roof is not being floated off or landed on the roof leg supports, seal them. Visually inspect the emergency roof drain's fabric covers annually. If inspection shows that the roof drain cover is damaged, fix or replace it.

EFR Tanks 1, 2, 3, 4, 5, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 24, 27, 28, 29, 30, 31, 32, 60, 92, 134, 136, 165, 166 (40 CFR 63 Subpart CC, NWCAA Section 560, 580.3, & 580.9) – Tanks 165 & 166 (also 40 CFR 60 Subpart K)			
5.16.23	NWCAA 580.95 (12/13/89) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>NWCAA Openings</u> All openings in the external floating roof, except for automatic bleeder vents, rim space vents, and leg sleeves shall be equipped with covers, seals, or lids in the closed position except when the openings are in actual use; and equipped with projections into the tank which remain below the liquid surface at all times.	- <i>Directly enforceable</i> - Visually inspect the vessel openings semiannually. If inspection shows that openings not related to safety are not sealed, close the opening. Document inspection results and any action taken to seal openings.
5.16.24	40 CFR 63 Subpart CC 63.646(f)(1) (12/1/15) Tanks 165 & 166: 40 CFR 60 Subpart K WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>MACT Cover or Lid</u> For those tanks that do not comply with 63.660(b) as of June 30, 2014, until the first degassing or January 30, 2026, whichever occurs first, if a cover or lid is installed on an opening on a floating roof, the cover or lid shall remain closed except when the cover or lid must be open for access.	
5.16.25	NWCAA 580.34 (12/13/89) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>NWCAA Openings</u> All openings not related to safety are to be sealed with suitable closures.	
5.16.26	NWCAA 580.96 (12/13/89) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>NWCAA Automatic Bleeder Vents</u> Keep closed at all times except when the roof is floated off or landed on the roof leg supports.	
5.16.27	40 CFR 63 Subpart CC 63.646(f)(3) (12/1/15) Tanks 165 & 166: 40 CFR 60 Subpart K WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>MACT Automatic Bleeder Vents</u> For those tanks that do not comply with 63.660(b) as of June 30, 2014, until the first degassing or January 30, 2026, whichever occurs first, 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.	

EFR Tanks 1, 2, 3, 4, 5, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 24, 27, 28, 29, 30, 31, 32, 60, 92, 134, 136, 165, 166 (40 CFR 63 Subpart CC, NWCAA Section 560, 580.3, & 580.9) – Tanks 165 & 166 (also 40 CFR 60 Subpart K)			
5.16.28	NWCAA 580.97 (12/13/89) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>NWCAA Rim Vents</u> Shall be set to open when the roof is being floated off the leg supports or at the manufacturer's recommended setting.	- <i>Directly enforceable</i> - Visually inspection annually for damage and pressure setting. If inspection shows that the rim space vent is damaged or the pressure setting is wrong, fix or replace it.
5.16.29	40 CFR 63 Subpart CC 63.646(f)(2) (12/1/15) Tanks 165 & 166: 40 CFR 60 Subpart K WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>Rim Space Vents</u> For those tanks that do not comply with 63.660(b) as of June 30, 2014, until the first degassing or January 30, 2026, whichever occurs first, rim space vents are to be set to open only when the floating roof is not floating or when the pressure beneath the rim seal exceeds the manufacturer's recommended setting.	
5.16.30	NWCAA 580.98 (12/13/89) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>NWCAA Emergency Roof Drains</u> Provide emergency roof drains with slotted membrane fabric covers or equivalent, which cover at least 90 percent of the area of the opening.	- <i>Directly enforceable</i> - Visually inspect the emergency roof drain's fabric covers annually. If inspection shows that the roof drain cover is damaged, fix or replace it.

External Floating Roof Tanks 113, 202, 203 and 231

EFR Tanks 113, 202, 203 and 231 (40 CFR 63 Subpart CC, 40 CFR 60 Subpart Kb, NWCAA Section 560, 580.3, & 580.9)			
40 CFR 60 NSPS and 40 CFR 63 NESHAP General Provisions in Section 3 apply to the affected facilities			
5.16.31	NWCAA 560.11 (4/14/93) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>NWCAA Storage of Organic Liquid with a True Vapor Pressure greater than 1.5 psia and less than 11.1 psia</u> 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.	- <i>Directly enforceable</i> - Follow MR&R under AOP Terms 5.16.32 through 5.16.45. Maintain records demonstrating that the stored material has a maximum true vapor pressure (TVP) less than 11.1 pounds per square inch. Notify the NWCAA within 12 hours of discovering a maximum TVP in excess of 11.1 pounds per square inch. Maximum TVP shall be determined using the calendar month maximum average local temperature for ambient tanks or the maximum average monthly storage temperature for heated tanks.

EFR Tanks 113, 202, 203 and 231 (40 CFR 63 Subpart CC, 40 CFR 60 Subpart Kb, NWCAA Section 560, 580.3, & 580.9)			
5.16.32	40 CFR 63 Subpart CC 63.640(n)(2) & (8) (2/4/20) & 40 CFR 60 Subpart Kb 60.110b-60.117b (1/19/21, 10/15/03, 10/8/97, 8/11/89, 4/8/87, 6/16/87) → 40 CFR 60 Subpart Kb 60.112b(a)(2)(i) (10/8/97), 60.113b(b) (8/11/89), and 60.115b(b) (1/19/21) (as modified by 40 CFR 63.640(n)(8) (2/4/20)) NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb	<u>External Floating Roof Seal Coverage</u> An external floating roof means a pontoon-type or double-deck type cover that rests on the liquid surface in a vessel with no fixed roof. Each external floating roof shall be equipped with a closure device between the wall of the vessel the roof edge. The closure device shall consist of two seals: a primary (either a metallic shoe seal or a liquid-mounted seal) and a secondary seal. Both the primary and secondary seals shall completely cover the annular space between the external floating roof and the storage vessel wall, except for when necessary repairs are being made or the vessel is empty, as provided in 60.113b(b)(4). For the primary seal, the accumulated area of gaps shall not exceed 212 cm² per meter of tank diameter, and the width of any portion of any gap shall not exceed 3.81 cm. One end of the mechanical shoe should extend into the stored liquid and the other end should be at least 61 cm above the liquid surface. For the secondary seal, the accumulated area of gaps shall not exceed 21.2 cm² per meter of tank diameter and the width of any portion of any gap shall not exceed 1.27 cm. There should be no holes, tears, or other openings in the primary mechanical shoe, the primary or secondary seal fabric, or the seal envelope.	Measure gaps between the vessel wall and the primary seal within 60 days of initial fill and at least every 5 years thereafter. Gap measurement between the vessel wall and the secondary seal shall be performed within 60 days of initial fill and at least once per year thereafter. Seal gaps shall be measured at one or more floating roof levels when the roof is floating off the roof leg supports. Measure around the entire tank circumference in each place where a 0.32-cm diameter uniform probe passes freely between the seal and the vessel wall. Measure the circumferential distance of each such location. The total surface area of each gap shall be determined by using probes of various widths to measure accurately the actual distance from the tank wall to the seal and multiplying each such width by its respective circumferential distance. Add the gap surface area of each gap location for each seal individually and divide the sum by the nominal diameter of the tank. Notify the NWCAA 30 days in advance of any gap measurements or 7 days prior if unforeseen. Keep records of each gap measurement including the date of measurement, the raw data, and the calculation of accumulated gap area. For the primary and secondary seal gap measurements, submit this data to the NWCAA within 60 days of taking the measurement. After each seal gap measurement that detects gaps exceeding the gap area allowance, submit an inspection report to the NWCAA within 30 days of the inspection identifying the vessel, the date of measurement, the raw data, the calculation of accumulated gap area, and date the vessel was emptied or repairs were made.

EFR Tanks 113, 202, 203 and 231 (40 CFR 63 Subpart CC, 40 CFR 60 Subpart Kb, NWCAA Section 560, 580.3, & 580.9)			
5.16.33	NWCAA 580.33 (12/13/89) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>NWCAA Seal Condition</u> All seals are to be maintained in good operating condition and the seal fabric shall contain no visible holes, tears, or other openings.	- <i>Directly enforceable</i> - Semiannually, visually inspect the secondary seal. If the secondary seal has holes, tears, or other openings in the seal or fabric, repair the items as necessary. Maintain records of the types of petroleum liquids stored, the maximum true vapor pressure of the liquid as stored, and the results of any inspections performed for a period of two years after the date on which the record was made. 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.
5.16.34	NWCAA 580.93, 580.94 and 580.99 (12/13/89) WAC 173-401-630(1) (3/5/16)	<u>NWCAA Volatile Organic Compound in External Floating Roof Tanks</u> Store volatile organic compounds in vessels subject to this section that have been fitted with a rim-mounted secondary seal. All of these seals or closure devices shall meet the following requirements: • There must be no visible holes, tears, or other openings in the seal or seal fabric; • The seal shall be intact and uniformly in place around the circumference of the floating roof between the roof and the tank wall. For vapor-mounted primary seals, the accumulated area of gaps exceeding 0.32 cm (1.8 inch) in width between the secondary seal and the tank wall shall not exceed 21.2 cm ² per meter of tank diameter (1.0 in ² per foot of tank diameter)	Semiannually, visually inspect the secondary seal gap. Measure the secondary seal gap annually if the floating roof is equipped with a vapor-mounted primary seal. Notify the NWCAA not less than five working days prior to the measurement. Maintain records of the types of petroleum liquids stored, the maximum true vapor pressure of the liquid as stored, and the results of any inspections performed for a period of two years after the date on which the record was made. - <i>Directly enforceable</i> - 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. If the secondary seal has holes, tears, or other openings in the seal or fabric, repair the items as necessary.

EFR Tanks 113, 202, 203 and 231 (40 CFR 63 Subpart CC, 40 CFR 60 Subpart Kb, NWCAA Section 560, 580.3, & 580.9)			
5.16.35	40 CFR 63 Subpart CC 63.640(n)(2) & (8) (2/4/20) & 40 CFR 60 Subpart Kb 60.110b-60.117b (1/19/21, 10/15/03, 10/8/97, 8/11/89, 4/8/87, 6/16/87) → 40 CFR 60 Subpart Kb 60.112b(a)(2)(iii) (10/8/97) NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>External Floating Roof on Surface</u> The external floating roof shall be floating on the liquid surface at all times except when it must be supported by the leg supports during (i) the initial fill, (ii) after the vessel has been completely emptied and degassed, and (iii) when the vessel is completely emptied before being subsequently refilled. When the floating roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as soon as practical.	- <i>Directly enforceable</i> - Keep records of periods when the floating roof is resting on the leg supports.

EFR Tanks 113, 202, 203 and 231 (40 CFR 63 Subpart CC, 40 CFR 60 Subpart Kb, NWCAA Section 560, 580.3, & 580.9)			
5.16.36	40 CFR 63 Subpart CC 63.640(n) (2) & (8) (2/4/20) & 40 CFR 60 Subpart Kb 60.110b-60.117b (1/19/21, 10/15/03, 10/8/97, 8/11/89, 4/8/87, 6/16/87) → 40 CFR 60 Subpart Kb 60.113b(b)(4) & (4)(iii) (8/11/89), and 60.115b(b)(4) (1/19/21) (as modified by 40 CFR 63.640(n)(8) (2/4/20)) NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb	<u>External Floating Roof Gap Repairs</u> Repair conditions not meeting the gap allowances, or empty the storage vessel within 45 days of identification of failures found in any inspection. If a failure is detected that cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested in the inspection report.	Submit in the inspection report documentation of each seal gap measurement made in which the seal and seal gap requirements of this part are not met and repairs taken to correct the defect. Documentation of a decision to use an extension shall include a failure description, documentation that alternate storage capacity is unavailable, and an action schedule that will ensure that the control equipment will be repaired or the vessel will be emptied as soon as possible.
5.16.37	40 CFR 63 Subpart CC 63.640(n)(2) & (8) (2/4/20) & 40 CFR 60 Subpart Kb 60.110b-60.117b (1/19/21, 10/15/03, 10/8/97, 8/11/89, 4/8/87, 6/16/87) → 40 CFR 60 Subpart Kb 60.113b(b)(6) (8/11/89) NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb	<u>External Floating Roof Visual Inspection After Degassing</u> Visually inspect the external floating roof, the primary seal, secondary seal, and fittings each time the vessel is emptied and degassed. If inspection shows that the external floating roof has defects; the primary seal has holes, tears, or other openings in the seal or the seal fabric; or the secondary seal has holes, tears, or other openings in the seal or fabric; the owner or operator shall repair the items as necessary so that none of the conditions specified in this paragraph exist before filling or refilling the storage vessel with organic HAP.	Notify the NWCAA in writing at least 30 days prior to the filling or refilling of each storage vessel. If the inspection is unplanned and was not foreseen 30 days prior to refilling, notify the NWCAA at least 7 days prior to refilling. Notification may be made by telephone, followed by written documentation. Submit in the semiannual Periodic Report documentation of any failures discovered during the inspection. The report shall include the date of inspection, vessel identification, description of each failure and the nature and date of each repair.

EFR Tanks 113, 202, 203 and 231 (40 CFR 63 Subpart CC, 40 CFR 60 Subpart Kb, NWCAA Section 560, 580.3, & 580.9)			
5.16.38	40 CFR 63 Subpart CC 63.640(n)(2) & (8) (2/4/20) & 40 CFR 60 Subpart Kb 60.110b-60.117b (1/19/21, 10/15/03, 10/8/97, 8/11/89, 4/8/87, 6/16/87) → 40 CFR 60 Subpart Kb 60.116b (10/15/03) NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb	<u>Storage Tank Records</u> Keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. Maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period.	Maintain records at the facility with dimensions and capacities. For storage vessels with design capacity greater than 151 m³ storing a liquid with a maximum true vapor pressure that is normally less than 5.2 kPa or with a design capacity greater than or equal to 75 m³ but less than 151 m³ storing a liquid with a maximum true vapor pressure that is normally less than 27.6 kPa shall notify the NWCAA within 30 days when the maximum true vapor pressure of the liquid exceeds the respective true maximum true vapor pressure values for each volume range.
5.16.39	40 CFR 63 Subpart CC 63.640(n)(2) & (8) (2/4/20) & 40 CFR 60 Subpart Kb 60.110b-60.117b (1/19/21, 10/15/03, 10/8/97, 8/11/89, 4/8/87, 6/16/87) → 40 CFR 60 Subpart Kb 60.112b(a)(2)(ii) (10/8/97) NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>Roof Openings</u> 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 leg supports or at the manufacturer's recommended setting. Automatic bleeder vents and rim space vents are to be gasketed. Each emergency roof drain is to be provided with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening.	- <i>Directly enforceable</i> - Visually inspect the vessel openings semiannually. If inspection shows that openings not related to safety are not sealed, close the opening. Document inspection results and any action taken to seal openings. Visually inspect the bleeder vents semiannually. If inspection shows that vents are not sealed and the roof is not being floated off or landed on the roof leg supports, seal them. Visually inspect the emergency roof drain's fabric covers annually. If inspection shows that the roof drain cover is damaged, fix or replace it.

EFR Tanks 113, 202, 203 and 231 (40 CFR 63 Subpart CC, 40 CFR 60 Subpart Kb, NWCAA Section 560, 580.3, & 580.9)			
5.16.40	NWCAA 580.95 (12/13/89) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>NWCAA Openings</u> All openings in the external floating roof, except for automatic bleeder vents, rim space vents, and leg sleeves shall be equipped with covers, seals, or lids in the closed position except when the openings are in actual use; and equipped with projections into the tank which remain below the liquid surface at all times.	- <i>Directly enforceable</i> - Visually inspect the vessel openings semiannually. If inspection shows that openings not related to safety are not sealed, close the opening. Document inspection results and any action taken to seal openings.
5.16.41	NWCAA 580.34 (12/13/89) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>NWCAA Openings</u> All openings not related to safety are to be sealed with suitable closures.	
5.16.42	NWCAA 580.96 (12/13/89) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>NWCAA Automatic Bleeder Vents</u> Keep closed at all times except when the roof is floated off or landed on the roof leg supports.	
5.16.43	NWCAA 580.97 (12/13/89) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>NWCAA Rim Vents</u> Shall be set to open when the roof is being floated off the leg supports or at the manufacturer's recommended setting.	- <i>Directly enforceable</i> - Visually inspection annually for damage and pressure setting. If inspection shows that the rim space vent is damaged or the pressure setting is wrong, fix or replace it.
5.16.44	NWCAA 580.98 (12/13/89) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>NWCAA Emergency Roof Drains</u> Provide emergency roof drains with slotted membrane fabric covers or equivalent, which cover at least 90 percent of the area of the opening.	- <i>Directly enforceable</i> - Visually inspect the emergency roof drain's fabric covers annually. If inspection shows that the roof drain cover is damaged, fix or replace it.
5.16.45	OAC 358a Condition 1 (10/14/09) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>Tanks 202 & 203 Max True Vapor Pressure</u> OAC 358a limits the maximum TVP of liquids stored in Tanks 202 and 203 to 11.1 psia as a monthly average.	- <i>Directly enforceable</i> - Maintain records demonstrating that the stored material has a maximum true vapor pressure (TVP) less than 11.1 pounds per square inch. Maximum TVP shall be determined using the calendar month maximum average local temperature for ambient tanks or the maximum average monthly storage temperature for heated tanks.

Internal Floating Roof (IFR) Tank 1408

IFR Tank 1408 (40 CFR 63 Subpart CC Group 2, 40 CFR 60 Subpart Kb, OAC 1171a, NWCAA Section 560 & 580.3)			
40 CFR 60 NSPS and 40 CFR 63 NESHAP General Provisions in Section 3 apply to the affected facilities			
5.16.46	40 CFR 63 Subpart CC 63.660(a) and 63.655(i)(1)(vi) (2/4/20) → 40 CFR 63 Subpart WW 63.1065(a) (6/29/99)	<u>MACT Dimensions and Capacities</u> Keep readily accessible records showing the dimensions and capacities of each Group 2 storage vessel.	Maintain records at the facility with dimensions and capacities. Retain as long as storage vessel is subject to Group 2 status and is in operation.
5.16.47	OAC 1171a Condition (9) (4/14/23) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>Tank 1408 Product Storage Limitation</u> Tank 1408 shall be used exclusively to store ethanol.	- <i>Directly enforceable</i> - Maintain records documenting the type of products stored in Tank 1408.
5.16.48	NWCAA 560.11 (4/14/93) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>NWCAA Storage of Organic Liquid with a True Vapor Pressure greater than 1.5 psia and less than 11.1 psia</u> 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.	- <i>Directly enforceable</i> - Follow MR&R under AOP Terms 5.16.49 through 5.16.59. Maintain records demonstrating that the stored material has a maximum true vapor pressure (TVP) less than 11.1 pounds per square inch. Notify the NWCAA within 12 hours of discovering a maximum TVP in excess of 11.1 pounds per square inch. Maximum TVP shall be determined using the calendar month maximum average local temperature for ambient tanks or the maximum average monthly storage temperature for heated tanks.

IFR Tank 1408 (40 CFR 63 Subpart CC Group 2, 40 CFR 60 Subpart Kb, OAC 1171a, NWCAA Section 560 & 580.3)			
5.16.49	40 CFR 63 Subpart CC 63.640(n)(1) & (8) (2/4/20) & 40 CFR 60 Subpart Kb 60.110b-60.117b (1/19/21, 10/15/03, 10/8/97, 8/11/89, 4/8/87, 6/16/87) → 40 CFR 60 Subpart Kb 60.112b(a)(1)(ii) (10/8/97), 60.113b(a)(2), (3), and (5) (8/11/89), 60.115b(a)(2), (3), and (4) (1/19/21) (as modified by 40 CFR 63.640(n)(8) (2/4/20)) NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb	<u>Internal Floating Roof Operation</u> Each internal floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof: a foam- or liquid-filled liquid-mounted seal, two seals mounted one above the other so that each forms a continuous closure between the wall of the storage vessel and the edge of the internal floating roof, or a mechanical shoe seal.	For single seal roof tanks: - Annually, conduct a visual inspection of the internal floating roof and seal system through manholes and roof hatches. - Visually inspect the internal floating roof, the seal(s), gaskets, slotted membranes, and sleeve seals (if any) at least once every 10 years. For double seal roof tanks, either: - Visually inspect the internal floating roof, the seal(s), gaskets, slotted membranes, and sleeve seals (if any) at least once every 5 years. - Annually, conduct a visual inspection of the internal floating roof and seal system through manholes and roof hatches and visually inspect the internal floating roof, the seal(s), gaskets, slotted membranes, and sleeve seals (if any). If unsafe to perform gap measurements, comply with 40 CFR 63.120(b)(7). Notify the NWCAA in writing 30 calendar days prior to filling or refilling the tank or 7 days if unforeseen. Keep records of each inspection, including the inspection date, vessel identification, observed condition of the control equipment (seals, internal floating roof, and fittings). If defects are found, submit an inspection report to the NWCAA as part of the periodic report identifying the vessel, the nature of the defects, and the date the storage vessel was emptied or the nature of and date the repair was made.
5.16.50	NWCAA 580.33 (12/13/89) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>NWCAA Seal Condition</u> All seals are to be maintained in good operating condition and the seal fabric shall contain no visible holes, tears, or other openings.	- <i>Directly enforceable</i> - Follow MR&R under AOP Term 5.16.49.

IFR Tank 1408 (40 CFR 63 Subpart CC Group 2, 40 CFR 60 Subpart Kb, OAC 1171a, NWCAA Section 560 & 580.3)			
5.16.51	40 CFR 63 Subpart CC 63.640(n)(1) & (8) (2/4/20) & 40 CFR 60 Subpart Kb 60.110b-60.117b (1/19/21, 10/15/03, 10/8/97, 8/11/89, 4/8/87, 6/16/87) → 40 CFR 60 Subpart Kb 60.112b(a)(1)(i) (10/8/97) NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>Internal Floating Roof on Surface</u> The internal floating roof shall rest or float on the liquid surface at all times (i.e., off the roof leg supports), except during initial fill and during those intervals when the storage vessel is completely emptied or subsequently emptied and refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible.	- <i>Directly enforceable</i> - Keep records of periods when the floating roof is resting on the leg supports.
5.16.52	40 CFR 63 Subpart CC 63.640(n)(1) & (8) (2/4/20) & 40 CFR 60 Subpart Kb 60.110b-60.117b (1/19/21, 10/15/03, 10/8/97, 8/11/89, 4/8/87, 6/16/87) → 40 CFR 60 Subpart Kb 60.113b(a)(2) (8/11/89), and 60.115b(a)(3) (1/19/21) (as modified by 40 CFR 63.640(n)(8) (2/4/20)) NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb	<u>Internal Floating Roof Defect Repairs</u> Repair internal floating roof defects (e.g., roof not resting on surface of liquid, liquid accumulated on floating roof, seal is detached, holes and tears in seal fabric) no later than 45 calendar days after identification, or empty and remove the storage vessel from service no later than 45 calendar days after identification. If a failure is detected that cannot be repaired within 45 calendar days and if the vessel cannot be emptied within 45 calendar days, two extensions of up to 30 additional days each can be utilized.	A request to the NWCAA is not required to utilize two 30-day extensions. In the next periodic report, if an extension is utilized, submit the vessel identification, a failure description, documentation that alternate storage capacity is unavailable, an action schedule that will ensure that the control equipment will be repaired or the vessel will be emptied as soon as possible, describe the nature and date of the repair made or provide the date the storage vessel was emptied.

