

Air Operating Permit – Final AOP 015R2

BP Products North America, Inc. Cherry Point Refinery

Blaine, Washington

Issued: June 15, 2022



Serving Island, Skagit & Whatcom Counties

PERMIT INFORMATION

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ATTEST

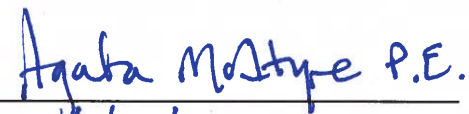
This permit is issued in accordance with the provisions of Section 322 of the Regulation of the Northwest Clean Air Agency and the provisions of Chapter 173-401 Washington Administrative Code.

Pursuant to Section 322 of the Regulation of the Northwest Clean Air Agency and Chapter 173-401 Washington Administrative Code, BP Products North America, Inc. is authorized to operate the Cherry Point Refinery subject to the terms and conditions of this permit.

Northwest Clean Air Agency Approval:


Date: 6/15/22

Robyn Jones, EIT
Environmental Engineer


Date: 6/15/22

Agata McIntyre, P.E.
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TABLE OF CONTENTS

Section 1	EMISSION UNIT IDENTIFICATION	6
1.1.	Crude and Vacuum Unit.....	7
1.2.	Isomerization Unit	8
1.3.	Reformer and Naphtha Units	9
1.4.	Light Ends and LPG Units.....	10
1.5.	Hydrocracker Unit.....	11
1.6.	Hydrogen Plants	12
1.7.	Delayed Coker Unit	13
1.8.	Sulfur Recovery Complex.....	14
1.9.	#1 Diesel HDS Unit.....	15
1.10.	#2 Diesel HDS Unit.....	15
1.11.	#3 Diesel HDS Unit.....	15
1.12.	Calciners and Coke Handling	16
1.13.	Boilers and Cooling Towers	17
1.14.	Flares and Flare Gas Recovery.....	18
1.15.	Shipping, Pumping & Receiving	19
1.16.	Non-Hazardous Waste Landfarm.....	20
1.17.	Oily Wastewater Collection, Storage and Treatment	21
1.18.	Petroleum Storage Tanks/Vessels	22
1.19.	Stationary Internal Combustion Engines	27
Section 2	STANDARD TERMS AND CONDITIONS.....	28
2.1.	Compliance Requirements.....	28
2.2.	Permit Terms	33
2.3.	Permit Shield	36
2.4.	Recordkeeping and Reporting.....	37
2.5.	Excess Emissions.....	44
2.6.	Duty to Supplement or Correct Information	46
2.7.	Prohibitions.....	46
2.8.	Notice of Construction and Application for Approval/New Source Review.....	48
2.9.	Greenhouse Gas Regulation	50
Section 3	STANDARD TERMS AND CONDITIONS FOR NSPS AND NESHAP	51
3.1.	Part 60 – New Source Performance Standard Requirements.....	51
3.2.	Part 61 – National Emission Standard for Hazardous Air Pollutant Requirements.....	58
3.3.	Part 63 – National Emission Standard for Hazardous Air Pollutant Requirements.....	63
3.4.	Part 65 – Consolidated Federal Air Rule	92
Section 4	GENERALLY APPLICABLE REQUIREMENTS	101
Section 5	SPECIFICALLY APPLICABLE REQUIREMENTS.....	117
5.1.	Crude and Vacuum Unit.....	119
5.2.	Isomerization Unit	129
5.3.	Reformer and Naphtha Units	138
5.4.	Light Ends and LPG Units.....	152
5.5.	Hydrocracker Unit.....	156
5.6.	Hydrogen Plants	172
5.7.	Delayed Coker Unit	190
5.8.	Sulfur Recovery Complex.....	206
5.9.	#1 Diesel HDS Unit.....	222
5.10.	#2 Diesel HDS Unit.....	230
5.11.	#3 Diesel HDS Unit.....	236
5.12.	Calciners and Coke Handling	244
5.13.	Boilers and Cooling Towers	253

5.14.	Flares and Flare Gas Recovery.....	268
5.15.	Shipping, Pumping, and Receiving	278
5.16.	Non-Hazardous Waste Landfarm.....	301
5.17.	Oily Wastewater Collection, Storage and Treatment	302
5.18.	Petroleum Storage Tanks/Vessels	319
5.19.	Stationary Internal Combustion Engines	332
Section 6	SPECIFICALLY APPLICABLE COMMON REQUIREMENTS.....	336
6.1.	Opacity Monitoring Recordkeeping and Reporting.....	337
6.2.	Cumulative Particulate and SO ₂ Limit	338
6.3.	Leak Detection and Repair (LDAR) Program under 40 CFR 60 Subpart VV	339
6.4.	Leak Detection and Repair (LDAR) Program under 40 CFR 60 Subpart VVa	353
6.5.	Boiler and Process Heater NESHAP.....	370
6.6.	Refinery MACT for Pressure Relief Devices	372
Section 7	INAPPLICABLE REQUIREMENTS	375
Section 8	DEFINITIONS AND ACRONYMS.....	378

SECTION 1 EMISSION UNIT IDENTIFICATION

This table lists emission units and activities included in the AOP that are located at the BP Products North America, Inc. Cherry Point Refinery, hereinafter referred to as BP Cherry Point Refinery. The information presented here in Section 1 is for informational purposes only.

Summary of Emission Unit Tables Listed in Section 1

1.1	Crude and Vacuum Unit
1.2	Isomerization Unit
1.3	Reformer and Naphtha Units
1.4	Light Ends and LPG Units
1.5	Hydrocracker Unit
1.6	Hydrogen Plants
1.7	Delayed Coker Unit
1.8	Sulfur Recovery Complex
1.9	#1 Diesel HDS Unit
1.10	#2 Diesel HDS Unit
1.11	#3 Diesel HDS Unit
1.12	Calciners and Coke Handling
1.13	Boilers and Cooling Towers
1.14	Flares and Flare Gas Recovery
1.15	Shipping, Pumping and Receiving
1.16	Non-Hazardous Landfarm
1.17	Oil Wastewater Collection, Storage and Treatment
1.18	Petroleum Storage Tanks/Vessels
1.19	Stationary Internal Combustion Engines

1.1. **Crude and Vacuum Unit**

Description (ID #)	Constructed /Modified ¹	Comments
Crude Heater (10-1401)	1970/1977	OAC 211c, OAC 1054, ACO 05, 40 CFR 63 Subpart DDDDD, BART Order 7836 Rev. 2, firing capacity 720 MMBtu/hour
South Vacuum Heater (10-1451)	1970/2005	OAC 211c, OAC 689c, OAC 902a, OAC 1054, ACO 05, 40 CFR 63 Subpart DDDDD, BART Order 7836 Rev. 2, firing capacity 222 MMBtu/hour, ULNB, NOx CEMS, O ₂ CEMS
North Vacuum Heater (10-1452)	1983/2019	OAC 273c, PSD-5 A4, 40 CFR 60 Subpart Ja, 40 CFR 63 Subpart DDDDD, firing capacity 117 MMBtu/hour, NOx CEMS, O ₂ CEMS
Vacuum Tower and Vacuum Diesel Fractionator Tail Gases (Vacuum Tail Gas)	1970/1999	OAC 689c, OAC 814d, Dedicated amine scrubber install in 1999, H ₂ S CEMS
Non-condensable VOC, hot wells with contact condensers	1970	NWCAA 580
Equipment Components	1970/1998	OAC 298a, OAC 640a, OAC 1200, 40 CFR 60 Subpart GGGa, 40 CFR 63 Subpart CC
Individual Drain System	1970/1998	OAC 640a, 40 CFR 60 Subpart QQQ, 40 CFR 63 Subpart CC, 40 CFR 61 Subpart FF
Chemical treater, equipment components	1971	40 CFR 63 Subpart CC

¹ Constructed, reconstructed, or modified per applicable regulatory definition unless otherwise noted.

1.2. **Isomerization Unit**

Description	Constructed / Modified ¹	Comments
Isomerization Heater (45-1402)	2004	OAC 814d, PSD-02-04 A2, 40 CFR 60 Subpart J, 40 CFR 63 Subpart DDDDD, firing capacity 13 MMBtu/hour, ULNB
Equipment Components	2004	OAC 814d, 40 CFR 60 Subpart GGG, 40 CFR 63 Subpart CC
Isomerization Splitter Tower and Overhead Accumulator Vent Streams	2019	40 CFR 60 Subpart NNN
Individual Drain System	2004	OAC 814d, 40 CFR 60 Subpart QQQ, 40 CFR 63 Subpart CC, 40 CFR 61 Subpart FF

¹ Constructed, reconstructed, or modified per applicable regulatory definition unless otherwise noted.

1.3. **Reformer and Naphtha Units**

Description (ID #)	Constructed /Modified ¹	Comments
#1 Reformer Heater (11-1403:1406)	1970/2007	OAC 211c, OAC 977a, OAC 1054, ACO 05, 40 CFR 63 Subpart DDDDD, BART Order 7836 Rev. 2, firing capacity 1075 MMBtu/hour
#1 Reformer Unit, Process Vents	1970/1990	OAC 298a, OAC 562d, 40 CFR 63 Subpart CC, 40 CFR 63 Subpart UUU
#1 Reformer Unit, Equipment Components	1970/2007	OAC 298a, OAC 562d, OAC 977a, 40 CFR 60 Subpart GGG, 40 CFR 61 Subpart J, 40 CFR 63 Subpart CC
Individual Drain System	1970/1996	OAC 562d, 40 CFR 60 Subpart QQQ, 40 CFR 63 Subpart CC, 40 CFR 61 Subpart FF
Naphtha HDS Charge Heater (11-1401)	1970	OAC 211c, OAC 1054, ACO 05, 40 CFR 63 Subpart DDDDD, BART Order 7836 Rev. 2, firing capacity 110 MMBtu/hour
Naphtha HDS Stripper Reboiler (11-1402)	1970	OAC 211c, OAC 1054, ACO 05, 40 CFR 63 Subpart DDDDD, BART Order 7836 Rev. 2, firing capacity 86 MMBtu/hour
Naphtha Unit, Process Vents		OAC 1141, 40 CFR 63 Subpart CC
Naphtha HDS Unit, Equipment Components	1970/2013	OAC 1141, 40 CFR 63 Subpart CC, 40 CFR 60 Subpart GGGa
#2 Reformer Heater (21-1421:1424)	1987	OAC 305b, PSD-7 A1, 40 CFR 60 Subpart J, 40 CFR 63 Subpart DDDDD, firing capacity 340 MMBtu/hour
#2 Reformer Unit, Process Vents		40 CFR 63 Subpart CC, 40 CFR 63 Subpart UUU
#2 Reformer Unit, Equipment Components	1987	40 CFR 60 Subpart GGG, 40 CFR 63 Subpart CC

¹ Constructed, reconstructed, or modified per applicable regulatory definition unless otherwise noted.

1.4. **Light Ends and LPG Units**

Description (ID #)	Constructed /Modified ¹	Comments
LPG Compressor (22-1801)		40 CFR 60 Subpart GGG
Equipment Components	1987/1990	OAC 298a, NWCAA 580, 40 CFR 60 Subpart GGG, 40 CFR 63 Subpart CC
Individual Drain System	1987	40 CFR 60 Subpart QQQ, 40 CFR 63 Subpart CC, 40 CFR 61 Subpart FF

¹ Constructed, reconstructed, or modified per applicable regulatory definition unless otherwise noted.

1.5. **Hydrocracker Unit**

Description (ID #)	Constructed /Modified ¹	Comments
Hydrocracker 1 st Stage Reactor Heater, R-1 (15-1401)	1970/2006	OAC 211c, OAC 966d, OAC 1054, ACO 05, 40 CFR 63 Subpart DDDDD, BART Order 7836 Rev. 2, firing capacity 121 MMBtu/hour, ULNB, NOx CEMS
Hydrocracker 2 nd Stage Reactor Heater, R-4 (15-1402)	1970	OAC 211c, OAC 1054, ACO 05, 40 CFR 63 Subpart DDDDD, BART Order 7836 Rev. 2, firing capacity 79 MMBtu/hour
Hydrocracker 1 st Stage Fractionator Reboiler (15-1451)	1970/2011	OAC 211c, OAC 1054, OAC 1067a, ACO 05, 40 CFR 63 Subpart DDDDD, BART Order 7836 Rev. 2, firing capacity 198 MMBtu/hour, ULNB, NOx CEMS
Hydrocracker 2 nd Stage Fractionator Reboiler (15-1452)	1970/2003	OAC 211c, OAC 847d, OAC 1054, ACO 05, 40 CFR 63 Subpart DDDDD, BART Order 7836 Rev. 2, firing capacity 183 MMBtu/hour
Process Vents	1970/1990	OAC 298a, OAC 1122, 40 CFR 63 Subpart CC
Equipment Components	1970/2003	OAC 298a, OAC 850a, OAC 966d, OAC 1122, 40 CFR 63 Subpart CC, 40 CFR 60 Subpart GGGa
Individual Drain System		OAC 562d, 40 CFR 60 Subpart QQQ, 40 CFR 63 Subpart CC, 40 CFR 61 Subpart FF

¹ Constructed, reconstructed, or modified per applicable regulatory definition unless otherwise noted.

1.6. Hydrogen Plants

Description (ID #)	Constructed /Modified ¹	Comments
#1 Hydrogen Plant, North Reforming Furnace (14-1401)	1970	OAC 211c, OAC 1054, ACO 05, firing capacity 325 MMBtu/hour, BART Order 7836 Rev. 2, 40 CFR 63 Subpart DDDDD
#1 Hydrogen Plant, South Reforming Furnace (14-1402)	1970	OAC 211c, OAC 1054, ACO 05, firing capacity 325 MMBtu/hour, BART Order 7836 Rev. 2, 40 CFR 63 Subpart DDDDD
#1 Hydrogen Plant Vent	1970	Off-gas can be routed to Praxair for CO ₂ utilization
#1 Hydrogen Plant, Equipment Components	1970	40 CFR 63 Subpart CC
Individual Drain System	1970	40 CFR 63 Subpart CC, 40 CFR 61 Subpart FF
#2 Hydrogen Plant, SMR Furnace (46-1401)	2012	OAC 1064b, PSD-10-01 A1, 40 CFR 60 Subpart Ja, 496 MMBtu/hr, ULNB and SCR, SO ₂ , CO, NO _x , and CO ₂ CEMS, 40 CFR 63 Subpart DDDDD
#2 Hydrogen Plant, Flare (46-2803)	2012	OAC 1064b, PSD-10-01 A1, 40 CFR 60 Subpart Ja, 40 CFR 63 Subpart CC
#2 Hydrogen Plant, Equipment Components	2012	40 CFR 60 Subpart GGGa, 40 CFR 63 Subpart CC
Individual Drain System	2012	OAC 1064b, 40 CFR 60 Subpart QQQ, 40 CFR 63 Subpart CC, 40 CFR 61 Subpart FF

¹ Constructed, reconstructed, or modified per applicable regulatory definition unless otherwise noted.

1.7. **Delayed Coker Unit**

Description (ID #)	Constructed /Modified ¹	Comments
East Coker Charge Heater	2018	OAC 1200, PSD 16-01, 40 CFR 60 Subpart Ja, firing capacity 303 MMBtu/hr, ULNB, CEMS for NO _x , CO, CO ₂ , SO ₂ , O ₂
West Coker Charge Heater	2018	OAC 1200, PSD 16-01, 40 CFR 60 Subpart Ja, firing capacity 303 MMBtu/hr, ULNB, CEMS for NO _x , CO, CO ₂ , SO ₂ , O ₂
Delayed Coker Blowdown Vapors	1970/2018	OAC 1201b, OAC 1200, OAC 1289, 40 CFR 60 Subpart GGGa
Lean Oil Adsorption System	2018	OAC 1200, 40 CFR 60 Subpart NNN
Process Vents	1970	OAC 1200, 40 CFR 63 Subpart CC
Equipment Components	1970/2018	OAC 1200, 40 CFR 60 Subpart GGGa, 40 CFR 63 Subpart CC
Individual Drain System	1970/1999	OAC 689c, 40 CFR 60 Subpart QQQ, 40 CFR 63 Subpart CC, 40 CFR 61 Subpart FF

¹ Constructed, reconstructed, or modified per applicable regulatory definition unless otherwise noted.

1.8. **Sulfur Recovery Complex**

Description (ID #)	Constructed /Modified ¹	Comments
Incinerator (17-1481)	1975/2006	OAC 211c, OAC 1201b, OAC 1054, 40 CFR 60 Subpart Ja, 40 CFR 63 Subpart UUU, BART Order 7836 Rev. 2. Refinery fuel gas used for supplemental firing, firing capacity 89 MMBtu/hr, SO ₂ CEMS
#2 Tail Gas Unit (25)	2006	OAC 1201b, 40 CFR 60 Subpart Ja, 40 CFR 63 Subpart UUU, BART Order 7836 Rev. 2. Natural gas used for supplemental firing, SO ₂ CEMS
Sulfur Pits & Sulfur Tanks	1970/2015	OAC 1201b, 40 CFR 60 Subpart Ja
Process Vents	1970	40 CFR 63 Subpart CC
Sour Water Unit, Equipment Components	1970/2010	OAC 1043, 40 CFR 60 Subpart GGGa
Individual Drain System	1970/2010	OAC 1043, 40 CFR 60 Subpart QQQ, 40 CFR 63 Subpart CC, 40 CFR 61 Subpart FF

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1.9. **#1 Diesel HDS Unit**

Description (ID #)	Constructed /Modified ¹	Comments
#1 Diesel HDS Charge Heater (13-1401)	1970/2006	OAC 211c, OAC 949c, OAC 1054, ACO 05, 40 CFR 63 Subpart DDDDD, BART Order 7836 Rev. 2, firing capacity 48 MMBtu/hour, ULNB, NOx CEMS
#1 Diesel HDS Stabilizer Reboiler (13-1402)	1970/2006	OAC 211c, OAC 949c, OAC 1054, ACO 05, 40 CFR 63 Subpart DDDDD, BART Order 7836 Rev. 2, firing capacity 56 MMBtu/hour, ULNB, NOx CEMS
Equipment Components	1970	OAC 949c, 40 CFR 63 Subpart CC

1.10. **#2 Diesel HDS Unit**

Description (ID #)	Constructed /Modified	Comments
#2 Diesel HDS Charge Heater (26-1401)	2006	OAC 892d, 40 CFR 60 Subpart J, 40 CFR 63 Subpart DDDDD, firing capacity 35 MMBtu/hour
Equipment Components	2006	OAC 892d, 40 CFR 60 Subpart GGG, 40 CFR 63 Subpart CC
Individual Drain System	2006	OAC 892d, 40 CFR 60 Subpart QQQ, 40 CFR 63 Subpart CC, 40 CFR 61 Subpart FF

1.11. **#3 Diesel HDS Unit**

Description (ID #)	Constructed /Modified	Comments
#3 Diesel HDS Charge Heater (27-1401)	2012	OAC 1064b, PSD-10-01 A1, 40 CFR 60 Subpart Ja, 40 CFR 63 Subpart DDDDD, firing capacity 28 MMBtu/hour, ULNB
Equipment Components	2012	40 CFR 60 Subpart GGGa, 40 CFR 63 Subpart CC
Individual Drain System	2012	OAC 1064b, 40 CFR 60 Subpart QQQ, 40 CFR 63 Subpart CC, 40 CFR 61 Subpart FF

¹ Constructed, reconstructed, or modified per applicable regulatory definition unless otherwise noted.