IFR Tank 1408 (40 CFR 63 Subpart CC Group 2, 40 CFR 60 Subpart Kb, OAC 1171a, NWCAA Section 560 & 580.3)			
5.16.53	40 CFR 63 Subpart CC 63.640(n)(1) & (8) (2/4/20) & 40 CFR 60 Subpart Kb 60.110b-60.117b (1/19/21, 10/15/03, 10/8/97, 8/11/89, 4/8/87, 6/16/87) → 40 CFR 60 Subpart Kb 60.113b(a)(4) & (5) (8/11/89) NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb	<u>Internal Floating Roof Visual Inspection After Degassing</u> Visually inspect the internal floating roof, the primary seal, the secondary seal (if one is in service), gaskets, slotted membranes and sleeve seals (if any) each time the storage vessel is emptied and degassed. If inspection shows the internal floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, or the gaskets no longer close off the liquid surfaces from the atmosphere, or the slotted membrane has more than 10 percent open area, repair the items as necessary so that none of these conditions specified in this paragraph exist before filling or refilling the storage vessel with VOL.	Notify the NWCAA in writing at least 30 days prior to the filling or refilling of each storage vessel. If the inspection is unplanned and was not foreseen 30 days prior to refilling, notify the NWCAA at least 7 days prior to refilling. Notification may be made by telephone, followed by written documentation.
5.16.54	40 CFR 63 Subpart CC 63.640(n)(1) & (8) (2/4/20) & 40 CFR 60 Subpart Kb 60.110b-60.117b (1/19/21, 10/15/03, 10/8/97, 8/11/89, 4/8/87, 6/16/87) → 40 CFR 60 Subpart Kb 60.116b (10/15/03) NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb	<u>Storage Tank Records</u> Keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. Maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period.	Maintain records at the facility with dimensions and capacities. For storage vessels with design capacity greater than 151 m³ storing a liquid with a maximum true vapor pressure that is normally less than 5.2 kPa or with a design capacity greater than or equal to 75 m³ but less than 151 m³ storing a liquid with a maximum true vapor pressure that is normally less than 27.6 kPa shall notify the NWCAA within 30 days when the maximum true vapor pressure of the liquid exceeds the respective true maximum true vapor pressure values for each volume range.

IFR Tank 1408 (40 CFR 63 Subpart CC Group 2, 40 CFR 60 Subpart Kb, OAC 1171a, NWCAA Section 560 & 580.3)			
5.16.55	40 CFR 63 Subpart CC 63.640(n)(1) & (8) (2/4/20) & 40 CFR 60 Subpart Kb 60.110b-60.117b (1/19/21, 10/15/03, 10/8/97, 8/11/89, 4/8/87, 6/16/87) → 40 CFR 60 Subpart Kb 60.112b(a)(1)(iii) & (iv) (10/8/97) NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb	<u>Roof Openings</u> Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and rim space vents is to provide a projection below the liquid surface. Except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains, each opening in the roof is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use.	Follow MR&R under AOP Term 5.16.49.
5.16.56	NWCAA 580.34 (12/13/89) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>NWCAA Openings</u> All openings not related to safety are to be sealed with suitable closures.	- <i>Directly enforceable</i> - Follow MR&R under AOP Term 5.16.49.
5.16.57	40 CFR 63 Subpart CC 63.640(n)(1) & (8) (2/4/20) & 40 CFR 60 Subpart Kb 60.110b-60.117b (1/19/21, 10/15/03, 10/8/97, 8/11/89, 4/8/87, 6/16/87) → 40 CFR 60 Subpart Kb 60.112b(a)(1)(vii), (viii) & (ix) (10/8/97) NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb	<u>Roof Penetrations</u> Each penetration of the roof for the purpose of sampling shall be a sample well. The sample well shall have a slit fabric cover that covers at least 90 percent of the opening. Each penetration of the roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or gasketed sliding cover. Each penetration of the roof that allows for passage of a ladder shall have a gasketed sliding cover.	Follow MR&R under AOP Term 5.16.49.

IFR Tank 1408 (40 CFR 63 Subpart CC Group 2, 40 CFR 60 Subpart Kb, OAC 1171a, NWCAA Section 560 & 580.3)			
5.16.58	40 CFR 63 Subpart CC 63.640(n)(1) & (8) (2/4/20) & 40 CFR 60 Subpart Kb 60.110b-60.117b (1/19/21, 10/15/03, 10/8/97, 8/11/89, 4/8/87, 6/16/87) → 40 CFR 60 Subpart Kb 60.112b(a)(1)(v) (10/8/97) NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb	<u>Automatic Bleeder Vents</u> Automatic bleeder vents shall be equipped with a gasket and are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports.	Follow MR&R under AOP Term 5.16.49.
5.16.59	40 CFR 63 Subpart CC 63.640(n)(1) & (8) (2/4/20) & 40 CFR 60 Subpart Kb 60.110b-60.117b (1/19/21, 10/15/03, 10/8/97, 8/11/89, 4/8/87, 6/16/87) → 40 CFR 60 Subpart Kb 60.112b(a)(1)(vi) (10/8/97) NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb	<u>Rim Space Vents</u> Rim space vents shall be equipped with a gasket and are to be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting.	Follow MR&R under AOP Term 5.16.49.

Internal Floating Roof Tanks 247, 248 & 1407

IFR Tanks 247, 248 & 1407 (40 CFR 63 Subpart CC Group 1, 40 CFR 60 Subpart Kb, NWCAA Section 560 & 580.3) – Tanks 247 & 248 (also OAC 1190) – Tank 1407 (also OAC 1171a)			
40 CFR 60 NSPS and 40 CFR 63 NESHAP General Provisions in Section 3 apply to the affected facilities			
5.16.60	NWCAA 560.11 (4/14/93) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>NWCAA Storage of Organic Liquid with a True Vapor Pressure greater than 1.5 psia and less than 11.1 psia</u> 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.	- <i>Directly enforceable</i> - Follow MR&R under AOP Terms 5.16.61 through 5.16.73. Maintain records demonstrating that the stored material has a maximum true vapor pressure (TVP) less than 11.1 pounds per square inch. Notify the NWCAA within 12 hours of discovering a maximum TVP in excess of 11.1 pounds per square inch. Maximum TVP shall be determined using the calendar month maximum average local temperature for ambient tanks or the maximum average monthly storage temperature for heated tanks.

IFR Tanks 247, 248 & 1407 (40 CFR 63 Subpart CC Group 1, 40 CFR 60 Subpart Kb, NWCAA Section 560 & 580.3) – Tanks 247 & 248 (also OAC 1190) – Tank 1407 (also OAC 1171a)			
5.16.61	40 CFR 63 Subpart CC 63.640(n)(1) & (8) (2/4/20) & 40 CFR 60 Subpart Kb 60.110b-60.117b (1/19/21, 10/15/03, 10/8/97, 8/11/89, 4/8/87, 6/16/87) → 40 CFR 60 Subpart Kb 60.112b(a)(1)(ii) (10/8/97), 60.113b(a)(2), (3), and (5) (8/11/89), 60.115b(a)(2), (3), and (4) (1/19/21) (as modified by 40 CFR 63.640(n)(8) (2/4/20)) NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb	<u>Internal Floating Roof Operation</u> Each internal floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof: a foam- or liquid-filled liquid-mounted seal, two seals mounted one above the other so that each forms a continuous closure between the wall of the storage vessel and the edge of the internal floating roof, or a mechanical shoe seal.	For single seal roof tanks: - Annually, conduct a visual inspection of the internal floating roof and seal system through manholes and roof hatches. - Visually inspect the internal floating roof, the seal(s), gaskets, slotted membranes, and sleeve seals (if any) at least once every 10 years. For double seal roof tanks, either: - Visually inspect the internal floating roof, the seal(s), gaskets, slotted membranes, and sleeve seals (if any) at least once every 5 years. - Annually, conduct a visual inspection of the internal floating roof and seal system through manholes and roof hatches and visually inspect the internal floating roof, the seal(s), gaskets, slotted membranes, and sleeve seals (if any). If unsafe to perform gap measurements, comply with 40 CFR 63.120(b)(7). Notify the NWCAA in writing 30 calendar days prior to filling or refilling the tank or 7 days if unforeseen. Keep records of each inspection, including the inspection date, vessel identification, observed condition of the control equipment (seals, internal floating roof, and fittings). If defects are found, submit an inspection report to the NWCAA as part of the periodic report identifying the vessel, the nature of the defects, and the date the storage vessel was emptied or the nature of and date the repair was made.
5.16.62	NWCAA 580.33 (12/13/89) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>NWCAA Seal Condition</u> All seals are to be maintained in good operating condition and the seal fabric shall contain no visible holes, tears, or other openings.	- <i>Directly enforceable</i> - Follow MR&R under AOP Term 5.16.61.

IFR Tanks 247, 248 & 1407 (40 CFR 63 Subpart CC Group 1, 40 CFR 60 Subpart Kb, NWCAA Section 560 & 580.3) – Tanks 247 & 248 (also OAC 1190) – Tank 1407 (also OAC 1171a)			
5.16.63	40 CFR 63 Subpart CC 63.640(n)(1) & (8) (2/4/20) & 40 CFR 60 Subpart Kb 60.110b-60.117b (1/19/21, 10/15/03, 10/8/97, 8/11/89, 4/8/87, 6/16/87) → 40 CFR 60 Subpart Kb 60.112b(a)(1)(i) (10/8/97) NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>Internal Floating Roof on Surface</u> The internal floating roof shall rest or float on the liquid surface at all times (i.e., off the roof leg supports), except during initial fill and during those intervals when the storage vessel is completely emptied or subsequently emptied and refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible.	- <i>Directly enforceable</i> - Keep records of periods when the floating roof is resting on the leg supports.

IFR Tanks 247, 248 & 1407 (40 CFR 63 Subpart CC Group 1, 40 CFR 60 Subpart Kb, NWCAA Section 560 & 580.3) – Tanks 247 & 248 (also OAC 1190) – Tank 1407 (also OAC 1171a)			
5.16.64	40 CFR 63 Subpart CC 63.640(n)(1) & (8) (2/4/20) & 40 CFR 60 Subpart Kb 60.110b-60.117b (1/19/21, 10/15/03, 10/8/97, 8/11/89, 4/8/87, 6/16/87) → 40 CFR 60 Subpart Kb 60.113b(a)(2) (8/11/89), and 60.115b(a)(3) (1/19/21) (as modified by 40 CFR 63.640(n)(8) (2/4/20)) NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb	<u>Internal Floating Roof Defect Repairs</u> Repair internal floating roof defects (e.g., roof not resting on surface of liquid, liquid accumulated on floating roof, seal is detached, holes and tears in seal fabric) no later than 45 calendar days after identification, or empty and remove the storage vessel from service no later than 45 calendar days after identification. If a failure is detected that cannot be repaired within 45 calendar days and if the vessel cannot be emptied within 45 calendar days, two extensions of up to 30 additional days each can be utilized.	A request to the NWCAA is not required to utilize two 30-day extensions. In the next periodic report, if an extension is utilized, submit the vessel identification, a failure description, documentation that alternate storage capacity is unavailable, an action schedule that will ensure that the control equipment will be repaired or the vessel will be emptied as soon as possible, describe the nature and date of the repair made or provide the date the storage vessel was emptied.
5.16.65	40 CFR 63 Subpart CC 63.640(n)(1) & (8) (2/4/20) & 40 CFR 60 Subpart Kb 60.110b-60.117b (1/19/21, 10/15/03, 10/8/97, 8/11/89, 4/8/87, 6/16/87) → 40 CFR 60 Subpart Kb 60.113b(a)(4) & (5) (8/11/89) NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb	<u>Internal Floating Roof Visual Inspection After Degassing</u> Visually inspect the internal floating roof, the primary seal, the secondary seal (if one is in service), gaskets, slotted membranes and sleeve seals (if any) each time the storage vessel is emptied and degassed. If inspection shows the internal floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, or the gaskets no longer close off the liquid surfaces from the atmosphere, or the slotted membrane has more than 10 percent open area, repair the items as necessary so that none of these conditions specified in this paragraph exist before filling or refilling the storage vessel with VOL.	Notify the NWCAA in writing at least 30 days prior to the filling or refilling of each storage vessel. If the inspection is unplanned and was not foreseen 30 days prior to refilling, notify the NWCAA at least 7 days prior to refilling. Notification may be made by telephone, followed by written documentation.

IFR Tanks 247, 248 & 1407 (40 CFR 63 Subpart CC Group 1, 40 CFR 60 Subpart Kb, NWCAA Section 560 & 580.3) – Tanks 247 & 248 (also OAC 1190) – Tank 1407 (also OAC 1171a)			
5.16.66	40 CFR 63 Subpart CC 63.640(n)(1) & (8) (2/4/20) & 40 CFR 60 Subpart Kb 60.110b-60.117b (1/19/21, 10/15/03, 10/8/97, 8/11/89, 4/8/87, 6/16/87) → 40 CFR 60 Subpart Kb 60.116b (10/15/03) NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb	<u>Storage Tank Records</u> Keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. Maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period.	Maintain records at the facility with dimensions and capacities. For storage vessels with design capacity greater than 151 m ³ storing a liquid with a maximum true vapor pressure that is normally less than 5.2 kPa or with a design capacity greater than or equal to 75 m ³ but less than 151 m ³ storing a liquid with a maximum true vapor pressure that is normally less than 27.6 kPa shall notify the NWCAA within 30 days when the maximum true vapor pressure of the liquid exceeds the respective true maximum true vapor pressure values for each volume range.
5.16.67	40 CFR 63 Subpart CC 63.640(n)(1) & (8) (2/4/20) & 40 CFR 60 Subpart Kb 60.110b-60.117b (1/19/21, 10/15/03, 10/8/97, 8/11/89, 4/8/87, 6/16/87) → 40 CFR 60 Subpart Kb 60.112b(a)(1)(iii) & (iv) (10/8/97) NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb	<u>Roof Openings</u> Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and rim space vents is to provide a projection below the liquid surface. Except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains, each opening in the roof is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use.	Follow MR&R under AOP Term 5.16.61.
5.16.68	NWCAA 580.34 (12/13/89) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>NWCAA Openings</u> All openings not related to safety are to be sealed with suitable closures.	- <i>Directly enforceable</i> - Follow MR&R under AOP Term 5.16.61.

IFR Tanks 247, 248 & 1407 (40 CFR 63 Subpart CC Group 1, 40 CFR 60 Subpart Kb, NWCAA Section 560 & 580.3) – Tanks 247 & 248 (also OAC 1190) – Tank 1407 (also OAC 1171a)			
5.16.69	40 CFR 63 Subpart CC 63.640(n)(1) & (8) (2/4/20) & 40 CFR 60 Subpart Kb 60.110b-60.117b (1/19/21, 10/15/03, 10/8/97, 8/11/89, 4/8/87, 6/16/87) → 40 CFR 60 Subpart Kb 60.112b(a)(1)(vii), (viii) & (ix) (10/8/97) NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb	<u>Roof Penetrations</u> Each penetration of the roof for the purpose of sampling shall be a sample well. The sample well shall have a slit fabric cover that covers at least 90 percent of the opening. Each penetration of the roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or gasketed sliding cover. Each penetration of the roof that allows for passage of a ladder shall have a gasketed sliding cover.	Follow MR&R under AOP Term 5.16.61.
5.16.70	40 CFR 63 Subpart CC 63.640(n)(1) & (8) (2/4/20) & 40 CFR 60 Subpart Kb 60.110b-60.117b (1/19/21, 10/15/03, 10/8/97, 8/11/89, 4/8/87, 6/16/87) → 40 CFR 60 Subpart Kb 60.112b(a)(1)(v) (10/8/97) NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb	<u>Automatic Bleeder Vents</u> Automatic bleeder vents shall be equipped with a gasket and are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports.	Follow MR&R under AOP Term 5.16.61.

IFR Tanks 247, 248 & 1407 (40 CFR 63 Subpart CC Group 1, 40 CFR 60 Subpart Kb, NWCAA Section 560 & 580.3) – Tanks 247 & 248 (also OAC 1190) – Tank 1407 (also OAC 1171a)			
5.16.71	40 CFR 63 Subpart CC 63.640(n)(1) & (8) (2/4/20) & 40 CFR 60 Subpart Kb 60.110b-60.117b (1/19/21, 10/15/03, 10/8/97, 8/11/89, 4/8/87, 6/16/87) → 40 CFR 60 Subpart Kb 60.112b(a)(1)(vi) (10/8/97) NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb	<u>Rim Space Vents</u> Rim space vents shall be equipped with a gasket and are to be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting.	Follow MR&R under AOP Term 5.16.61.
5.16.72	OAC 1190 Condition 6 (9/15/14)	<u>Tank 247 and 248 Configuration</u> Tanks 247 and 248 must be equipped with an internal floating roof with mechanical shoe primary seal and secondary seal.	Maintain records documenting the type of roof and seals when Tanks 247 and 248 are in feedstock material service.
5.16.73	OAC 1171a Condition (9) (4/14/23) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>Tank 1407 Product Storage Limitation</u> Tank 1407 shall be used exclusively to store gasoline or diesel products.	- <i>Directly enforceable</i> - Maintain records documenting the type of products stored in Tank 1407.

External Floating Roof Tank 216

BWON EFR – Tank 216 (40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC, NWCAA Section 560, 580.3, & 580.9)			
40 CFR 60 NSPS, 40 CFR 61 NESHAP, and 40 CFR 63 NESHAP General Provisions in Section 3 apply to the affected facilities			
5.16.74	NWCAA 560.11 (4/14/93) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>NWCAA Storage of Organic Liquid with a True Vapor Pressure greater than 1.5 psia and less than 11.1 psia</u> 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.	- <i>Directly enforceable</i> - Follow MR&R under AOP Terms 5.16.75 through 5.16.88. Maintain records demonstrating that the stored material has a maximum true vapor pressure (TVP) less than 11.1 pounds per square inch. Notify the NWCAA within 12 hours of discovering a maximum TVP in excess of 11.1 pounds per square inch. Maximum TVP shall be determined using the calendar month maximum average local temperature for ambient tanks or the maximum average monthly storage temperature for heated tanks.

BWON EFR – Tank 216 (40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC, NWCAA Section 560, 580.3, & 580.9)			
5.16.75	40 CFR 60 Subpart Kb 60.112b(a)(2)(i) (10/8/97), 60.113b(b) (8/11/89), and 60.115b(b) (1/19/21) 40 CFR 61 Subpart FF 61.351(a)(2) (9/10/90), 61.356(k) (11/12/02), & 61.357(f) (10/17/00) & NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb 60.112b(a)(2)(i) (10/8/97), 60.113b(b) (8/11/89), and 60.115b(b) (1/19/21) 40 CFR 63 Subpart CC 63.647 (12/1/15) & 63.655(a) (2/4/20) → 40 CFR 61 Subpart FF 61.340-61.355	<u>NWCAA External Floating Roof Seal Coverage</u> An external floating roof means a pontoon-type or double-deck type cover that rests on the liquid surface in a vessel with no fixed roof. Each external floating roof shall be equipped with a closure device between the wall of the vessel the roof edge. The closure device shall consist of two seals: a primary (either a metallic shoe seal or a liquid-mounted seal) and a secondary seal. Both the primary and secondary seals shall completely cover the annular space between the external floating roof and the storage vessel wall, except for when necessary repairs are being made or the vessel is empty, as provided in 60.113b(b)(4). For the primary seal, the accumulated area of gaps shall not exceed 212 cm² per meter of tank diameter, and the width of any portion of any gap shall not exceed 3.81 cm. One end of the mechanical shoe should extend into the stored liquid and the other end should be at least 61 cm above the liquid surface. For the secondary seal, the accumulated area of gaps shall not exceed 21.2 cm² per meter of tank diameter and the width of any portion of any gap shall not exceed 1.27 cm. There should be no holes, tears, or other openings in the primary mechanical shoe, the primary or secondary seal fabric, or the seal envelope.	Measure gaps between the vessel wall and the primary seal within 60 days of initial fill and at least every 5 years thereafter. Gap measurement between the vessel wall and the secondary seal shall be performed within 60 days of initial fill and at least once per year thereafter. Seal gaps shall be measured at one or more floating roof levels when the roof is floating off the roof leg supports. Measure around the entire tank circumference in each place where a 0.32-cm diameter uniform probe passes freely between the seal and the vessel wall. Measure the circumferential distance of each such location. The total surface area of each gap shall be determined by using probes of various widths to measure accurately the actual distance from the tank wall to the seal and multiplying each such width by its respective circumferential distance. Add the gap surface area of each gap location for each seal individually and divide the sum by the nominal diameter of the tank. Notify the NWCAA 30 days in advance of any gap measurements or 7 days prior if unforeseen. Keep records of each gap measurement including the date of measurement, the raw data, and the calculation of accumulated gap area. For the primary and secondary seal gap measurements, submit this data to the NWCAA within 60 days of taking the measurement. After each seal gap measurement that detects gaps exceeding the gap area allowance, submit an inspection report to the NWCAA within 30 days of the inspection identifying the vessel, the date of measurement, the raw data, the calculation of accumulated gap area, and date the vessel was emptied or repairs were made.

BWON EFR – Tank 216 (40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC, NWCAA Section 560, 580.3, & 580.9)			
5.16.76	NWCAA 580.33 (12/13/89) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>NWCAA Seal Condition</u> All seals are to be maintained in good operating condition and the seal fabric shall contain no visible holes, tears, or other openings.	- <i>Directly enforceable</i> - Semiannually, visually inspect the secondary seal. If the secondary seal has holes, tears, or other openings in the seal or fabric, repair the items as necessary. Maintain records of the types of petroleum liquids stored, the maximum true vapor pressure of the liquid as stored, and the results of any inspections performed for a period of two years after the date on which the record was made. 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.
5.16.77	NWCAA 580.93, 580.94 and 580.99 (12/13/89) WAC 173-401-630(1) (3/5/16)	<u>NWCAA Volatile Organic Compound in External Floating Roof Tanks</u> Store volatile organic compounds in vessels subject to this section that have been fitted with a rim-mounted secondary seal. All of these seals or closure devices shall meet the following requirements: • There must be no visible holes, tears, or other openings in the seal or seal fabric; • The seal shall be intact and uniformly in place around the circumference of the floating roof between the roof and the tank wall. For vapor-mounted primary seals, the accumulated area of gaps exceeding 0.32 cm (1.8 inch) in width between the secondary seal and the tank wall shall not exceed 21.2 cm ² per meter of tank diameter (1.0 in ² per foot of tank diameter)	Semiannually, visually inspect the secondary seal gap. Measure the secondary seal gap annually if the floating roof is equipped with a vapor-mounted primary seal. Notify the NWCAA not less than five working days prior to the measurement. Maintain records of the types of petroleum liquids stored, the maximum true vapor pressure of the liquid as stored, and the results of any inspections performed for a period of two years after the date on which the record was made. - <i>Directly enforceable</i> - 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. If the secondary seal has holes, tears, or other openings in the seal or fabric, repair the items as necessary.

BWON EFR – Tank 216 (40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC, NWCAA Section 560, 580.3, & 580.9)			
5.16.78	40 CFR 60 Subpart Kb 60.112b(a)(2)(iii) (10/8/97) 40 CFR 61 Subpart FF 61.351(a)(2) (9/10/90) & NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb 60.112b(a)(2)(iii) (10/8/97) 40 CFR 63 Subpart CC 63.647 (12/1/15) & 63.655(a) (2/4/20) → 40 CFR 61 Subpart FF 61.340-61.355 WAC 173-401- 615(1)(b) & (c) (10/17/02)	<u>External Floating Roof on Surface</u> The external floating roof shall be floating on the liquid surface at all times except when it must be supported by the leg supports during (i) the initial fill, (ii) after the vessel has been completely emptied and degassed, and (iii) when the vessel is completely emptied before being subsequently refilled. When the floating roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as soon as practical.	- <i>Directly enforceable</i> - Keep records of periods when the floating roof is resting on the leg supports.

BWON EFR – Tank 216 (40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC, NWCAA Section 560, 580.3, & 580.9)			
5.16.79	40 CFR 60 Subpart Kb 60.113b(b)(4) & (4)(iii) (8/11/89), and 60.115b(b)(4) (1/19/21) 40 CFR 61 Subpart FF 61.351(a)(2) (9/10/90) & NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb 60.113b(b)(4) & (4)(iii) (8/11/89), and 60.115b(b)(4) (1/19/21) 40 CFR 63 Subpart CC 63.647 (12/1/15) & 63.655(a) (2/4/20) → 40 CFR 61 Subpart FF 61.340-61.355	<u>External Floating Roof Gap Repairs</u> Repair conditions not meeting the gap allowances, or empty the storage vessel within 45 days of identification of failures found in any inspection. If a failure is detected that cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested in the inspection report.	Submit in the inspection report documentation of each seal gap measurement made in which the seal and seal gap requirements of this part are not met and repairs taken to correct the defect. Documentation of a decision to use an extension shall include a failure description, documentation that alternate storage capacity is unavailable, and an action schedule that will ensure that the control equipment will be repaired or the vessel will be emptied as soon as possible.

BWON EFR – Tank 216 (40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC, NWCAA Section 560, 580.3, & 580.9)			
5.16.80	40 CFR 60 Subpart Kb 60.113b(b)(6) (8/11/89) 40 CFR 61 Subpart FF 61.351(a)(2) (9/10/90) & NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb 60.113b(b)(6) (8/11/89) 40 CFR 63 Subpart CC 63.647 (12/1/15) & 63.655(a) (2/4/20) → 40 CFR 61 Subpart FF 61.340-61.355	<u>External Floating Roof Visual Inspection After Degassing</u> Visually inspect the external floating roof, the primary seal, secondary seal, and fittings each time the vessel is emptied and degassed. If inspection shows that the external floating roof has defects; the primary seal has holes, tears, or other openings in the seal or the seal fabric; or the secondary seal has holes, tears, or other openings in the seal or fabric; the owner or operator shall repair the items as necessary so that none of the conditions specified in this paragraph exist before filling or refilling the storage vessel with organic HAP.	Notify the NWCAA in writing at least 30 days prior to the filling or refilling of each storage vessel. If the inspection is unplanned and was not foreseen 30 days prior to refilling, notify the NWCAA at least 7 days prior to refilling. Notification may be made by telephone, followed by written documentation. Submit in the semiannual Periodic Report documentation of any failures discovered during the inspection. The report shall include the date of inspection, vessel identification, description of each failure and the nature and date of each repair.
5.16.81	40 CFR 60 Subpart Kb 60.116b (10/15/03) 40 CFR 61 Subpart FF 61.351(a)(2) (9/10/90) & NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb 60.116b (10/15/03) 40 CFR 63 Subpart CC 63.647 (12/1/15) & 63.655(a) (2/4/20) → 40 CFR 61 Subpart FF 61.340-61.355	<u>Storage Tank Records</u> Keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. Maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period.	Maintain records at the facility with dimensions and capacities. For storage vessels with design capacity greater than 151 m³ storing a liquid with a maximum true vapor pressure that is normally less than 5.2 kPa or with a design capacity greater than or equal to 75 m³ but less than 151 m³ storing a liquid with a maximum true vapor pressure that is normally less than 27.6 kPa shall notify the NWCAA within 30 days when the maximum true vapor pressure of the liquid exceeds the respective true maximum true vapor pressure values for each volume range.

BWON EFR – Tank 216 (40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC, NWCAA Section 560, 580.3, & 580.9)			
5.16.82	40 CFR 60 Subpart Kb 60.112b(a)(2)(ii) (10/8/97) 40 CFR 61 Subpart FF 61.351(a)(2) (9/10/90) & NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb 60.112b(a)(2)(ii) (10/8/97) 40 CFR 63 Subpart CC 63.647 (12/1/15) & 63.655(a) (2/4/20) → 40 CFR 61 Subpart FF 61.340-61.355	<u>Roof Openings</u> 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 leg supports or at the manufacturer's recommended setting. Automatic bleeder vents and rim space vents are to be gasketed. Each emergency roof drain is to be provided with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening.	- <i>Directly enforceable</i> - Visually inspect the vessel openings semiannually. If inspection shows that openings not related to safety are not sealed, close the opening. Document inspection results and any action taken to seal openings. Visually inspect the bleeder vents semiannually. If inspection shows that vents are not sealed and the roof is not being floated off or landed on the roof leg supports, seal them. Visually inspect the emergency roof drain's fabric covers annually. If inspection shows that the roof drain cover is damaged, fix or replace it.
5.16.83	NWCAA 580.95 (12/13/89) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>NWCAA Openings</u> All openings in the external floating roof, except for automatic bleeder vents, rim space vents, and leg sleeves shall be equipped with covers, seals, or lids in the closed position except when the openings are in actual use; and equipped with projections into the tank which remain below the liquid surface at all times.	- <i>Directly enforceable</i> - Visually inspect the vessel openings semiannually. If inspection shows that openings not related to safety are not sealed, close the opening. Document inspection results and any action taken to seal openings.
5.16.84	NWCAA 580.34 (12/13/89) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>NWCAA Openings</u> All openings not related to safety are to be sealed with suitable closures.	
5.16.85	NWCAA 580.96 (12/13/89) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>NWCAA Automatic Bleeder Vents</u> Keep closed at all times except when the roof is floated off or landed on the roof leg supports.	

BWON EFR – Tank 216 (40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC, NWCAA Section 560, 580.3, & 580.9)			
5.16.86	NWCAA 580.97 (12/13/89) WAC 173-401- 615(1)(b) & (c) (10/17/02)	<u>NWCAA Rim Vents</u> Shall be set to open when the roof is being floated off the leg supports or at the manufacturer's recommended setting.	- <i>Directly enforceable</i> - Visually inspection annually for damage and pressure setting. If inspection shows that the rim space vent is damaged or the pressure setting is wrong, fix or replace it.
5.16.87	NWCAA 580.98 (12/13/89) WAC 173-401- 615(1)(b) & (c) (10/17/02)	<u>NWCAA Emergency Roof Drains</u> Provide emergency roof drains with slotted membrane fabric covers or equivalent, which cover at least 90 percent of the area of the opening.	- <i>Directly enforceable</i> - Visually inspect the emergency roof drain's fabric covers annually. If inspection shows that the roof drain cover is damaged, fix or replace it.
5.16.88	40 CFR 61 Subpart FF 61.351 (9/10/90) 40 CFR 63 Subpart CC 63.647 (12/1/15) and 63.655(a) (2/4/20)	<u>BWON Tanks receiving wastes in accordance with 61.342(c)(1)(ii) Alternative Standards:</u> Tanks shall meet the external floating roof requirements in 40 CFR 60 Subpart Kb 60.112b(a)(2).	Comply with MR&R in AOP Terms 5.16.74 through 5.16.87.

Internal Floating Roof Tanks 39, 40, and 161

BWON IFR - Tanks 39, 40 and 161 (40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC, NWCAA Section 560 & 580.3)			
40 CFR 60 NSPS, 40 CFR 61 NESHAP and 40 CFR 63 NESHAP General Provisions in Section 3 apply to the affected facilities			
5.16.89	NWCAA 560.11 (4/14/93) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>NWCAA Storage of Organic Liquid with a True Vapor Pressure greater than 1.5 psia and less than 11.1 psia</u> 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.	- <i>Directly enforceable</i> - Follow MR&R under AOP Terms 5.16.90 through 5.16.101. Maintain records demonstrating that the stored material has a maximum true vapor pressure (TVP) less than 11.1 pounds per square inch. Notify the NWCAA within 12 hours of discovering a maximum TVP in excess of 11.1 pounds per square inch. Maximum TVP shall be determined using the calendar month maximum average local temperature for ambient tanks or the maximum average monthly storage temperature for heated tanks.

BWON IFR - Tanks 39, 40 and 161 (40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC, NWCAA Section 560 & 580.3)			
5.16.90	40 CFR 60 Subpart Kb 60.112b(a)(1)(ii) (10/8/97), 60.113b(a)(2), (3), and (5) (8/11/89), 60.115b(a)(2), (3), and (4) (1/19/21) 40 CFR 61 Subpart FF 61.351(a)(1) (9/10/90), 61.356(k) (11/12/02), & 61.357(f) (10/17/00) & NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb 60.112b(a)(1)(ii) (10/8/97), 60.113b(a)(2), (3), and (5) (8/11/89), 60.115b(a)(2), (3), and (4) (1/19/21) 40 CFR 63 Subpart CC 63.647 (12/1/15) & 63.655(a) (2/4/20) → 40 CFR 61 Subpart FF 61.340-61.355	<u>Internal Floating Roof Operation</u> Each internal floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof: a foam- or liquid-filled liquid-mounted seal, two seals mounted one above the other so that each forms a continuous closure between the wall of the storage vessel and the edge of the internal floating roof, or a mechanical shoe seal.	For single seal roof tanks: - Annually, conduct a visual inspection of the internal floating roof and seal system through manholes and roof hatches. - Visually inspect the internal floating roof, the seal(s), gaskets, slotted membranes, and sleeve seals (if any) at least once every 10 years. For double seal roof tanks, either: - Visually inspect the internal floating roof, the seal(s), gaskets, slotted membranes, and sleeve seals (if any) at least once every 5 years. - Annually, conduct a visual inspection of the internal floating roof and seal system through manholes and roof hatches and visually inspect the internal floating roof, the seal(s), gaskets, slotted membranes, and sleeve seals (if any). Notify the NWCAA in writing 30 calendar days prior to filling or refilling the tank or 7 days if unforeseen. Keep records of each inspection, including the inspection date, vessel identification, observed condition of the control equipment (seals, internal floating roof, and fittings). If defects are found, submit an inspection report to the NWCAA within 30 days of the inspection identifying the vessel, the nature of the defects, and the date the storage vessel was emptied or the nature of and date the repair was made.

BWON IFR - Tanks 39, 40 and 161 (40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC, NWCAA Section 560 & 580.3)			
5.16.91	NWCAA 580.33 (12/13/89) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>NWCAA Seal Condition</u> All seals are to be maintained in good operating condition and the seal fabric shall contain no visible holes, tears, or other openings.	- <i>Directly enforceable</i> - Follow MR&R under AOP Term 5.16.90.
5.16.92	40 CFR 60 Subpart Kb 60.112b(a)(1)(i) (10/8/97) 40 CFR 61 Subpart FF 61.351(a)(1) (9/10/90) & NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb 60.112b(a)(1)(i) (10/8/97) 40 CFR 63 Subpart CC 63.647 (12/1/15) & 63.655(a) (2/4/20) → 40 CFR 61 Subpart FF 61.340-61.355 WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>Internal Floating Roof on Surface</u> The internal floating roof shall rest or float on the liquid surface at all times (i.e., off the roof leg supports), except during initial fill and during those intervals when the storage vessel is completely emptied or subsequently emptied and refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible.	- <i>Directly enforceable</i> - Keep records of periods when the floating roof is resting on the leg supports.

BWON IFR - Tanks 39, 40 and 161 (40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC, NWCAA Section 560 & 580.3)			
5.16.93	40 CFR 60 Subpart Kb 60.113b(a)(2) (8/11/89), and 60.115b(a)(3) (1/19/21) 40 CFR 61 Subpart FF 61.351(a)(1) (9/10/90) & NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb 60.113b(a)(2) (8/11/89), and 60.115b(a)(3) (1/19/21) 40 CFR 63 Subpart CC 63.647 (12/1/15) & 63.655(a) (2/4/20) → 40 CFR 61 Subpart FF 61.340-61.355	<u>Internal Floating Roof Defect Repairs</u> Repair internal floating roof defects (e.g., roof not resting on surface of liquid, liquid accumulated on floating roof, seal is detached, holes and tears in seal fabric) no later than 45 calendar days after identification, or empty and remove the storage vessel from service no later than 45 calendar days after identification. If a failure is detected that cannot be repaired within 45 calendar days and if the vessel cannot be emptied within 45 calendar days, a 30-day extension may be requested in the inspection report.	Submit in the inspection report the request to utilize a 30-day extension. Such a request for an extension must document that alternate storage capacity is unavailable and specify a schedule of actions that will assure that the control equipment will be required or the vessel will be emptied as soon as possible.

BWON IFR - Tanks 39, 40 and 161 (40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC, NWCAA Section 560 & 580.3)			
5.16.94	40 CFR 60 Subpart Kb 60.113b(a)(4) & (5) (8/11/89) 40 CFR 61 Subpart FF 61.351(a)(1) (9/10/90) & NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb 60.113b(a)(4) & (5) (8/11/89) 40 CFR 63 Subpart CC 63.647 (12/1/15) & 63.655(a) (2/4/20) → 40 CFR 61 Subpart FF 61.340-61.355	<u>Internal Floating Roof Visual Inspection After Degassing</u> Visually inspect the internal floating roof, the primary seal, the secondary seal (if one is in service), gaskets, slotted membranes and sleeve seals (if any) each time the storage vessel is emptied and degassed. If inspection shows the internal floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, or the gaskets no longer close off the liquid surfaces from the atmosphere, or the slotted membrane has more than 10 percent open area, repair the items as necessary so that none of these conditions specified in this paragraph exist before filling or refilling the storage vessel with VOL.	Notify the NWCAA in writing at least 30 days prior to the filling or refilling of each storage vessel. If the inspection is unplanned and was not foreseen 30 days prior to refilling, notify the NWCAA at least 7 days prior to refilling. Notification may be made by telephone, followed by written documentation.
5.16.95	40 CFR 60 Subpart Kb 60.116b (10/15/03) 40 CFR 61 Subpart FF 61.351(a)(1) (9/10/90) & NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb 60.116b (10/15/03) 40 CFR 63 Subpart CC 63.647 (12/1/15) & 63.655(a) (2/4/20) → 40 CFR 61 Subpart FF 61.340-61.355	<u>Storage Tank Records</u> Keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. Maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period.	Maintain records at the facility with dimensions and capacities. For storage vessels with design capacity greater than 151 m³ storing a liquid with a maximum true vapor pressure that is normally less than 5.2 kPa or with a design capacity greater than or equal to 75 m³ but less than 151 m³ storing a liquid with a maximum true vapor pressure that is normally less than 27.6 kPa shall notify the NWCAA within 30 days when the maximum true vapor pressure of the liquid exceeds the respective true maximum true vapor pressure values for each volume range.

BWON IFR - Tanks 39, 40 and 161 (40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC, NWCAA Section 560 & 580.3)			
5.16.96	40 CFR 60 Subpart Kb 60.112b(a)(1)(iii) & (iv) (10/8/97) 40 CFR 61 Subpart FF 61.351(a)(1) (9/10/90) & NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb 60.112b(a)(1)(iii) & (iv) (10/8/97) 40 CFR 63 Subpart CC 63.647 (12/1/15) & 63.655(a) (2/4/20) → 40 CFR 61 Subpart FF 61.340-61.355	<u>Roof Openings</u> Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and rim space vents is to provide a projection below the liquid surface. Except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains, each opening in the roof is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use.	Follow MR&R under AOP Term 5.16.90.

BWON IFR - Tanks 39, 40 and 161 (40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC, NWCAA Section 560 & 580.3)			
5.16.97	40 CFR 60 Subpart Kb 60.112b(a)(1)(vii), (viii) & (ix) (10/8/97) 40 CFR 61 Subpart FF 61.351(a)(1) (9/10/90) & NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb 60.112b(a)(1)(vii), (viii) & (ix) (10/8/97) 40 CFR 63 Subpart CC 63.647 (12/1/15) & 63.655(a) (2/4/20) → 40 CFR 61 Subpart FF 61.340-61.355	<u>Roof Penetrations</u> Each penetration of the roof for the purpose of sampling shall be a sample well. The sample well shall have a slit fabric cover that covers at least 90 percent of the opening. Each penetration of the roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or gasketed sliding cover. Each penetration of the roof that allows for passage of a ladder shall have a gasketed sliding cover.	Follow MR&R under AOP Term 5.16.90.
5.16.98	NWCAA 580.34 (12/13/89) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>NWCAA Openings</u> All openings not related to safety are to be sealed with suitable closures.	- <i>Directly enforceable</i> - Follow MR&R under AOP Term 5.16.90.

BWON IFR - Tanks 39, 40 and 161 (40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC, NWCAA Section 560 & 580.3)			
5.16.99	40 CFR 60 Subpart Kb 60.112b(a)(1)(v) (10/8/97) 40 CFR 61 Subpart FF 61.351(a)(1) (9/10/90) & NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb 60.112b(a)(1)(v) (10/8/97) 40 CFR 63 Subpart CC 63.647 (12/1/15) & 63.655(a) (2/4/20) → 40 CFR 61 Subpart FF 61.340-61.355	<u>Automatic Bleeder Vents</u> Automatic bleeder vents shall be equipped with a gasket and are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports.	Follow MR&R under AOP Term 5.16.90.

BWON IFR - Tanks 39, 40 and 161 (40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC, NWCAA Section 560 & 580.3)			
5.16.100	40 CFR 60 Subpart Kb 60.112b(a)(1)(vi) (10/8/97) 40 CFR 61 Subpart FF 61.351(a)(1) (9/10/90) & NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb 60.112b(a)(1)(vi) (10/8/97) 40 CFR 63 Subpart CC 63.647 (12/1/15) & 63.655(a) (2/4/20) → 40 CFR 61 Subpart FF 61.340-61.355	<u>Rim Space Vents</u> Rim space vents shall be equipped with a gasket and are to be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting.	Follow MR&R under AOP Term 5.16.90.
5.16.101	40 CFR 61 Subpart FF 61.351 (9/10/90) 40 CFR 63 Subpart CC 63.647 (12/1/15) and 63.655(a) (2/4/20)	<u>BWON Tanks receiving wastes in accordance with 61.342(c)(1)(ii) Alternative Standards:</u> Tanks shall meet the internal floating roof requirements in 40 CFR 60 Subpart Kb 60.112b(a)(1).	Comply with MR&R in AOP Terms 5.16.89 through 5.16.100.

5.17 Oily Wastewater Collection and Treatment

Oily Wastewater Collection and Treatment			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
40 CFR 61 NESHAP and 40 CFR 63 NESHAP General Provisions in Section 3 apply to the affected facilities			
5.17.1 HAP	40 CFR 61 Subpart FF 61.342(c), 61.355(a), (b), (c), & (j), and 61.357(d) (10/17/00) 40 CFR 63 Subpart CC 63.647 (12/1/15) → 40 CFR 61 Subpart FF 61.340-61.355 40 CFR 63 Subpart CC 63.655(a) (2/4/20) → 40 CFR 61 Subpart FF 61.356-61.357	<u>BWON Program</u> For waste streams containing benzene, manage the waste stream in accordance with 61.343 through 347 and remove or destroy the benzene contained in the waste using a treatment process, or wastewater treatment system that complies with the standards of this subpart. A waste stream may be exempted from the control requirements provided all the following conditions are met: the stream is not exempted as process wastewater with a flow rate less than 0.02 l/min or waste quantity < 10 Mg; the total annual benzene quantity in all waste streams chosen for exemption under 61.342(c)(3)(ii) shall not exceed 2.0 Mg/yr as determined per 61.355(a); and all wastes are counted in the year the waste is generated.	Maintain records of measurements of benzene concentration, flow-weighted benzene concentrations, and annual flow rates for subject waste streams, including those chosen for exemption. A waste stream is exempt provided that the owner or operator demonstrates at least once per year that the flow-weighted annual average benzene concentration for the waste stream is less than 10 ppmw as determined by the procedures specified in 61.355(c)(2) or 61.355(c)(3). A waste stream is exempt provided that the owner or operator demonstrates at least once per year that all of the following conditions are met: (A) The owner or operator does not choose to exempt process wastewater under 61.342(c)(3)(i), (B) The total annual benzene quantity in all waste streams chosen for exemption in 61.342(c)(3)(ii) does not exceed 2.0 Mg/yr (2.2 ton/yr) as determined in the procedures in 61.355(j), and (C) The total annual benzene quantity in a waste stream chosen for exemption, including process unit turnaround waste, is determined for the year in which the waste is generated.

Oily Wastewater Collection and Treatment			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.17.2 HAP	40 CFR 61 Subpart FF 61.355, & 61.357(d) (10/17/00) 40 CFR 63 Subpart CC 63.647 (12/1/15) → 40 CFR 61 Subpart FF 61.340-61.355 40 CFR 63 Subpart CC 63.655(a) (2/4/20) → 40 CFR 61 Subpart FF 61.356-61.357	<u>Total Annual Benzene (TAB)</u> Update the annual benzene quantity for each waste stream at the facility that has a flow-weighted annual average water content greater than 10 percent or that is mixed with water, or other wastes, at any time and the mixture has an annual average water content greater than 10 percent. The benzene quantity in a waste stream is to be counted only once without multiple counting if other waste streams are mixed with or generated from the original waste stream. Update for each waste stream the annual waste quantity and the flow-weighted annual average benzene concentration at the point of waste generation.	Select the highest annual quantity of waste managed from historical records representing the most recent five years of operation. Using either knowledge of the waste, as per 61.355(c)(2), or measurements of benzene concentration, as per 61.355(c)(3), determine the flow-weighted annual average benzene concentration representing the waste stream characteristics based on current configuration and operating conditions: Submit annually to the NWCAA: (1) The total annual benzene quantity from facility waste determined in accordance with 61.355(a). (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, report 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 the 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 under 61.342(c)(3)(ii), and the total annual benzene quantity in those streams.
5.17.3 HAP	40 CFR 61 Subpart FF 61.356(b) (11/12/02) 40 CFR 63 Subpart CC 63.655(a) (2/4/20) → 40 CFR 61 Subpart FF 61.356-61.357	<u>Benzene Waste Stream ID</u> Maintain records identifying each subject waste stream and indicate whether the streams are controlled.	For each waste stream not controlled for benzene emissions in accordance with this subpart, the records shall include all test results, measurements, calculations, and other documentation used to determine the following information for the waste stream: waste stream identification, water content, whether or not the waste stream is a process wastewater stream, annual waste quantity, range of benzene concentrations, annual average flow-weighted benzene concentration, and annual benzene quantity. For each subject waste stream exempt as per 61.342(c)(3), the records shall include all 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.