1.12. Calciners and Coke Handling

Description (ID #)	Constructed /Modified	Comments
#1 and #2 Calciners, Stack #1 (20-70)	1978/1998	OAC 211c, OAC 660b, OAC 689c, ACO 05, 40 CFR 60 Subpart J for refinery fuel gas used for supplemental firing, firing capacity 239 MMBtu/hr, 40 CFR 64 CAM, Stack emissions controlled by caustic scrubber and WESP, CEMS: SO ₂ , CO ₂ , O ₂ , and NO _x
#3 Calciner, Stack #2 (20-71)	1985/2008	OAC 985c, PSD-89-2, PSD-95-01 A2, ACO 05, 40 CFR 60 Subpart J for refinery fuel gas used for supplemental firing, firing capacity 378 MMBtu/hr, 40 CFR 64 CAM, Stack emissions controlled by caustic scrubber and WESP, CEMS: SO ₂ , CO ₂ , O ₂ and NO _x CEMS
Calcined Coke Handling Operations (20-72)	1988/1992	PSD-89-2
Individual Drain System		40 CFR 60 Subpart QQQ, 40 CFR 63 Subpart CC, 40 CFR 61 Subpart FF

1.13. **Boilers and Cooling Towers**

Description (ID#)	Constructed /Modified ¹	Comments
#4 Boiler (30-1604)	1991/2010	OAC 351f, ACO 05, 40 CFR 60 Subpart J, 40 CFR 60 Subpart Db, 40 CFR 63 Subpart DDDDD, firing capacity 216 MMBtu/hour, ULNB, NOx CEMS
#5 Boiler (30-1606)	2004	OAC 814d, PSD-02-04 A2, 40 CFR 60 Subpart J, 40 CFR 60 Subpart Db, 40 CFR 63 Subpart DDDDD, firing capacity 363 MMBtu/hour, ULNB, CO and NOx CEMS
#6 Boiler (30-1607)	2007	OAC 1001e, PSD-07-01 A2, 40 CFR 60 Subpart Ja, 40 CFR 60 Subpart Db, 40 CFR 63 Subpart DDDDD, firing capacity 363 MMBtu/hour, ULNB and SCR, CO, and NOx CEMS
#7 Boiler (30-1608)	2007	OAC 1001e, PSD-07-01 A2, 40 CFR 60 Subpart Ja, 40 CFR 60 Subpart Db, 40 CFR 63 Subpart DDDDD, firing capacity 363 MMBtu/hour, ULNB and SCR, CO, and NOx CEMS
Boilerhouse Equipment Components	2004/2007	OAC 1001e
Individual Drain System		40 CFR 60 Subpart QQQ, 40 CFR 63 Subpart CC, 40 CFR 61 Subpart FF
# 1 Cooling Tower (30)	1970	40 CFR 63 Subpart CC
#2 Cooling Tower (24)	1990	OAC 289b, 40 CFR 63 Subpart CC

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1.14. **Flares and Flare Gas Recovery**

Description (ID #)	Constructed /Modified ¹	Comments
High Pressure Flare (29-110)	1970/2009	OAC 211c, NWCAA 462, 40 CFR 60 Subpart A, 40 CFR 60 Subpart Ja, 40 CFR 63 Subpart A, 40 CFR 63 Subpart CC, BART Order 7836 Rev. 2, CEMS: H ₂ S and total sulfur
Low Pressure Flare (29-111)	1970/2009	OAC 211c, NWCAA 462, 40 CFR 60 Subpart A, 40 CFR 60 Subpart Ja, 40 CFR 63 Subpart A, 40 CFR 63 Subpart CC, BART Order 7836 Rev. 2, CEMS: H ₂ S and total sulfur
High Pressure Flare Gas Recovery Compressor (28-1803)	1970	40 CFR 63 Subpart CC
Low Pressure Flare Gas Recovery Compressor (28-1804)	1970	40 CFR 63 Subpart CC
Equipment Components	1970/2018	OAC 1289, NWCAA 580, 40 CFR 63 Subpart CC, 40 CFR 60 Subpart GGGa

¹ Constructed, reconstructed, or modified per applicable regulatory definition unless otherwise noted.

1.15. Shipping, Pumping & Receiving

Description (ID #)	Constructed / Modified ¹	Comments
Truck Rack (33-150)	1994/2001	OAC 527f, 40 CFR 60 Subpart XX, 40 CFR 63 Subpart R, 40 CFR 63 Subpart CC, NWCAA 580
Truck Rack Vapor Combustor (33-151)	1994	OAC 527f, 40 CFR 60 Subpart J for gasoline vapors, natural gas used for supplemental firing of the thermal oxidizer, firing capacity 40 MMBtu/hr
Truck Rack, Equipment Components	1994	40 CFR 63 Subpart CC, 40 CFR 63 Subpart R
Individual Drain System	1994/2001	OAC 527f, 40 CFR 60 Subpart QQQ, 40 CFR 63 Subpart CC, 40 CFR 61 Subpart FF
Marine Terminal, North Dock (35-160)	2001	OAC 716b, 40 CFR 63 Subpart Y, 40 CFR 63 Subpart CC, natural gas used for supplemental firing of the vapor combustor, firing capacity 267 MMBtu/hr
Marine Terminal South Dock (35-162)	1970	
Marine Terminal, Vapor Combustor (35-161)	2001	
Marine Terminal, Equipment Components	1970/2001	
Dock Piping System Equipment Components	1993	NWCAA 580
LPG Loading, Equipment Components (37)	1970	NWCAA 580
Organic Liquids Distribution		40 CFR 61 Subpart BB, 40 CFR 63 Subpart EEEE
NE Rail Facility	2013	OAC 1142, 40 CFR 60 Subpart QQQ, 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC

¹ Constructed, reconstructed, or modified per applicable regulatory definition unless otherwise noted.

1.16. **Non-Hazardous Waste Landfarm**

Description (ID #)	Constructed / Modified ¹	Comments
Landfarm for non-hazardous wastes	1992	OAC 382a

¹ Constructed, reconstructed, or modified per applicable regulatory definition unless otherwise noted.

1.17. Oily Wastewater Collection, Storage and Treatment

Description (ID #)	Constructed /Modified ¹	Comments
General	1992	OAC 348a
Process Drains and Junction Boxes	1992	40 CFR 60 Subpart QQQ, 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC
Individual Drain System	1992	
Gauging and Sampling Devices	1992	
Covers & Openings	1992	
Miscellaneous Sewer Lines and Covers	1992	
API Separators (32)	1970/1992	
API Effluent Sump-Floating Roof (32)	1992	
Closed Vent Systems	1992	
Carbon Adsorption Control Devices	1992	
Containers	1992	40 CFR 60 Subpart QQQ, 40 CFR 61 Subpart FF
Internal Floating Roof, Wastewater Storage Tanks (Tanks 320, 321, 322, 323)	1992	OAC 348a, NWCAA 560, NWCAA 580, 40 CFR 60 Subpart QQQ, 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC

¹ Constructed, reconstructed, or modified per applicable regulatory definition unless otherwise noted.

1.18. **Petroleum Storage Tanks/Vessels**

Tank #	Tank Service	MTVP	Size Mbbls	Roof Type	# Seals	Constructed /Modified ¹	Comments
1	Petroleum Products	>0.75	139.5	IFR	1	1970	40 CFR 63 Subpart CC - Group 1, OAC 562d
2	Petroleum Products	>0.75	139.8	IFR	1	1970	40 CFR 63 Subpart CC - Group 1, OAC 562d
3	Petroleum Products	>0.75	137.9	IFR	1	1970	40 CFR 63 Subpart CC - Group 1, OAC 562d
4	Petroleum Products	>0.75	139.7	IFR	2	1970	40 CFR 63 Subpart CC - Group 1, OAC 562d
5	Petroleum Products	>0.75	139.7	IFR	2	1970	40 CFR 63 Subpart CC - Group 1, OAC 562d
6	Petroleum Products	>0.75	139.5	IFR	2	1970	40 CFR 63 Subpart CC - Group 1, OAC 562d
7	Petroleum Products	>0.75	139.8	IFR	2	1970	40 CFR 63 Subpart CC - Group 1, OAC 562d
8	Petroleum Products	>0.75	138.9	IFR	1	1970	40 CFR 63 Subpart CC - Group 1, OAC 562d
9	Petroleum Products	>0.75	99.5	IFR	1	1970	40 CFR 63 Subpart CC - Group 1, OAC 562d
10	Petroleum Products	>0.75	142.8	IFR	2	1970	40 CFR 63 Subpart CC - Group 1, OAC 562d
11	Petroleum Products	<0.75	142.7	IFR	1	1970	40 CFR 63 Subpart CC - Group 2
12	Petroleum Products	<0.75	142.8	IFR	1	1970	40 CFR 63 Subpart CC - Group 2
13	Petroleum Products	<0.75	137.4	IFR	1	1970	40 CFR 63 Subpart CC - Group 2
14	Petroleum Products	>0.75	142.3	IFR	1	1970	40 CFR 63 Subpart CC - Group 1, OAC 562d
15	Petroleum Products	<0.75	141.7	IFR	1	1970	40 CFR 63 Subpart CC - Group 2
16	Petroleum Products	<0.75	142.4	IFR	1	1970	40 CFR 63 Subpart CC - Group 2
17	Petroleum Products	>0.75	140.0	IFR	2	1970	40 CFR 63 Subpart CC - Group 1
18	Petroleum Products	>0.75	194.4	IFR	2	1970	40 CFR 63 Subpart CC - Group 1
19	Petroleum Products	<0.75	140.3	IFR	1	1970	40 CFR 63 Subpart CC - Group 2
20	Petroleum Products	<0.75	139.5	IFR	2	1970	40 CFR 63 Subpart CC - Group 2
21	Petroleum Products	>0.75	201.0	IFR	1	1970	40 CFR 63 Subpart CC - Group 1
22	Petroleum Products	>0.75	138.8	IFR	2	1975	40 CFR 63 Subpart CC - Group 1, 40 CFR 60 Subpart K
23	Petroleum Products	<0.75	201.0	IFR	1	1970	40 CFR 63 Subpart CC - Group 2

Tank #	Tank Service	MTVP	Size Mbbls	Roof Type	# Seals	Constructed /Modified ¹	Comments
24	Petroleum Products	>0.75	205.3	IFR-D	2	1994	40 CFR 63 Subpart CC - Group 1, 40 CFR 60 Subpart Kb
25	Petroleum Products	>0.75	22.6	IFR	2	1970	40 CFR 63 Subpart CC - Group 1
26	Petroleum Products	>0.75	97.5	IFR	2	1970	40 CFR 63 Subpart CC - Group 1
27	Petroleum Products	>0.75	139.8	IFR	1	1970	40 CFR 63 Subpart CC - Group 1
28	Petroleum Products	<0.75	144.2	Cylinder		1970	40 CFR 63 Subpart CC - Group 2
29	Petroleum Products	<0.75	49.7	IFR	1	1970	40 CFR 63 Subpart CC - Group 2
30	Petroleum Products	<0.75	138.3	Cylinder		1970	40 CFR 63 Subpart CC - Group 2
31	Petroleum Products	>0.75	139.4	IFR	1	1970	40 CFR 63 Subpart CC - Group 1
32	Petroleum Products	<0.75	143.6	Cylinder		1970	40 CFR 63 Subpart CC - Group 2
33	Petroleum Products	<0.75	102.9	IFR	1	1970	40 CFR 63 Subpart CC - Group 2
34	Distillate	<0.75	144.8	Cylinder		1970	40 CFR 63 Subpart CC - Group 2
37	Distillate	<0.75	138.4	Cylinder		1975	40 CFR 63 Subpart CC - Group 2, 40 CFR 60 Subpart K
38	Distillate	<0.75	149.5	Cylinder		1970	40 CFR 63 Subpart CC - Group 2
40	Crude	>0.75	400.0	IFR	2	2004	40 CFR 63 Subpart CC - Group 1, 40 CFR 60 Subpart Kb, OAC 897a
41	Crude	>0.75	241.4	IFR	2	1970	40 CFR 63 Subpart CC - Group 1
42	Crude	>0.75	247.7	IFR	2	1970	40 CFR 63 Subpart CC - Group 1
43	Crude/Jet/Misc.	>0.75	248.3	IFR	1	1970	40 CFR 63 Subpart CC - Group 1
44	Crude	>0.75	249.3	IFR	2	1970	40 CFR 63 Subpart CC - Group 1
45	Crude	>0.75	245.4	IFR	1	1970	40 CFR 63 Subpart CC - Group 1
46	Crude	>0.75	248.8	IFR	2	1970	40 CFR 63 Subpart CC - Group 1
47	Crude	>0.75	260.8	IFR	2	1973	40 CFR 63 Subpart CC - Group 1, 40 CFR 60 Subpart K

Tank #	Tank Service	MTVP	Size Mbbls	Roof Type	# Seals	Constructed /Modified ¹	Comments
48	Crude	>0.75	260.2	IFR	1	1973	40 CFR 63 Subpart CC - Group 1, 40 CFR 60 Subpart K
49	Crude	>0.75	389.6	IFR	2	1998	40 CFR 63 Subpart CC - Group 1, 40 CFR 60 Subpart Kb, OAC 620b
50	Crude	>0.75	485.7	IFR	1	1989	40 CFR 63 Subpart CC - Group 1, 40 CFR 60 Subpart Kb
60	Pentane/Butane		30.0	Sphere		1990	Pressure vessel
61	Pentane/Butane		30.0	Sphere		1970	Pressure vessel
62	Pentane/Butane		30.0	Sphere		1990	Pressure vessel
63	Pentane/Butane		15.0	Sphere		1970	Pressure vessel
64	Pentane/Butane		15.0	Sphere		1970	Pressure vessel
65	Pentane/Butane		15.0	Sphere		1970	Pressure Vessel
70	Petroleum Products	<0.75	102.6	Cylinder		1970	40 CFR 63 Subpart CC - Group 2
71	Petroleum Products	>0.75	30.8	IFR	2	1992	40 CFR 63 Subpart CC - Group 1, 40 CFR 60 Subpart Kb
72	Diesel/Gasoline	>0.75	18.4	IFR	2	1995	40 CFR 63 Subpart CC - Group 1, 40 CFR 60 Subpart Kb, OAC 527f
73	Diesel/Gasoline	>0.75	9.7	IFR	1	1995	40 CFR 63 Subpart CC - Group 1, 40 CFR 60 Subpart Kb, OAC 527f
74	Diesel/Gasoline	>0.75	9.7	IFR	2	1995	40 CFR 63 Subpart CC - Group 1, 40 CFR 60 Subpart Kb, OAC 527f
81	LPG		1.8	Bullet		1986	Pressure Vessel
82	LPG		1.8	Bullet		1986	Pressure Vessel
83	LPG		1.8	Bullet		1986	Pressure Vessel
84	LPG		1.8	Bullet		1986	Pressure Vessel
85	LPG		1.8	Bullet		1986	Pressure Vessel

Tank #	Tank Service	MTVP	Size Mbbls	Roof Type	# Seals	Constructed /Modified ¹	Comments
86	LPG		1.8	Bullet		1986	Pressure Vessel
87	LPG		1.8	Bullet		1986	Pressure Vessel
88	LPG		1.8	Bullet		1986	Pressure Vessel
89	LPG		1.8	Bullet		1986	Pressure Vessel
Tankfarm Equipment Components							40 CFR 63 Subpart CC (LDAR)
Individual Drain System							OAC 620b, OAC 897a, 40 CFR 60 Subpart QQQ, 40 CFR 63 Subpart CC, 40 CFR 61 Subpart FF
MTVP = Maximum true vapor pressure, IFR=Internal floating roof, IFR-D=Internal floating roof with geodesic dome cover							
¹ Constructed, reconstructed, or modified per applicable regulatory definition unless otherwise noted.							

1.19. Stationary Internal Combustion Engines

ID #	Description	Constructed ¹	Location
All engines are subject to the applicable requirements of 40 CFR 60 Subpart IIII and 40 CFR 63 Subpart ZZZZ.			
38-GEN-01	230 hp, diesel-fired, emergency generator	2012	North Barclay
91-GEN-P1E	157 hp, diesel-fired, emergency generator	2011	P1 Substation
91-GEN-P2E	157 hp, diesel-fired, emergency generator	2011	P2 Substation
91-GEN-P3E	230 hp, diesel-fired, emergency generator	2011	P3 Substation
91-GEN-P4E	230 hp, diesel-fired, emergency generator	2011	P4 Substation
91-GEN-P5E	230 hp, diesel-fired, emergency generator	2011	P5 Substation
91-GEN-P6E	230 hp, diesel-fired, emergency generator	2011	P6 Substation
91-GEN-P7E	230 hp, diesel-fired, emergency generator	2011	P7 Substation
91-GEN-P8E	230 hp, diesel-fired, emergency generator	2011	P8 Substation
91-GEN-P10E	230 hp, diesel-fired, emergency generator	2011	P10 Substation
91-GEN-P21E	230 hp, diesel-fired, emergency generator	2011	P3 Substation, backup for Unit 21
91-GEN-P26E	230 hp, diesel-fired, emergency generator	2011	Unit 26 (ULSD) MCC Building
91-GEN-P30E	230 hp, diesel-fired, emergency generator	2011	P5 Substation, backup for Boilerhouse
91-GEN-MCR1E	470 hp, diesel-fired, emergency generator	2012	P6 Substation
91-GEN-MCR2E	470 hp, diesel-fired, emergency generator	2012	P6 Substation
40-2835	1,356 hp, diesel-fired, emergency generator	2012	Fresh Water Pond area
12-1564	175 hp, diesel-fired, emergency generator	2012	South of Delayed Coker Unit
32-1507-02D	1,356 hp, diesel-fired, emergency generator	2012	Wastewater, at Final Effluent building
40-1501-02D	175 hp, diesel-fired, emergency generator	2012	Fresh Water Pond area, Inside of Building

¹ Constructed, reconstructed, or modified per applicable regulatory definition unless otherwise noted.

SECTION 2 STANDARD TERMS AND CONDITIONS

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

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

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

2.1. Compliance Requirements

2.1.1. Duty to Comply

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

The permittee shall comply with all terms and conditions of this permit. Any permit noncompliance constitutes a violation of RCW 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 (11/17/2011)

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

2.1.2. Civil and Criminal Penalties

2.1.2.1. State Only: WAC 173-400-230(2) (3/20/1993), WAC 173-400-240 (3/22/1991), NWCAA Section 131 (3/14/2013), NWCAA Sections 132 (8/13/2015) & 133 (2/10/2022), 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 (9/20/1993) and NWCAA 133.2 (2/20/2022)

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) (11/4/1993)

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

2.1.4. Duty to Provide Information

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

The permittee shall furnish to the 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 (11/8/2007)

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

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

2.1.6. Inspection and Entry

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

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

- (i) Enter upon the permittee's premises where a chapter 401 source is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit,
- (ii) Have access to and copy, at reasonable times, any records that must be kept under the condition of the permit,
- (iii) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit, and,
- (iv) Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the permit or applicable requirements.

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

2.1.7. Investigation and Studies

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

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

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

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

2.1.8. Source Testing

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

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

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

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

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

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

- (i) A source test plan shall be submitted to the NWCAA for approval for all compliance source tests at least 30 days prior to scheduled testing. A summary of the test shall accompany the test plan and be submitted on a template provided by the NWCAA.
- (ii) Once a test plan has been approved, any changes in test dates or methodology shall require NWCAA approval.
- (iii) Results of required source tests must be submitted within 60 days of completion of the test unless prior approval is granted by NWCAA.

2.1.9. Testing and Sampling

2.1.9.1. NWCAA 360.1 (2/14/1973)

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

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

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

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

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

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

2.1.10. Ambient Air and Continuous Emission Monitoring

2.1.10.1. NWCAA 365.1 (2/8/1989)

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

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

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

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

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

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

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

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

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

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

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

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

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

Auditing of opacity monitors shall be conducted according to recommended procedures. Data accuracy assessments shall be conducted at least once every calendar quarter for gaseous monitors and at appropriate periodic intervals. Relative Accuracy Test Audits (RATAs), Relative

Accuracy Audits (RAAs) and Cylinder Gas Audits (CGAs) shall be employed as described in 40 CFR Part 60 (or 40 CFR Part 75 if the facility is subject to acid rain regulations).

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

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

The following data shall be submitted to the NWCAA 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 (2/24/1997)

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

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

2.2.2. Permit Actions

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

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

2.2.3. Emissions Trading

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

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

2.2.4. Emission Reduction Credits

WAC 173-400-131 and WAC 173-400-136 (4/1/2011)

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

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

2.2.5. Severability

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

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

2.2.6. Permit Appeals

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

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

2.2.7. Permit Continuation

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

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

2.2.8. Reopening for Cause

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

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

- (i) Additional requirements become applicable to the source with a remaining permit term of three or more years. Such a reopening shall be completed not later than 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 (10/17/2002) and WAC 173-401-724 (3/5/2016)

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

2.2.10. Permit Modifications

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

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

2.2.11. Property Rights

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

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

2.2.12. Definitions

NWCAA Section 200 (4/11/2019)

State Only: NWCAA Section 200 (2/10/2022)

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

2.2.13. Compliance Schedule

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

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

2.2.14. Permit Fees

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

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

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

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

2.2.15. Transfer or Permanent Shutdown

2.2.15.1. NWCAA Section 325 (2/14/1973)

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

2.2.15.2. State Only: NWCAA Section 325 (2/10/2022)

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) (11/4/1993)

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

2.3.2. Inapplicable Requirements

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

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

2.3.3. Exclusions

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

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

- (i) Provisions of Section 303 of the FCAA (emergency orders), including the authority of the EPA Administrator under that section,
- (ii) Liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance,
- (iii) Ability of EPA to obtain information from a source pursuant to Section 114 of the FCAA, or,

- (iv) Ability of the permitting authority to establish or revise requirements for the use of reasonably available control technology (RACT) as provided in RCW 70A.15.2330.