Oily Wastewater Collection and Treatment			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.17.4 HAP	40 CFR 61 Subpart FF 61.355(b)(4) (10/17/00) 40 CFR 63 Subpart CC 63.647 (12/1/15) → 40 CFR 61 Subpart FF 61.340-61.355 40 CFR 63 Subpart CC 63.655(a) (2/4/20) → 40 CFR 61 Subpart FF 61.356-61.357	<u>Process Unit Turnaround Waste</u> For waste generated at two year or greater intervals and not exempted under 61.342(c)(3), determine the annual waste quantity 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. Include the resulting annual waste quantity in the annual benzene waste quantity calculation for the year in which the turnaround occurs and for each subsequent year until the unit undergoes the next process turnaround.	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).

Oily Wastewater Collection and Treatment			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.17.5 HAP	40 CFR 61 Subpart FF 61.346 (1/7/93), 61.350 (3/7/90), 61.355(h) (10/17/00), 61.356(d), (g), & (h) (11/12/02) and 61.357(d)(6) & (8) (10/17/00) 40 CFR 63 Subpart CC 63.647 (12/1/15) → 40 CFR 61 Subpart FF 61.340-61.355 40 CFR 63 Subpart CC 63.655(a) (2/4/20) → 40 CFR 61 Subpart FF 61.356-61.357 WAC 173-401-630(1) (3/5/16)	<u>Individual Drain Systems</u> Install, operate, and maintain on each drain system opening (including junction boxes, and sewer lines) covers and closed-vent system that routes all organic vapors from the drain system to a control device except during waste sampling or removal, equipment inspection, maintenance or repair. 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. Or each drain shall be equipped with water seal controls or a tightly sealed cap or plug. Junction box vent pipes shall be equipped to prevent the flow of organic vapors during normal operation. 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.	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 gaskets installed properly. 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. Maintain records of engineering design documentation for the life of the control equipment and for each visual inspection that identifies a problem (such as a broken seal, gap, or other problem) that could result in benzene emissions. <i>- Directly enforceable -</i> Inactive drains controlled by water seals shall be inspected weekly. Check each drain visually or physically <u>monthly</u> 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 emissions (including water seal is dry or otherwise breached) record the location, date, and corrective action. If low water levels or other conditions that would reduce the effectiveness of the seal are identified, water shall be added, and/or other efforts to repair shall be made as soon as practical, but not later than 24 hours after detection.

Oily Wastewater Collection and Treatment			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.17.6 HAP	40 CFR 61 Subpart FF 61.347 (1/7/93), 61.350 (3/7/90), 61.355(h) (10/17/00), 61.356(d), (g) & (h) (11/12/02) and 61.357(d)(6) & (8) (10/17/00) 40 CFR 63 Subpart CC 63.647 (12/1/15) → 40 CFR 61 Subpart FF 61.340-61.355 40 CFR 63 Subpart CC 63.655(a) (2/4/20) → 40 CFR 61 Subpart FF 61.356-61.357	<u>Oil-Water Separators - API Separator X-701, Sludge Thickener X-715, Primary Clarifiers X-702 and X-703, and Clarifier Sludge Reservoir X-708</u> Install, operate, and maintain a fixed-roof and closed-vent system that routes all organic vapors vented from the oil-water separator 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 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 the cover and openings in accordance with 40 CFR 60 Appendix A Method 21 with a leak definition of 500 ppm above background. 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 between the cover and oil-water separator and openings are closed and gasketed properly. 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. 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.

Oily Wastewater Collection and Treatment			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.17.7 HAP	40 CFR 61 Subpart FF 61.349(a)(1), 61.354(f), 61.355(h) (10/17/00), 61.356(a) & (h) (11/12/02) and 61.357(d)(6) (10/17/00) 40 CFR 63 Subpart CC 63.647 (12/1/15) → 40 CFR 61 Subpart FF 61.340-61.355 40 CFR 63 Subpart CC 63.655(a) (2/4/20) → 40 CFR 61 Subpart FF 61.356-61.357	<u>Closed Vent Systems- No Detectable Emissions</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 in accordance with 40 CFR 60 Appendix A Method 21. Maintain records for each test of no detectable emissions as per 61.356(h). Records shall be maintained in a readily accessible location on site for not less than two years. Monthly, visually inspect bypass line valve(s), checking the position of the valve and the condition of the car-seal to ensure that the valve is maintained in the closed position. Maintain a record of the inspections. Quarterly, submit a certification to the NWCAA that the required inspections have been carried out.

Oily Wastewater Collection and Treatment			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.17.8 HAP	40 CFR 61 Subpart FF 61.349(b), (f) & (g) (10/17/00), 61.350 (3/7/90), 61.356(a), (f)(1) (11/12/02) and 61.357(d)(6) and (d)(8) (10/17/00) 40 CFR 63 Subpart CC 63.647 (12/1/15) → 40 CFR 61 Subpart FF 61.340-61.355 40 CFR 63 Subpart CC 63.655(a) (2/4/20) → 40 CFR 61 Subpart FF 61.356-61.357	<u>Closed-Vent System Operation</u> Operate the closed-vent system and control device at all times except during maintenance or repair of the waste management unit when the repair 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 identification. 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 visible defects such as holes 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.

Oily Wastewater Collection and Treatment			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.17.9	40 CFR 61 Subpart FF 61.349 (a)(2)(ii), (c)(1) & (h); 61.354(d) (10/17/00); 61.356(a), (f)(2), & (j) (11/12/02); and 61.357(d)(7)(iv)(I) (10/17/00) 40 CFR 63 Subpart CC 63.647 (12/1/15) → 40 CFR 61 Subpart FF 61.340-61.355 40 CFR 63 Subpart CC 63.655(a) (2/4/20) → 40 CFR 61 Subpart FF 61.356-61.357	<u>Carbon Adsorption Control Devices</u> Design and operate control device to recover or control organic emissions vented to it with an efficiency of 95 wt % or greater, or recover or control the benzene emissions vented to it with an efficiency of 98 wt % 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 in accordance with 40 CFR 60 Appendix A Method 21 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 VOC or 10 ppmv benzene above background) is indicated. Maintain documentation that includes the following information on control device operation: (1) Dates of startup and shutdown of the closed-vent system and control device. (2) 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. (3) Periods when the closed-vent system and control device are not operated as designed including all periods and the duration when any valve car-seal or closure mechanism is broken, or the bypass line valve position has changed. Maintain records of dates and times of monitoring, when breakthrough is measured, and the date and time when the existing carbon is replaced. Report quarterly when the carbon is not replaced at the predetermined interval.

Oily Wastewater Collection and Treatment			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.17.10	40 CFR 61 Subpart FF 61.345 (12/4/03), 61.350 (3/7/90), 61.355(h) (10/17/00), 61.356(g) & (h) (11/12/02) and 61.357(d)(6) & (8) (10/17/00) 40 CFR 63 Subpart CC 63.647 (12/1/15) → 40 CFR 61 Subpart FF 61.340-61.355 40 CFR 63 Subpart CC 63.655(a) (2/4/20) → 40 CFR 61 Subpart FF 61.356-61.357	<u>Containers</u> 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 in accordance with 40 CFR 60 Appendix A Method 21. 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, visually inspect each cover and all openings to ensure that they are closed and gaskets properly installed. 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. Maintain records for each visual inspection that identifies a problem that could result in benzene emissions.

Oily Wastewater Collection and Treatment			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.17.11 HAP	40 CFR 61 Subpart FF 61.348(d) (10/17/00) and 61.356(a), (e) & (i) (11/12/02) 40 CFR 63 Subpart CC 63.647 (12/1/15) → 40 CFR 61 Subpart FF 61.340-61.355 40 CFR 63 Subpart CC 63.655(a) (2/4/20) → 40 CFR 61 Subpart FF 61.356-61.357	<u>Treatment Process or Waste Stream</u> 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 of 40 CFR Parts 401-464 and the treatment process is designed and operated with a closed-vent system and control device meeting the requirements of AOP Terms 5.17.7, 5.17.8, and 5.17.9.	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 419. 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.

Oily Wastewater Collection and Treatment			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
Diversion Sump			
40 CFR 61 NESHAP General Provisions in Section 3 apply to the affected facilities			
5.17.12	40 CFR 61 Subpart FF 40 CFR 61.344(a) (1/7/93), 61.349 (10/17/00), 61.350 (3/7/90), 61.355(h) (10/17/00), and 61.356(a), (d), (f), (g), (h), & (j) (11/12/02) and 61.357(d)(6) & (8) (10/17/00) 40 CFR 63 Subpart CC 63.647 (12/1/15) → 40 CFR 61 Subpart FF 61.340-61.355 40 CFR 63 Subpart CC 63.655(a) (2/4/20) → 40 CFR 61 Subpart FF 61.356-61.357	Install, operate, and maintain on the Diversion Sump a cover and closed-vent system that routes all organic vapors vented from the surface impoundment to a control device. The cover and all openings (e.g., access hatches, sampling ports, and gauge wells) shall be designed to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background. Each opening shall be maintained in a closed, sealed position (e.g., covered by a lid that is gasketed and latched) at all times that waste is in the surface impoundment except when it is necessary to use the opening for waste sampling or removal, or for equipment inspection, maintenance, or repair. The cover shall be used at all times that waste is placed in the surface impoundment except during removal of treatment residuals in accordance with 40 CFR 268.4 or closure of the surface impoundment in accordance with 40 CFR 264.228. The closed-vent system and control device shall be designed and operated in accordance with AOP Terms 5.17.7, 5.17.8, and 5.17.9. Except as provided as delay of repair under 61.350, when a broken seal or gasket or other problem is identified, or when detectable emissions are measured, first efforts at repair shall be made as soon as practicable, but not later than 15 calendar days after identification.	Annually, monitor in accordance with 40 CFR 60 Appendix A Method 21. Maintain records for each test of no detectable emissions as per 61.356(h). Records shall be maintained in a readily accessible location on site for not less than two years. Quarterly, visually inspect each cover seal, access hatch, and all other openings to ensure that no cracks or gaps occur and that access hatches and other openings are closed and gasketed properly. Maintain records for each visual inspection that identifies a problem which could result in benzene emissions per 61.356(g). Quarterly, submit a certification to the NWCAA 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.

5.18 Paint Spray Booth

Paint Spray Booth			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.18.1	NWCAA 508.4(A)(1)(b) (9/13/18)	<u>Spray Booth Enclosure</u> When spray coating in the booth, the booth must be equipped with a full roof, at least three complete walls/curtains, and ventilated at negative pressure so that air is drawn into the booth. The booth may have openings to allow for conveyors and parts to pass through during coating operations.	- none -
5.18.2	NWCAA 508.4(A)(2)(b) and 508.4 (A)(8)(c)-(e) (9/13/18)	<u>Booth Filtration Control</u> The spray booth shall have properly-seated filters and the filters must have a capture efficiency of at least 98% as demonstrate consistent with ASHRAE Method 52.1, Method 52.2, or an alternate test method approved by the NWCAA in writing. A gauge shall be installed, operated, and maintained that displays the pressure drop across the filters. The acceptable pressure drop range shall be clearly marked on the gauge or posted next to the gauge. The enclosed spray area shall be operated such that the pressure drop across the filters are within the acceptable range and the filters are properly seated with no holes or tears.	Maintain records of published filter efficiency data provided by filter vendors or other information demonstrating filter efficiency. Maintain records of weekly filters observations including: date, time, confirmation that filters are properly seated and in good condition, any corrective actions taken, and initials of person making the record. Maintain records of weekly observations of filter pressure drop readings while operating the booth including: date, time, pressure drop value, corrective action taken if the pressure drop is outside of the normal range (e.g., filter change), and initials of person making the record. Filter and pressure drop observations are not required each week that the spray booth does not operate, when the record states that the booth was not operated that week.

Paint Spray Booth			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.18.3	NWCAA 508.4(A)(3) (9/13/18)	<u>Spray Coating Methods</u> All sprayed coatings must be applied with; HVLP spray gun, airless or air-assisted airless spray equipment, electrostatic application, or a method that has a transfer efficiency of 65% or higher using ASTM Standard D 5327-92 or a test method approved in writing by the NWCAA. If the required spray application methods cannot be used for certain situations, it is exempt.	Maintain appropriate records of each spray coating situation that is exempt from the required coating application methods (e.g., manufacturing specifications).
5.18.4	NWCAA 508.4(A)(4) (9/13/18)	<u>Vertical Exhaust Stack</u> The spray booth stack shall exhaust vertically without obstruction. If the exhaust vent exits horizontally from the side of the building, it must exhaust vertically above the roof eave.	- none -
5.18.5 VE	NWCAA 508.4(A)(5) (9/13/18) WAC 173-401-615(1)(b) & (c) (10/17/02)	<u>Visible Emissions</u> Visible emissions from the spray booth exhaust stack shall not exceed 0% opacity for more than an aggregate of 3 minutes in any consecutive 60-minute period as determined by Ecology Method 9A.	- Directly enforceable - Comply with AOP Term 6.1
5.18.6	NWCAA 508.4(A)(6) (9/13/18)	<u>Spray Gun Cleaning</u> Spray guns shall be cleaned in an enclosed cleaning device or disassembled and cleaned in a container. Each gun cleaning device and container shall be kept closed when not in use. Guns and spray equipment must not atomize solvent into the air during cleanup.	- none -

Paint Spray Booth			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
5.18.7	NWCAA 508.4(A)(7) (9/13/18)	<u>Storage and Disposal</u> VOC-containing materials shall be kept in closed containers except when materials are actively being added or removed. Rags and paper towels contaminated with VOC-containing materials shall be collected immediately after use and kept in closed containers. Empty containers as defined in WAC 173-303-160 are exempt from this requirement.	- none -
5.18.8	NWCAA 508.4(A)(8)(a), (b) & (f) (9/13/18)	<u>Record of Material Used/Disposed</u> Record the volume of each spray coating and solvent used at the booth and their solids, VOC and HAP/TAP content. Keep a record of the volumes of wastes generated at the booth, including coatings and solvents, that are disposed.	Maintain the following records; • Quantity of each spray coating and solvent used at the booth during each calendar year. • Environmental data sheet (EDS) or equivalent for each spray coating and solvent used at the booth. • Disposal records of waste materials, including volumes of waste solvents and coatings transferred to authorized waste haulers.

SECTION 6 COMMON REQUIREMENTS

This section contains requirements that are common among emission units at the Tesoro Refinery and apply to those emissions units cross-referenced by AOP terms in Sections 4 and 5 of the permit.

The requirements specified in the "Citation" column, and incorporated herein by reference, are federally enforceable unless identified as "State Only". "State only" requirements are only enforceable by the state or NWCAA, and not by EPA or through citizen suits. 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 labeled "- Directly enforceable -" are legally enforceable requirements added under the NWCAA's "gap-filling" authority [WAC 173-401-615(1)(b) & (c), 10/17/02]. Other requirements not labeled "- Directly enforceable -" 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.

6.1 Visible Emission Monitoring

Directly enforceable under WAC 173-401-615(1)(b) & (c) (10/17/02)

Visually observe emission units monthly to qualitatively assess whether emissions are visible. The frequency may be reduced to quarterly if no visible emissions are observed for six consecutive months. The permittee shall revert to monthly observations if any visible emissions are noted during the observation.

If visible emissions are observed, emissions shall be reduced to zero as soon as practicable. If emissions cannot be reduced to zero, the permittee may monitor by Ecology Method 9A no later than 24 hours after detection and daily thereafter until opacity is shown to be less than the applicable opacity standard or the permittee will conduct a Method 5 assessment within 30 days. Otherwise, visible emissions shall be considered in excess of the opacity standard. Note, condensed water vapor (steam) is not considered a visible emission.

Record observation results and any related equipment or operational failure, the occurrence dates and times, and any actions taken. Record that an observation was performed, with date, time, background conditions, and identification of the observer. Keep records of all observations available for inspection.

Emission units with specifically applicable permit terms for opacity and/or particulate matter in AOP Section 5 that have associated explicit MR&R should be monitored as per AOP Section 5 requirements only.

Compliance with the MR&R of this permit term does not relieve the refinery from the responsibility to maintain continuous compliance with all applicable opacity standards nor from the resulting liabilities for failure to comply.

6.2 **40 CFR 60 Subpart VV LDAR for Equipment Leaks**

The refinery is regulated under several fugitive emission MR&R requirements that together, comprise their LDAR program. The regulations imposing LDAR requirements include 40 CFR 60 Subpart GGG (NSPS), 40 CFR Subpart GGGa (NSPS), 40 CFR 63 Subpart CC (NESHAP), NWCAA Section 580, and numerous orders issued by the NWCAA. All of these implementing regulations require an LDAR program based on either 40 CFR 60 Subpart VV or 40 CFR 60 Subpart VVa.

The LDAR program required under 40 CFR 60 Subpart VV is provided herein.

LDAR under 40 CFR 60 Subpart VV			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
6.2.1	As referenced: 40 CFR 60 Subpart VV 60.482-2(a), (b), (c), (e), (f), & (g) (11/16/07); 60.485(a) & (b) (11/16/07); 60.486(a), (b), (c), (e), & (f) (11/16/07); and 60.487(a) & (c) (11/16/07) Also as modified by specifically applicable Permit Terms in Section 5 WAC 173-401-630(1) (3/5/16)	<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 10,000 ppm or greater is measured, a leak is detected, except for units with a leak definition of 2,000 ppm. 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 6.2.11. 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. 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 6.2.21. - <i>Directly enforceable</i> - 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 under 40 CFR 60 Subpart VV			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
6.2.2	As referenced: 40 CFR 60 Subpart VV 60.482-2(d), (e), (f) & (g) (11/16/07); 60.485(a) & (b) (11/16/07); 60.486(a), (b), (c), (e), (f) & (h) (11/16/07); and 60.487(a) & (c) (11/16/07) Also as modified by specifically applicable Permit Terms in Section 5 WAC 173-401-630(1) (3/5/16)	<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 10,000 ppm or greater is measured, a leak is detected, except for units with a leak definition of 2,000 ppm. 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 6.2.11. 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). 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 6.2.21. - <i>Directly enforceable</i> - 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 under 40 CFR 60 Subpart VV			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
6.2.3	As referenced: 40 CFR 60 Subpart VV 60.482-2(e) (11/16/07), 60.485(b) & (c) (11/16/07), 60.486(a), (c) & (e) (11/16/07) and 60.487(a), (b), (c) & (e) (11/16/07)	<u>Pump Designated for No Detectable Emissions</u> Any pump that is designated for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraphs (a), (c), and (d) of this section if the pump: (1) Has no externally actuated shaft penetrating the pump housing, (2) Is demonstrated to be operating with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background, and (3) Is tested for compliance initially upon designation, annually, and at other times requested by the NWCAA.	Monitor each pump initially, annually, and at other times as requested to detect leaks by the methods specified in 60.485(b). For all equipment subject to this permit term, record in a log in a readily accessible location the identification numbers for equipment designated for no detectable emissions under the provision of 60.482-2(e). The designation of equipment as subject to the requirements of 60.482-2(e) shall be signed by the owner or operator. Alternatively, the owner or operator may establish a mechanism with the NWCAA that satisfies this requirement. Also record in the log the dates of each compliance test, the background level measured during each compliance test, and the maximum instrument reading measured at the equipment during each compliance test. Submit semiannual reports that include the information specified in 60.487.

LDAR under 40 CFR 60 Subpart VV			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
6.2.4	As referenced: 40 CFR 60 Subpart VV 60.482-2(c) & (g) (11/16/07), 60.485(b) (11/16/07), 60.486(a), (b), (c), (e) & (f) (11/16/07) and 60.487(a),(b),(c) & (e) (11/16/07)	<u>Pumps Designated as Unsafe-to-Monitor</u> Any pump that is designated as an unsafe-to-monitor pump is exempt from the monitoring and inspection requirements of paragraphs (a) and (d)(4) through (6) of this section if: (1) The owner or operator of the pump demonstrates that the pump is unsafe-to-monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (a); and, (2) has a written plan that requires monitoring of the pump as frequently as practicable during safe-to-monitor times but not more frequently than the periodic monitoring schedule otherwise applicable, and repair of the equipment according to the procedures in paragraph (c) of this section if 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 in 60.482-9. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected. First attempts at repair include, but are not limited to, the practices described in paragraphs 60.482-2(c)(2)(i) and (ii). Note that "repair" includes re-monitoring, by definition. Leaking components shall be marked with a weatherproof tag identifying the component and leak date.	Monitor each pump to detect leaks by the methods specified in 60.485(b). When a leak is detected, record the information required in 60.486(a), (c), and (e). For all equipment subject to this permit term, record in a log in a readily accessible location a list of identification numbers for the pumps that are designated as unsafe-to-monitor, an explanation for each pump stating why the pump is unsafe-to-monitor, and the plan for monitoring each pump. Submit semiannual reports that include the information specified in 60.487.

LDAR under 40 CFR 60 Subpart VV			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
6.2.5	As referenced: 40 CFR 60 Subpart VV 60.482-3 (11/16/07); 60.486(a), (b), (c), (e) and (h) (11/16/07); and 60.487(a) & (c) (11/16/07)	<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 6.2.11. 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. 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 6.2.21 Error! Reference source not found..

LDAR under 40 CFR 60 Subpart VV			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
6.2.6	As referenced: 40 CFR 60 Subpart VV 60.482-3(i) (11/16/07), 60.485(b) & (c) (11/16/07), 60.486(a), (c) & (e) (11/16/07) and 60.487(a), (b), (c) & (e) (11/16/07)	<u>Compressors Designated for No Detectable Emissions</u> Any compressor that is designated for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraphs (a) through (h) of this section if the compressor: (1) Is demonstrated to be operating with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background, and (2) Is tested for compliance initially upon designation, annually, and at other times requested by the NWCAA.	Monitor each compressor initially, annually, and at other times as requested to detect leaks by the methods specified in 60.485(b). For all equipment subject to this permit term, record in a log in a readily accessible location the identification numbers for equipment designated for no detectable emissions under the provision of 60.482-3(i). The designation of equipment as subject to the requirements of 60.482-3(i) shall be signed by the owner or operator. Alternatively, the owner or operator may establish a mechanism with the NWCAA that satisfies this requirement. Also record in the log the dates of each compliance test, the background level measured during each compliance test, and the maximum instrument reading measured at the equipment during each compliance test. Submit semiannual reports that include the information specified in 60.487.