2.3.4. Reasonably Available Control Technology

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

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

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

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

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

All emissions units are required to use RACT which may be determined for some sources or source categories to be more stringent than the applicable emission limitations of any chapter of Title 173 WAC. Where current controls are determined to be less than RACT, the permitting authority shall, as provided in RCW 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 (10/8/2015)

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 (11/4/1993)

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

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

2.4. Recordkeeping and Reporting

2.4.1. Compliance Certification

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

The permittee shall submit ongoing certifications of compliance with permit terms and conditions. The first such certification shall cover the period from the last compliance certification until issuance of this permit. The following compliance certification shall cover the

period from permit issuance to the end of the calendar year. Subsequent compliance certifications shall be made on a yearly basis. Each certification shall include:

- (i) Identification of each term and condition of the permit that is the basis of the certification,
- (ii) Compliance status,
- (iii) Whether the compliance was continuous or intermittent,
- (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 (11/4/1993)

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

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

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

The semi-annual monitoring reports shall cover the calendar months of January through June, and July through December. Semi-annual monitoring reports for the first half of the calendar year are due July 31st, and for the second half of the calendar year are due January 31st. Unless otherwise stated, if the monitoring report due date falls on a weekend or a state holiday, the time period shall be extended to the next business day.

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

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

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

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

No person shall willfully make a false or misleading oral statement to the NWCAA 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 NWCAA if the purpose of such reproduction or alteration is to evade or violate any provision or Regulation of the NWCAA, or any other law.

2.4.3. Required Recordkeeping

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

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

- (i) Date, time, and location of sampling or measurements,
- (ii) Operating conditions existing at the time of sampling or measurement, and,
- (iii) If analyses were performed, the date, company or entity performing the analyses, the analytical techniques or methods used, and the results of such analyses.

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

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

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

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

2.4.4. Pollutant Disclosure - Reporting by Air Contaminant Sources

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

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

- (i) The nature of the enterprise,
- (ii) A list of process materials which are potentially significant sources of emissions used in, and incidental to, its manufacturing processes, including any by-products and waste products, and,
- (iii) An estimated annual total production of wastes discharged into the air in units and contaminants designated by the NWCAA that may include stack and fugitive emissions of particulate matter, 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) (11/25/2018)

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

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 (2/10/2022)

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,
- (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) (3/12/2022)

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

- (i) An owner or operator of any facility listed in WAC 173-441-120 that emits 10,000 metric tons CO₂e or more per calendar year in total GHG emissions as calculated according to WAC 173-441-030(1)(b).
- (ii) An owner or operator of any supplier with total GHG emissions in Washington that exceed 10,000 metric tons of CO₂e or more per calendar year as calculated according to WAC 173-441-030(2)(b).

A person may choose to voluntarily report to Ecology GHG emissions that are not required to be reported under WAC 173-441-030(1) or (2). Persons voluntarily reporting GHG emissions must

use the methods established in WAC 173-441-120(3) and 173-441-122(1)(c) to calculate any voluntarily reported GHG emissions.

Once a reporter is subject to the requirements of this chapter, the person must continue for each year thereafter to comply with all requirements of this chapter, including the requirement to submit annual GHG reports, even if the 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 (3/12/2022)

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

Beginning calendar year 2012 for existing reporters, the annual GHG report shall contain the information required per WAC 173-441-050(3) and (4) and be submitted to Ecology no later than March 31st of each calendar year for GHG emissions in the previous calendar year if the facility is required to report or is voluntarily reporting GHG emissions. Unless otherwise stated, if the final day of any time period falls on a weekend or a state holiday, the time period shall be extended to the next business day.

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

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

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

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

"I am authorized to make this submission on behalf of the owners and operators of the 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 (3/12/2022)

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

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

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

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

2.4.7. Reporting of Deviations from Permit Conditions

WAC 173-401-615(3)(b) (10/17/2002)

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

Prompt Reporting of Deviations: The permittee shall promptly report all deviations from permit requirements, including those attributable to upset conditions as defined in this permit. The report shall include a description of the probable cause of such deviations, if known, and any corrective actions or preventive measures taken. Prompt means reporting according to the shortest time period listed below which applies to the situation:

- (i) In the case where the deviation represents a potential threat to human health or safety "prompt" means as soon as possible, but in no case later than twelve hours after the deviation is discovered. A follow up report on the deviation shall be included in the next monthly report.
- (ii) For all other deviations, the deviation shall be reported as part of the next routine monitoring report, but no later than 30 days after the end of the month during which the deviation is discovered, whichever is sooner.

2.4.8. Report of Breakdown and Upset

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

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

- (i) The upset or breakdown shall be reported as promptly as possible and in no event later than 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 (11/8/2007)

If a breakdown or upset condition occurs which results in or may have resulted in an exceedance of an emission and/or ambient air quality standard, 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.

In addition to the reporting requirements of the 10/13/94 version of NWCAA 340, the permittee must also report to the NWCAA if the emission release to the air requires agency notification as specified in 40 CFR 302 (CERCLA) or 40 CFR 355 (SARA).

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 (9/8/1993)

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

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

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

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

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

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

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

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

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

2.4.10. Operation and Maintenance

2.4.10.1. NWCAA Section 342 (9/8/1993)

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

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

If a breakdown or violation occurs and is due to the improper operation or maintenance of equipment, the owner or operator of the source will, in addition to filing a report of breakdown under NWCAA 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 (7/14/2005)

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

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

2.5. Excess Emissions

2.5.1. Excess Emissions

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

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

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

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

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

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

- (i) The event was not caused by poor or inadequate design, operation, maintenance, or any other reasonably preventable condition,
- (ii) The event was not of a recurring pattern indicative of inadequate design, operation, or maintenance, and,
- (iii) The permittee took immediate and appropriate corrective action in a manner consistent with good air pollution control practice for minimizing emissions during the event, taking into account the total emissions impact of the corrective action, including slowing or shutting down the emission unit as necessary to minimize emissions, when the operator knew or should have known that an emission standard or permit condition was being exceeded.

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

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

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

- (i) The event was not caused by poor or inadequate design, operation, maintenance, or any other reasonably preventable condition,
- (ii) The event was not of a recurring pattern indicative of inadequate design, operation, or maintenance,
- (iii) The operator took immediate and appropriate corrective action in a manner consistent with good air pollution control practice, and,
- (iv) The emissions did not result in a violation of an ambient air quality standard.

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

2.6. **Duty to Supplement or Correct Information**

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

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

2.7. **Prohibitions**

2.7.1. **Concealment and Masking**

2.7.1.1. WAC 173-400-040(7) (3/22/1991)

State Only: WAC 173-400-040(8) (9/16/2018)

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

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

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

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

2.7.2. **Adjustment for Atmospheric Conditions**

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

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

2.7.3. **Outdoor Burning**

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

No person shall conduct outdoor burning during an air pollution episode or a declared period of impaired air quality. Except as provided in WAC 173-425-055, the following materials shall not be burned in any open fire: 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 (4/13/2000), NWCAA Section 502 (9/11/2014)

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

2.7.4. Asbestos

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

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

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

The permittee shall comply with 40 CFR 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 (3/11/2020)

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

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

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

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

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

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

Any order, 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) (11/25/2018)

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) (11/25/2018)

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 (12/3/2018)

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

2.7.11. Cutback Asphalt Paving

NWCAA 580.7 (4/14/1993)

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

2.7.12. Creditable Stack Height and Dispersion Techniques

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

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

2.8. Notice of Construction and Application for Approval/New Source Review

2.8.1. Minor New Source Review (NSR)

2.8.1.1. NWCAA Sections 300 (4/11/2019), 324.2 (10/13/1994), WAC 173-400-111 (7/1/2016), and -113 (12/29/2012)

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 (6/20/2009), -040 (12/23/2019), -050 through -071 (6/20/2009), -080 (12/23/2019), -090 and -100 (6/20/2009), -140 (9/18/1991), -150 (12/23/2019), NWCAA Section 300 (2/10/2022) and 303 (4/11/2019), and NWCAA 324.2 (9/11/2014)

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 (4/11/2019)

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 biodiesel, 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 (11/15/1988)

Any orders issued by NWCAA are subject to appeal.

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

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

2.8.4. Requirements to Comply

NWCAA 300.13 (4/11/2019)

State Only: NWCAA 300.13 (2/10/2022)

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.

2.8.5. Prevention of Significant Deterioration (PSD)

WAC 173-400-117 (12/29/2012)

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

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

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

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

State Only: NWCAA 300.25 (2/10/2022)

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

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

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

2.9. Greenhouse Gas Regulation

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

Greenhouse gases (GHGs), the air pollutant defined in 40 CFR 86.1818-12(a) as the aggregate group of six greenhouse gases: Carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride, shall not be subject to regulation under this chapter unless, as of January 2, 2011, the GHG emissions are at a stationary source emitting or having the potential to emit 100,000 tpy CO₂ equivalent emissions and the source is otherwise required to have an operating permit.

The term "tpy (tons per year) CO₂ equivalent emissions" (CO₂e) 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 CO₂e.

"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 have been adopted by reference in Section 104.2 of the NWCAA Regulation. NWCAA 104.2 was last amended by the agency on February 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) (4/25/1975) (as amended by Delegation Letter dated 11/2/2021 from Krishna Viswanathan, Director of the Office of Air and Radiation, EPA Region 10 to Mark Buford, Director of NWCAA)

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

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

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

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

3.1.2. Notification

40 CFR 60.7(a) (2/12/1999) (as amended by Delegation Letter dated 11/2/2021 from Krishna Viswanathan, Director of the Office of Air and Radiation, EPA Region 10 to Mark Buford, Director of NWCAA)

Furnish written notification to the Administrator of the following:

- (i) The date construction (or reconstruction as defined by 40 CFR 60.15) of an affected facility commenced postmarked no later than 30 days after such date,
- (ii) Notification of the actual date of initial startup of an affected facility postmarked within 15 days after such date,
- (iii) Notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies, unless that change is specifically exempted under an applicable subpart or in 40 CFR 60.14(e). This notice shall be postmarked 60 days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change,
- (iv) Notification of the date upon which demonstration of the continuous monitoring system performance commences in accordance with 40 CFR 60.13(c). Notification shall be postmarked not less than 30 days prior to such date,
- (v) Notification of the anticipated date for conducting the opacity observations required by 40 CFR 60.11(e)(1) of this part. The notification shall be postmarked not less than 30 days prior to such date, and,
- (vi) Notification that continuous opacity monitoring system data results will be used to determine compliance with the applicable opacity standard during a performance test required by 60.8 in lieu of Method 9 observation data as allowed by 40 CFR 60.11(e)(5) of this part. This notification shall be postmarked not less than 30 days prior to the date of the performance test.

3.1.3. Startup, Shutdown, and Malfunction Records

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

Maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative.

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

Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard.

3.1.4. Excess Emission Records

3.1.4.1. 40 CFR 60.7(c) and (d) (2/12/1999) (as amended by Delegation Letter dated 11/2/2021 from Krishna Viswanathan, Director of the Office of Air and Radiation, EPA Region 10 to Mark Buford, Director of NWCAA)

Each owner or operator required to install a continuous monitoring device shall submit excess emissions and monitoring systems performance report (as defined in applicable subparts) and/or summary report form (see 60.7(d)) to the Administrator semiannually, except when: more frequent reporting is specifically required in any subpart; or the Administrator determines that

more frequent reporting is necessary. All reports shall be postmarked by the 30th day following the end of each six-month period. Written reports of excess emissions shall include the information in 40 CFR 60.7(c)(1) through (4).

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

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

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

- (i) The date that the exceedance occurred,
- (ii) An explanation of the exceedance,
- (iii) Whether the exceedance was concurrent with a startup, shutdown, or malfunction of an affected facility or control system,
- (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, and,
- (vii) A written statement, signed by a responsible official, certifying the accuracy and completeness of the information contained in the report.

3.1.5. Maintenance of Records

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

Maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by this part recorded in a permanent form suitable for inspection. The file shall be retained for at least two years following the date of such measurements, maintenance, reports, and records, except as described in 60.7(f)(1) through (3).

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

3.1.6. Performance Tests

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

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

The owner or operator of an affected facility shall provide the Administrator at least 30 days prior notice of any performance test, except as specified under other subparts, to afford the Administrator the opportunity to have an observer present. If after 30 days' notice for an initially scheduled performance test, there is a delay (due to operational problems, etc.) in conducting the scheduled performance test, the owner or operator of an affected facility shall notify the Administrator as soon as possible of any delay in the original test date, either by providing at least 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), and,
- (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, and,
- (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) (8/30/2016)

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

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

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

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

3.1.8. Compliance with Opacity Standards

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

Compliance with opacity standards in 40 CFR Part 60 shall be determined by EPA Method 9 in Appendix A. For purposes of determining 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) (10/17/2000)

At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility, including associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions.

3.1.10. Credible Evidence

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

For the purpose of submitting compliance certifications or establishing whether or not a person has violated or is in violation of any standard in this part, nothing in this part shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed.

3.1.11. Circumvention

40 CFR 60.12 (3/8/1974)

No owner or operator subject to the provisions of this part shall build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not

limited to, the use of gaseous diluents to achieve compliance with an opacity standard or a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere.

3.1.12. Monitoring Requirements

40 CFR 60.13 (6/30/2016)

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

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

Owners and operators of a CEMS installed in accordance with the provisions of this part, must check the zero (or low-level value between 0 and 20 percent of span value) and span (50 to 100 percent of span value) calibration drifts at least once daily in accordance with a written procedure. The zero and span must, as a minimum, be adjusted whenever either the 24-hour zero drift or the 24-hour span drift exceeds two times the limit of the applicable performance specification in appendix B of this part. The system must allow the amount of the excess zero and span drift to be recorded and quantified whenever specified.

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

Owners or operators of continuous monitoring systems for pollutants other than opacity shall reduce all data to 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 (10/17/2000)

Except as provided under paragraphs (e) and (f) of this section, any physical or operational change to an existing facility which results in an increase in the emission rate to the atmosphere of any pollutant to which a standard applies shall be considered a modification within the meaning of section 111 of the Act. Upon modification, an existing facility shall become an affected facility for each pollutant to which a standard applies and for which there is an increase in the emission rate to the atmosphere.

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

3.1.14. Recordkeeping and Reporting for 40 CFR Part 60 Subpart Kb

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

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

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

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

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

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

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

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

For stormwater sewer systems subject to the exclusion in 60.692-1(d)(1), an owner or operator shall keep for the life of the facility in a readily accessible location, plans or specifications which demonstrate that no wastewater from any process units or equipment is directly discharged to the stormwater sewer system.

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

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

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

3.1.18. Recordkeeping for Non-Contact Cooling Water Systems Excluded from 40 CFR Part 60 Subpart QQQ

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

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

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

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

For owners and operators of stationary compression ignition (CI) internal combustion engines (ICE) that commenced construction after July 11, 2005, it is prohibited to import stationary CI ICE with a

displacement of less than 30 liters per cylinder that do not meet the following requirements by the specified dates:

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

Notifications, reports, and applications for delegated Part 61 National Emission Standards for Hazardous Air Pollutants (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 (11/7/1985), and 61.10(a) and (c) (3/16/1994)

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

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

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

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

- (iv) The precise nature of the proposed changes,
- (v) The productive capacity of the source before and after the changes are completed, and,
- (vi) Calculations of estimates of emissions before and after the changes are completed, in sufficient detail to permit assessment of the validity of the calculations.

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

- (vii) 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, and,
- (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) (11/7/1985)

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

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

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

3.2.4. Application for Approval of Construction or Modification

40 CFR 61.07 (11/7/1985)

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

3.2.5. Notification of Startup

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

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

3.2.6. Operation and Maintenance

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

The owner or operator of each stationary source shall maintain and operate the source, including associated equipment for air pollution control, in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operating and maintenance procedures, and inspection of the source.

3.2.7. Credible Evidence

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

For the purpose of submitting compliance certifications or establishing whether or not a person has violated or is in violation of any standard in this part, nothing in this part shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed.

3.2.8. Emission Tests

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

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

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

- (i) Sampling ports adequate for test methods applicable to each source,
- (ii) Safe sampling platform(s),
- (iii) Safe access to sampling platform(s),
- (iv) Utilities for sampling and testing equipment, and,
- (v) Any other facilities that the Administrator needs to safely and properly test a source.

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

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

The source owner, operator, or representative of the tested facility shall obtain an audit sample, if commercially available, from an accredited audit sample provider (AASP) for each test method used for regulatory compliance purposes. See 40 CFR 61.13(e)(1)(i) for a list of test methods excluded from this requirement.

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

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

Unless otherwise specified in an applicable subpart, samples shall be analyzed, and emissions determined within 30 days after each emission test has been completed. The owner or operator shall report the determinations of the emission test to the Administrator by a registered letter sent before the close of business on the 31st day following the completion of the emission test.

3.2.9. Recordkeeping Requirements

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

The owner or operator of a source subject to Part 61 shall retain at the source and make available, upon request, for inspection by the Administrator, for a minimum of 2 years, records of emission test results and other data needed to determine emissions.

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

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

3.2.10. Monitoring Requirements

40 CFR 61.14 (11/7/1985)

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

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

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

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

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

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

3.2.11. Modification

40 CFR 61.15 (11/7/1985)

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

3.2.12. Circumvention

40 CFR 61.19 (11/7/1985)

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

3.3. **Part 63 – National Emission Standard for Hazardous Air Pollutant Requirements**

3.3.1. Prohibited Activities and Circumvention

40 CFR 63.4 (4/5/2002)

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

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

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

- (i) The use of diluents to achieve compliance with a relevant standard based on the concentration of a pollutant in the effluent discharged to the atmosphere, or
- (ii) The use of gaseous diluents to achieve compliance with a relevant standard for visible emissions.

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

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

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

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

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

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

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

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

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

3.3.3. Operation and Maintenance

3.3.3.1. O&M for Part 63 NESHAP Sources (Except for Subpart DDDDD) 40 CFR 63.6(e)(1)(i), (ii), and (iii) (3/11/2021)

At all times, including periods of startup, shutdown, and malfunction, owners or operators must operate and maintain any affected source, including associated air pollution control and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. During a period of startup, shutdown, or malfunction, this general duty to minimize emissions requires that the owner or operator reduce emissions from the affected source to the greatest extent which is consistent with safety and good air pollution control practices. The general duty to minimize emissions during a period of startup, shutdown, or malfunction does not require the owner or operator to achieve emission levels that would be required by the applicable standard at other times if this is not consistent with safety and good air pollution control practices, nor does it require the owner or operator to make any further efforts to reduce emissions if levels required by the applicable standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

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

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

3.3.3.2. O&M for 40 CFR 63 Subpart UUU (Refinery MACT II) Affected Sources 40 CFR 63.1564(a)(3) & (c)(2) (11/26/2018); 63.1565(a)(3) & (c)(2) (11/26/2018); 63.1566(a)(5) & (c)(2) (7/13/2016); 63.1567(a)(3) & (c)(2) (2/9/2005); 63.1568(a)(3) & (c)(2) (7/13/2016); 63.1569(a)(3) & (c)(2) (11/26/2018); 63.1574(f) (11/19/2020); and 63.1576(e) (11/26/2018)

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

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

3.3.3.3. O&M for 40 CFR 63 Subpart DDDDD (Boiler MACT)
40 CFR 63.7500(a)(3) (11/20/2015)

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. Startup, Shutdown, and Malfunction Plan

SSM Plans for Part 63 NESHAP Sources (except Subpart DDDDD)
40 CFR 63.6(e)(3) (3/11/2021)

The owner or operator of an affected source must develop a written startup, shutdown, and malfunction plan that describes, in detail, procedures for operating and maintaining the source during periods of startup, shutdown, and malfunction, a program of corrective action for malfunctioning process, air pollution control, and monitoring equipment used to comply with the relevant standard. This plan shall be developed by the source's compliance date for the relevant standard.

When actions taken by the owner or operator during a startup or shutdown (and the startup or shutdown causes the source to exceed any applicable emission limitation in the relevant emission standards), or malfunction (including actions taken to correct a malfunction) are consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the owner or operator must keep records for that event which demonstrate that the procedures

specified in the plan were followed. These records may take the form of a "checklist," or other effective form of recordkeeping that confirms conformance with the startup, shutdown, and malfunction plan and describes the actions taken for that event. In addition, the owner or operator must keep records of these events as specified in paragraph 63.10(b), including records of the occurrence and duration of each startup or shutdown (if the startup or shutdown causes the source to exceed any applicable emission limitation in the relevant emission standards), or malfunction of operation and each malfunction of the air pollution control and monitoring equipment. Furthermore, the owner or operator shall confirm that actions taken during the relevant reporting period during periods of startup, shutdown, and malfunction were consistent with the affected source's startup, shutdown and malfunction plan in the semiannual (or more frequent) startup, shutdown, and malfunction report required in §63.10(d)(5).

If an action taken by the owner or operator during a startup, shutdown, or malfunction (including an action taken to correct a malfunction) is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, and the source exceeds any applicable emission limitation in the relevant emission standard, then the owner or operator must record the actions taken for that event and must report such actions within 2 working days after commencing actions inconsistent with the plan, followed by a letter within 7 working days after the end of the event, in accordance with §63.10(d)(5) (unless the owner or operator makes alternative reporting arrangements, in advance, with the Administrator).

The owner or operator must maintain at the affected source a current SSMP and must make the plan available upon request for inspection and copying by the Administrator. In addition, if the SSMP is subsequently revised, the owner or operator must maintain at the affected source each previous (i.e., superseded) version of the SSMP, and must make each such previous version available for inspection and copying by the Administrator for a period of 5 years after revision of the plan. If at any time after adoption of a SSMP the affected source ceases operation or is otherwise no longer subject to the provisions of this part, the owner or operator must retain a copy of the most recent plan for 5 years from the date the source ceases operation or is no longer subject to this part and must make the plan available upon request for inspection and copying by the Administrator.

To satisfy the requirements of this section to develop a SSMP, the owner or operator may use the affected source's standard operating procedures (SOP) manual, or an Occupational Safety and Health Administrations (OSHA) or other plan, provided the alternative plans meet all the requirements of this section and are made available for inspection when requested by the Administrator.

Based on the results of a determination made under paragraph 63.6(e)(1)(i) of this 40 CFR 63 Subpart, the Administrator may require than an owner or operator of an affected source make changes to the SSMP for that source. The Administrator may require reasonable revisions to a SSMP if the Administrator finds that the plan:

- (i) Does not address a startup, shutdown, or malfunction event that has occurred,
- (ii) Fails to provide for the operation of the source (including associated air pollution control and monitoring equipment) during a startup, shutdown, or malfunction event in a manner consistent with safety and good air pollution control practices for minimizing emissions to the levels required by the relevant standards,
- (iii) Does not provide adequate procedures for correcting malfunctioning process and/or air pollution control and monitoring equipment as quickly as practicable, or,
- (iv) Includes an event that does not meet the definition of startup, shutdown, or malfunction listed in 40 CFR 63.2.

The owner or operator may periodically revise the startup, shutdown, and malfunction plan for the affected source as necessary to satisfy the requirements of this part or to reflect changes in equipment or procedures at the affected source. Unless the permitting authority provides

otherwise, the owner or operator may make such revisions to the startup, shutdown, and malfunction plan without prior approval by the Administrator or the permitting authority. However, each such revision to a startup, shutdown, and malfunction plan must be reported in the semiannual report required by §63.10(d)(5). If the startup, shutdown, and malfunction plan fails to address or inadequately addresses an event that meets the characteristics of a malfunction but was not included in the startup, shutdown, and malfunction plan at the time the owner or operator developed the plan, the owner or operator must revise the startup, shutdown, and malfunction plan within 45 days after the event to include detailed procedures for operating and maintaining the source during similar malfunction events and a program of corrective action for similar malfunctions of process or air pollution control and monitoring equipment. In the event that the owner or operator makes any revision to the startup, shutdown, and malfunction plan which alters the scope of the activities at the source which are deemed to be a startup, shutdown, or malfunction, or otherwise modifies the applicability of any emission limit, work practice requirement, or other requirement in a standard established under this part, the revised plan shall not take effect until after the owner or operator has provided a written notice describing the revision to the permitting authority.

3.3.5. Compliance with Non-opacity Emission Standards

Nonopacity emission standards for Part 63 NESHAP Sources (except Subpart DDDDD)
40 CFR 63.6(f)(1) (3/11/2021)

The non-opacity emission standards set forth in this part shall apply at all times except 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.

3.3.6. Compliance With Opacity and Visible Emission Standards

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

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.

3.3.7. Extension of Compliance for Early Reductions and Other Reductions

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

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

3.3.8. Notification of Performance Tests

3.3.8.1. Notification of Performance Tests for Part 63 NESHAP Sources 40 CFR 63.7(b) (11/14/2018) and 63.9(e) (11/19/2020)

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

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

The requirements for notification of performance tests for Subpart CC affected sources are the same as noted in AOP Term 3.3.8.1 with the following clarifications, exceptions, or differences:

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

3.3.8.3. Notification of Performance Tests for 40 CFR 63 Subpart UUU (Refinery MACT II) Affected Sources 40 CFR 63.1574(a)(2) (11/19/2020)

The requirements for notification of performance tests for Subpart UUU affected sources are the same as noted in AOP Term 3.3.8.1 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).

3.3.9. Conduct of Performance Tests

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

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

Performance tests shall be conducted under such conditions as the Administrator specifies to the owner or operator based on representative performance (i.e., performance based on normal operating conditions) of the affected source. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test, nor shall emissions in excess of the level of the relevant standard during periods of startup, shutdown, and malfunction be considered a violation of the relevant standard unless otherwise specified in the relevant standard or a determination of noncompliance is made under 63.6(e). Upon request, the owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests.

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

- (i) Sampling ports adequate for test methods applicable to such facility,
- (ii) Safe sampling platform(s),
- (iii) Safe access to sampling platform(s), and,
- (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.

3.3.10. Operation and Maintenance of Continuous Monitoring Systems (CMS)

3.3.10.1. O&M of CMS for Part 63 NESHAP Sources (except as modified by Subparts CC & UUU; no SSM plan is required for Subpart DDDDD; no COMS required for Subpart ZZZZ) **40 CFR 63.8(c)(1), (2), (3), (4) and (6) (11/14/2018)**

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) Maintain and operate each CMS as specified in 63.6(e)(1),
- (ii) Keep the necessary parts for routine repairs of the affected CMS equipment readily available.
- (iii) Install all CMS 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), and,
- (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:

- (i) 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, and,
- (ii) 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.

3.3.10.2. O&M for CMS for Part 63 Subpart CC Affected Sources
40 CFR 63.644 (11/26/2018)

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."

3.3.10.3. O&M for CMS for Part 63 Subpart UUU Affected Sources
40 CFR 63.1572 (11/26/2018)

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.

3.3.11. Continuous Monitoring Systems (CMS) Out of Control Periods

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

A CMS is out of control if—

- (i) The zero (low-level), mid-level (if applicable), or high-level calibration drift (CD) exceeds two times the applicable CD specification in the applicable performance specification or in the relevant standard, or,
- (ii) The CMS fails a performance test audit (e.g., cylinder gas audit), relative accuracy audit, relative accuracy test audit, or linearity test audit.

When the CMS is out of control, the owner or operator of the affected source shall take the necessary corrective action and shall repeat all necessary tests which indicate that the system is out of control. The owner or operator shall take corrective action and conduct retesting until the

performance requirements are below the applicable limits. The beginning of the out-of-control period is the hour the owner or operator conducts a performance check (e.g., calibration drift) that indicates an exceedance of the performance requirements established under this part. The end of the out-of-control period is the hour following the completion of corrective action and successful demonstration that the system is within the allowable limits. During the period the CMS is out of control, recorded data shall not be used in data averages and calculations, or to meet any data availability requirement established under this part.

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

3.3.11.2. CMS Out of Control Periods for Part 63 Subpart CC Affected Sources
40 CFR 63.671(c) (12/1/2015)

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

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

(2) 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.

3.3.12. Continuous Monitoring Systems (CMS) Quality Control Program

3.3.12.1. 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) (11/14/2018), 63.9(g)(1) (11/19/2020)

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. Where relevant, e.g., program of corrective action for a malfunctioning CMS, these written procedures may be incorporated as part of the affected source's startup, shutdown, and malfunction plan to avoid duplication of planning and recordkeeping efforts.

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.

3.3.12.2. CMS Quality Control Program for Part 63 Subpart CC Affected Sources
40 CFR 63.671(b) (12/1/2015)

The requirements for a CMS quality control program for reporting under 63.8(e) is the same as required in AOP Term 3.3.12.1, except that results are to be submitted electronically if required by 63.655(h)(9), otherwise, the requirements for the CMS quality control program are as follows:

The owner or operator shall develop and implement a CPMS quality control program documented in a CPMS monitoring plan that covers each flare subject to the provisions in 63.670 and each CPMS installed to comply with applicable provisions in 63.670. The owner or operator shall have the CPMS monitoring plan readily available on-site at all times and shall submit a copy of the CPMS monitoring plan to the Administrator upon request by the Administrator. The CPMS monitoring plan must contain the information listed in paragraphs (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, and,
 - f. Program of corrective action for a CPMS that is not operating properly.

3.3.13. Continuous Monitoring Systems (CMS) Data Reduction

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

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

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

The data may be recorded in reduced or 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.

3.3.13.2. CMS Data Reduction for Part 63 Subpart CC Affected Sources 40 CFR 63.655(i)(3) (2/4/2020) and 63.671(c) (12/1/2015)

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

3.3.13.3. CMS Data Reduction for Part 63 Subpart UUU Affected Sources
40 CFR 63.1572(a) and (c) (11/26/2018)

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, and,
- (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 colorimetric 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, and,
- (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, and,
- (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.

3.3.13.4. CMS Data Reduction for Part 63 Subpart ZZZZ Affected Sources
40 CFR 63.6635 (3/9/2011)

The requirements for CMS data reduction for Subpart ZZZZ affected sources are the same as noted in AOP Term 3.3.13.1 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.

3.3.14. Address for Reports, Notifications and Submittals

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

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

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

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

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.

3.3.15. Notification

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

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

- (i) A notification of intention to construct a new major-emitting affected source, reconstruct a major-emitting affected source, or reconstruct a major source such that the source becomes a major-emitting affected source with the application for approval of construction or reconstruction as specified in 63.5(d)(1)(i), and,
- (ii) A notification of the actual date of startup of the source delivered or postmarked within 15 calendar days after that date.

3.3.15.2. Notification Requirements for Existing Part 63 NESHAP Sources Except 40 CFR Part 63 Subpart CC (Refinery MACT) Affected Sources; 40 CFR 63.9 (b)(2) and (j) (11/19/2020)

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

- (i) The name and address of the owner or operator,
- (ii) The address (i.e., physical location) of the affected source,
- (iii) An identification of the relevant standard, or other requirement that is the basis of notification and the source's compliance date,
- (iv) A brief description of the nature and size, design, and method of operation of the source and an identification of the types of emission points within the affected source subject to the relevant standard and the types of hazardous air pollutants emitted, and,
- (v) A statement of whether the affected source is a major source or an area source.

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

- (vi) The name and address of the owner or operator,
- (vii) The address (i.e., physical location) of the affected source,

- (viii) An identification of the standard being reclassified from and to (if applicable), and,
- (ix) Date of effectiveness of the reclassification.

3.3.15.3. Notification Requirements for New or Reconstructed Part 63 Subpart UUU (Refinery MACT II) Affected Sources 40 CFR 63.1574(c) (11/19/2020)

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 3.3.15.1 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.

3.3.16. Recordkeeping

3.3.16.1. 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) (11/19/2020)

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.

3.3.16.2. Recordkeeping for Part 63 Subpart CC Affected Sources 40 CFR 63.642(e) (12/1/2015) and 63.655(i) (2/4/2020)

Each owner or operator of a source subject to this subpart shall keep copies of all applicable reports and records required by this subpart for at least 5 years except as otherwise specified in 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.

3.3.16.3. Recordkeeping for Part 63 Subpart UUU Affected Sources
40 CFR 63.1576 (11/26/2018)

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, and,
 - 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), and,
- (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 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.

3.3.17.Startup, Shutdown, and Malfunction Recordkeeping and Reports

3.3.17.1. SSM Recordkeeping and Reports for Part 63 NESHAP Sources (except Subpart DDDDD) 40 CFR 63.10(b)(2) and (d)(5) (11/19/2020)

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 and when the actions taken are different from the procedures specified in the affected source's startup, shutdown, and malfunction plan (see §63.6(e)(3)), or,
- (v) Actions taken during periods of malfunction (including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation) when the actions taken are different from the procedures specified in the affected source's startup, shutdown, and malfunction plan (see §63.6(e)(3)),
- (vi) All information necessary, including actions taken, to demonstrate conformance with the affected source's startup, shutdown, and malfunction plan (see §63.6(e)(3)) when all actions taken during periods of startup or shutdown (and the startup or shutdown causes the source to exceed any applicable emission limitation in the relevant emission standards), and malfunction (including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation) are consistent with the procedures specified in such plan. (The information needed to demonstrate conformance with the startup, shutdown, and malfunction plan may be recorded using a "checklist," or some other effective form of recordkeeping, in order to minimize the recordkeeping burden for conforming events),
- (vii) Each period during which a CMS is malfunctioning or inoperative (including out-of-control periods),
- (viii) 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 sub hourly 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 sub hourly 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 sub hourly measurements as required under paragraph (b)(2)(vii) of this section, the owner or operator shall retain all sub hourly measurements for the most recent reporting period. The sub hourly 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.
- (ix) All results of performance tests, CMS performance evaluations, and opacity and visible emission observations,
 - (x) All measurements as may be necessary to determine the conditions of performance tests and performance evaluations,
 - (xi) All CMS calibration checks,
 - (xii) All adjustments and maintenance performed on CMS, and,
 - (xiii) All documentation supporting initial notifications and notifications of compliance status under §63.9.

If actions taken by an owner or operator during a startup, shutdown (and the startup or shutdown causes the source to exceed any applicable emission limitation in the relevant emission standards), or malfunction of an affected source (including actions taken to correct a malfunction) are consistent with the procedures specified in the source's startup, shutdown, and malfunction plan (SSMP), the owner or operator shall state such information in a SSMP report. Actions taken to minimize emissions during such startups, shutdowns, and malfunctions shall be summarized in the report and may be done in checklist form; if actions taken are the same for each event, only one checklist is necessary. Such a report shall also 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. Reports shall only be required if a startup or shutdown caused the source to exceed any applicable emission limitation in the relevant emission standards, or if a malfunction occurred during the reporting period.

Any time an action taken by an owner or operator during a startup or shutdown that caused the source to exceed any applicable emission limitation in the relevant emission standards, or malfunction (including actions taken to correct a malfunction) is not consistent with the procedures specified in the affected source's SSMP, the owner or operator shall report the actions taken for that event within 2 working days after commencing actions inconsistent with the plan followed by a letter within 7 working days after the end of the event. The immediate report required under this

paragraph shall consist of a telephone call (or a facsimile transmission) to the Administrator within 2 working days after commencing actions inconsistent with the plan, and it shall be followed by a letter, delivered or postmarked within 7 working days after the end of the event, that contains the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy, explaining the circumstances of the event, the reasons for not following the SSMP, describing all excess emissions and/or parameter monitoring exceedances which are believed to have occurred (or could have occurred in the case of malfunctions), and actions taken to minimize emissions in conformance with §63.6(e)(1)(i).

3.3.17.2. SSM Recordkeeping & Reports for Part 63 Subpart UUU Affected Sources 40 CFR 63.1575(d) and (e) (11/26/2018)

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), and,
- (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, and,
- (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.

3.3.17.3. SSM Reports for 40 CFR 63 Subpart DDDDD (Boiler MACT) Affected Sources 40 CFR 63.7555(d)(7) and 63.7550(c)(5)(xiii) and (xviii) (11/20/2015)

The requirements for startup, shutdown and malfunction reports for Subpart DDDDD affected sources are the same as noted in AOP Term 3.3.17.1 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, and,
- (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).

3.3.18. Reports

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

The owner or operator of a source subject to this subpart shall submit Periodic Reports no later than 60 days after the end of each 6-month period when any of the information specified in this subpart is collected. The first 6-month period shall begin on the date the Notification of Compliance Status report is required to be submitted. A Periodic Report is not required if none of the events identified in this subpart occurred during the 6-month period unless emissions averaging is utilized. Quarterly reports must be submitted for emission points included in emission averages, as provided in this subpart. An owner or operator may submit reports required by other regulations in place of

or as part of the Periodic Report required by this subpart if the reports contain the information required by this subpart.

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

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

- (iv) 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,
- (v) 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,
- (vi) 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,
- (vii) 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, and,
- (viii) 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.

**3.3.18.3. 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, and,
- (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, and,
- (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.

3.3.19. Deviation Reporting

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

Report each instance in which each emissions limit and each operating limit was not met. This includes periods of startup, shutdown, and malfunction. Also, report each instance in which the

work practice standards that apply were not met. These instances are deviations from the emission limitations and work practices.

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

3.3.20. Recordkeeping Requirements for Sources with Continuous Monitoring Systems

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

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

- (i) All required CMS measurements (including monitoring data recorded during unavoidable CMS breakdowns and out-of-control periods),
- (ii) [Reserved]
- (iii) The date and time identifying each period during which the CMS was inoperative except for zero (low-level) and high-level checks,
- (iv) The date and time identifying each period during which the CMS was out of control, as defined in §63.8(c)(7),
- (v) The specific identification (i.e., the date and time of commencement and completion) of each period of excess emissions and parameter monitoring exceedances, as defined in the relevant standard(s), that occurs during startups, shutdowns, and malfunctions of the affected source,
- (vi) The specific identification (i.e., the date and time of commencement and completion) of each time period of excess emissions and parameter monitoring exceedances, as defined in the relevant standard(s), that occurs during periods other than startups, shutdowns, and malfunctions of the affected source,
- (vii) [Reserved]
- (viii) The nature and cause of any malfunction (if known),

- (ix) The corrective action taken or preventive measures adopted,
- (x) The nature of the repairs or adjustments to the CMS that was inoperative or out of control,
- (xi) The total process operating time during the reporting period, and,
- (xii) All procedures that are part of a quality control program developed and implemented for CMS under §63.8(d).

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

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

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

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

- (i) Records described in 63.10(b)(2)(vi) through (xi),
- (ii) Monitoring data for continuous opacity monitoring systems during a performance evaluation as required in 63.6(h)(7)(i) and (ii),
- (iii) The performance evaluation plan as described in 63.8(d)(2) for the life of the affected source or until the affected source is no longer subject to the provisions of this part, to be made available for inspection, upon request, by the Administrator. If the performance evaluation plan is revised, you must keep previous (i.e., superseded) versions of the performance evaluation plan on record to be made available for inspection, upon request, by the Administrator, for a period of 5 years after each revision to the plan. The program of corrective action should be included in the plan required under 63.8(d)(2),
- (iv) Requests for alternatives to the relative accuracy test for continuous emission monitoring systems as required in 63.8(f)(6)(i),
- (v) Records of the date and time that each deviation started and stopped, and,
- (vi) In order to satisfy the requirements of paragraphs (c)(10) through (c)(12) of this section and to avoid duplicative recordkeeping efforts, the owner or operator may use the affected source's startup, shutdown, and malfunction plan or records kept to satisfy the recordkeeping requirements of the startup, shutdown, and malfunction plan specified in §63.6(e), provided that such plan and records adequately address the requirements of paragraphs (c)(10) through (c)(12).

3.3.21. Additional 40 CFR Part 63 Subpart CC (Refinery MACT) Process Units
Added or Process Changes Not Meeting Construction or Reconstruction
Definition

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

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

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

3.3.22. Recordkeeping Requirements for 40 CFR Part 63 Subpart CC (Refinery MACT) Equipment

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

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

3.3.23. Notification of Compliance Status (NCS)

3.3.23.1. NCS for Part 63 NESHAPs Sources (except Subpart DDDDD)
40 CFR 63.9(h) (11/19/2020)

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

- (i) the methods that were used to determine compliance,
- (ii) the results of any performance tests, opacity or visible emission observations, continuous monitoring system (CMS) performance evaluations, and/or other monitoring procedures or methods that were conducted,
- (iii) the methods that will be used for determining continuing compliance, including a description of monitoring and reporting requirements and test methods,
- (iv) the type and quantity of hazardous air pollutants emitted by the source (or surrogate pollutants if specified in the relevant standard), reported in units and averaging times and in accordance with the test methods specified in the relevant standard,

- (v) if the relevant standard applies to both major and area sources, an analysis demonstrating whether the affected source is a major source (using the emissions data generated for this notification),
- (vi) a description of the air pollution control equipment (or method) for each emission point, including each control device (or method) for each hazardous air pollutant and the control efficiency (percent) for each control device (or method), and,
- (vii) a statement by the owner or operator of the affected existing, new, or reconstructed source as to whether the source has complied with the relevant standard or other requirements.