LDAR under 40 CFR 60 Subpart VV			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
6.2.7	As referenced: 40 CFR 60 Subpart VV 60.482-4 (12/14/00); 60.485(a), (b) & (c) (11/16/07); and 60.486(a) & (e) (11/16/07)	<u>Pressure Relief Devices</u> Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background. 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 in under delay of repair in AOP Term 6.2.11. No later than 5 calendar days after the pressure release, the pressure relief device shall be monitored to confirm the conditions of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background. Any pressure relief device routed to the fuel gas system or equipped with a closed vent system a control device is exempt from this requirement. 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, except as provided under delay of repair in AOP Term 6.2.11.	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 under 40 CFR 60 Subpart VV			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
6.2.8	As referenced: 40 CFR 60 Subpart VV 60.482-5 (11/16/07) and 60.486(a) & (e) (11/16/07)	<u>Sampling Connection Systems</u> 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 under 40 CFR 60 Subpart VV			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
6.2.9	As referenced: 40 CFR 60 Subpart VV 60.482-6 (11/16/07), and 60.486(a) & (e) (11/16/07)	<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).

LDAR under 40 CFR 60 Subpart VV			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
6.2.10	As referenced: 40 CFR 60 Subpart VV 60.482-8 (11/16/07), 60.485(a) & (b) (11/16/07); and 60.486(a), (b), (c) & (e) (11/16/07) Also as modified by specifically applicable Permit Terms in Section 5 WAC 173-401-630(1) (3/5/16)	<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, except for units with a leak definition of 2,000 ppm. 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 6.2.11. 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. Record in a log in a readily accessible location the information required in 60.486(e). - <i>Directly enforceable</i> - 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 under 40 CFR 60 Subpart VV			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
6.2.11	As referenced: 40 CFR 60 Subpart VV 60.482-9 (11/16/07); 60.486(a) & (c) (11/16/07); and 60.487(a) & (c) (11/16/07)	<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. 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 6.2.21.

LDAR under 40 CFR 60 Subpart VV			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
6.2.12	As referenced: 40 CFR 60 Subpart VV 60.482-7(a)-(e) (11/16/07), 60.485(b) (11/16/07), 60.486(b), (c) & (e) (11/16/07) and 60.487(b), (c) & (e) (11/16/07)	<u>Valves in Gas/Light Liquid Service</u> Monitor each valve monthly to detect leaks. A valve that begins operation in gas/vapor service or light liquid service after the initial startup date for the process unit must be monitored monthly, with the valve monitored for the first time within 30 days after the end of its startup period, Any valve for which a leak is not detected for 2 successive months may be monitored the first month of every quarter, beginning with the next quarter, until a leak is detected. If a leak is detected, the valve shall be monitored monthly until a leak is not detected for 2 successive months. 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 no later than 15 calendar days after the leak is detected, except as provided in 60.482-9. Note that "repair" includes re-monitoring, by definition. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected. First attempts at repair include, but are not limited to tightening of bonnet bolts, replacement of bonnet bolts, tightening of packing gland nuts, and injection of lubricant into lubricated packing. Leaking components shall be marked with a weatherproof tag identifying the component and leak date.	Monthly, instrument monitor valves in accordance with 60.485(b). For each monitoring event, record the information in 60.486(a). When a leak is detected, record the information required in 60.486(c). For all equipment subject to this permit term, record in a log in a readily accessible location a list of identification numbers and the monitoring instrument calibration information listed in 60.486(e). Submit semiannual reports that include the information specified in 60.487.

6.2.13	As referenced: 40 CFR 60 Subpart VV 60.482-7 (11/16/07); 60.483-2 (11/16/07); 60.485(a), (b) & (h) (11/16/07); 60.486(a), (b), (c), (e), (f) & (g) (11/16/07); and 60.487(a), (c) & (d) (11/16/07) Also as modified by specifically applicable Permit Terms in Section 5 WAC 173-401-630(1) (3/5/16)	<u>Valves in Gas/Vapor Service and in Light Liquid Service – Skip Period Monitoring Program for Valves</u> Monitor each valve monthly to detect leaks, except as provided for valves designated for no detectable emissions, as unsafe-to-monitor, or as difficult-to-monitor. Any valve for which a leak is not detected for 2 successive months may be monitored quarterly. If a leak is detected, the valve shall be monitored monthly until a leak is not detected for 2 successive months. The facility may elect to follow a less frequent monitoring schedule as follows, except for units subject to a modified skip monitoring program: Any valve for which a leak is not detected for 2 successive months may be monitored the first month of every quarter, beginning with the next quarter, until a leak is detected. After 2 consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0%, one quarterly leak detection period may be skipped. After 5 consecutive quarterly leak detection periods with a leak rate equal to or less than 2.0%, the source may skip 3 of the quarterly leak detection periods (i.e., monitor annually). If the percent of valves leaking is greater than 2.0, the source shall revert to the monthly monitoring but can again elect to use these skip period provisions. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected, except for units with a leak definition of 500 ppm. 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 6.2.11. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected. First attempts at repair include, but are not limited to, (1) tightening of bonnet bolts, (2) replacement of bonnet bolts, (3) tightening of packing gland nuts; and (4) injection of lubricant into lubricated packing. The percent of valves leaking shall be calculated using the following equation: $\%V_L = (V_L/V_T) * 100$ Where: $\%V_L$ = Percent leaking valves V_L = Number of valves found leaking (including valves for which repair has been delayed)	Submit a 90-day advance notification to use skip period provisions. 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. Keep a record of the percent of valves found leaking during each leak detection period. Keep a record of the monitoring schedule. 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 6.2.21. - <i>Directly enforceable</i> - 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. The total number of valves monitored shall include difficult-to-monitor and unsafe-to-monitor valves only during the monitoring period in which those valves are monitored. Any new valve that is not monitored within 30 days of being placed in service shall be included in the number of valves leaking and the total number of valves monitored for the monitoring period in which the valve is placed in service. If the process unit has been subdivided, the sum of valves found leaking during a monitoring period includes all subgroups.
--------	--	---	--

LDAR under 40 CFR 60 Subpart VV			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
		V_T = The sum of the total number of valves monitored (not including valves monitored to verify repair) New gas/vapor service or light liquid service valves that begin operation in after the initial startup date for the process unit must be monitored: • for the first time within 30 days after the end of its startup period to ensure proper installation or • If the skip monitoring program is utilized, count the new valve as leaking when calculating the percentage of valves leaking. If less than 2.0 percent of the valves are leaking for that process unit, the valve must be monitored for the first time during the next scheduled monitoring event for existing valves in the process unit or within 90 days, whichever comes first. This requirement applies except for a valve that replaces a leaking valve and except as provided for valves designated as no detectable emissions, unsafe-to-monitor, or difficult-to-monitor.	

LDAR under 40 CFR 60 Subpart VV			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
6.2.14	As referenced: 40 CFR 60 Subpart VV 60.482-7(f) (11/16/07), 60.485(b) & (c) (11/16/07), 60.486(a), (b), (c), & (e) (11/16/07) and 60.487(c) & (e) (11/16/07)	<u>Valves Designated for No Detectable Emissions</u> Any valve that is designated for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of 60.482-7(a) if the valve: (1) Has no external actuating mechanism in contact with the process fluid, (2) Is operated with emissions less than 500 ppm above background, and (3) Is tested for compliance initially upon designation, annually, and at other times requested by the NWCAA. Leaking components shall be marked with a weatherproof tag identifying the component and leak date.	Monitor valves by the methods specified in 60.485(b). Method 21 of appendix A-7 shall be used to determine the background level. All potential leak interfaces shall be traversed as close to the interface as possible. The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance. For each monitoring event, record the information in 60.486(a). When a leak is detected, record the information required in 60.486(c). For all equipment subject to this permit term, record in a log in a readily accessible location a list of identification numbers designated for no detectable emissions under 60.482-7(f). The designation of equipment as subject to the requirements of 60.482-7(f) shall be signed by the owner or operator. Alternatively, the owner or operator may establish a mechanism with their permitting authority that satisfies this requirement. Also record in the log the dates of each compliance test, the background level measured during each compliance test, and the maximum instrument reading measured at the equipment during each compliance test. Submit semiannual reports that include the information specified in 60.487. Follow 40 CFR 60 Appendix A Method 21

LDAR under 40 CFR 60 Subpart VV			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
6.2.15	As referenced: 40 CFR 60 Subpart VV 60.482-7(g) (11/16/07), 60.485(b) (11/16/07), 60.486(a), (b), (c), (e) & (f) (11/16/07) and 60.487(b), (c) & (e) (11/16/07)	<u>Valves Designated as Unsafe-to-Monitor</u> Any valve that is designated as an unsafe-to-monitor valve is exempt from the requirements of 60.482-7(a) if: (1) The owner or operator of the valve demonstrates that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (a), and (2) the owner or operator of the valve adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times. Leaking components shall be marked with a weatherproof tag identifying the component and leak date.	Monitor valves by the methods specified in 60.485(b). For each monitoring event, record the information in 60.486(a). When a leak is detected, record the information required in 60.486(c). For all equipment subject to this permit term, record in a log in a readily accessible location a list of identification numbers and the monitoring instrument calibration information listed in 60.486(e)(1) through (6). Record in a log in a readily accessible location a list of identification numbers for designated valves, an explanation for each valve stating why the valve is unsafe-to-monitor, and the plan for monitoring each valve. Submit semiannual reports that include the information specified in 60.487.

LDAR under 40 CFR 60 Subpart VV			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
6.2.16	As referenced: 40 CFR 60 Subpart VV 60.482-7(h) (11/16/07), 60.485(b) (11/16/07), 60.486(a), (b), (c) & (e) (11/16/07) and 60.487(c) & (e) (11/16/07)	<u>Valves Designated as Difficult-to-Monitor</u> Any valve that is designated as a difficult-to-monitor valve is exempt from the requirements of 60.482-7(a) if: (1) The owner or operator of the valve demonstrates that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface and (2) the process unit within which the valve is located either becomes an affected facility through modification or reconstruction and was construction on or before January 5, 1981; or the owner or operator designates less than 3.0 percent of the total number of valves as difficult-to-monitor and (3) the owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year. When a leak is detected, a weatherproof and readily visible identification, marked with the equipment identification number, shall be attached. The identification on a valve may be removed after it has been monitored for 2 successive months and no leak has been detected during those 2 months.	Monitor valves by the methods specified in 60.485(b). For each monitoring event, record the information in 60.486(a). When a leak is detected, record the information required in 60.486(c). For all equipment subject to this permit term, record in a log in a readily accessible location a list of identification numbers and the monitoring instrument calibration information listed in 60.486(e). Record in a log in a readily accessible location a list of identification numbers for designated valves, an explanation for each valve stating why the valve is difficult-to-monitor, and the plan for monitoring each valve. Submit semiannual reports that include the information specified in 60.487.

LDAR under 40 CFR 60 Subpart VV			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
6.2.17	As referenced: 40 CFR 60 Subpart VV 60.482-10(a), (d), (e), & (m) (12/14/00); 60.485(a) & (g) (11/16/07); and 60.486(a), (d) & (e) (11/16/07) → 40 CFR 60 Subpart A 60.18	<u>Standards for Control Devices</u> Flares used as a control device shall comply with the requirements of 60.18.	Monitor control devices used to comply to ensure that they are operated and maintained in conformance with their designs. Comply with AOP Terms 5.7.13, 5.7.15, 5.7.17, 5.7.19, 5.7.23, and 5.7.29. 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 under 40 CFR 60 Subpart VV			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
6.2.18	As referenced: 40 CFR 60 Subpart VV 60.482-10(a), (f) - (m) (12/14/00); 60.485(a) & (b) (11/16/07); and 60.486(a), (d) & (e) (11/16/07)	<u>Inspections of Closed Vent Systems</u> 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 under 40 CFR 60 Subpart VV			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
6.2.19	As referenced: 40 CFR 60 Subpart VV 60.486(a), (b) & (c) (11/16/07)	<u>Maintain Records for Equipment Found Leaking</u> 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.
6.2.20	As referenced: 40 CFR 60 Subpart VV 60.486(e) (11/16/07)	<u>General Records for Subject Equipment</u> Keep a log of the listed information in a readily accessible location.	The following information pertaining to all equipment subject to the requirements in 60.482-1 to 60.482-10 shall be recorded: (1) A list of identification numbers (2)(i) A list of identification numbers for equipment that are designated for no detectable emissions under the provisions of 60.482-2(e), 60.482-3(i) and 60.482-7(f). (ii) The designation of equipment as subject to the requirements of 60.482-2(e), 60.482-3(i), or 60.482-7(f) shall be signed by the owner or operator. (3) A list of equipment identification numbers for pressure relief devices required to comply with 60.482-4. (4)(i) The dates of each compliance test as required in 60.482-2(e), 60.482-3(i), 60.482-4, and 60.482-7(f). (ii) The background level measured during each compliance test. (iii) The maximum instrument reading measured at the equipment during each compliance test. (5) A list of identification numbers for equipment in vacuum service. (6) A list of identification numbers for equipment that the owner or operator designates as operating in VOC service less than 300 hr/yr in accordance with 60.482-1(e), a description of the conditions under which the equipment is in VOC service, and rationale supporting the designation that it is in VOC service less than 300 hr/yr.

LDAR under 40 CFR 60 Subpart VV			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
6.2.21	As referenced: 40 CFR 60 Subpart VV 60.487(a) & (c) (11/16/07)	<u>Semiannual Report</u> Submit semiannual reports to the NWCAA beginning 6 months after the initial startup date.	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.

LDAR under 40 CFR 60 Subpart VV			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
6.2.22	As referenced: 40 CFR 60 Subpart VV 60.485(d) (11/16/07) and 60.486(a) & (j) (11/16/07)	<u>Process Units Not in VOC Service</u> Each piece of equipment shall be tested unless it is demonstrated that a process unit is not in VOC service (i.e., that the VOC content would never be reasonably expected to exceed 10 % by weight). To demonstrate that a process unit is not in VOC service, either follow (1) procedures that conform to the general methods in ASTM E260, E168, E169 (incorporated by reference in 40 CFR 60.17), (2) demonstrate that the organic compounds are considered by the EPA to have negligible photochemical reactivity, or (3) use engineering judgment to estimate the VOC content if a piece of equipment has not been shown previously to be in service.	Information and data used to demonstrate that a piece of equipment is not in VOC service shall be recorded in a log that is kept in a readily accessible location.

6.3 40 CFR 60 Subpart VVa LDAR for Equipment Leaks

The refinery is regulated under several fugitive emission MR&R requirements that together, comprise their LDAR program. The regulations imposing LDAR requirements include 40 CFR 60 Subpart GGG (NSPS), 40 CFR Subpart GGGa (NSPS), 40 CFR 63 Subpart CC (NESHAP), NWCAA Section 580, and numerous orders issued by the NWCAA. All of these implementing regulations require an LDAR program based on either 40 CFR 60 Subpart VV or 40 CFR 60 Subpart VVa.

The LDAR program required under 40 CFR 60 Subpart VVa is provided herein.

LDAR under 40 CFR 60 Subpart VVa			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
6.3.1	As referenced: 40 CFR 60 Subpart VVa 60.482-2a(a), (b), (c), (e), (f), & (g) (11/16/07); 60.485a(a) & (b) (11/16/07); 60.486a(a), (b), (c), (e) & (f) (11/16/07); and 60.487a(a) & (c) (11/16/07)	<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 6.3.11. 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. 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 6.3.21.

LDAR under 40 CFR 60 Subpart VVa			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
6.3.2	As referenced: 40 CFR 60 Subpart VVa 60.482-2a(d), (e), (f) & (g) (11/16/07); 60.485a(a) & (b) (11/16/07); 60.486a(a), (b), (c), (e), (f), & (h) (11/16/07); and 60.487a(a) & (c) (11/16/07)	<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 6.3.11. 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. 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 6.3.21.

LDAR under 40 CFR 60 Subpart VVa			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
6.3.3	As referenced: 40 CFR 60 Subpart VVa 60.482-2a(e) (11/16/07), 60.485a(b) & (c) (11/16/07), 60.486a(a), (c) & (e) (11/16/07) and 60.487a(a), (b), (c) & (e) (11/16/07)	<u>Pump Designated for No Detectable Emissions</u> Any pump that is designated for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraphs (a), (c), and (d) of this section if the pump: (1) Has no externally actuated shaft penetrating the pump housing, (2) Is demonstrated to be operating with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background, and (3) Is tested for compliance initially upon designation, annually, and at other times requested by the NWCAA.	Monitor each pump initially, annually, and at other times as requested to detect leaks by the methods specified in 60.485a(b). For all equipment subject to this permit term, record in a log in a readily accessible location the identification numbers for equipment designated for no detectable emissions under the provision of 60.482-2a(e). The designation of equipment as subject to the requirements of 60.482-2a(e) shall be signed by the owner or operator. Alternatively, the owner or operator may establish a mechanism with the NWCAA that satisfies this requirement. Also record in the log the dates of each compliance test, the background level measured during each compliance test, and the maximum instrument reading measured at the equipment during each compliance test. Also record the information for monitoring instrument calibrations required by 60.486a(e)(8). Submit semiannual reports that include the information specified in 60.487a.

LDAR under 40 CFR 60 Subpart VVa			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
6.3.4	As referenced: 40 CFR 60 Subpart VVa 60.482-2a(c) & (g) (11/16/07), 60.485a(b) (11/16/07), 60.486a(a), (b), (c), (e) & (f) (11/16/07) and 60.487a(a), (b), (c) & (e) (11/16/07)	<u>Pumps Designated as Unsafe-to-Monitor</u> Any pump that is designated as an unsafe-to-monitor pump is exempt from the monitoring and inspection requirements of paragraphs (a) and (d)(4) through (6) of this section if: (1) The owner or operator of the pump demonstrates that the pump is unsafe-to-monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (a); and, (2) has a written plan that requires monitoring of the pump as frequently as practicable during safe-to-monitor times but not more frequently than the periodic monitoring schedule otherwise applicable, and repair of the equipment according to the procedures in paragraph (c) of this section if 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 in 60.482-9a. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected. First attempts at repair include, but are not limited to, the practices described in paragraphs 60.482-2a(c)(2)(i) and (ii). Note that "repair" includes re-monitoring, by definition. Leaking components shall be marked with a weatherproof tag identifying the component and leak date.	Monitor each pump to detect leaks by the methods specified in 60.485a (b). When a leak is detected, record the information required in 60.486a(a), (c), and (e). For all equipment subject to this permit term, record in a log in a readily accessible location a list of identification numbers for the pumps that are designated as unsafe-to-monitor, an explanation for each pump stating why the pump is unsafe-to-monitor, and the plan for monitoring each pump. Submit semiannual reports that include the information specified in 60.487a.

LDAR under 40 CFR 60 Subpart VVa			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
6.3.5	As referenced: 40 CFR 60 Subpart VVa 60.482-3a (11/16/07); 60.486a(a), (b), (c), (e) and (h) (11/16/07); and 60.487a(a) & (c) (11/16/07)	<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 6.3.11. 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. 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 6.3.21.

LDAR under 40 CFR 60 Subpart VVa			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
6.3.6	As referenced: 40 CFR 60 Subpart VVa 60.482-3a(i) (11/16/07), 60.485a(b) & (c) (11/16/07), 60.486a(a), (c) & (e) (11/16/07) and 60.487a(a), (b), (c) & (e) (11/16/07)	<u>Compressors Designated for No Detectable Emissions</u> Any compressor that is designated for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraphs (a) through (h) of this section if the compressor: (1) Is demonstrated to be operating with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background, and (2) Is tested for compliance initially upon designation, annually, and at other times requested by the NWCAA.	Monitor each compressor initially, annually, and at other times as requested to detect leaks by the methods specified in 60.485a(b). For all equipment subject to this permit term, record in a log in a readily accessible location the identification numbers for equipment designated for no detectable emissions under the provision of 60.482-3a(i). The designation of equipment as subject to the requirements of 60.482-3a(i) shall be signed by the owner or operator. Alternatively, the owner or operator may establish a mechanism with the NWCAA that satisfies this requirement. Also record in the log the dates of each compliance test, the background level measured during each compliance test, and the maximum instrument reading measured at the equipment during each compliance test. Also record the information for monitoring instrument calibrations required by 60.486a(e)(8). Submit semiannual reports that include the information specified in 60.487a.

LDAR under 40 CFR 60 Subpart VVa			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
6.3.7	As referenced: 40 CFR 60 Subpart VVa 60.482-4a (11/16/07); 60.485a(a), (b) & (c) (11/16/07); and 60.486a(a) & (e) (11/16/07)	<u>Pressure Relief Devices</u> Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background. 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 in under delay of repair in AOP Term 6.3.11. No later than 5 calendar days after the pressure release, the pressure relief device shall be monitored to confirm the conditions of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background. Any pressure relief device routed to the fuel gas system or equipped with a closed vent system a control device is exempt from this requirement. 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, except as provided under delay of repair in AOP Term 6.3.11.	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 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. Record in a log in a readily accessible location the information required in 60.486a(e).

LDAR under 40 CFR 60 Subpart VVa			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
6.3.8	As referenced: 40 CFR 60 Subpart VVa 60.482-5a (11/16/07) and 60.486a(a) & (e) (11/16/07)	<u>Sampling Connection Systems</u> 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 under 40 CFR 60 Subpart VVa			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
6.3.9	As referenced: 40 CFR 60 Subpart VVa 60.482-6a (11/16/07), and 60.486a(a) & (e) (11/16/07)	<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 are exempt.	Record in a log in a readily accessible location the information required in 60.486a(e).

LDAR under 40 CFR 60 Subpart VVa			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
6.3.10	As referenced: 40 CFR 60 Subpart VVa 60.482-8a (11/16/07), 60.485a(a) & (b) (11/16/07); and 60.486a(a), (b), (c) & (e) (11/16/07)	<u>Pumps and Valves in Heavy Liquid Service, Pressure Relief Devices in Light Liquid or Heavy Liquid Service</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 6.3.11. 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. Record in a log in a readily accessible location the information required in 60.486a(e).

LDAR under 40 CFR 60 Subpart VVa			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
6.3.11	As referenced: 40 CFR 60 Subpart VVa 60.482-9a (11/16/07); 40.486a(a) & (c)(5) – (c)(9) (11/16/07); and 60.487a(a) & (c) (11/16/07)	<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 6.3.21.

LDAR under 40 CFR 60 Subpart VVa			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
6.3.12	As referenced: 40 CFR 60 Subpart VVa 60.482-7a(a)-(e) (11/16/07), 60.485a(b) (11/16/07), 60.486a(b),(c) & (e) (11/16/07) and 60.487a(b), (c) & (e) (11/16/07)	<u>Valves in Gas/Light Liquid Service</u> Monitor each valve monthly to detect leaks. A valve that begins operation in gas/vapor service or light liquid service after the initial startup date for the process unit must be monitored monthly, with the valve monitored for the first time within 30 days after the end of its startup period, Any valve for which a leak is not detected for 2 successive months may be monitored the first month of every quarter, beginning with the next quarter, until a leak is detected. If a leak is detected, the valve shall be monitored monthly until a leak is not detected for 2 successive months. If an instrument reading of 500 ppm or greater is measured, a leak is detected. When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in 60.482-9a. Note that "repair" includes re-monitoring, by definition. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected. First attempts at repair include, but are not limited to tightening of bonnet bolts, replacement of bonnet bolts, tightening of packing gland nuts, and injection of lubricant into lubricated packing. Leaking components shall be marked with a weatherproof tag identifying the component and leak date.	Monthly, instrument monitor valves in accordance with 60.485a(b). For each monitoring event, record the information in 60.486a(a). When a leak is detected, record the information required in 60.486a(c). For all equipment subject to this permit term, record in a log in a readily accessible location a list of identification numbers and the monitoring instrument calibration information listed in 60.486a(e)(8). Submit semiannual reports that include the information specified in 60.487a.

6.3.13	As referenced: 40 CFR 60 Subpart VVa 60.482-7a (11/16/07); 60.483-2a (11/16/07); 60.485a(a), (b) & (h) (11/16/07); 60.486a(a), (b), (c), (e), (f) & (g) (11/16/07); and 60.487a(a), (c) & (d) (11/16/07)	<u>Valves in Gas/Vapor Service and in Light Liquid Service – Skip Period Monitoring Program for Valves</u> Monitor each valve monthly to detect leaks, except as provided for valves designated for no detectable emissions, as unsafe-to-monitor, or as difficult-to-monitor. Any valve for which a leak is not detected for 2 successive months may be monitored quarterly. If a leak is detected, the valve shall be monitored monthly until a leak is not detected for 2 successive months. Any valve for which a leak is not detected for 2 successive months may be monitored the first month of every quarter, beginning with the next quarter, until a leak is detected. The facility may elect to follow a less frequent monitoring schedule as follows: After 2 consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0%, one quarterly leak detection period may be skipped. After 5 consecutive quarterly leak detection periods with a leak rate equal to or less than 2.0%, the source may skip 3 of the quarterly leak detection periods (i.e., monitor annually). If the percent of valves leaking is greater than 2.0, the source shall revert to the monthly monitoring but can again elect to use these skip period provisions. If an instrument reading of 500 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 6.3.11. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected. First attempts at repair include, but are not limited to, (1) tightening of bonnet bolts, (2) replacement of bonnet bolts, (3) tightening of	Submit a 90-day advance notification to use skip period provisions. 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. Keep a record of the percent of valves found leaking during each leak detection period. Keep a record of the monitoring schedule. For each monitoring event, record the monitoring instrument identification, operator identification, equipment identification, date of monitoring, and instrument reading. 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 6.3.21. The total number of valves monitored shall include difficult-to-monitor and unsafe-to-monitor valves only during the monitoring period in which those valves are monitored. Any new valve that is not monitored within 30 days of being placed in service shall be included in the number of valves leaking and the total number of valves monitored for the monitoring period in which the valve is placed in service. If the process unit has been subdivided, the sum of valves found leaking during a monitoring period includes all subgroups.
--------	---	---	--

LDAR under 40 CFR 60 Subpart VVa			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
		packing gland nuts; and (4) injection of lubricant into lubricated packing. The percent of valves leaking shall be calculated using the following equation: $\%V_L = (V_L/V_T) * 100$ Where: $\%V_L$ = Percent leaking valves V_L = Number of valves found leaking (including valves for which repair has been delayed) V_T = The sum of the total number of valves monitored (not including valves monitored to verify repair) New gas/vapor service or light liquid service valves that begin operation in after the initial startup date for the process unit must be monitored for the first time within 30 days after the end of its startup period to ensure proper installation. Or, if the skip monitoring program is utilized, count the new valve as leaking when calculating the percentage of valves leaking. If less than 2.0 percent of the valves are leaking for that process unit, the valve must be monitored for the first time during the next scheduled monitoring event for existing valves in the process unit or within 90 days, whichever comes first. This requirement applies except for a valve that replaces a leaking valve and except as provided for valves designated as no detectable emissions, unsafe-to-monitor, or difficult-to-monitor.	

LDAR under 40 CFR 60 Subpart VVa			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
6.3.14	As referenced: 40 CFR 60 Subpart VVa 60.482-7a(f) (11/16/07), 60.485a(b) & (c) (11/16/07), 60.486a(a), (b), (c), & (e) (11/16/07) and 60.487a(c) & (e) (11/16/07)	<u>Valves Designated for No Detectable Emissions</u> Any valve that is designated for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of 60.482-7a(a) if the valve: (1) Has no external actuating mechanism in contact with the process fluid, (2) Is operated with emissions less than 500 ppm above background, and (3) Is tested for compliance initially upon designation, annually, and at other times requested by the NWCAA. Leaking components shall be marked with a weatherproof tag identifying the component and leak date.	Monitor valves by the methods specified in 60.485a(b). Method 21 of appendix A-7 shall be used to determine the background level. All potential leak interfaces shall be traversed as close to the interface as possible. The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance. For each monitoring event, record the information in 60.486a(a). When a leak is detected, record the information required in 60.486a(c). For all equipment subject to this permit term, record in a log in a readily accessible location a list of identification numbers designated for no detectable emissions under 60.482-7a(f). The designation of equipment as subject to the requirements of 60.482-7a(f) shall be signed by the owner or operator. Alternatively, the owner or operator may establish a mechanism with their permitting authority that satisfies this requirement. Also record in the log the dates of each compliance test, the background level measured during each compliance test, and the maximum instrument reading measured at the equipment during each compliance test. Record the monitoring instrument calibration information listed in 60.486a(e)(8). Submit semiannual reports that include the information specified in 60.487a. Follow 40 CFR 60 Appendix A Method 21

LDAR under 40 CFR 60 Subpart VVa			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
6.3.15	As referenced: 40 CFR 60 Subpart VVa 60.482-7a(g) (11/16/07), 60.485a(b) (11/16/07), 60.486a(a), (b), (c), (e) & (f) (11/16/07) and 60.487a(b), (c) & (e) (11/16/07)	<u>Valves Designated as Unsafe-to-Monitor</u> Any valve that is designated as an unsafe-to-monitor valve is exempt from the requirements of 60.482-7a(a) if: (1) The owner or operator of the valve demonstrates that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (a), and (2) the owner or operator of the valve adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times. Leaking components shall be marked with a weatherproof tag identifying the component and leak date.	Monitor valves by the methods specified in 60.485a(b). For each monitoring event, record the information in 60.486a(a). When a leak is detected, record the information required in 60.486a(c). For all equipment subject to this permit term, record in a log in a readily accessible location a list of identification numbers and the monitoring instrument calibration information listed in 60.486a(e)(8). Record in a log in a readily accessible location a list of identification numbers for designated valves, an explanation for each valve stating why the valve is unsafe-to-monitor, and the plan for monitoring each valve. Submit semiannual reports that include the information specified in 60.487a.

LDAR under 40 CFR 60 Subpart VVa			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
6.3.16	As referenced: 40 CFR 60 Subpart VVa 60.482-7a(h), 60.485a(b), 60.486a(a), (b), (c) & (e) and 60.487a(c) & (e) (11/16/07)	<u>Valves Designated as Difficult-to-Monitor</u> Any valve that is designated as a difficult-to-monitor valve is exempt from the requirements of 60.482-7a(a) if: (1) The owner or operator of the valve demonstrates that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface and (2) the process unit within which the valve is located either becomes an affected facility through modification or reconstruction and was construction on or before January 5, 1981; or the owner or operator designates less than 3.0 percent of the total number of valves as difficult-to-monitor and (3) the owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year. When a leak is detected, a weatherproof and readily visible identification, marked with the equipment identification number, shall be attached. The identification on a valve may be removed after it has been monitored for 2 successive months and no leak has been detected during those 2 months.	Monitor valves by the methods specified in 60.485a(b). For each monitoring event, record the information in 60.486a(a). When a leak is detected, record the information required in 60.486a(c). For all equipment subject to this permit term, record in a log in a readily accessible location a list of identification numbers and the monitoring instrument calibration information listed in 60.486a(e)(8). Record in a log in a readily accessible location a list of identification numbers for designated valves, an explanation for each valve stating why the valve is difficult-to-monitor, and the plan for monitoring each valve. Submit semiannual reports that include the information specified in 60.487a.

LDAR under 40 CFR 60 Subpart VVa			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
6.3.17	As referenced: 40 CFR 60 Subpart VVa 60.482-10a(a), (d), (e), & (m) (11/16/07); 60.485a(a) & (g) (11/16/07); and 60.486a(a), (d) & (e) (11/16/07) → 40 CFR 60 Subpart A 60.18	<u>Standards for Control Devices</u> Flares used as a control device shall comply with the requirements of 60.18.	Monitor control devices used to comply to ensure that they are operated and maintained in conformance with their designs. Comply with AOP Terms 5.7.13, 5.7.15, 5.7.17, 5.7.19, 5.7.23, and 5.7.29. 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 60.486a(e).

LDAR under 40 CFR 60 Subpart VVa			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
6.3.18	As referenced: 40 CFR 60 Subpart VVa 60.482-10a(a), (f) - (m) (11/16/07); 60.485a(a) & (b) (11/16/07); and 60.486a(a), (d) & (e) (11/16/07)	<u>Inspections of Closed Vent Systems</u> 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 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. 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 under 40 CFR 60 Subpart VVa			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
6.3.19	As referenced: 40 CFR 60 Subpart VVa 60.486a(b) & (c) (11/16/07)	<u>Maintain Records for Equipment Found Leaking</u> 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.

LDAR under 40 CFR 60 Subpart VVa			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
6.3.20	As referenced: 40 CFR 60 Subpart VVa 60.486a(e) (11/16/07)	<u>General Records for Subject Equipment</u> Keep a log of the listed information in a readily accessible location.	The following information pertaining to all equipment subject to the requirements in 60.482-1a to 60.482-11a shall be recorded: (1) A list of identification numbers (2)(i) A list of identification numbers for equipment that are designated for no detectable emissions under the provisions of 60.482-2a(e), 60.482-3a(i) and 60.482-7a(f). (ii) The designation of equipment as subject to the requirements of 60.482-2a(e), 60.482-3a(i), or 60.482-7a(f) shall be signed by the owner or operator. (3) A list of equipment identification numbers for pressure relief devices required to comply with 60.482-4a. (4)(i) The dates of each compliance test as required in 60.482-2a(e), 60.482-3a(i), 60.482-4a, and 60.482-7a(f). (ii) The background level measured during each compliance test. (iii) The maximum instrument reading measured at the equipment during each compliance test. (5) A list of identification numbers for equipment in vacuum service. (6) A list of identification numbers for equipment that the owner or operator designates as operating in VOC service less than 300 hr/yr in accordance with 60.482-1a(e), a description of the conditions under which the equipment is in VOC service, and rationale supporting the designation that it is in VOC service less than 300 hr/yr. (7) The date and results of the weekly visual inspection for indications of liquids dripping from pumps in light liquid service. (8) Records of the information specified in paragraphs (e)(8)(i) through (vi) of this section for monitoring instrument calibrations conducted according to Method 21 of appendix A-7 of this part and 60.485a(b).

LDAR under 40 CFR 60 Subpart VVa			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
6.3.21	As referenced: 40 CFR 60 Subpart VVa 60.487a(a) & (c) (11/16/07)	<u>Semiannual Report</u> Submit semiannual reports to the NWCAA beginning 6 months after the initial startup date.	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), (vii) Number of connectors for which leaks were detected as described in 60.482-11a(b), (viii) Number of connectors for which leaks were not repaired as required in 60.482-11a(d), and (ix) 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.

LDAR under 40 CFR 60 Subpart VVa			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
6.3.22	As referenced: 40 CFR 60 Subpart VVa 60.485a(d) (11/16/07) and 60.486a(a) & (j) (11/16/07)	<u>Process Units Not in VOC Service</u> Each piece of equipment shall be tested unless it is demonstrated that a process unit is not in VOC service (i.e., that the VOC content would never be reasonably expected to exceed 10 % by weight). To demonstrate that a process unit is not in VOC service, either follow (1) procedures that conform to the general methods in ASTM E260, E168, or E169 (incorporated by reference in 40 CFR 60.17), (2) demonstrate that the organic compounds are considered by the EPA to have negligible photochemical reactivity, or (3) use engineering judgment to estimate the VOC content if a piece of equipment has not been shown previously to be in service.	Information and data used to demonstrate that a piece of equipment is not in VOC service shall be recorded in a log that is kept in a readily accessible location.

6.4 Pressure Relief Devices (PRD) under 40 CFR 63 Subpart CC

Pressure Relief Devices (PRD) are regulated under as fugitive components under leak detection and repair (LDAR) requirements. The regulations imposing LDAR requirements on PRDs include 40 CFR 60 Subpart GGG (NSPS), 40 CFR Subpart GGGa (NSPS), 40 CFR 63 Subpart CC (NESHAP), NWCAA Section 580, and numerous orders issued by the NWCAA. 40 CFR 63 Subpart CC includes specific requirements explicitly applicable to PRDs in organic HAP service.

Pressure Relief Devices (PRD) under 40 CFR 63 Subpart CC			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
6.4.1 HAP	40 CFR 63 Subpart CC 63.648(j)(1) & (2), (4)(ii), (4)(iii), and 63.655(g)(10)(i) - (iii) (2/4/20)	<u>PRDs in Organic HAP service - Operating & Pressure Release Requirements</u> Except during a pressure release, operate each subject pressure relieve device (PRD) with an instrument reading of less than 500 ppm above background as detected by Method 21 of 40 CFR 60 Appendix A-7. Following a pressure release: • If the PRD does not consist of or include a rupture disk, conduct instrument monitoring no later than 5 calendar days after the PRD returns to organic HAP service. • If the PRD includes a rupture disk, either conduct instrument monitoring or install a replacement disk as soon as practicable after the pressure release, but no later than 5 calendar days. • If the PRD consists only of a rupture disk, install a replacement disk as soon as practicable after a pressure release, but no later than 5 calendar days after the pressure release. Startup of the equipment served by the rupture disk may not be initiated until the rupture disk is replaced. Conduct instrument monitoring no later than 5 calendar days after the pressure relief device returns to organic HAP service following a pressure release to verify that the PRD is operating with an instrument reading of less than 500 ppm.	Comply with MR&R under AOP Term 6.4.3. Submit in MACT semiannual report: • a list of PRDs in organic HAP gas or vapor service with an instrument reading of 500 ppm or greater and confirmation that all monitoring required to be performed during reporting period to show compliance was conducted. • for pilot-operated PRDs, report each pressure release to the atmosphere through the pilot vent that equals or exceeds 72 pounds of VOC per day, including duration of the pressure release through the pilot vent and estimate of the mass quantity of each organic HAP released.

Pressure Relief Devices (PRD) under 40 CFR 63 Subpart CC			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
6.4.2 HAP	40 CFR 63 Subpart CC 63.648(j)(3)(i) & (ii) and 63.655(g)(10)(iv), (i)(11) (2/4/20)	<u>PRDs in Organic HAP service - Pressure Release Management</u> Equip each PRD with a device, or use a monitoring system, capable of: - identifying a pressure release - recording the time and duration of each release - notifying operators immediately that a pressure release is occurring, including but not limited to: a rupture disk indicator, magnetic sensor, motion detector on the pressure relief valve stem, flow monitor or pressure monitor. Apply at least 3 redundant prevention measures to each atmospheric PRD, examples include: - flow, temperature, liquid level & pressure indicators with deadman switches, monitors, or automatic actuators. Independent, non-duplicative systems within this category count as separate redundant prevention measures - documented routine inspection & maintenance programs &/or operator training (maintenance programs & operator training count as only one redundant prevention measure) - inherently safer designs or safety instrumentation systems - deluge systems - staged relief system where initial pressure relief device (with lower set pressure) discharges to flare or other closed vent system & control device	Keep records identifying which device or monitoring system is used for each PRD to identify a pressure release, record the time and duration of each release, and notify operators immediately that a pressure release is occurring. Keep records of which 3 redundant prevention measures are used for each PRD.

Pressure Relief Devices (PRD) under 40 CFR 63 Subpart CC			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
6.4.3 HAP	40 CFR 63 Subpart CC 63.648(j)(3)(iii)-(v), (6) & (7); 63.655(g)(10)(iii) & (iv); and 63.655(i)(11) (2/4/20)	<u>Organic HAP – RCA and CAA</u> Conduct a root cause analysis (RCA) and corrective action analysis (CAA) any time a pressure relief device releases to atmosphere as a result of a pressure release event. Complete the RCA and CAA as soon as possible but no later than 45 days after the release event. Special circumstances affect the number of RCA and/or CAA that may be conducted, as follows: - a single RCA & CAA for a single emergency event that causes 2 or more PRD installed on the same equipment to release - a single RCA & CAA for a single emergency event that causes 2 or more PRD to release, regardless of the equipment served, if the root cause is reasonably expect to be a force majeure event Implement corrective actions within 45 days of the event, or as soon thereafter as practicable. For corrective action that cannot be fully implemented within 45 days, develop an implementation schedule to complete the corrective action as soon as practicable. The following release events are a violation of the pressure release management work practice standards: - A release for which the root cause was determined to be operator error or poor maintenance. - A second release event not including force majeure events from a single PRD in a 3 calendar year period for the same root cause for the same equipment. - A third release event not including force majeure events from a single PRD in a 3 calendar year period for any reason.	Calculate quantity of organic HAP released during each pressure release event based on pressure relief device monitoring alone or in combination with process knowledge. Determine the total number of release events for each affected PRD separately during each calendar year. Determine the total number of release events for each affected PRD for which the RCA concluded the root cause was a force majeure event. Keep records of each pressure release to atmosphere from each PRD, including time, date and duration of release. No later than 45 days following the event requiring an RCA & CAA, record the corrective action(s) completed date, and for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates. If it is concluded that no corrective action should be implemented, record and explain the basis for the conclusion. Submit in MACT semiannual report: - confirmation that all monitoring required to be performed during reporting period to show compliance was conducted; - for each pressure release to atmosphere from each PRD, include duration of the pressure release & estimate of mass quantity of each organic HAP released; and - results of any RCA & CAA completed during reporting period, including 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.

6.5 Individual Drain Systems under 40 CFR 60 Subpart QQQ

In accordance with the 40 CFR 63 Subpart CC overlap provision in 63.640(o), individual drain systems subject to 40 CFR 60 Subpart QQQ and regulated under 40 CFR 63 Subpart CC as a Group 1 wastewater streams are only required to comply with 40 CFR 63 Subpart CC (which references 40 CFR 61 Subpart FF requirements). The individual drain system that must comply with 40 CFR 61 Subpart FF requirements directly or as referred to by 40 CFR 63 Subpart CC are included as part of the Oily Wastewater Collection and Treatment process unit in AOP Section 5.13.

40 CFR 60 Subpart QQQ - Individual Drain Systems Except for individual drain systems regulated under 40 CFR 63 Subpart CC (63.640(o))			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
6.5.1 VOC	40 CFR 60 Subpart QQQ 60.692-2(a)(1), (2), & (5) (11/23/88), 60.697(b)(1) (10/17/00), and 60.698(b) & (c) (8/18/95)	<u>Individual Drain Systems - Active Service</u> 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 identification, unless a delay of repair is utilized under AOP Term 6.5.5.	Monthly, check each drain visually or physically for indications of low water levels or other conditions that would reduce water seal control effectiveness. For problems identified during inspection that could result in VOC emissions (including water seal is dry or otherwise breached) record the location, date, and corrective action. Semiannually, submit a certification to the NWCAA that all of the required inspections have been carried out and submit a report summarizing when a water seal was dry or otherwise breached, when a drain cap or plug was missing or improperly installed, or when cracks, gaps, or other problems were identified that could result in VOC emissions, including information about the repairs or corrective action taken.

40 CFR 60 Subpart QQQ - Individual Drain Systems Except for individual drain systems regulated under 40 CFR 63 Subpart CC (63.640(o))			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
6.5.2 VOC	40 CFR 60 Subpart QQQ 60.692-2(a)(3), (4), (5) (11/23/88), 60.697(b)(1) & (g) (10/17/00), and 60.698(b)(1) & (c) (8/18/95)	<u>Individual Drain Systems - Out of Service</u> 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, unless a delay of repair is utilized under AOP Term 6.5.5.	Weekly, check each drain visually or physically for indications of low water levels or other problems that could result in VOC emissions. Semiannually, inspect if a cap or plug has been installed to ensure caps or plugs are in place and properly installed. For problems identified during inspection that could result in VOC emissions (including water seal is dry or otherwise breached or a drain cap or plug is missing or improperly installed) record the location, date, and corrective action. Semiannually, submit a certification to the NWCAA that all of the required inspections have been carried out and submit a report summarizing when a when a water seal was dry or otherwise breached, when a drain cap or plug was missing or improperly installed, or when cracks, gaps, or other problems were identified that could result in VOC emissions, including information about the repairs or corrective action taken.
6.5.3 VOC	40 CFR 60 Subpart QQQ 60.692-2(b) (11/23/88), 60.697(b)(3) (10/17/00), and 60.698 (b)(1) & (c) (8/18/95)	<u>Junction Boxes</u> Each junction box 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, unless such repair would be covered under AOP Term 6.5.5.	Visually inspect junction boxes semiannually to ensure that the cover is in place and to ensure that the cover has a tight seal around the edge. For each problem identified during inspection that could result in VOC emissions (including broken seals or gaps) record the location, date, and corrective action. Semiannually, submit a certification to the NWCAA that all of the required inspections have been carried out and submit a report summarizing when a water seal was dry or otherwise breached, when a drain cap or plug was missing or improperly installed, or when cracks, gaps, or other problems were identified that could result in VOC emissions, including information about the repairs or corrective action taken.

40 CFR 60 Subpart QQQ - Individual Drain Systems Except for individual drain systems regulated under 40 CFR 63 Subpart CC (63.640(o))			
Term	Citation	Description	Monitoring, Recordkeeping & Reporting
6.5.4 VOC	40 CFR 60 Subpart QQQ 60.692-2 (c) (11/23/88), 60.697(b)(3) (10/17/00), and 60.698 (b)(1) & (c) (8/18/95)	<u>Sewer Lines</u> 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, unless such repair would be covered under AOP Term 6.5.5.	Visually inspect the portion of each unburied sewer line semiannually for cracks, gaps, or other problems that could result in VOC emissions. For each problem identified during inspection that could result in VOC emissions record the location, date, and corrective action. Semiannually, submit a certification to the NWCAA that all of the required inspections have been carried out and submit a report summarizing when a water seal was dry or otherwise breached, when a drain cap or plug was missing or improperly installed, or when cracks, gaps, or other problems were identified that could result in VOC emissions, including information about the repairs or corrective action taken.
6.5.5 VOC	40 CFR 60 Subpart QQQ 60.692-6 (11/23/88) and 60.697(e) & (f) (10/17/00)	<u>Delay of Repair</u> 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.	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. Maintain a copy of the plans or specifications indicating the design and location of the emission point and related process equipment readily accessible for the life of the facility.

SECTION 7 MONITORING PLANS

7.1 Alternate Monitoring Plan for Boiler F-753 (dated May 14, 1996)

7.1.1 Introduction

This alternative monitoring plan (AMP) describes procedures to be followed whenever propane is, or is about to be, utilized as a fuel in Boiler F-753 (including in combination with commercial natural gas). This plan, for conformance with New Source Performance Standards - Subpart J, has been developed as an alternative to the installation of a continuous analyzer to measure either: a) the sulfur content of the fuel stream or b) the sulfur oxide content of boiler flue gas.