After the applicable requirements are incorporated into the affected source's title V permit, the owner or operator of such source shall comply with all requirements for compliance status reports contained in the source's title V permit, including reports required under this part. After a title V permit has been issued to the owner or operator of an affected source, and each time a notification of compliance status is required under this part, the owner or operator of such source shall submit the notification of compliance status to the appropriate permitting authority following completion of the relevant compliance demonstration activity specified in the relevant standard.

The NCS must be sent before the close of business on the 60th day following the completion of the relevant compliance demonstration activity specified in the relevant standard (unless a different reporting period is specified in the standard, in which case the letter must be sent before the close of business on the day the report of the relevant testing or monitoring results is required to be delivered or postmarked). For example, the notification shall be sent before close of business on the 60th (or other required) day following completion of the initial performance test and again before the close of business on the 60th (or other required) day following the completion of any subsequent required performance test. If no performance test is required but opacity or visible emission observations are required to demonstrate compliance with an opacity or visible emission standard under this part, the notification of compliance status shall be sent before close of business on the 30th day following the completion of opacity or visible emission observations. Notifications may be combined as long as the due date requirement for each notification is met.

3.3.23.2. NCS for Part 63 Subpart CC Affected Sources
40 CFR 63.655(f) (2/4/2020)

Each owner or operator of a source subject to this subpart shall submit a Notification of Compliance Status report within 150 days after the compliance dates specified in 63.640(h) with the exception of Notification of Compliance Status reports submitted to comply with 63.640(l)(3) and for storage vessels subject to the compliance schedule specified in 63.640(h)(2). Notification of Compliance Status reports required by 63.640(l)(3) and for storage vessels subject to the compliance dates specified in 63.640(h)(2) shall be submitted according to paragraph (f)(6) of this section. This information may be submitted in an operating permit application, in an amendment to an operating permit application, in a separate submittal, or in any combination of the three. If the required information has been submitted before the date 150 days after the compliance date specified in 63.640(h), a separate Notification of Compliance Status report is not required within 150 days after the compliance dates specified in 63.640(h). If an owner or operator submits the information specified in paragraphs (f)(1) through (5) of this section at different times, and/or in different submittals, later submittals may refer to earlier submittals instead of duplicating and resubmitting the previously submitted information. Each owner or operator of a gasoline loading rack classified under Standard Industrial Classification Code 2911 located within a contiguous area and under common control with a petroleum refinery subject to the standards of this subpart shall submit the

Notification of Compliance Status report required by subpart R of this part within 150 days after the compliance dates specified in 63.640(h).

3.3.23.3. NCS for 40 CFR 63 Subpart UUU (Refinery MACT II) Affected Sources
40 CFR 63.1574(a)(3) & (d) (11/19/2020) and Table 42 (2/9/2005)

The requirements for Notifications of Compliance Status for Subpart UUU affected sources are the same as noted in AOP Term 3.3.23.1 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.

3.3.23.4. NCS for 40 CFR 63 Subpart DDDDD (Boiler MACT) Affected Sources
40 CFR 63.7545(a), (e), (e)(1), and (e)(6) (12/28/2020)

The requirements for Notifications of Compliance Status for Subpart DDDDD affected sources are the same as noted in AOP Term 3.3.23.1 with the following clarifications, exceptions, or differences:

The NCS 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 NCS must include the following certification(s) of compliance, as applicable, and be signed by a responsible official:

"This facility completed the required initial tune-up for all of the boilers and process heaters covered by 40 CFR 63 Subpart DDDDD at this site according to the procedures in §63.7540(a)(10)(i) through (vi)." and "This facility has had an energy assessment performed according to §63.7530(e)."

3.3.24. General Compliance Requirements for 40 CFR 63 Subpart ZZZZ

40 CFR 63.6605 (1/30/2013)

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.

3.4. Part 65 – Consolidated Federal Air Rule

3.4.1. Applicability of Subpart A of Part 60 to Part 65 Sources

40 CFR 65.1 (12/14/2000)

For sources referenced to Part 65 by 40 CFR 60 NNN:

Comply with the following provisions of 40 CFR 60 Subpart A: 60.1, 60.2, 60.5, 60.6, 60.7(a)(1) and (4), 60.14, 60.15, and 60.16.

Comply with the following provisions of 40 CFR 60 Subpart NNN: 60.660(a), (b), (c)(1) through (c)(3), (c)(5), (d), 60.661, 60.666, and 60.667.

3.4.2. Compliance With Standards and Operation and Maintenance Requirements

40 CFR 65.3 (4/20/2006)

The emission standards and established parameter ranges of this part shall apply at all times except during periods of startup, shutdown (as defined in §65.2), malfunction, or nonoperation of the regulated source (or specific portion thereof) resulting in cessation of the emissions to which this part applies. However, if a startup, shutdown, malfunction, or period of nonoperation of one portion of a regulated source does not affect the ability of a particular emission point to comply with the specific provisions to which it is subject, then that emission point shall still be required to comply with the applicable provisions of this part during the startup, shutdown, malfunction, or period of nonoperation.

During startups, shutdowns, and malfunctions when the emission standards of this part do not apply the owner or operator shall implement, to the extent reasonably available, measures to prevent or minimize emissions in excess of those that would have occurred if there were no startup, shutdown, or malfunction and the owner or operator complied with the relevant provisions of this part. The measures to be taken may include, but are not limited to, air pollution control technologies, recovery technologies, work practices, pollution prevention, monitoring, and/or changes in the manner of operation of the regulated source. Backup control devices are not required but may be used if available.

Malfunctions shall be corrected as soon as practical after their occurrence.

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

The parameter monitoring data for emission points that are required to perform continuous monitoring shall be used to determine compliance with the required operating conditions for the monitored control devices or recovery devices. For each excursion, except for excused excursions and as provided for in paragraph (b)(2) of this section, the owner or operator shall be deemed to have failed to have applied the control in a manner that achieves the required operating conditions. Excused excursions are provided for in §65.156(d)(2).

If the conditions of paragraph (b)(2)(i) or (ii) of this section are met, an excursion is not a violation and, in cases where continuous monitoring is required, the excursion does not count toward the number of excused excursions. Nothing in this paragraph (b)(2) shall be construed to allow or

excuse a monitoring parameter excursion caused by any activity that violates other applicable provisions of this part.

During periods of startup, shutdown, or malfunction (and the source is operated during such periods in accordance with §65.3(a)(3)), a monitoring parameter is outside its established range or monitoring data cannot be collected; or during periods of nonoperation of the regulated source or portion thereof (resulting in cessation of the emissions to which the monitoring applies).

Determination of whether acceptable 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 (including the startup, shutdown, and malfunction plan, if applicable, required in §65.6(a), as applicable), review of operation and maintenance records, inspection of the regulated source, and alternatives approved as specified in §65.7.

Paragraphs (b)(4)(i) and (ii) of this section shall govern the use of data, tests, and requirements to determine compliance with emissions standards. Compliance with design, equipment, work practice, and operational standards, including those for equipment leaks, shall be determined according to paragraph (b)(5) of this section.

The Administrator will determine compliance with emission standards of this part by evaluation of an owner or operator's conformance with operation and maintenance requirements, including the evaluation of monitoring data, as specified in subparts of this part.

The Administrator will determine compliance with design, equipment, work practice, or operational standards by review of records, inspection of the regulated source, and other procedures specified in this part.

The Administrator will determine compliance with design, equipment, work practice, or operational standards by evaluation of an owner or operator's conformance with operation and maintenance requirements as specified in paragraph (a) of this section, in other subparts of this part, and in applicable provisions of §65.6(b).

The Administrator will make a finding concerning a regulated source's compliance with an emission standard, design standard, work practice, operational standard or operating and maintenance requirement as specified in paragraphs (a) and (b) of this section upon obtaining all the compliance information required by the relevant standard (including the written reports of performance test results, monitoring results, and other information, if applicable) and any information available to the Administrator needed to determine whether proper operation and maintenance practices are being used. Standards in this part and methods of determining compliance are given in metric units followed by the equivalents in English units. The Administrator will make findings of compliance with the standards of this part using metric units.

All terms that define a period of time for completion of required tasks (for example, weekly, monthly, quarterly, annually) unless specified otherwise in the section or paragraph that imposes the requirement refer to the standard calendar periods.

Notwithstanding time periods specified for completion of required tasks, time periods may be changed by mutual agreement between the owner or operator and the Administrator as specified in §65.5(h)(3) (for example, a period could begin on the compliance date or another date, rather than on the first day of the standard calendar period). For each time period that is changed by agreement, the revised period applies until it is changed. A new request is not necessary for each recurring period.

When the period specified for compliance is a standard calendar period, if the initial compliance date occurs after the beginning of the period, compliance shall be required according to the schedule specified in the following paragraphs, as appropriate:

Compliance shall be required before the end of the standard calendar period within which the compliance deadline occurs if there remain at least 3 days for tasks that must be performed

weekly, at least 2 weeks for tasks that must be performed monthly, at least 1 month for tasks that must be performed each quarter, or at least 3 months for tasks that must be performed annually; or in all other cases, compliance shall be required before the end of the first full standard calendar period after the period within which the initial compliance deadline occurs.

In all instances where a provision requires completion of a task during each of multiple successive periods, an owner or operator may perform the required task at any time during the specified period provided the task is conducted at a reasonable interval after completion of the task during the previous period.

3.4.3. Recordkeeping

40 CFR 65.4 (4/20/2006)

Except as provided in paragraph (b) of this section, the owner or operator of each regulated source subject to this part shall keep copies of notifications, reports, and records required by this part for at least 5 years, except for the records required in §65.163(d)(1) for closed vent system design specifications.

If an owner or operator submits reports to the applicable EPA Regional Office, the owner or operator is not required to maintain copies of those reports. If the EPA Regional Office has waived the requirement of §65.5(g)(1) for submittal of copies of reports, the owner or operator is not required to maintain copies of the waived reports. Paragraph (b) of this section applies only to reports and not the underlying records which must be maintained as specified throughout this part.

All applicable records shall be maintained in such a manner that they can be readily accessed and are suitable for inspection as specified in the following:

Records of the most recent 2 years shall be retained onsite or shall be accessible to an inspector while onsite. The records of the remaining 3 years, where required, may be retained offsite.

Records may be maintained in hard copy or computer-readable form including, but not limited to, on paper, microfilm, computer, computer disk, magnetic tape, or microfiche.

3.4.4. Reporting

40 CFR 65.5 (12/14/2000)

Each owner or operator of a regulated source subject to this subpart shall submit the following reports, as applicable:

- (i) A Notification of Initial Startup described in paragraph (b) of this section,
- (ii) An Initial Notification for Part 65 Applicability described in paragraph (c) of this section,
- (iii) An Initial Compliance Status Report described in paragraph (d) of this section,
- (iv) Periodic reports described in paragraph (e) of this section,
- (v) Other reports shall be submitted as specified elsewhere in this part, and,
- (vi) Startup, Shutdown, and Malfunction Reports described in §65.6(c).

Any owner or operator of a regulated source which elects to comply with this part at initial startup shall send the Administrator written notification of the actual date of initial startup of a regulated source. The notification of the actual date of initial startup shall be postmarked within 15 days after such date.

The owner or operator shall submit an Initial Compliance Status Report for each regulated source subject to this part containing the information specified in the subparts of this part. Unless the

required information has already been submitted under requirements of the applicable referencing subpart, this information can be submitted as part of a title V permit application or amendment.

The owner or operator shall submit the Initial Compliance Status Report for each regulated source within 240 days after the applicable compliance date specified in the referencing subparts, or within 60 days after the completion of the initial performance test or initial compliance determination, whichever is earlier. Initial compliance Status Reports may be combined for multiple regulated sources as long as the due date requirements for all sources covered in the combined report are met.

The owner or operator of a source subject to monitoring requirements of this part or to other requirements of this part where periodic reporting is specified, shall submit a periodic report. Periodic reports shall include all information specified in subparts of this part. The periodic report shall be submitted semiannually no later than 60 calendar days after the end of each 6-month period. The first report shall be submitted as specified in the following, as applicable:

- (vii) The first report shall be submitted no later than the last day of the month that includes the date 8 months after the date the source became subject to this part or since the last part 60, 61, or 63 periodic report was submitted for the applicable requirement, whichever is earlier,
- (viii) For sources electing to comply with the CAR at initial startup, the first report shall cover the 6 months after the Initial Compliance Status Report is due. The first report shall be submitted no later than the last day of the month that includes the date 8 months after the Initial Compliance Status Report is due, and,
- (ix) Information required by this part, which is submitted with a title V periodic report, need not also be included in a subsequent periodic report required by this part. The title V report shall be referenced in the periodic report required by this part.

All reports and notifications submitted pursuant to this part, including reports that combine information from this part and a referencing subpart, shall include the following information:

- (x) The name, address, and telephone number (fax number may also be provided) of the owner or operator,
- (xi) The name, address and telephone number of the person to whom inquiries should be addressed, if different than the owner/operator,
- (xii) The address (physical location) of the reporting facility, and,
- (xiii) Identification of each regulated source covered in the submission and identification of which subparts (referencing subparts and this part 65) options from this part are applicable to that regulated source. Summaries and groupings of this information are permitted.

All reports and notifications required under this part shall be sent to the Administrator at the appropriate EPA Regional Office and to the delegated State authority, except that requests for permission to use an alternative means of emission limitation as provided for in §65.8(a) shall be submitted to the Director of the EPA Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, MD-10, Research Triangle Park, North Carolina, 27711. The EPA Regional Office may waive the requirement to receive a copy of any reports or notifications at its discretion.

If any State requires a notice that contains all the information required in a report or notification listed in this part, an owner or operator may send the appropriate EPA Regional Office a copy of the

report or notification sent to the State to satisfy the requirements of this part for that report or notification.

Wherever this subpart specifies "postmark" dates, submittals may be sent by methods other than the U.S. Mail (for example, by fax or courier). Submittals shall be sent on or before the specified date.

If acceptable to both the Administrator and the owner or operator of a source, reports may be submitted on electronic media.

An owner or operator may submit periodic reports required by this part on the same schedule as the title V periodic report for the facility. The owner or operator using this option need not obtain prior approval but must assure no reporting gaps from the last periodic report for the relevant standards. The owner or operator shall clearly identify the change in reporting schedule in the first report filed under paragraph (h) of this section. The requirements of paragraph (e) of this section are not waived when implementing this change.

An owner or operator may arrange by mutual agreement (which may be a standing agreement) with the Administrator a common schedule on which periodic reports required by this part shall be submitted throughout the year as long as the reporting period is not extended. An owner or operator who wishes to request a change in a time period or postmark deadline for a particular requirement shall request the adjustment in writing as soon as practical before the subject activity is required to take place. The owner or operator shall include in the request whatever information he or she considers useful to convince the Administrator that an adjustment is warranted. A request for a change to the periodic reporting schedule need only be made once for every schedule change and not once for every semiannual report submitted.

If, in the Administrator's judgment, an owner or operator's request for an adjustment to a particular time period or postmark deadline is warranted, the Administrator will approve the adjustment. The Administrator will notify the owner or operator in writing of approval or disapproval of the request for an adjustment within 15 calendar days of receiving sufficient information to evaluate the request.

If the Administrator is unable to meet a specified deadline, the owner or operator will be notified of any significant delay and informed of the amended schedule.

Unless already submitted in a previous report, an owner or operator shall report in a title V permit application or as otherwise specified by the permitting authority, the information listed in paragraphs (xiv) through (xviii) of this term. This information shall be submitted to the Administrator if the regulated source is not a Title V source.

- (xiv) A list designating each emission point complying with subparts C through G of this part and whether each process vent is Group 1, Group 2A, or Group 2B.
- (xv) The control technology or method of compliance that will be applied to each emission point.
- (xvi) A statement that the compliance demonstration, monitoring, inspection, recordkeeping, and reporting provisions in subparts C through G of this part that are applicable to each

emission point will be implemented beginning on the date of compliance as specified in the referencing subpart.

- (xvii) The monitoring information in §65.162(e) if, for any emission point, the owner or operator of a source seeks to comply through use of a control technique other than those for which monitoring parameters are specified in §§65.148 through 65.154.
- (xviii) Any requests for alternatives to the continuous operating parameter monitoring and recordkeeping provisions, as specified in §65.162(d).

3.4.5. Startup, Shutdown, And Malfunction Plan And Procedures

40 CFR 65.6 (4/20/2006)

The owner or operator of a regulated source shall develop a written startup, shutdown, and malfunction plan that describes, in detail, procedures for operating and maintaining the regulated source during periods of startup, shutdown, and malfunction and a program of corrective action for malfunctioning process and air pollution control equipment used to comply with the relevant standard. The plan shall also address routine or otherwise predictable CPMS malfunctions. This plan shall be developed by the owner or operator by the regulated source's implementation date as specified in §65.1(f). The requirement to develop this plan shall be incorporated into the source's title V permit. The purposes of the startup, shutdown, and malfunction plan are described in the following:

- (i) To ensure that owners or operators are prepared to correct malfunctions as soon as practical after their occurrence in order to minimize excess emissions of regulated material (excess emissions are defined in §65.3(a)(4)); and
- (ii) To reduce the reporting burden associated with periods of startup, shutdown, and malfunction (including corrective action taken to restore malfunctioning process and air pollution control equipment to its normal or usual manner of operation).

During periods of startup, shutdown, and malfunction, the owner or operator of a regulated source shall operate and maintain such source (including associated air pollution control equipment and CPMS) in accordance with §65.3(a). 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 (including the startup, shutdown, and malfunction plan required in paragraph (b)(1) of this section), review of operation and maintenance records, and inspection of the source.

To satisfy the requirements of this section to develop a startup, shutdown, and malfunction plan, the owner or operator may use the regulated source's standard operating procedures (SOP) manual, or an Occupational Safety and Health Administration (OSHA) or other plan, provided the alternative plans meet all the requirements of this section and are made available for inspection when requested by the Administrator.

Based on the results of a determination made under §65.3(b)(3), the Administrator may require that an owner or operator of a regulated source make changes to the startup, shutdown, and malfunction plan for that source. The Administrator may require reasonable revisions to a startup,

shutdown, and malfunction plan, if the Administrator finds that the plan is inadequate as specified in the following:

- (iii) Does not address a startup, shutdown, and malfunction event of the CPMS, the air pollution control equipment, or the regulated source that has occurred, or,
- (iv) Fails to provide for the operation of the regulated source (including associated air pollution control equipment and CPMS) during a startup, shutdown, and malfunction event in a manner consistent with good air pollution control practices for minimizing emissions to the extent practical, or,
- (v) Does not provide adequate procedures for correcting malfunctioning process and/or air pollution control equipment as quickly as practicable, or,
- (vi) Does not provide adequate measures to prevent or minimize excess emissions to the extent practical as specified and defined in §65.3(a)(4).

If the startup, shutdown, and malfunction plan fails to address or inadequately addresses an event that meets the characteristics of a malfunction but was not included in the startup, shutdown, and malfunction plan at the time the owner or operator developed the plan, the owner or operator shall revise the startup, shutdown, and malfunction plan within 45 days after the event to include detailed procedures for operating and maintaining the regulated source during similar malfunction events, and a program of corrective action for similar malfunctions of process or air pollution control equipment or CPMS.

The current plan must be kept on site at all times.

During the reporting period, reports shall only be required for startup, shutdown, and malfunction during which excess emissions as defined in §65.3(a)(4) occur. A startup, shutdown, and malfunction report can be submitted as part of a periodic report required under §65.5(e), or on a more frequent basis if specified otherwise in a relevant standard or as established otherwise by the permitting authority in the source's title V permit. The startup, shutdown, and malfunction report shall be delivered or postmarked by the 30th day following the end of each calendar half (or other calendar reporting period, as appropriate), unless the information is submitted with the periodic report. The report shall include the following information, as appropriate:

- (vii) The name, title, and signature of the owner or operator or other responsible official certifying its accuracy, and,
- (viii) The number of startup, shutdown, malfunction events and the total duration of all periods of startup, shutdown, and malfunction for the reporting period.