7.1.2 Standards

New Source Performance Standards, Subpart J (40 CFR Part 60-100) for Petroleum Refineries stipulates that the sulfur oxide concentration of flue gas will not exceed 20 ppmv (3-hour average) or that the H₂S content of refinery fuel gas shall not exceed 0.10 gr/dscf (3-hour average). The latter, relative to the monitoring plan discussed below, is equivalent to 116 ppmw sulfur in propane.

7.1.3 Definitions of fuels

Finished propane: Non-odorized propane. This is the propane stream anticipated to be utilized most frequently in F-753.

Commercial propane: Finished propane to which odorant, ethyl mercaptan, has been added for placement into commerce.

Commercial propane, relative to use at F-753, includes product produced at the Refinery as well as product purchased from commercial distributors. The latter, irrespective of supplier, is presumed to be a petroleum refinery product and thus subject to this Monitoring Plan as well. Purchased commercial propane when received at the Anacortes Refinery is stored in the same vessels used to store own-produced commercial product.

Commercial propane (own-produced or purchased) would be utilized at F-753 under a variety of circumstances including: natural gas curtailment; high price of natural gas (relative to propane); interruption in propane sales; or, required boiler operation during refinery process shutdowns or start-ups.

7.1.4 Fuel sampling frequency

Sampling - Sampling of commercial propane storage vessels is carried out at a frequency of about once every 4 to 6 hours as part of the Refinery quality assurance program. No product is released from storage for sales prior to completion of product testing for verification of quality, including sulfur; in this case for assurance that enough sulfur (odorant) has been added for legal placement into commercial sales.

7.1.5 Compliance

Compliance with NSPS Subpart J, for combustion of propane at Boiler F-753, will be achieved through periodic monitoring of the propane stream being fueled. Refinery-produced commercial propane, which is higher in sulfur content than finished propane, will be used as a surrogate for the finished propane stream.

7.1.6 Recordkeeping

All records associated with propane gas streams burned at F-753 will be retained for 5 years per requirements of the regulations implementing the Clean Air Act Amendments.

7.1.7 Monitoring Plan

Whenever utilization of propane fuel is planned or underway the monitoring procedures in Alternative Monitoring Plan (AMP) will be followed.

7.1.8 Test Methods

7.1.8.1 Shell Method: SMS 217-82

Method Title: "Hydrogen Sulphide, Mercaptans and Carbonyl Sulphide in Gases".

The following are attached at the end of the air operating permit:

1. a copy of Method SMS 217-82
2. a copy of Method SMS 304-82 (referenced in Method 217-82).

Method SMS 217-82, as carried out at the Anacortes Refinery, provides results in ppmw of sulfur expressed as ethyl mercaptan. This test is carried out on-site. For perspective, the Subpart J Standard of 0.1 grains hydrogen sulfide per dscf equals 116 ppmw sulfur in propane. As long as Method SMS 217-82 test results are less than 225 ppmw sulfur as ethyl mercaptan (i.e., less than 116 ppmw sulfur as sulfur), the concentration of hydrogen sulfide cannot be greater than 0.1 gr/dscf (116 ppmw sulfur).

7.1.8.2 Addendum to SMS 217-82

The following modifications of **Shell Method Series** 217-82 are currently in place at the Anacortes Refinery Quality Assurance Lab:

1. The second gas washing bottle is omitted from the method, therefore, determination of carbonyl sulfides cannot be made.
2. The quantity of sample taken for analysis is determined gravimetrically, not volumetrically as noted in the method.
3. Results are reported as ppm (weight) ethyl mercaptan, not as mg/m3 sulfur as stated in the method.

Note: Per the Anacortes Refinery:

Historically, Anacortes used SMS 217-82 to test for Ethyl Mercaptan in LPG. However, this method is antiquated and has no reported precision statements listed within ASTM or UOP methodology. Modernized equipment now exists that can more accurately and more efficiently test for total sulfur in propane. One such method is D6667 which uses UV-Fluorescence for sulfur detection.

In 2022, the Anacortes laboratory purchased a Horiba brand unit known as the Xplorer to test for D6667 and moved away from SMS 217-82. In 2023, we implemented another Xplorer unit to test for D6667. Justification for the move included:

- *Corporate RSP compliance for propane release practices*
 - *Anacortes must now certify propane releases by providing a Total Sulfur number*

- *SMS 217-82 provides an Ethyl Mercaptan number but does not provide a Total Sulfur value*
- *More efficient testing*
- *More accurate testing*

The Anacortes laboratory will upkeep the SMS 217-82 method, to serve as a backup to our D6667.

7.1.8.3 ASTM Method: D-2420

Method Title: "Standard Test Method for Hydrogen Sulfide in Liquified Petroleum Gases (Lead Acetate Method)".

Method D-2420 provides qualitative indication of H₂S presence (sensitivity of 1 ppmv), is carried out on-site in the field. For perspective, the Subpart J Standard of 0.1 gr H₂S per dscf equals 160 ppmv sulfur in propane.

7.1.9 Initiation of Propane Burning At F-753

The following steps will be carried out prior to the burning of propane in Boiler F-753. Failure of any potential propane fuel stream to meet a sulfur equivalent standard of Subpart J precludes the stream from utilization.

7.1.9.1 If finished (non-odorized) propane is to be utilized:

- Prior to the start of propane burning, SMS 217-82 test results of stored commercial propane for the preceding 24 hours will be checked for sulfur content.
- If all SMS 217-82 test results of commercial propane over the preceding 24 hours show no values in excess of 225
- ppmw (total sulfur as ethyl mercaptan), utilization of finished propane may be initiated.
- If any SMS 217-82 test results of commercial propane are equal to or greater than 225 ppmw, start of finished propane burning will be deferred until a Lead Acetate Test (ASTM D-2420) of the finished propane stream is conducted for determination of the presence of H₂S.
- If the Lead Acetate Test shows hydrogen sulfide to be not-detected, combustion of finished propane may be initiated.
- If the Lead Acetate Test shows hydrogen sulfide to be present, SMS 217-82 testing of a sample of finished propane will be carried out.
- If SMS 217-82 testing of finished propane shows sulfur to be less than 225 ppmw, combustion of finished propane may be initiated.
- If SMS 217-82 testing of finished propane shows sulfur to be equal to or greater than 225 ppmw, burning of finished propane is prohibited.

7.1.9.2 If own-produced commercial propane is to be utilized:

- Prior to the start of propane burning, SMS 217-82 test results of stored commercial propane for the preceding 24 hours will be checked for sulfur content. If SMS 217-82 test results of commercial propane over the preceding 24 hours show no values in excess of 225 ppmw (total sulfur as ethyl mercaptan), utilization of commercial propane may be initiated. If any

SMS 217-82 test results of commercial propane are equal to or greater than 225 ppmw, burning of commercial propane will not be initiated.

- If burning of commercial propane remains attractive, a Lead Acetate Test (ASTM D-2420) of the contents of each vessel will also be conducted for determination of the presence of hydrogen sulfide (H₂S). If the Lead Acetate Test shows H₂S to be not-detected for the contents of given storage vessels, combustion of own-produced commercial propane from the given vessels may be initiated. If the Lead Acetate Test shows H₂S to be present, SMS 217-82 testing of the contents of specific storage vessels will be carried out to assess the suitability of each. If SMS 217-82 testing shows sulfur to be less than 225 ppmw (total sulfur as ethyl mercaptan) for given storage vessels, combustion of own produced commercial propane from the given vessels may be initiated. If SMS 217-82 testing shows sulfur to be equal to or greater than 225 ppmw for given storage vessels, burning of own-produced commercial propane from the vessels is prohibited.

7.1.9.3 *If purchased commercial propane is to be utilized:*

Prior to the start of propane burning, a Lead Acetate Test (ASTM D-2420) of the propane stream will be conducted for determination of the presence of H₂S. If the Lead Acetate Test shows H₂S to be not-detected, combustion of purchased propane may be initiated. If the Lead Acetate Test shows H₂S to be present, a SMS 217-82 test of stored purchased commercial propane will be carried out. If SMS 217-82 test results show sulfur to be less than 225 ppmw (total sulfur as ethyl mercaptan), utilization of purchased product may be initiated. If SMS 217-82 test results show sulfur to be equal to or greater than 225 ppmw, burning of the purchased propane in F-753 is prohibited.

7.1.10 Ongoing Monitoring of Propane Burning At F-753

The following steps will be carried out whenever propane is being burned in Boiler F-753. Failure of any potential propane fuel stream to meet a sulfur equivalent standard of Subpart J triggers investigation or discontinuation of use.

7.1.11 If own-produced propane (finished or commercial) is being utilized:

During each operating shift, results of commercial propane testing (SMS 217-82) will be forwarded from Quality Assurance to Utilities (boiler operations). In the event that any one test result exceeds 225 ppmw (total sulfur expressed as ethyl mercaptan), the following steps will be taken:

7.1.11.1 *If finished propane is being utilized:*

A Lead Acetate Test (ASTM D-2420) of the finished propane stream will be conducted for determination of the presence of H₂S.

- If the Lead Acetate Test shows hydrogen sulfide to be not-detected, use of finished propane can be continued.
- If the Lead Acetate Test shows hydrogen sulfide to be present, SMS 217-82 testing of finished propane stream will be carried out.
- If SMS 217-82 testing shows sulfur (expressed as ethyl mercaptan) to be less than 225 ppmw, combustion of finished propane can be continued.
- If SMS 217-82 testing shows sulfur to be equal to or greater than 225 ppmw, efforts to begin utilizing natural gas or a natural gas/propane fuel mix in place

of finished propane stream will be pursued on a priority basis. Furthermore, if there is reason to believe that the average sulfur content has been greater than the standard for any rolling 3-hour period, the Northwest Clean Air Agency will be notified. If at the time of notification, compliance has not been achieved, an anticipated schedule of compliance will be provided.

7.1.11.2 If commercial propane is being utilized:

A Lead Acetate Test (ASTM D-2420) of the specific storage vessel in use will be conducted for indication of the presence of H₂S

- If the Lead Acetate Test shows hydrogen sulfide to be not-detected, combustion of the commercial propane stream can be continued.
- If the Lead Acetate Test shows hydrogen sulfide to be present, SMS 217-82 testing of the propane stream lined up to F-753 will be carried out.
- If SMS 217-82 testing shows sulfur to be less than 225 ppmw (expressed as ethyl mercaptan), combustion can be continued.
- If SMS 217-82 testing shows sulfur to be equal to or greater than 225 ppmw, efforts to utilize an alternative fuel (natural gas or finished propane) or fuel mix in place of the commercial propane stream will be pursued on a priority basis. Furthermore, if there is reason to believe that the average sulfur content has been greater than the standard for any rolling 3-hour period, the Northwest Clean Air Agency will be notified. If at the time of notification, compliance has not been achieved, an anticipated schedule of compliance will be provided. This procedure will be followed for each vessel utilized as long as QA testing of all commercial vessels are not less than 225 ppmw for a full 24 hours.

7.1.11.3 If purchased commercial propane is being utilized:

At the time of receipt of additional deliveries of purchased commercial propane, a Lead Acetate Test (ASTM D-2420) of the purchased material will be conducted for indication of the presence of H₂S-

- If the Lead Acetate Test shows hydrogen sulfide to be not-detected, combustion of the purchased propane can be utilized.
- If the Lead Acetate Test shows hydrogen sulfide to be present, Method SMS 217-82 testing of the contents of the specific storage vessel will be carried out.
- If SMS 217-82 testing shows sulfur to be less than 225 ppmw (total sulfur as ethyl mercaptan), the contents of the vessel may be utilized.
- If testing shows sulfur to be equal to or greater than 225 ppmw, use in F-753 is prohibited.

7.2 Alternate Monitoring Plan for the Catalytic Reformer

The Tesoro Anacortes Refinery operates a cyclic catalytic reformer (CR) unit subject to 40 CFR 63.1567, Inorganic HAP emissions from CR Units.

7.2.1 Regeneration Overview

The Anacortes CR process utilizes five reactors. As a cyclic process, one of the reactors is periodically removed from the reaction loop, via piping lineup, and placed into a regeneration loop. The frequency of regeneration fluctuates based upon business needs, but generally ranges between once per month to once per day, with the majority of the time being once per day.

The regeneration process consists of several steps, including purging, coke burn-off, catalyst rejuvenation, and reduction. 40 CFR 63.1567 regulates emissions associated with the coke burn-off and rejuvenation steps, which is the focus of this correspondence. HCl and CO₂ are generated during these regulated steps.

The CR regeneration process treats, cools and circulates the regenerator exhaust gas. The majority of the gas is circulated back to the reactor, with a small amount (about 0.6 mmscfd) vented to atmosphere during the coke burn-off and rejuvenation steps.

The process design requires proper treatment of the exhaust gas to guard against process equipment corrosion and to provide proper process conditions for an efficient regeneration.

7.2.2 Treatment

The CR regeneration process is equipped with a caustic and water wash column designed to neutralize and cool the circulating gas and to remove carbon dioxide after the coke burn-off step. Gases from all steps of the regeneration process are routed to the water wash column, where they are cooled and treated to remove CO₂ and HCl.

The caustic and water wash column is divided into four sections: 1) a caustic spray zone that contacts the entering gas stream with a mist spray which removes HCl and CO₂ before it contacts the first tray; 2) a caustic section (trayed section) – for direct liquid contact and further CO₂ removal; 3) a water wash section to remove entrained caustic and CO₂; and 4) a disengagement (knock-out) section (blind tray with demister mat) at the top of the column for removing entrained liquid from the overhead gas stream. (See Figure 1).

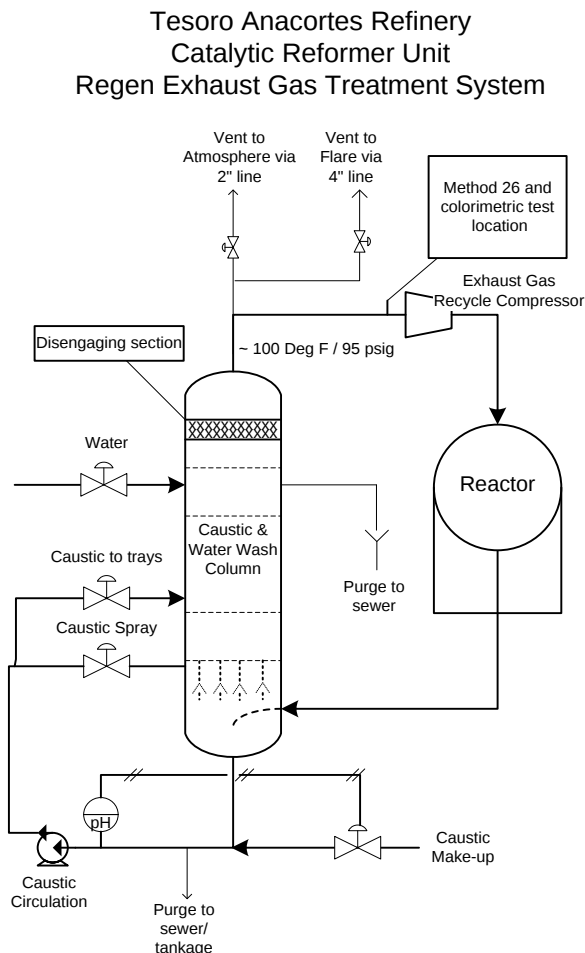


Figure 1 Regeneration Exhaust Gas Treatment System

The pH of the caustic circulation is controlled via a pH controller that regulates the quantity of caustic make-up.

7.2.3 Classification of Scrubber - "Wet scrubber" or "internal scrubbing system"

Tesoro has reviewed the proposed and final rule to determine if our scrubber meets the definition of "wet scrubber" or "internal scrubbing system". Our scrubbing system is internal to the process, given that the column treats the gas and circulates back to the reactor. However, based upon the overall design, high treatment efficiency, and pH control, it functionally matches more closely with multi-stage treating, which we believe is more analogous to the "wet scrubbers." Due to various technical issues which will be explained below, it is our belief that a combination of the requirements listed for "wet scrubbers" and "internal scrubbing systems" is more appropriate for our system.

7.2.4 Performance Test

The Final Rule requires that Method 26 (40CFR60, Appendix A) be used for performance tests conducted on "internal scrubber systems" while Method 26A be applied to systems with "wet scrubbers". The draft technical amendments require that Method 26A be used for both internal scrubbing systems and wet scrubbers (as listed in Table 25 (1)(e)). Method 26A requires isokinetic sampling, with certain flow

criteria, pipe diameters and pipe lengths that cannot be achieved at our small 2" vent line. Additionally Method 26A cannot be safely achieved on the larger 12" recycle line due to the high operating pressure of ≈ 150 psig. For the same reasons, Tesoro is unable to meet the performance test requirements specified in the draft technical amendments as presented in Table 25 (1) (a) – (d). These are new requirements that were not originally listed in the Final Rule. In November 2004, the Northwest Clean Air Agency (NWCAA) reviewed our process during an on-site refinery visit. Although the agency agreed that our system is unique – and meets elements of both types of scrubbers -- the NWCAA suggested that Tesoro apply for an Alternative Monitoring Plan (AMP) to obtain a clear regulatory determination. The NWCAA agreed that Method 26A is not feasible, and that Method 26 must be used given our design. After that meeting, Tesoro conducted a pre-performance test using Method 26. The performance test results are summarized below.

7.2.5 Pre-performance test

Tesoro conducted a pre-performance test on 11/22/04 and 11/23/04 to determine the HCl concentration in exhaust gas exiting the water wash column. The HCl was sampled and tested by a third party contractor (Emissions Technologies, Inc.) using Method 26. All test reports are provided in Attachment 3. The sample was taken from a bleeder located on the recirculation line, upstream of the exhaust gas compressor. In addition, Tesoro conducted colorimetric testing at the same sample location and at the inlet to the water wash column. The column was operated at normal conditions during a full regeneration cycle.

During the coke burn-off step (≈ 13 hours), the HCl concentration entering the water wash column (uncontrolled) averaged 8 ppmv. The HCl concentration exiting the water wash column (controlled) was not detected at a detection limit of 0.06 ppmv for the three (3) Method 26 test runs and also not detected during the eleven (11) colorimetric tests that were taken.

During the rejuvenation step (≈ 6 hours), at which time the chloriding agent is injected, the HCl concentration entering the water wash column (uncontrolled) averaged 500 ppmv and the HCl exiting the water wash column (controlled) was not detected at a detection limit of 0.06 ppmv for the three (3) Method 26 test runs and also not detected during the eleven (11) colorimetric tests that were taken. See attachment 2 for a summary of operating data.

Tesoro conducted subsequent tests in which the pH and caustic flow rates were lowered. Again HCl was not detected during any of the colorimetric tests.

7.2.6 Continuous Monitoring Requirements

Facilities with "wet scrubber" designs are expected to continuously monitor pH and liquid-to-gas ratio and operate within the operating limits established during the performance test. On the other hand, facilities with "internal scrubber systems" are expected to continuously monitor HCl concentration (via colorimetric testing) and operate within the operating limits established during the performance test. Given that Tesoro's treatment system could arguably be categorized as either type of scrubber, we believe the Alternative Monitoring Plan described below fully meets the objectives of the MACT requirement.

Tesoro will meet the continuous monitoring requirements by implementing a continuous parameter monitoring system (CPMS) for pH (or alkalinity) and liquid-to-gas ratio, which is the requirement listed for "wet scrubbers". Our operation is steady, extremely efficient and is equipped with the necessary hardware to

implement the CPMS. However, to ensure compliance with the regulation we are seeking Agency approval regarding the following issues:

1. Data Collection: The Tesoro Anacortes CR process has not yet been converted to digital control, and still utilizes strip charts and periodic data logging. Until the system is converted to a digital control system (which is anticipated to occur by the end of 2007), Tesoro will use the strip charts to record the required data. The strip charts will be visually assessed to determine a daily average. Of the process data needed to complete the liquid-gas ratio calculation, only the gas temperature is not continuously recorded on a strip chart. Rather, the temperature is logged twice per day into a data capturing system, and does not fluctuate enough to affect overall treatment efficiency or the l-g ratio calculation. We reviewed current data collection capabilities with the Northwest Clean Air Agency, and the agency agreed that strip charts should be adequate to demonstrate continuous compliance.

Note: At the time of renewal issuance, the facility has converted to digital control. Records are being kept as required in 40 CFR Part 63 Subpart UUU. The strip charts are no longer in use.

2. pH analyzer: The Final Rule (in Table 41, Item 5) states that the pH meter's calibration should be conducted on at least two points every 8 hours of process operation. The draft technical amendments state that the analyzer is to be maintained according to manufacturer's recommendations. However, the following maintenance protocol has enabled Tesoro to maintain the reliability of our pH control system. Therefore, we request approval to utilize the following maintenance plan for our pH control system:

1. Flush the pH probe four times / week
2. Calibrate the pH monitor weekly
3. And otherwise maintain according to manufacturer's recommendation.

3. Operating below the establishing l-g ratio or pH operating limit: As mentioned earlier, based on the test results obtained in November 2004, we expect no measurable break-through of HCl during the performance test. However there are several process parameters that can change during the normal 5-year run that could yield lower l-g ratios or pH operating conditions from those originally established during the compliance performance test. If that occurs, Tesoro will utilize the CPMS Back-Up Monitoring Plan (as specified below) until the process can be returned to the normal operating limits or until new lower limits can be assessed and re-established per the guidelines provided in 40 CFR 63.1571(e). Implementing the CPMS Back-up Plan will maintain compliance with the standard whereby temporary operation below the l-g ratio or pH operating limit is not a violation of the standard.

4. CPMS down time (pH monitor): In the event that the monitor is down for maintenance, Tesoro will monitor pH according to the provisions of 40 CFR 63.1572 or will monitor compliance according the CPMS Back-Up Monitoring Plan until such time that the pH monitor is functioning normally.

5. CPMS down time (l-g ratio inputs): In the event that data needed to assess l-g ratio is not available, Tesoro will utilize the CPMS Back-Up Monitoring Plan.

7.2.7 CPMS Back-Up Monitoring Plan

To demonstrate continuous compliance when the CPMS is down or otherwise unavailable or if the l-g ratio or pH are operating below the established operating limits, Tesoro will implement the following CPMS Back-Up Monitoring Plan:

Tesoro will measure and record the concentration of HCl one time during the coke burn-off step and one time during the rejuvenation step using a colorimetric tube sampling system. If HCl is detected (> 0 ppmv), then monitoring will be increased to once every two hours throughout the remaining portion of the coke burn-off or rejuvenation step. If the average HCl concentration exceeds 10 ppmv (as directly measured by the colorimetric tube), then Tesoro will notify the local air agency, conduct an engineering assessment to determine the cause for the increase, and take appropriate corrective action. If the problem cannot be resolved with seven (7) regeneration cycles, then Tesoro will conduct a Method 26 test within 45 days to verify compliance with the standard. Colorimetric readings, although useful for trending the operation, have the potential to over-state actual HCl concentration. Therefore, conducting a follow-up Method 26 analysis would be appropriate for compliance verification.

7.2.8 Gas Measurement

Tesoro will utilize the calculation method for assessing the flow rate of the gas to the caustic and water wash column, in lieu of direct measurement. This provision is not listed in the Final Rule for CR units, but was added as a provision in the draft technical amendments. However, Tesoro believes that an error exists in the published equation -- the pressure term needs to be corrected to have P(vent) in the denominator.

63.1573 Equation (1) as published:

$$Q(\text{gas}) = (1.12 \text{ scfm} / \text{dscfm}) \times (Q \text{ air} + Q_{\text{other}}) \times (\text{Temp}(\text{gas}) / 293\text{K}) \times (P_{\text{vent}} / 1 \text{ atm})$$

63.1573 Equation (1) as corrected:

$$Q(\text{gas}) = (1.12 \text{ scfm} / \text{dscfm}) \times (Q \text{ air} + Q_{\text{other}}) \times (\text{Temp}(\text{gas}) / 293\text{K}) \times (1 \text{ atm} / P_{\text{vent}})$$

The equation should be based on the following ratio of actual vs. standard conditions.

$$V(1) = V(2) \times T(1) / T(2) \times P(2) / P(1)$$

1 = actual

2 = standard

$V(1) = \text{ascfm}$

$V(2) = \text{scfm}$ (as measured by the instrument)

$T(1)$ = actual temperature (as measured by the instrument)

$T(2)$ = standard temperature (293K)

$P(1)$ = actual pressure (as measured by the instrument)

$P(2)$ = standard pressure (1 atm)

But the regulation shows the pressure term to be $P(1) / P(2)$ instead of $P(2) / P(1)$.

Note: The regulation has been updated to allow for calculation of gas flow rate and the equation is corrected. The facility is following the regulation directly.

7.2.9 Operating Limit for the “Internal Scrubbing System” classification

As mentioned earlier, Tesoro has reviewed the CR regen exhaust gas treatment system to determine if our process meets the definition of a “wet scrubber” or “internal scrubbing system”. The proposed monitoring plan discussed above leans heavily on the “wet scrubber” classification. However, for overall completeness, we want to take this opportunity to discuss an issue with how the operating limit is established for “internal scrubbing systems” should this become an issue in negotiation of this AMP.

Facilities with “internal scrubbing systems” are required to establish an operating limit whereby the HCl in the exhaust gas must not exceed the limit established during the performance test. Based on our process design and historical testing data we would expect that no HCl would be detected during the performance test. According to the rule, then our limit would be 0 ppmv or “non-detectable”, a limit that we might not be able to achieve 365 days per year given normal process variability. A more reasonable operating limit would seem to be 10 ppmv to match the emission limit set forth in the standard. If this AMP is approved, Tesoro will not be required to set a performance based limit (other than the 10 ppmv emission limit) for the HCl concentration exiting the scrubber, therefore eliminating the need to further evaluate alternatives regarding this issue.

7.2.10 Alternative Monitoring Plan

Attachment 1 includes a tabulated Alternative Monitoring Plan, mirroring the table format used in the regulation. The attachment is a summary of what we are seeking in an Alternative Monitoring Plan and incorporates applicable changes that are highlighted in the draft technical amendments. However there may be issues discussed above that have not been completely reiterated in the table.

ALTERNATIVE MONITORING PLAN

Emission Limit (Table 22) ¹ Cyclic reforming unit	Reduce emissions of HCl to a concentration of 10 ppmv (dry, 3% O ₂).
Operating Limit (Table 23) ² Wet scrubber/internal scrubbing system combination	You must meet this operating limit during coke burn-off and rejuvenation ... The daily average pH (or alkalinity) of the scrubber liquid exiting the scrubber must not fall below the limit established during the performance test; and the daily average liquid-to-gas ratio must not fall below the limit established during the performance test ; If operating below either of the two operating limits, then the CPMS Back-Up Monitoring Plan will be implemented (as specified in the AMP application).
Continuous Monitoring System (Table 24) ³ Wet scrubber/internal scrubbing system combination	You must install and operate this type of continuous monitoring system: (1) Continuous parameter monitoring system (CPMS) to measure and record the pH (or alkalinity) of the scrubbing liquid exiting the scrubber during coke burn-off and rejuvenation. You can use the alternative in 63.1573 instead of a CPMS for pH (or alkalinity) of the water; AND; (2) CPMS to measure and record the gas flow rate to the scrubber and the total water (or scrubbing liquid) flow rate to the scrubber during coke burn-off and catalyst rejuvenation; OR; If the above monitoring system is not operational, then the CPMS Back-Up Monitoring Plan will be implemented (as specified in the AMP application.)

¹ Refers to Table 22 to Subpart UUU of Part 63—Inorganic HAP Emission Limits for Catalytic Reforming Units.

² Refers to Table 23 to Subpart UUU of Part 63—Operating Limits for Inorganic HAP Emission Limitations for Catalytic Reforming Units.

³ Refers to Table 24 to Subpart UUU of Part 63—Continuous Monitoring Systems for Inorganic HAP Emissions from Catalytic Reforming Units.

Requirements for Performance Tests (Table 25)⁴ Wet scrubber/internal scrubbing system combination Continued... ...continued Requirements for Performance Tests (Table 25)	(a) You must measure the HCl concentration on the CR regeneration exhaust gas recycle line, using Method 26 (40 CFR part 60, App A), according to these requirements: (1) Sampling rate must be at least 0.014 dscfm/min (0.5 dscf/min). (2) You must do the test during the coke burn-off and catalyst rejuvenation cycle, but don't make any test runs during the first hour or the last 2 hours of the cycle. (3) Determine and record the HCl concentration corrected to 3% O₂ (using Equation 1 of 63.1567) at the outlet of the scrubber for each test run. (4) Determine and record the average HCl concentration (corrected to 3% O₂) for the overall source test from the recorded test run values. (b) Establish the operating limit for pH (or alkalinity) level, according to these requirements: (1) Measure and record the pH (or alkalinity) of the water (or scrubbing liquid) exiting the scrubber every 15 minutes during the entire period of the performance test. Determine and record the minimum hourly average pH (or alkalinity) level from the recorded values. (2) If you use the alternative pH method in 63.1573, measure and record the pH of the water (or scrubber liquid) exiting the scrubber during coke burn-off and rejuvenation using pH strips at least three times during each run. Determine and record the average pH level for each test run. Determine and record the minimum test run average pH level. (3) If you use the alternative alkalinity method in 63.1573, measure and record the alkalinity of the water (or scrubbing liquid) exiting the scrubber during the coke burn-off and catalyst rejuvenation using discrete titration at least three times during each test run. Determine and record the minimum test run average alkalinity level. (c) You must establish the operating limit for liquid-to-gas ratio using data from the continuous parameter monitoring systems, according to these requirements... (1) Measure and record the gas flow rate entering or exiting the scrubber and the total water (scrubber liquid) flow rate entering the scrubber every 15 minutes during the entire period of the performance test. Determine and record the hourly average gas flow rate and total water (or scrubbing liquid) flow rate. Determine and record the minimum liquid-to-gas ratio from the recorded paired values. (2) If you use the alternative procedure for gas flow rate in 63.1573, Equation 1, then collect air flow rate monitoring data or determine the air flow rate using control room instruments every 15 minutes during the entire period of the initial performance test. Determine and record the hourly average rate of all the readings. Determine and record the maximum gas flow rate using Equation 1 of 63.1573.
Initial Compliance (Table 26)⁵, Cyclic reforming unit	You have demonstrated initial compliance if the average emissions of HCl, measured using Method 26, as applicable over the period of the performance test, are reduced to a concentration less than or equal to 10 ppmv (dry basis) corrected to 3% O₂."

⁴ Refers to Table 25 to Subpart UUU of Part 63—Requirements for Performance Tests for Inorganic HAP Emissions From Catalytic Reforming Units.

⁵ Refers to Table 26 to Subpart UUU of Part 63—Initial Compliance With Inorganic HAP Emission Limits for Catalytic Reforming Units.

Continuous Compliance (Table 27) ⁶ , Cyclic reforming unit	Maintain HCl concentration to no more than 10 ppmv (dry basis), corrected to 3% O ₂ .
---	--

Continuous Compliance with Operating Limits (Table 28) ⁷ Cyclic reforming unit Wet scrubber/internal scrubbing system combination	For this operating limit: <u>The daily average pH (or alkalinity) of the scrubber liquid exiting the scrubber must not fall below the limit established during the performance test;</u> You must demonstrate continuous compliance during coke burn-off and catalyst rejuvenation by: (1) (a) collecting the hourly and daily average pH (or alkalinity) monitoring data according to 63.1572 or (b) collecting continuous data via strip chart and visually assessing a daily average, according to the AMP application. (2) maintaining the daily average pH or alkalinity above the operating limit established during the performance test. (3) if the daily average pH (or alkalinity) of the scrubbing liquid exiting the scrubber falls below the limit established during the performance test or if CPMS is not available, then the CPMS Back-Up Plan will be implemented to demonstrate continuous compliance with the operating limits. For this operating limit: <u>The daily average liquid-to-gas ratio must not fall below the limit established during the performance test ;</u> You must demonstrate continuous compliance during coke burn-off and catalyst rejuvenation by: (1) (a) collecting the hourly average gas flow rate and total water (or scrubbing liquid) flow rate monitoring data; and (b) determining and recording the hourly liquid-to-gas ratio; and (c) determining and recording the daily average liquid-to-gas ratio; OR (d) collecting continuous data via strip chart and visually assessing a daily average, according to the AMP application. (2) maintaining the daily average liquid-to-gas ratio above the limit established during the performance test. (3) If the daily average l-g ratio falls below the limit established during the performance test or if the CPMS is not available, then the CPMS Back-Up Plan will be implemented to demonstrate continuous compliance with the operating limits.
--	--

⁶ Refers to Table 27 to Subpart UUU of Part 63—Continuous Compliance With Inorganic HAP Emission Limits for Catalytic Reforming Units.

⁷ Refers to Table 28 to Subpart UUU of Part 63—Continuous Compliance With Operating Limits for Inorganic HAP Emissions From Catalytic Reforming Units.

7.3 Alternate Monitoring Plan for NSPS Subpart NNN



1600 South Second Street
Mount Vernon, WA 98273-5202
ph: 360-428-1617
fax: 360-428-1620
info@nwcleanairwa.gov
www.nwcleanairwa.gov

November 12, 2020

Paul Zawila
Tesoro Refining & Marketing Company LLC
P.O. Box 700
Anacortes, WA 98221

Alternative Monitoring Plan (AMP) and Performance Test Waiver – New Source Performance Standards (NSPS) Subpart NNN - Butane Isomerization Unit Upgrade Project and De-Propanizer Column Replacement Project at the Tesoro Refining & Marketing Company LLC Anacortes Refinery

Dear Mr. Zawila:

This letter is in response to your request dated September 10, 2020 with additional information provided on October 19, 2020, for approval of an Alternative Monitoring Plan (AMP) and a performance test waiver pertaining to your Butane Isomerization Unit Upgrade Project and C-404 De-Propanizer Column Replacement Project under the New Source Performance Standards (NSPS) 40 CFR Part 60. As delegated authority¹, Northwest Clean Air Agency (NWCAA) is approving your request for meeting NSPS Subpart RRR in lieu of NSPS Subpart NNN requirements for testing, monitoring, and recordkeeping related specifically to your use of boilers/process heaters or a flare as the control device for compliance with the standards of NSPS Subpart NNN. Please see our explanation provided below, and EPA's comparative analysis of the two subparts relevant to this discussion that is provided as an enclosure to this letter.

In your letter, you requested a substitution of NSPS Subpart RRR for NSPS Subpart NNN as alternative monitoring related specifically to flares and boilers/process heaters for the vent streams associated with the following distillation columns:

- C-916 Stabilizer Column being modified as part of the Butane Isomerization Unit Upgrade Project
- C-910 De-Isobutanizer Column being modified as part of the Butane Isomerization Unit Upgrade Project
- C-404 De-Propanizer Column being replaced as part of the De-Propanizer Column Replacement Project

You also requested a waiver of the NSPS performance testing requirement for refinery boilers and process heaters due to the offgas from the referenced distillation columns being burned as primary fuel (i.e., refinery fuel gas).

Your letter indicates that C-910 and C-916 offgases are normally routed to process units (e.g., Gas Compression and Recovery Unit (GRU)), product storage, and to the refinery fuel gas system. During unit startups, shutdowns, and process upsets, C-910 and C-916 can be discharged to the refinery flare system.

¹ Letter from Krishna Viswanathan, Director, EPA Region 10, to Mark Buford, Control Officer, Northwest Clean Air Agency, August 1, 2019.

Alternative Monitoring Plan for NSPS Subpart NNN for Tesoro
November 12, 2020
Page 2 of 4

The C-404 offgases are normally routed to process units, product storage, and directly to the refinery fuel gas system. During process upsets and unit shutdowns, C-404 can be discharged to the refinery flare system.

Our understanding is that material in the refinery fuel gas system is used for primary fuel introduced into the flame zone in boilers and process heaters throughout the refinery. During normal operation, all gases in the refinery flare system are recovered back to the refinery fuel gas system. The refinery fuel gas system can be relieved to the refinery flare system during startup, shutdown, malfunction, and imbalance events.

You state that none of the three referenced distillation columns are equipped with a bypass directly to the atmosphere. Additionally, there are no subject vents to atmosphere in the refinery fuel gas system or the refinery flare system.

Based upon the information provided, pursuant to NSPS Subpart A at 40 CFR 60.13(i), we approve your request to implement the NSPS Subpart RRR monitoring provisions related to boilers and process heaters in 40 CFR 60.703(c) in lieu of complying with the monitoring provisions of 40 CFR 60.663(c) under NSPS Subpart NNN. In addition, NWCAA approves your request to implement the NSPS Subpart RRR monitoring provisions related to flares in 40 CFR 60.703(b) in lieu of complying with the monitoring provisions of 40 CFR 60.663(b) under NSPS Subpart NNN.

Furthermore, NWCAA approves your request to comply with the applicable recordkeeping requirements of 40 CFR 60.705 in NSPS Subpart RRR in lieu of the recordkeeping requirements of NSPS Subpart NNN in 40 CFR 60.665 as applicable to flares and boilers/process heaters. These recordkeeping requirements correspond directly to those monitoring requirements to be implemented for the above-referenced distillation column vents under NSPS Subpart RRR.

Finally, NWCAA approves your request to waive the initial performance test for those vents specified in your letter as being introduced with the primary fuel into a boiler or process heater as provided for in 40 CFR 60.704(b)(5)(ii) in accordance with NSPS Subpart A at 40 CFR 60.8(b)(4).

This approval is based upon the information submitted in your request for those units specified and identified within this letter. Note that this approval is consistent with determinations made by EPA for NSPS Subpart NNN-affected facilities. If any new information becomes available or process unit operations are changed, this determination may become void and a new determination may be necessary. If you have any questions or concerns about this determination, please feel free to contact Lyn Tober at (360) 419-6765 or lynt@nwcleanairwa.gov.

Sincerely,



Mark Buford
Executive Director

Enclosure

Enclosure

EPA Region 6 Comparison of NSPS Subparts NNN and RRR Requirements for Flares and Boilers/Process Heaters

The performance standards of 40 CFR §§ 60.662 (Subpart NNN) and 60.702 (Subpart RRR) are established to minimize the emissions of volatile organic compounds (VOC) through the application of best demonstrated technology (BDT). Therefore, different technology controls have different testing, monitoring, and reporting requirements.

When a **flare** is used to seek compliance with either §60.662(b) or §60.702(b), both Subparts NNN and RRR require that the flare meet the requirements of the NSPS General Provisions at 40 CFR § 60.18 {see same requirement under testing at §60.664(d) and §60.704(c)}. Monitoring requirements are similar, except Subpart RRR includes monitoring flow diverted *from the flare to the atmosphere* via a bypass line {see 40 CFR §60.703 (b)(2)} while Subpart NNN requirements include monitoring vent streams *routed to each flare* prior to being combined with other gases {see 40 CFR §60.662 (b)(2)}. Therefore, Subpart RRR requires recording the flow rate more frequently (every 15 minutes) than Subpart NNN (every hour).

When a **boiler or process heater** is used to seek compliance with §60.662(a) and §60.702(a), the testing, monitoring, and recordkeeping requirements differ between Subparts NNN and RRR. EPA's rationale for waiving performance testing, temperature monitoring, and for refining the location and monitoring of flow indicators can be found on pages 45957 through 45959 in the Federal Register preamble to NSPS Subpart RRR (58 FR 45948 August 31, 1993). In general, Subpart RRR provides consideration of vent gases that are mixed with other gaseous streams and used as a *primary fuel* for the boiler(s) or process heater(s) whereas Subpart NNN does not address such primary fuel systems. Also, Subpart RRR addresses vent gas flows diverted *away from* a boiler(s) or process heater(s) via a bypass line(s) to the atmosphere whereas Subpart NNN merely addresses vent gases as *routed to* boilers or process heaters. For this reason, Subpart RRR requires recording the flow rate more frequently (every 15 minutes) in comparison to Subpart NNN (every hour). Specific citation comparisons include the following:

Specific to testing, both Subpart NNN at §60.664(b)(5) and Subpart RRR at §60.704(b)(5) waive the initial performance test requirement when a boiler or process heater with a design heat input capacity of 150 MBtu/hour or greater is used to comply with §§ 60.662(a) and 60.702(a), respectively. Subpart RRR at §60.704(b)(5) also waives the requirement for an initial performance test when a vent stream is *introduced with the primary fuel* into a boiler or process heater, regardless of heat input capacity.

Specific to monitoring, both Subpart NNN at §60.663(c) and Subpart RRR at §60.703(c) outline requirements for locating and monitoring vent gas flow indicators

***ENCLOSURE: EPA Region 6 Comparison of NSPS Subparts NNN and RRR
Flare and Boiler and Process Heater Requirements***

page 2 of 2

as well as monitoring firebox temperature. However, Subpart RRR at §60.703(c)(1)(ii) waives the need for a flow indicator where bypass line valves to the atmosphere are secured in a closed position with a lock-and-key type configuration. Also, Subpart RRR at §60.703(c)(2) exempts the temperature monitoring requirement for any vent stream *introduced with the primary fuel* into a boiler or process heater.

Since Subpart RRR provides some relief in testing and monitoring requirements in comparison to Subpart NNN, as discussed above, an additional reporting requirement was deemed necessary. In order to ensure that the affected vent streams are being routed to appropriate control devices, Subpart RRR at §60.705(s) requires that the facility maintain on file a schematic diagram of the affected vent streams, collection system(s), fuel systems, control devices, and bypass systems as part of the initial report submitted in accordance with 40 CFR §60.705(b). This additional reporting requirement (not required in Subpart NNN) is further discussed in the Federal Register preamble referenced above.

7.4 Compliance Assurance Monitoring Plan for Opacity/PM at the Catalytic Cracking Unit

**COMPLIANCE ASSURANCE MONITORING PLAN
Continuous Monitoring of Scrubber Liquid to Gas Ratio**

**ANACORTES REFINERY – CATALYTIC CRACKING UNIT WITH CO
BOILERS**

WET GAS SCRUBBER FOR OPACITY CONTROL

I. Background

A. Emission Unit

Description: Catalytic Cracking Unit with CO Boilers (F-302 & F-304)
Facility: Anacortes Refinery

B. Applicable Regulation, Emission Limit and Monitoring Requirements

Emission limits:

Opacity: > 20% for no more than 3 minutes in any 1 hour using
M9A (NWCAA 451.1)
> 20% for no more than 3 minutes in any 1 hour using
M9A (WAC 173-400-040(2))

Monitoring requirements: Monitoring the hourly and 3-hour rolling average flue gas
and total scrubbing liquid flow rate

C. Control Technology

Wet Gas Venturi Scrubber

II. Monitoring Approach – Liquid to Gas Ratio

The key elements of the monitoring approach are presented below:

A. Indicator

Wet Gas Venturi Scrubber Liquid-to-Gas ratio is used as the indicator of satisfactory performance.

B. Measurement Approach

Water flow-magnetic flowmeter; Air rate-venturi flowmeter.
Liquid to Gas (L/G) ratio calculated.

C. Indicator Range

An excursion is defined as a 3-hour rolling average L/G ratio below the limit established in the performance test. An excursion is also a deviation. Excursions/deviations trigger an inspection, corrective action, and a reporting requirement.

D. Performance Criteria

Data Representativeness:	The magnetic flow meter is located in the water inlet line. The venturi flowmeter is located in the gas inlet duct.
Verification of Operational Status:	Not applicable
QA / QC Practices and Criteria:	Magnetic water flowmeter and venturi flowmeter-calibrated biennially.
Monitoring Frequency:	Water flow and air rate are measured continuously.
Data Collection Procedure:	L/G is calculated and recorded each minute.
Averaging Period:	3-hour rolling average.

III. Justification

A. Background

The pollutant-specific emissions unit (PSEU) is PM/opacity from a catalytic cracking unit at a petroleum refinery. Particulate matter from the CCU is controlled by a wet gas venturi scrubber. This emissions unit is subject to opacity limitations in both the Local and State rule in addition to particulate standards from 40 CFR 63 Subpart UUU among other standards. A continuous opacity monitoring system (COMS) is not practical on this type of stack because the water droplets will interfere with the COMS measurements. An alternative monitoring program utilizing monitoring of scrubber liquid to gas ratio has been proposed.

B. Rationale for Selection of Performance Indicator

Venturi scrubber liquid to gas (L/G) ratio was shown in a performance test using Method 9A showing no opacity when the L/G ratio was in spec, therefore the selection of the performance indicator was validated.

C. Rationale for Section of Indicator Level

The selected indicator range for L/G ratio is a 3-hour rolling average L/G ratio against a minimum value established in the performance test similar to what is required in 40 CFR 63 Subpart UUU (63.1564(a)(2) & Table 2 Option 2). Monitoring, recordkeeping, and reporting shall be done in accordance with 40 CFR 63 Subpart UUU.

SECTION 8 INAPPLICABLE REQUIREMENTS

The regulations identified in the following table do not apply to the Anacortes Refinery as of date of permit issuance.

CITATION	TITLE	BASIS
40 CFR 60 Subpart D	Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After August 17, 1971	Fossil-Fuel-Fired Steam Generators F-751 and F-752 were installed prior to August 17, 1971, and have not been Reconstructed or Modified, or are subject to more recent Standards of Performance.
40 CFR 60 Subpart Da	Standards of Performance for Electric Utility Steam Generating Units for Which Construction is Commenced After September 18, 1978.	No affected facilities
40 CFR 60 Subpart Dc	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units	No affected facilities
40 CFR 60 Subpart Ka	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984	The facility has no storage vessels subject to this requirement.
40 CFR 60 Subpart JJJJ	Standards of Performance for Stationary Spark Ignition Internal Combustion Engines	No affected facilities
40 CFR 61 Subpart Y	National Emission Standard for Benzene Emissions from Benzene Storage Vessels	The facility does not operate any storage vessels meeting the applicability threshold.
40 CFR 63 Subpart Q	National Emission Standards for Hazardous Air Pollutants for Industrial Process Cooling Towers	The facility does not use chromium-based water treatment chemicals in its process cooling towers.
40 CFR 63 Subpart LLLLL	National Emission Standards for Hazardous Air Pollutants for Asphalt Process and Roofing Manufacturing	The facility does not have any applicable emission units.
40 CFR 63 Subpart CCCCCC	National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities	The gasoline dispensing facility is not located at an area source of HAPs.