If actions taken by an owner or operator during a startup, shutdown, and malfunction of a regulated source, or of a control device or monitoring system required for compliance (including actions taken to correct a malfunction) are consistent with the procedures specified in the source's startup, shutdown, and malfunction plan, then the owner or operator shall state such information in a startup, shutdown, and malfunction report, and describe the actions taken. Such description can take the form of a checklist; only one checklist is necessary if actions taken are the same for multiple events during the reporting period.

If at any time an action taken by an owner or operator, during a startup, shutdown, or malfunction (including actions taken to correct a malfunction) during which excess emissions occur, as defined in §65.3(a)(4), is not consistent with the procedures specified in the regulated source's startup, shutdown, and malfunction plan, the owner or operator shall report the actions taken for that event as part of the periodic report. The report shall explain the circumstances of the event, the reasons

for not following the startup, shutdown, and malfunction plan, and whether any excess emissions and/or parameter monitoring exceedances are believed to have occurred.

3.4.6. Requests for Approval of Alternative Monitoring or Recordkeeping

40 CFR 65.7(b), (c), (d) (12/22/2008)

An owner or operator may submit a written request for approval to use alternatives to the monitoring or recordkeeping provisions of this part. For process vents and transfer racks, except low-throughput transfer racks, the provisions in paragraph (c) of this section shall govern the review and approval of requests. In addition, the application shall include information justifying the owner or operator's request for an alternative monitoring or recordkeeping method, such as the technical or economic infeasibility, or the impracticality, of the regulated source using the required method.

The Administrator will notify the owner or operator of approval or intention to deny approval of the request to use an alternative monitoring or recordkeeping method within 90 calendar days after receipt of the original request and within 30 calendar days after receipt of any supplementary information that is submitted. Before disapproving any request to use an alternative method, the Administrator will notify the applicant of the Administrator's intention to disapprove the request together with the following:

- (i) Notice of the information and findings on which the intended disapproval is based, and,
- (ii) Notice of opportunity for the owner or operator to present additional information to the Administrator before final action on the request. At the time the Administrator notifies the applicant of the intention to disapprove the request, the Administrator will specify how much time the owner or operator will have after being notified of the intended disapproval to submit the additional information.

The owner or operator of a regulated source is subject to the monitoring and recordkeeping requirements of the relevant standard unless permission to use an alternative monitoring or recordkeeping method requested under paragraph (b) of this section or §65.162(d) has been granted by the Administrator. Once an alternative is approved, the owner or operator shall use the alternative for the emission points or regulated sources cited in the approval and shall meet the monitoring and recordkeeping requirements of the relevant standard for all other emission points or regulated sources.

If the Administrator approves the use of an alternative monitoring or recordkeeping method for a regulated source under paragraph (c) of this section, the owner or operator of such source shall continue to use the alternative monitoring or recordkeeping method unless he or she receives approval from the Administrator to use another method.

If the Administrator finds reasonable grounds to dispute the results obtained by an alternative monitoring or recordkeeping method, requirement, or procedure, the Administrator may require the use of a method, requirement, or procedure specified in the relevant standard. If the results of the specified and alternative methods, requirements, or procedures do not agree, the results obtained by the specified method, requirement, or procedure shall prevail.

3.4.7. Circumvention and Prohibited Activities

40 CFR 65.11 (12/14/2000)

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, the following:

- (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, and,
- (ii) The fragmentation of an operation for the purpose of avoiding regulation by a relevant standard.

No owner or operator subject to the provisions of this part shall operate any regulated source in violation of the requirements of this part except under the following provisions:

- (iii) An extension or waiver of compliance granted by the Administrator under an applicable part, or,
- (iv) An extension of compliance granted under an applicable part by a State with an approved permit program, or,
- (v) An exemption from compliance granted by the President under section 112(i)(4) of the Act.

SECTION 4 GENERALLY APPLICABLE REQUIREMENTS

The cited requirements in the "Citation" column and incorporated herein by reference are applicable plant-wide at the source, including insignificant emission units. These requirements are federally enforceable unless identified as "State Only". A requirement designated "State Only" is enforceable only by the state or the NWCAA, and not by the EPA or through citizen suits. "State Only" WAC citations are enforceable by NWCAA because they are adopted by reference in NWCAA 104.1, as amended February 10, 2022. All of the federal regulations listed in Section 4 have been adopted by reference in NWCAA 104.2, as amended February 10, 2022.

The "Description" column is a brief description of the applicable requirements for informational purposes only and is not enforceable. Periodic or continuous monitoring requirements (including testing) are specified in the "Monitoring, Recordkeeping and Reporting" column, which identifies monitoring, recordkeeping and reporting (MR&R) obligations the source must perform as required by 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), (10/17/2002)), or the NWCAA's "sufficiency monitoring" authority (WAC 173-401-630(1), (3/5/2016)), as cited in each permit term. Other requirements not labeled "Directly Enforceable" are brief descriptions of the regulatory requirements for 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) (10/22/1997). The CAM plan submitted by the facility per 40 CFR 64.4 is included in the Statement of Basis document accompanying this permit.

Table 4-1 Generally Applicable Requirements

Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
4.1 General	WAC 173-401-630(1) (3/5/2016) 40 CFR 60 Subpart A 60.19(c) (2/12/1999) 40 CFR 61 Subpart A 61.10(g) (3/16/1994) 40 CFR 63 Subpart A 63.10(a)(5) (11/19/2020)	<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.	<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 (or 60 days for VOC and 40 CFR 63 Subpart CC reports) after the close of the period that the reports cover, unless specifically required otherwise by a permit term. All required reports must be certified by a responsible official consistent with WAC 173-401-520. 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 (9/8/1993) (7/14/2005 State Only) WAC 173-401-615(1)(b) & (c) (10/17/2002)	<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.

Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
4.3 General	NWCAA Section 530 (3/09/2000 State Only) WAC 173-401-615(1)(b) & (c) (10/17/2002)	<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 description of the complaint and action being taken to resolve the problem. The results of the investigation, identification of any malfunctioning equipment or aberrant operation, and the date and time of repair or mitigation shall be recorded. A log of these records shall be maintained for inspection. Receipt of a nuisance complaint in itself shall not necessarily be a violation.
4.4 Nuisance	WAC 173-400-040(5) (3/22/1991) WAC 173-400-040(6) (9/16/2018 State Only) WAC 173-401-615(1)(b) & (c) (10/17/2002)	<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.	

Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
4.5 Odor	NWCAA Section 535 (3/09/2000 State only) WAC 173-401-615(1)(b) & (c) (10/17/2002)	<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.	<i>Directly Enforceable</i> Conduct MR&R in accordance with AOP Term 4.3.
4.6 Odor	WAC 173-400-040(5) (9/16/2018 State Only) WAC 173-401-615(1)(b) & (c) (10/17/2002)	<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.	
4.7 PM	NWCAA Section 550 (4/14/1993) WAC 173-401-615(1)(b) & (c) (10/17/2002)	<u>Preventing Particulate Matter from Becoming Airborne</u> Best Available Control Technology (BACT) is required to prevent the release of fugitive matter to the ambient air. Nuisance particulate fallout is prohibited.	

Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
4.8 PM	NWCAA Section 550 (9/11/2014 State Only) WAC 173-401-615(1)(b) & (c) (10/17/2002)	<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.	<i>Directly Enforceable</i> Conduct MR&R in accordance with AOP Term 4.3.
4.9 PM	WAC 173-400-040(3) (9/16/2018 State Only) WAC 173-401-615(1)(b) & (c) (10/17/2002)	<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.	
4.10 PM	WAC 173-400-040(3)(a) (3/22/1991) WAC 173-400-040(4)(a) (9/16/2018 State Only) WAC 173-401-615(1)(b) & (c) (10/17/2002)	<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.	

Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
4.11 PM	WAC 173-400-040(8)(a) (3/22/1991) WAC 173-400-040(9)(a) (9/16/2018 State Only) WAC 173-401-615(1)(b) & (c) (10/17/2002)	<u>Fugitive Dust</u> Take reasonable precautions to prevent release of fugitive dust. Maintain and operate source to minimize emissions.	<i>Directly Enforceable</i> Conduct MR&R in accordance with AOP Term 4.3.
4.12 VE	NWCAA 451.1 (10/13/1994) (11/8/2007 State Only) WAC 173-401-615(1)(b) & (c) (10/17/2002)	<u>Visible Emissions</u> No person shall cause or permit the emission, for any period aggregating more than three minutes in any one hour, of an air contaminant from any source which, at the point of emission, or within a reasonable distance of the point of emission, exceeds 20% opacity except: When there is valid data to show that the opacity is in excess of 20% as a result of the presence of condensed water droplets, and that the concentration of the particulate matter, as shown by a source test approved by the Control Officer, is less than 0.10 (0.23 g/m ³) grain/dscf.	<i>Directly Enforceable:</i> Conduct MR&R in accordance with AOP Term 6.1. Combustion units with specifically applicable permit terms in Section 5 for opacity and particulate matter shall be monitored in accordance with Section 5 requirements only.
4.13 VE	WAC 173-400-040(1) (3/22/1991) WAC 173-400-040(2) (9/16/2018 State Only) WAC 173-401-615(1)(b) & (c) (10/17/2002)	<u>Visible Emissions</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 20% 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 20%.	

Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
4.14 PM	NWCAA 455.1, NWCAA 455.11 (4/14/1993) (5/11/1995 State Only) BART Order #7836 Rev. 2, Condition 1.1, 1.2.1, and 1.2.2 (5/13/2015) WAC 173-401-630(1) (3/5/2016)	<u>Emission of Particulate Matter</u> Emissions shall not exceed 0.10 grain/dscf (corrected to seven percent oxygen), except, from all gaseous and distillate fuel burning equipment (the definition of fuel burning equipment does not include internal combustion engines), emissions shall not exceed 0.05 grain/dscf (0.11 g/m ³) corrected to seven percent oxygen.	For the following BART eligible units: Crude Heater, South Vacuum Heater, #1 Reformer Heater, Naphtha HDS Charge Heater, Naphtha HDS Stripper Reboiler, Hydrocracker 1 st Stage Reactor Heater (R-1), Hydrocracker 1 st Stage Fractionator Reboiler, Hydrocracker 2 nd Stage Reactor Heater (R-4), Hydrocracker 2 nd Stage Fractionator Reboiler, #1 DHDS Charge Heater, #1 DHDS Stabilizer Reboiler, #1 Hydrogen Plant South Reforming Furnace, #1 Hydrogen Plant North Reforming Furnace, Sulfur Recovery Complex Incinerator and #2 TGU; combust only gaseous fuels and maintain records of the type of fuel used in each unit. For the above-listed BART eligible units, perform testing using 40 CFR 60 Appendix A, Method 5 (filterable) and 40 CFR 51 Appendix M Method 202 (condensable), when requested by NWCAA. <i>Directly Enforceable</i> Conduct MR&R in accordance with AOP Term 6.1. Combustion units with specifically applicable permit terms in Section 5 for opacity and particulate matter shall be monitored in accordance with Section 5 requirements only.
4.15 PM	WAC 173-400-060 (11/25/2018) WAC 173-401-615(1)(b) & (c) (10/17/2002)	<u>Emission Standards for General Process Units</u> Particulate emissions greater than 0.1 grain/dscf prohibited.	<i>Directly Enforceable:</i> Conduct MR&R in accordance with AOP Term 6.1. Combustion units with specifically applicable permit terms in Section 5 for opacity and particulate matter shall be monitored in accordance with Section 5 requirements only.

Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
4.16 PM	WAC 173-400-050(1) and (3) (9/16/2018) WAC 173-401-615(1)(b) & (c) (10/17/2002)	<u>Emission Standards for Combustion and Incineration Units</u> Particulate emissions from combustion units greater than 0.1 grains/dscf prohibited. Measured concentrations for combustion and incineration units shall be adjusted for volumes corrected to seven percent oxygen, except when the permitting authority determines 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.	<i>Directly Enforceable:</i> Conduct MR&R in accordance with AOP Term 6.1. Combustion units with specifically applicable permit terms in Section 5 for opacity and particulate matter shall be monitored in accordance with Section 5 requirements only.
4.17 SO ₂	NWCAA Section 460 (4/11/2019 State Only) WAC 173-401-630(1) (3/5/2016)	<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.	<i>Directly Enforceable</i> Continuously operate and maintain an ambient SO ₂ air monitor and report to the NWCAA as per the requirements in NWCAA Regulations Appendix A (7/14/2005).
4.18 SO ₂	NWCAA Section 460 (4/14/1993) WAC 173-401-615(1)(b) & (c) (10/17/2002)	<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, on a monthly average basis for the facility.	<i>Directly Enforceable</i> Maintain records of facility calendar monthly average SO ₂ lb/MMBtu onsite and available for review.

Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
4.19 SO ₂	WAC 173-400-040(6) first paragraph only (3/22/1991) WAC 173-400-040(7) (9/16/2018 State only) WAC 173-401-615(1)(b) & (c) (10/17/2002)	<u>Sulfur Dioxide</u> SO ₂ emissions shall not exceed 1,000 ppmvd, corrected to 7% oxygen for combustion sources, based on the average of any 60 consecutive minute period.	<i>Directly Enforceable</i> For combustion units that burn refinery fuel gas from the main fuel drum, continuously monitor and record the total sulfur (TS) content in refinery fuel gas in accordance with AOP Terms 5.1.21, 5.11.8, and 5.13.21, or alternatively stack SO₂ in accordance with the applicable permit terms listed in Section 5 of this permit. For combustion units that do not burn fuel gas from the main fuel drum: Continuously monitor and record the concentration of H₂S in the fuel gas, or alternatively stack SO₂, in accordance with the applicable permit terms listed in Section 5 of this permit. For flares, continuously monitor and record H₂S and TS in accordance with AOP Terms 5.6.31 and 5.14.2.
4.20 SO ₂	NWCAA Section 462 (10/13/1994) WAC 173-401-615(1)(b) & (c) (10/17/2002)	<u>Emission of Sulfur Compounds</u> Sulfur compounds emissions, calculated as SO ₂ , shall not exceed 1,000 ppmvd at seven percent 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.	
4.21 SO ₂	NWCAA Section 462 (3/13/1997 State only) WAC 173-401-615(1)(b) & (c) (10/17/2002)	<u>Emission of Sulfur Compounds</u> Sulfur compounds emissions, calculated as SO ₂ , shall not exceed 1,000 ppmvd at seven percent 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 shows that no practical method of reducing concentration exists.	

Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
4.22 SO ₂	NWCAA 520.1, 520.11, 520.12, 520.13, and 520.15 (4/14/1993) WAC 173-401-615(1)(b) & (c) (10/17/2002)	<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 within NWCAA's jurisdiction and combusted at the refinery 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 or ASTM D-2622.
4.23 SO ₂	NWCAA 520.1, 520.11, 520.12, 520.13, 520.15, and 520.2 (5/9/1996 State only) WAC 173-401-615(1)(b) & (c) (10/17/2002)	<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% Does not apply to ocean-going vessels.	
4.24 SO ₂	BART Order 7836 Rev. 2 Condition 3.2.4 (5/13/2015)	Report average fuel gas H ₂ S concentration (3-hour rolling average).	Report the average H ₂ S concentration (3-hour rolling average) for the calendar month in the monthly emissions report for the following refinery fuel gas streams. 1. Main refinery fuel gas mix drum 2. Delayed Coker fuel gas 3. Crude & Vacuum Unit vacuum tail gas

Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
4.25 VOC	NWCAA 580.24 (12/13/1989) (2/8/1996 State only) WAC 173-401-630(1) (3/5/2016)	<u>Process Turnarounds</u> Process units shall be depressurized to less than five 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 shutdown, 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 five psig. <i>Directly Enforceable</i> Report emissions from turnarounds in the annual emissions inventory pursuant to AOP Term 2.4.4.3.
4.26 VOC	NWCAA 580.25 (12/13/1989) (2/8/1996 State Only) WAC 173-401-615(1)(b) & (c) (10/17/2002)	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.
4.27 HAP	40 CFR 61 Subpart FF 61.340(a) (11/12/2002) and 61.342(b) (10/17/2000) 40 CFR 63 Subpart CC 63.647 (12/1/2015)	<u>40 CFR 61 Subpart FF Benzene Waste Operations:</u> <u>Refinery MACT Wastewater Provisions:</u> The facility shall implement 40 CFR 61 Subpart FF tracking, managing, and treating benzene-containing wastes as required in AOP Section 5.17. The general requirements of 40 CFR 61 Subpart A apply to the affected facilities (AOP Section 3.2).	See MR&R terms in AOP Section 5.17 applicable to subject waste streams and equipment. The following waste is exempt from 40 CFR 61 Subpart FF: (1) Waste in the form of gases or vapors that is emitted from process fluids; (2) Waste that is contained in a segregated storm water sewer system. Any gaseous stream from a waste management unit, treatment process, or wastewater treatment system routed to a fuel gas system, as defined in 40 CFR 61.341, is exempt from this subpart. No testing, monitoring, recordkeeping, or reporting is required under this subpart for any gaseous stream from a waste management unit, treatment process, or wastewater treatment unit routed to a fuel gas system.
4.28 HAP	40 CFR 63 Subpart CC 63.642(b) (12/1/2015)	<u>Refinery MACT 1</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.

Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
4.29 HAP	40 CFR 63 Subpart CC 63.642(n) (12/1/2015)	<u>Refinery MACT 1 – 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.	The responsible official shall certify compliance with these terms under AOP Term 2.4.1.
4.30 HAP	40 CFR 63 Subpart UUU 63.1570(a) (12/1/2015)	<u>Refinery MACT 2</u> Non-opacity standards apply to affected sources at all times.	
4.31 HAP	40 CFR 63 Subpart UUU 63.1570(b) (12/1/2015)	<u>Refinery MACT 2</u> Opacity and visible emission standards apply to affected sources at all times.	
4.32 HAP	40 CFR 63 Subpart UUU 63.1570(c) (12/1/2015)	<u>Refinery MACT 2 - 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) (1/30/2013)	<u>RICE MACT</u> Emission limits and operating limits apply to affected sources at all times.	
4.34 HAP	40 CFR 63 Subpart ZZZZ 63.6605(b) (1/30/2013)	<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.	

Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
4.35 HAP	40 CFR 63 Subpart GGGGG 63.7881(c) and 63.7884(b) (11/29/2006) 63.7936 (10/8/2003)	<u>Site Remediation Activities</u> 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.

Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
4.36 HAP	40 CFR 63 Subpart CC 63.658(a), (b), (c), (e), (f) & (j), 63.655(h)(8) & (i)(8) and Table 11(4)(vi) (11/26/2018)	<u>Fenceline Benzene Monitoring – Sampling</u> Conduct a fenceline monitoring program for benzene using a sampling grid setup in accordance with 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 two 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 eight consecutive “quarterly” samples at or below 0.9 µg/m³, sampling may be relaxed to: - Semiannual After four 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 two consecutive years of sampling once every 14 days). Sampling results may be adjusted for background and near-field sources of benzene.	Maintain records in accordance with 63.655(i)(8) including sampling locations, periods, conditions, and justifications for: - Determining sample outliers, - Samples adjusted for background, and - Samples adjusted for near-field source corrections. Submit sampling results electronically to EPA’s Central Data Exchange (www.cdx.epa.gov) once every quarter. Reports must include the location of each monitoring site within three meters 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

Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
4.37 HAP	40 CFR 63 Subpart CC 63.658(d) and 63.655 (i)(8) (11/26/2018)	<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.
4.38 HAP	40 CFR 63 Subpart CC 63.658(f)(3) & (g) and 63.655(i)(8)(viii) (11/26/2018)	<u>Fenceline Benzene Monitoring – Root Cause Analysis and Initial Corrective Action Analysis</u> Within five days of determining that the action level of nine $\mu\text{g}/\text{m}^3$ annual average has been exceeded, and no longer 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 nine $\mu\text{g}/\text{m}^3$ annual average action level is exceeded.

Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
4.39 HAP	40 CFR 63 Subpart CC 63.658(h) (11/26/2018)	<u>Fenceline Benzene Monitoring – Corrective Action Plan</u> If either of the following occur: - Upon completion of corrective action required under AOP Term 4.38, 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 4.38 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 4.38 shows that benzene concentrations are still above the nine ug/m³ action level. If no corrective actions were identified in the corrective action analysis required under AOP Term 4.38, submit the corrective action plan to the Administrator no later than 60 days following the completion of the corrective action analysis.
4.40	40 CFR 63 Subpart CC 63.643(c) and 63.655 (g)(13) & (i)(12) (2/4/2020)	<u>MACT Maintenance Vents</u> Maintenance vents used exclusively for startup, shutdown, maintenance, or inspection may vent to atmosphere once process liquids have been removed from equipment as much as practicable and equipment has been depressurized to a control device, a fuel gas system, or back to the process until one of the following conditions have been met: - The vapor in the equipment served by the maintenance vent has a lower explosive limit (LEL) of less than 10%, - The equipment served by the maintenance vent contains less than 72 lb of VOC, or - There is no ability to measure the LEL of the vapor inside the equipment, the pressure in the equipment is reduced to five psig or less. Upon opening the maintenance vent, active purging cannot be used until the vented vapors have an LEL less than 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 exceeded, and an estimate of the mass of organic HAP released to the atmosphere 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 are enforceable by NWCAA because they are adopted by reference in NWCAA 104.1, as amended February 10, 2022. All of the federal regulations listed in Section 5 have been adopted by reference in NWCAA 104.2, as amended February 10, 2022.

The "Description" column is a brief description of the applicable requirements for informational purposes only and is not enforceable. Periodic or continuous monitoring requirements, including testing, are specified in the "Monitoring, Recordkeeping 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), (10/17/2002)), or the NWCAA's "sufficiency monitoring" authority (WAC 173-401-630(1), (3/5/2016)), as cited in each permit term. Other requirements not labeled "Directly Enforceable" are brief descriptions of the regulatory requirements for 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) (10/22/1997). The CAM plan submitted by the facility per 40 CFR 64.4 is included in the Statement of Basis document accompanying this permit.

The provisions of federally approved NWCAA 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.

Section 5 is separated into the following refinery process and product handling areas:

5.1	Crude and Vacuum Unit
5.2	Isomerization Unit
5.3	Reformer and Naphtha Units
5.4	Light Ends and LPG Units
5.5	Hydrocracker Unit
5.6	Hydrogen Plants
5.7	Delayed Coker Unit
5.8	Sulfur Recovery Complex
5.9	#1 Diesel HDS Unit
5.10	#2 Diesel HDS Unit
5.11	#3 Diesel HDS Unit
5.12	Calciners and Coke Handling
5.13	Boilers and Cooling Towers
5.14	Flares and Flare Gas Recovery
5.15	Shipping, Pumping and Receiving
5.16	Non-Hazardous Landfarm
5.17	Oily Wastewater Collection, Storage and Treatment
5.18	Petroleum Storage Tanks/Vessels
5.19	Stationary Internal Combustion Engines

5.1. Crude and Vacuum Unit

Table 5-1 Crude and Vacuum Unit

Crude and Vacuum Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
Crude Heater (10-1401)			
Note: 40 CFR 60 and 63 General Provisions included in Section 3 apply to these affected facilities.			
5.1.1 General	OAC 1054, Condition 1 (4/12/2012) WAC 173-401-615(1)(b) & (c) (10/17/2002)	The Crude Heater shall combust gaseous fuel or a combination of gaseous and liquid fuel where the percentage of liquid fuel combusted in the heater does not exceed 75% by weight. Fuel combusted in each heater shall not exceed 2.0% by weight sulfur.	<i>Directly Enforceable</i> Certify annually that only approved fuels were combusted in the Crude Heater.
5.1.2 PM & SO ₂	OAC 211c Conditions 1(a) and 2 (9/18/2012)	<u>Cumulative Particulate and SO₂ limit</u> The 17 affected emission units shall not exceed: • Particulate: 60 tons/calendar month • SO₂: 2,354 lb/hour, calendar month average	Conduct MR&R in accordance with AOP Term 6.2.

Crude and Vacuum Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.1.3 SO ₂	BART Order #7836 Rev. 2, Condition 3.2 (5/13/2015) NWCAA ACO 05 (10/25/2012) which references 40 CFR 60 Subpart J 60.104(a)(1) (6/24/2008), 60.105(a)(4), 60.105(e)(3)(ii) (12/1/2015), and 60.106(e) (9/12/2012) WAC 173-401-630(1) (3/5/2016)	<u>NSPS for Refinery Fuel Gas</u> H ₂ S in the fuel gas from the main mix drum shall not exceed 162 ppmvd (230 mg/dscm), 3-hour rolling average.	Operate a CEMS to continuously monitor H ₂ S in the fuel gas from the main mix drum in accordance with 40 CFR 60 Subpart J, 40 CFR 60 Appendices B and F, NWCAA 367 and NWCAA Appendix A. The span value for the CEMS is 300 ppmvd (425 mg/dscm) H ₂ S. Use Performance Specification 7 to evaluate CEMS performance under 60.13(c). Follow EPA Method 11, 15, 15A, or 16 to conduct relative accuracy evaluations. <i>Directly Enforceable</i> Report monthly the highest 3-hour rolling average ppmvd H ₂ S in the refinery fuel gas from the main mix drum.
5.1.4 SO ₂	OAC 689c Conditions 1.2, 2.2 and 3.2 (6/3/2021) OAC 814d, Condition 4 (6/3/2021)	The H ₂ S in the Vacuum Tail Gas shall not exceed 162 H ₂ S ppmv, as a 3-hour rolling average prior to combustion in any device. Vacuum Tail Gas means vacuum tower and vacuum diesel fractionator tail gases generated at the Crude and Vacuum Unit.	Operate a CEMS to continuously monitor H ₂ S in the Vacuum Tail Gas in accordance with 40 CFR 60 Subpart J, 40 CFR 60 Appendices B and F, NWCAA 367 and NWCAA Appendix A. The span value for the CEMS is 300 ppmvd H ₂ S. Use Performance Specification 7 to evaluate CEMS performance under 60.13(c). Follow EPA Method 11, 15, 15A, or 16 to conduct relative accuracy evaluations. <i>Directly Enforceable</i> Report monthly the highest 3-hour rolling average ppmvd H ₂ S in the Vacuum Tail Gas.
5.1.5 HAP	40 CFR 63 Subpart DDDDD 63.7485 (1/31/2013)	<u>Major Source Boiler MACT</u> Comply with 40 CFR 63 Subpart DDDDD for boilers and process heaters.	Conduct MR&R in accordance with AOP Section 6.5.

Crude and Vacuum Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
South Vacuum Heater (10-1451)			
Note: 40 CFR 60 and 63 General Provisions included in Section 3 apply to these affected facilities.			
5.1.6 General	OAC 1054, Condition 1 (4/12/2012) WAC 173-401-615(1)(b) & (c) (10/17/2002)	The South Vacuum Heater shall combust gaseous fuel or a combination of gaseous and liquid fuel where the percentage of liquid fuel combusted in the heater does not exceed 75% by weight. Fuel combusted in each heater shall not exceed 2.0% by weight sulfur.	<i>Directly Enforceable</i> Certify annually that only approved fuels were combusted in the South Vacuum Heater.
5.1.7 General	OAC 902a Condition 1 (11/01/2005) WAC 173-401-615(1)(b) & (c) (10/17/2002)	Fuel combusted in the heater shall be limited to natural gas and refinery fuel gas.	<i>Directly Enforceable</i> Certify annually that only approved fuels were combusted in the South Vacuum Heater.
5.1.8 General	OAC 902a Condition 5 (11/01/2005)	Operating and maintenance (O&M) manual for the ultra-low NOx burners (ULNB).	Keep an O&M manual for the ULNB on-site.
5.1.9 VE	OAC 902a Condition 2 (11/01/2005)	Visual emissions shall not exceed 5% opacity for more than three aggregated minutes in any consecutive 60-minute period (Method 9A).	Conduct MR&R in accordance with AOP Term 6.1.
5.1.10 PM & SO ₂	OAC 211c Conditions 1(b) and 2 (9/18/2012)	<u>Cumulative Particulate and SO₂ limit</u> The 17 affected emission units shall not exceed: • Particulate: 60 tons/calendar month • SO₂: 2,354 lb/hour, calendar month average	Conduct MR&R in accordance with AOP Term 6.2.

Crude and Vacuum Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.1.11 SO ₂	BART Order #7836 Rev. 2, Condition 3.2 (5/13/2015) NWCAA ACO 05 (10/25/2012) which references 40 CFR 60 Subpart J 60.104(a)(1) (6/24/2008), 60.105(a)(4), 60.105(e)(3)(ii) (12/1/2015), and 60.106(e) (9/12/2012) WAC 173-401-630(1) (3/5/2016)	<u>NSPS for Refinery Fuel Gas</u> H ₂ S in the fuel gas shall not exceed 162 ppmvd (230 mg/dscm), 3-hour rolling average.	Operate a CEMS to continuously monitor H ₂ S in the fuel gas from the main mix drum in accordance with 40 CFR 60 Subpart J, 40 CFR 60 Appendices B and F, NWCAA 367 and NWCAA Appendix A. The span value for the CEMS is 300 ppmvd (425 mg/dscm) H ₂ S. Use Performance Specification 7 to evaluate CEMS performance under 60.13(c). Follow EPA Method 11, 15, 15A, or 16 to conduct relative accuracy evaluations. <i>Directly Enforceable</i> Report monthly the highest 3-hour rolling average ppmvd H ₂ S in the refinery fuel gas from the main mix drum.
5.1.12 NO _x	BART Order #7836 Rev. 2, Condition 2.1 (5/13/2015) OAC 902a Condition 3 (11/01/2005)	NO _x emissions from the South Vacuum Heater shall not exceed: 10.5 lb/hr, calendar day average	Operate CEMS to continuously monitor NO _x & O ₂ concentrations in the South Vacuum Heater stack in accordance with NWCAA 367, NWCAA Appendix A, and 40 CFR 60 Appendices B and F. Keep records showing the method for calculating the mass emission rate based on associated CEMS data.
5.1.13 CO	OAC 902a Condition 4 (11/01/2005) WAC 173-401-615(1)(b) & (c) (10/17/2002)	CO emissions from the South Vacuum Heater shall not exceed: 11.8 lb/hr	<i>Directly Enforceable</i> The emission factor generated during the most recent source test shall be used to calculate emissions. Source testing shall be conducted using 40 CFR 60 Appendix A Method 10 or 10B, and at maximum operating rate ≥ 90% of the design firing rate of the heater.
5.1.14 HAP	40 CFR 63 Subpart DDDDD 63.7485 (1/31/2013)	<u>Major Source Boiler MACT</u> Comply with 40 CFR 63 Subpart DDDDD for boilers and process heaters.	Conduct MR&R in accordance with AOP Section 6.5.

Crude and Vacuum Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
North Vacuum Heater (10-1452)			
Note: 40 CFR 60 and 63 General Provisions included in Section 3 apply to these affected facilities.			
5.1.15 General	PSD-5 Amendment 4, Condition 2 (11/8/2021) WAC 173-401-615(1)(b) & (c) (10/17/2002)	The North Vacuum Heater firing rate shall not exceed 117 MMBtu/hour HHV, calendar day average	<i>Directly Enforceable</i> Keep records of the scf/hr of fuel gas combusted in the North Vacuum Heater and its HHV.
5.1.16 General	PSD 5 Amendment 4, Condition 1 (11/8/2021) OAC 273c Condition 1 (2/19/2019) WAC 173-401-615(1)(b) & (c) (10/17/2002)	Fuel combusted in the North Vacuum Heater shall be limited to natural gas and refinery fuel gas.	<i>Directly Enforceable</i> Certify annually that only approved fuels were combusted in the North Vacuum Heater.
5.1.17 General	OAC 273c Condition 9 (2/19/2019)	Operating and maintenance (O&M) manual for the ultra-low NOx burners (ULNB).	Keep an O&M manual for the ULNB on-site. Perform maintenance on the ULNB and air preheater system according to manufacturer recommendations and record maintenance activities.
5.1.18 VE	OAC 273c Condition 2 (2/19/2019)	Visual emissions shall not exceed 5% opacity for more than three aggregated minutes in any consecutive 60-minute period (Method 9A).	Conduct MR&R in accordance with AOP Term 6.1.

Crude and Vacuum Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.1.19 SO ₂	40 CFR 60 Subpart Ja 60.102a(g)(1)(ii) (7/13/2016) 60.107a(a)(2) (12/1/2015) WAC 173-401-630(1) (3/5/2016)	<u>NSPS for Refinery Fuel Gas</u> H ₂ S in the fuel gas shall not exceed: • 162 ppmvd (230 mg/dscm), 3-hour rolling average • 60 ppmvd, 365 successive calendar day rolling average	Operate a CEMS to continuously monitor H ₂ S in the fuel gas. The CEMS shall meet the requirements of 40 CFR 60 Subpart Ja, 40 CFR 60 Appendices B and F, NWCAA 367 and NWCAA Appendix A. The span value for the CEMS is 300 ppmv H ₂ S. Use Performance Specification 7 to evaluate CEMS performance under 60.13(c). Follow EPA Method 11, 15, 15A, or 16 to conduct relative accuracy evaluations.
5.1.20 H ₂ S	OAC 273c Condition 5 (2/19/2019)	Fuel gas combusted in the North Vacuum Heater shall not exceed any of the following: • 162 ppmvd H₂S, 3-hour rolling average • 50 ppmvd H₂S, 24-hour rolling average	<i>Directly Enforceable</i> Report monthly the highest 3-hour rolling average ppmvd H ₂ S in the refinery fuel gas from the main mix drum.
5.1.21 SO ₂	OAC 273c Condition 4 (2/19/2019)	Do not allow SO ₂ emissions from the North Vacuum Heater stack to exceed any of the following limits: • 19.5 tons, 12-month rolling average • 13.2 lb/hr, calendar day average	Operate a CEMS to continuously monitor total sulfur in the North Vacuum Heater fuel gas. The CEMS shall meet the performance specification and data quality assurance procedures as approved by NWCAA in writing, NWCAA 367, and NWCAA Appendix A. Assume 100% conversion of total sulfur in fuel gas to SO ₂ after combustion unless an alternative methodology is approved by the NWCAA in writing.

Crude and Vacuum Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.1.22 NOx	PSD-5 Amendment 4, Condition 3 (11/8/2021) OAC 273c Condition 6 (2/19/2019)	While operating in <u>balanced (forced) draft mode</u>, NOx emissions from the North Vacuum Heater must comply with one of the limits in a., and the limit in b.: a. 60 ppmvd NOx at 0% oxygen <u>or</u> 0.060 lb/MMBtu (HHV) NOx, both 30-day rolling averages b. 7.0 lb/hr NOx, calendar day average While operating in <u>natural draft mode for 30 or more consecutive days</u>, NOx emissions from the North Vacuum Heater must comply with one of the limits in c., and the limit in d.: c. 40 ppmvd NOx at 0% oxygen <u>or</u> 0.040 lb/MMBtu (HHV) NOx, both 30-day rolling averages d. 4.7 lb/hr NOx, calendar day average While operating in <u>natural draft mode for fewer than 30 consecutive days</u>, NOx emissions from the North Vacuum Heater must comply with one of the limits in a., and the limit in d.	Operate a CEMS to continuously monitor NOx and O₂ in the North Vacuum Heater exhaust. The CEMS shall meet the requirements of 40 CFR 60 Subpart Ja, 40 CFR 60 Appendices B and F, NWCAA Section 367, and NWCAA Appendix A. Determine the F_d factor of the North Vacuum Heater fuel gas stream no less frequently than once per calendar week according to the monitoring requirements in 40 CFR 60.107a(d)(1)-(4). When electing to comply with the heating value-based limits, determine the F_d factor of the fuel gas stream no less frequently than once per day.
5.1.23 NOx	40 CFR 60 Subpart Ja 60.102a(g)(2) (7/13/2016), 60.107a(c), and 60.107a(d) (12/1/2015)	<u>NSPS for Process Heaters</u> While operating in balanced (forced) draft mode, NOx emissions from the North Vacuum Heater shall comply with one of the limits in AOP Term 5.1.22.a at any time, provided that the appropriate parameters are monitored as specified in 60.107a. While operating in natural draft mode, NOx emissions from the North Vacuum Heater shall comply with one of the limits in AOP Term 5.1.22.c at any time, provided that the appropriate parameters are monitored as specified in 60.107a.	Operate a CEMS to continuously monitor NOx and O₂ in the North Vacuum Heater exhaust. The CEMS shall meet the requirements of 40 CFR 60 Subpart Ja, 40 CFR 60 Appendices B and F, NWCAA Section 367, and NWCAA Appendix A. When complying with the heating value-based limit, determine the F_d factor of the fuel gas stream no less frequently than once per day according to the monitoring requirements in 40 CFR 60.107a(d)(1)-(4).
5.1.24 CO	OAC 273c Condition 3 (2/19/2019)	CO emissions from the North Vacuum Heater shall not exceed: • 20.5 tons, consecutive 12-month rolling total	Calculate CO emissions using an emission factor of 0.0366 lb/MMBtu during normal operations, and an emission factor of 0.2925 lb/MMBtu during startup and shutdown. Maintain monthly record of CO consecutive 12-month rolling total tons.

Crude and Vacuum Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.1.25 PM	OAC 273c Condition 7 (2/19/2019)	PM (PM ₁₀ , PM _{2.5} , filterable and condensable) emissions from the North Vacuum Heater shall not exceed: 1.2 lb/hr	Conduct a performance test using EPA Method 202 and Method 5 at least once every 36 months in accordance with NWCAA 367 and NWCAA Appendix A unless an alternative is approved in advance by NWCAA. Average three test runs of at least 60-minutes each while firing the heater as close to its maximum capacity as practicable. If the heater is fired at a rate that is less than 90% of its maximum capacity, explain the reason in the test report. If three consecutive performance tests demonstrate emissions of 50% or less of the lb/hr limit, testing frequency may be reduced to once every five years. If a source test demonstrates emissions are greater than 50% of the lb/hr limit, testing frequency shall revert to once every 36 months, until three consecutive tests demonstrate emissions of less than 50% of the lb/hr limit.
5.1.26 HAP	40 CFR 63 Subpart DDDDD 63.7500 (1/31/2013)	<u>Major Source Boiler MACT</u> Comply with 40 CFR 63 Subpart DDDDD for boilers and process heaters.	Conduct MR&R in accordance with AOP Section 6.5.
Crude and Vacuum Unit - Hot Wells with Contact Condensers			
5.1.27 VOC	NWCAA 580.221 and 580.25 (12/13/1989) (State Only 2/8/1996) WAC 173-401-615(1)(b) & (c) (10/17/2002)	Non-condensable VOC shall be piped to an appropriate firebox, incinerator or to a closed refinery system. Equipment for the reduction, collection or disposal of VOC shall be maintained and operated in a manner commensurate with accepted industrial practices.	<i>Directly Enforceable</i> Record operation and maintenance activities associated with controlling VOC emissions in close vent systems routed to flares or other appropriate control device.

Crude and Vacuum Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.1.28 VOC	NWCAA 580.222 and 580.25 (12/13/1989) (State Only 2/8/1996) WAC 173-401-615(1)(b) & (c) (10/17/2002)	Hot wells associated with contact condensers shall be tightly covered and the collected VOC introduced into a closed refinery system. Equipment for the reduction, collection or disposal of VOC shall be maintained and operated in a manner commensurate with accepted industrial practices.	<i>Directly Enforceable</i> Record operation and maintenance activities associated with hot wells with contact condensers.
Crude and Vacuum Unit - Equipment in VOC Service			
Note: 40 CFR 60 General Provisions included in Section 3 apply to these affected facilities.			
5.1.29 VOC	OAC 1200, Condition 2 (5/24/2017) OAC 273c, Condition 8 (2/19/2019) 40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/2008) which references 40 CFR 60 Subpart VVa (6/2/2008)	<u>NSPS for Equipment Leaks</u> Monitor components in VOC service for leaks, repair leaks in a timely manner, and report results semi-annually in accordance with 40 CFR 60 Subpart VVa. Applicable components include pumps, valves, pressure relief devices, sampling systems, open-ended lines, flanges, and connectors. Affected facilities may include individual compressors.	Conduct a LDAR program in accordance with AOP Section 6.4.
Crude and Vacuum Unit - Equipment in HAP Service			
Note: 40 CFR 63 General Provisions included in Section 3 apply to these affected facilities.			
5.1.30 HAP	OAC 1200, Condition 2 (5/24/2017) 40 CFR 63 Subpart CC 63.640(p)(2) (2/4/2020) which references 40 CFR 60 Subpart GGGa (6/2/2008)	<u>MACT for Equipment Leaks</u> Monitor components in HAP service for leaks, repair leaks in a timely manner, and report results semi-annually in accordance with 40 CFR 60 Subpart VVa, except that pressure relief devices in organic HAP service must only comply with the requirements in 63.648(j). Applicable components include pumps, compressors, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, or instrumentation system as defined in this section.	Conduct a LDAR program in accordance with AOP Section 6.4.

Crude and Vacuum Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.1.31 HAP	40 CFR 63 Subpart CC 63.648(j) and 63.655(g) (2/4/2020)	<u>Refinery MACT for Pressure Relief Devices</u> Except during a pressure release, operate, monitor, repair as necessary, and report results semiannually for each pressure relieve device (PRD) in organic HAP gas or vapor service in accordance with 40 CFR 63 Subpart CC. Conduct a root cause analysis (RCA) and corrective action analysis (CAA) as required after a pressure release to atmosphere.	Conduct MR&R in accordance with AOP Section 6.6.
Crude and Vacuum Unit – Process Vents			
Note: 40 CFR 63 General Provisions included in Section 3 apply to these affected facilities.			
5.1.32 HAP	40 CFR 63 Subpart CC 63.643(a) (2/4/2020)	<u>Refinery MACT I – Group 1 Process Vents</u> Control HAP emissions from applicable vents by using a flare that meets the requirements of 63.670 or a control device that achieves an emission reduction of 98% mass or to 20 ppmv corrected to 3% O ₂ . This does not apply to catalyst regeneration vents or to emission points routed to a fuel gas system, provided all flares that receive fuel gas from that system are subject to 63.670, per 63.640(d)(4)-(5). Process vents may be designated as maintenance vents if the vent is used only as a result of startup, shutdown, maintenance, or inspection of equipment where equipment is emptied, depressurized, degassed, or placed into service, per 63.643(c), and the vent must comply with applicable requirements in 63.643(c)(1)-(3).	Conduct MR&R in accordance with AOP Terms 5.14.6 through 5.14.12 (flares).

5.2. Isomerization Unit

Table 5-2 Isomerization Unit

Isomerization Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
Isomerization Heater (45-1402)			
Note: 40 CFR 60 and 63 General Provisions in Section 3 apply to these affected facilities.			
5.2.1 General	OAC 814d, Condition 1 (6/3/2021) PSD-02-04 Amendment 2, Condition 1 & 8 (2/23/2022) WAC 173-401-615(1)(b) & (c) (10/17/2002)	The Isomerization Heater shall combust only natural gas and/or refinery fuel gas.	<i>Directly Enforceable</i> Certify annually that only approved fuels were combusted in the heater.
5.2.2 General	PSD-02-04 Amendment 2, Condition 10 (2/23/2022)	Facility shall identify "good combustion practices" for the Isomerization Heater. These operational practices and parameters shall be included in the O&M manual for the unit.	O&M manual shall be maintained, followed, and available on-site for review.
5.2.3 VE	OAC 814d, Condition 2 (6/3/2021) WAC 173-401-615(1)(b) & (c) (10/17/2002)	Visual emissions from the Isomerization Heater shall not exceed 5% opacity for more than three minutes in any consecutive 60-minute period (Method 9A).	<i>Directly Enforceable</i> Conduct MR&R in accordance with AOP Term 6.1 of this permit.

Isomerization Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.2.4 SO ₂	40 CFR 60 Subpart J 60.104(a)(1) (6/24/2008), 60.105(a)(4), 60.105(e)(3)(ii) (12/1/2015), and 60.106(e) (9/12/2012) WAC 173-401-630(1) (3/5/2016)	<u>NSPS for Refinery Fuel Gas</u> H ₂ S in the fuel gas shall not exceed 162 ppmvd (230 mg/dscm), 3-hour rolling average.	Operate a CEMS to continuously monitor H ₂ S in the fuel gas from the main mix drum in accordance with 40 CFR 60 Subpart J, 40 CFR 60 Appendices B and F, NWCAA 367 and NWCAA Appendix A. The span value for the CEMS is 300 ppmvd (425 mg/dscm) H ₂ S. Use Performance Specification 7 to evaluate CEMS performance under 60.13(c). Follow EPA Method 11, 15, 15A, or 16 to conduct relative accuracy evaluations. <i>Directly Enforceable</i>
5.2.5 SO ₂	OAC 814d, Condition 3 (6/3/2021)	<u>BACT for Fuel Gas</u> Fuel gas combusted in the Isomerization Heater shall not exceed any of the following: • 162 ppm H₂S, 3-hour rolling average • 50 ppm H₂S, 24-hour rolling average	Report monthly the highest 3-hour rolling average ppmvd H ₂ S in the refinery fuel gas from the main mix drum.

Isomerization Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.2.6 NOx	PSD-02-04 Amendment 2, Conditions 2 and 8 (2/23/2022) WAC 173-401-630(1) (3/5/2016)	NOx emissions from the Isomerization Heater shall not exceed any of the following: • 0.10 lb/MMBtu, calendar day average, • 0.455 lb/hr, calendar day average	Conduct annual performance testing when the heater is operating at a rate that is representative of normal operating conditions at the time of the test. The test shall be conducted in accordance with 40 CFR 60 Appendix A Method 7E, NWCAA 367 and NWCAA Appendix A. Include maximum monthly NOx lb/hr calendar day average in monthly report. <i>Directly Enforceable</i> Record the following process parameters at least once every 15 minutes for each individual test run unless otherwise specified below, and include in the source test report: • Firing rate (MMBtu/hr) • Fuel flow rate (Mscf/hr) • Fuel HHV (Btu/scf), sampled once on the day of the test

Isomerization Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.2.7 CO	PSD-02-04 Amendment 2, Conditions 3 and 8 (2/23/2022) WAC 173-401-630(1) (3/5/2016)	CO emissions from the Isomerization Heater shall not exceed any of the following: 70 ppmvd at 7% O₂, calendar day average 1.1 lb/hr, calendar day average	Conduct annual performance testing when the heater is operating at a rate that is representative of normal operating conditions at the time of the test. The test shall be conducted in accordance with 40 CFR 60 Appendix A Method 10, 10A, or 10B, NWCAA 367 and NWCAA Appendix A. Include maximum monthly CO lb/hr calendar day average in monthly report. <i>Directly Enforceable</i> Record the following process parameters at least once every 15 minutes for each individual test run unless otherwise specified below, and include in the source test report: - Firing rate (MMBtu/hr) - Fuel flow rate (Mscf/hr) - Fuel HHV (Btu/scf), sampled once on the day of the test
5.2.8 HAP	40 CFR 63 Subpart DDDDD 63.7500 (1/31/2013)	<u>Major Source Boiler MACT</u> Comply with 40 CFR 63 Subpart DDDDD for boilers and process heaters.	Conduct MR&R in accordance with AOP Section 6.5.
Isomerization Unit – Equipment in VOC Service			
Note: 40 CFR 60 General Provisions in Section 3 apply to these affected facilities.			
5.2.9 VOC	40 CFR 60 Subpart GGG 60.590-60.593 (6/2/2008) which references 40 CFR 60 Subpart VV (6/2/2008)	<u>NSPS for Equipment Leaks</u> Monitor components in VOC service for leaks, repair leaks in a timely manner, and report results semi-annually in accordance with 40 CFR 60 Subparts VV. Applicable components include pumps, valves, pressure relief devices, sampling systems, open-ended lines, flanges, and connectors. Affected facilities may include individual compressors.	Conduct a LDAR program in accordance with AOP Section 6.3.

Isomerization Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
Isomerization Unit – Equipment in VOC Service			
5.2.10 VOC	OAC 814d, Condition 5 (6/3/2021)	<u>BACT for Equipment Leaks</u> Monitor components in VOC service for leaks, repair leaks in a timely manner, and report results semi-annually in accordance with 40 CFR 60 Subpart VVa. Applicable components include pumps, valves, pressure relief devices, sampling systems, open-ended lines, flanges, and connectors. Affected facilities may include individual compressors.	Conduct a LDAR program in accordance with AOP Section 6.4.
Isomerization Unit – Equipment in HAP Service			
Note: 40 CFR 63 General Provisions in Section 3 apply to these affected facilities.			
5.2.11 HAP	40 CFR 63 Subpart CC 63.648 (2/4/2020) which references 40 CFR 60 Subpart VV (6/2/2008)	<u>MACT for Equipment Leaks</u> Monitor components in HAP service for leaks, repair leaks in a timely manner, and report results semi-annually in accordance with 40 CFR 60 Subparts VV, except that pressure relief devices in organic HAP service must comply with the requirements in 63.648(j). If a flare is used as a control device, the flare shall meet the requirements of 63.670. Applicable components include pumps, valves, pressure relief devices, sampling systems, open-ended lines, flanges, and connectors. Affected facilities may include individual compressors.	Conduct a LDAR program in accordance with AOP Section 6.3.
5.2.12 HAP	40 CFR 63 Subpart CC 63.648(j) and 63.655(g) (2/4/2020)	<u>Refinery MACT for Pressure Relief Devices</u> Except during a pressure release, operate, monitor, repair as necessary, and report results semiannually for each pressure relieve device (PRD) in organic HAP gas or vapor service in accordance with 40 CFR 63 Subpart CC. Conduct a root cause analysis (RCA) and corrective action analysis (CAA) as required after a pressure release to atmosphere.	Conduct MR&R in accordance with AOP Section 6.6.

Isomerization Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
Isomerization Unit – Process Vents			
Note: 40 CFR 63 General Provisions in Section 3 apply to these affected facilities.			
5.2.13 HAP	40 CFR 63 Subpart CC 63.643(a) (2/4/2020)	<u>Refinery MACT I – Group 1 Process Vents</u> Control HAP emissions from applicable vents by using a flare that meets the requirements of 63.670 or a control device that achieves an emission reduction of 98% mass or to 20 ppmv corrected to 3% O₂. This does not apply to catalyst regeneration vents or to emission points routed to a fuel gas system, provided all flares that receive fuel gas from that system are subject to 63.670, per 63.640(d)(4)-(5). Process vents may be designated as maintenance vents if the vent is used only as a result of startup, shutdown, maintenance, or inspection of equipment where equipment is emptied, depressurized, degassed, or placed into service, per 63.643(c), and the vent must comply with applicable requirements in 63.643(c)(1)-(3).	Conduct MR&R in accordance with AOP Terms 5.14.6 through 5.14.12 (flares).

Isomerization Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
Isomerization Unit – Splitter Tower and Overhead Accumulator Vent Streams			
Note: 40 CFR 60.1, 60.2, 60.5, 60.7(a)(1) and (4), 60.14, 60.15, 60.16, and 40 CFR 65 General Provisions in Section 3 may apply to these affected facilities.			

5.2.14 TOC	40 CFR 60 Subpart NNN 60.662(a) and (b), 60.663(b), (c), and (d), 60.664(c) and (d), 60.665(a), (b)(2) and (b)(3) (2/27/2014) 40 CFR 65 Subpart D 65.62(b)(1) 65.166(a), (b)(2) and (3), (c) 65.167(b) (12/14/2000) 65.6(c) (4/20/2006)	For each vent stream at the Isomerization Splitter Tower and Overhead Accumulator subject to 40 CFR 60 Subpart NNN, comply with one of the following options: • Reduce emissions of TOC (less methane and ethane) by 98 weight-percent, or to a TOC (less methane and ethane) concentration of 20 ppmv, on a dry basis corrected to 3 percent oxygen, whichever is less stringent. If a boiler or process heater is used to comply with this paragraph, then the vent stream shall be introduced into the flame zone of the boiler or process heater, or, • Combust the emissions in a flare that meets the requirements of §60.18.	When using a boiler or process heater to seek to comply with this AOP term, perform the following: • Install, calibrate, maintain and operate according to the manufacturer's specifications the following equipment: ○ A flow indicator that provides a record of vent stream flow to the boiler or process heater at least once every hour for each affected facility. The flow indicator shall be installed in the vent stream from each distillation unit within an affected facility at a point closest to the inlet of each boiler or process heater and before being joined with any other vent stream. ○ A temperature monitoring device in the firebox equipped with a continuous recorder and having an accuracy of ± 1 percent of the temperature being measured expressed in degrees Celsius or ± 0.5 °C, whichever is greater, for boilers or process heaters of less than 44 MW (150 million Btu/hr) heat input design capacity. • Monitor and record the periods of operation of the boiler or process heater if the design heat input capacity of the boiler or process heater is 44 MW (150 million Btu/hr) or greater. The records must be readily available for inspection. • Maintain the following records: a description of the location at which the vent stream is introduced into the boiler or process heater, and the average combustion temperature of the boiler or process heater with a design heat input capacity of less than 44 MW (150 million Btu/hr) measured at least every 15 minutes and averaged over the same time period of the performance testing. When using a flare to comply with this AOP term, install, calibrate, maintain, and operate according to manufacturer's specifications the following equipment: • Install, calibrate, maintain, and operate according to manufacturer's specifications the following equipment: ○ A heat sensing device, such as a ultra-violet beam sensor or thermocouple, at the pilot light to indicate the continuous presence of a flame. ○ A flow indicator that provides a record of vent stream flow to the flare at least once every hour for each affected facility. The flow
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Isomerization Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
	See AOP Term 5.2.14 above.	See AOP Term 5.2.14 above.	indicator shall be installed in the vent stream from each affected facility at a point closest to the flare and before being joined with any other vent stream. - Maintain the following records: all visible emission readings, heat content determinations, flow rate measurements, and exit velocity determinations made during the performance test, continuous records of the flare pilot flame monitoring, and records of all periods of operations during which the pilot flame is absent. If using 40 CFR 65 Subpart D to comply with the requirements of this AOP term, report the following semiannually: - Total affected source operating time, - Periods when the monitored vent streams were diverted from the control device through a bypass line, - All times when car sealed valves were opened or when the car seal was broken, - All periods when all pilot flames were absent or the flare flame was absent, and, - A report of startups, shutdowns, and malfunctions when excess emissions occur.

5.3. Reformer and Naphtha Units

Table 5-3 #1 Reformer, Naphtha HDS, and #2 Reformer

#1 Reformer Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
#1 Reformer Heater (11-1403:1406)			
Note: 40 CFR 60 and 63 General Provisions included in Section 3 apply to these affected facilities.			
5.3.1 General	OAC 1054, Condition 3 (4/12/2012) WAC 173-401-615(1)(b) & (c) (10/17/2002)	The #1 Reformer Heater shall combust gaseous fuel only.	<i>Directly Enforceable</i> Certify annually that only approved fuels were combusted in the Heater.
5.3.2 PM & SO ₂	OAC 211c Conditions 1(g) and 2 (9/18/2012)	<u>Cumulative Particulate and SO₂ limit</u> The 17 affected emission units shall not exceed: • Particulate: 60 tons/calendar month • SO₂: 2,354 lb/hour, calendar month average	Conduct MR&R in accordance with AOP Term 6.2.
5.3.3 SO ₂	BART Order #7836 Rev. 2, Condition 3.2 (5/13/2015) NWCAA ACO 05 (10/25/2012) which references 40 CFR 60 Subpart J 60.104(a)(1) (6/24/2008), 60.105(a)(4), 60.105(e)(3)(ii) (12/1/2015), and 60.106(e) (9/12/2012) WAC 173-401-630(1) (3/5/2016)	<u>NSPS for Refinery Fuel Gas</u> H ₂ S in the fuel gas shall not exceed 162 ppmvd (230 mg/dscm), 3-hour rolling average.	Operate a CEMS to continuously monitor H ₂ S in the fuel gas from the main mix drum in accordance with 40 CFR 60 Subpart J, 40 CFR 60 Appendices B and F, NWCAA 367 and NWCAA Appendix A. The span value for the CEMS is 300 ppmvd (425 mg/dscm) H ₂ S. Use Performance Specification 7 to evaluate CEMS performance under 60.13(c). Follow EPA Method 11, 15, 15A, or 16 to conduct relative accuracy evaluations. <i>Directly Enforceable</i> Report monthly the highest 3-hour rolling average ppmvd H ₂ S in the refinery fuel gas from the main mix drum.

#1 Reformer Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.3.4 HAP	40 CFR 63 Subpart DDDDD 63.7500 (1/31/2013)	<u>Major Source Boiler MACT</u> Comply with 40 CFR 63 Subpart DDDDD for boilers and process heaters.	Conduct MR&R in accordance with AOP Section 6.5.
#1 Reformer – Process Vents			
Note: 40 CFR 63 General Provisions included in Section 3 apply to these affected facilities.			
5.3.5 HAP	40 CFR 63 Subpart CC 63.643(a) (2/4/2020)	<u>Refinery MACT I – Group 1 Process Vents</u> Control HAP emissions from applicable vents by using a flare that meets the requirements of 63.670 or a control device that achieves an emission reduction of 98% mass or to 20 ppmv corrected to 3% O ₂ . This does not apply to catalyst regeneration vents or to emission points routed to a fuel gas system, provided all flares that receive fuel gas from that system are subject to 63.670, per 63.640(d)(4)-(5). Process vents may be designated as maintenance vents if the vent is used only as a result of startup, shutdown, maintenance, or inspection of equipment where equipment is emptied, depressurized, degassed, or placed into service, per 63.643(c), and the vent must comply with applicable requirements in 63.643(c)(1)-(3).	Conduct MR&R in accordance with AOP Terms 5.14.6 through 5.14.12 (flares).
5.3.6 HAP	40 CFR 63 Subpart UUU 63.1574(f), 63.1575(a) and (b) and 63.1576(b) (11/26/2018)	<u>Refinery MACT II – OM&M Plan</u> Follow appropriate work practice standards and comply with any applicable emission standards. Prepare, maintain and implement an operation, maintenance and monitoring plan (OMMP) that meets the requirements of 63.1574(f)(2) for each control system and continuous monitoring system and operate at all times according to procedures in the plan.	Submit a semi-annual compliance report that includes any deviation from emission limitation or work practice standards and information on whether any continuous monitoring system was inoperative, inactive, malfunctioning, out-of-control, repaired or adjusted. Keep records to demonstrate that procedures in the OMMP were followed. Submit any revisions to the OMMP to the NWCAA for approval.

#1 Reformer Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.3.7 HAP	40 CFR 63 Subpart UUU 63.1566 (7/13/2016), 63.1570(f) (12/1/2015), and 63.1576(h) (11/26/2018)	<u>Refinery MACT II - Organic HAP Emissions</u> Control HAP emissions from applicable vents by using a flare that meets the requirements of 63.670 or a control device that achieves a TOC or NMTOC emission reduction of 98% by weight or to 20 ppmvd (as hexane) corrected to 3% O₂. These emission limits do <u>not</u> apply to the coke burn-off, catalyst rejuvenation, reduction or activation vents, or to the control systems used for these vents. These emission limits <u>do</u> apply to emissions from vents during active purging operations or active depressuring, regardless of the reactor vent pressure.	Operate in accordance with the OMMP developed for this unit. Report any instances of deviation from any emission limitation, operating limit or work practice standard, including any deviation that occurred during periods of startup, shutdown, and malfunction.
5.3.8 HAP	40 CFR 63 Subpart UUU 63.1567(a)(1), (a)(2), (b)(4)(iii) (2/9/2005), 63.1570(f) (12/1/2015), 63.1571(e), 63.1572(c)(1) & (d), 63.1576(h) (11/26/2018), Table 22, Item 1 (12/1/2015), Table 23, Item 2 (2/9/2005), and Table 28, Item 2 (12/1/2015) Table 41, Item 3 (12/1/2015)	<u>Refinery MACT II - Inorganic HAP Emissions</u> Control HAP emissions from applicable vents during coke burn-off and catalyst rejuvenation by reducing uncontrolled emissions of hydrogen chloride (HCl) by 92% by weight or to a concentration of 30 ppmvd corrected to 3% O₂. The daily average HCl concentration in the catalyst regenerator exhaust must not exceed the limit established during the performance test. The HCl limit established by the most recent performance test for the #1 Reformer, conducted on May 3, 2007, is 27 ppmvd HCl corrected to 3% O₂. The established operating limit for the continuous parameter monitoring system may be revised based on the results of additional performance testing.	Operate in accordance with the OMMP developed for this unit. Report any instances of deviation from any emission limitation, operating limit or work practice standard, including any deviation that occurred during periods of startup, shutdown, and malfunction. Demonstrate continuous compliance by measuring and recording the HCl concentration at least four times during a regeneration cycle or every four hours, whichever is more frequent, using a colorimetric tube sampling system. Calculate daily average HCl concentration as an arithmetic average of all samples collected during a 24-hour period. Maintain the daily average HCl concentration below the operating limit established by the most recent performance test.

#1 Reformer Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
#1 Reformer - Equipment in VOC Service			
Note: 40 CFR 60 General Provisions included in Section 3 apply to these affected facilities.			
5.3.9 VOC	40 CFR 60 Subpart GGG 60.590-60.593 (6/2/2008) which references 40 CFR 60 Subpart VV (6/2/2008)	<u>NSPS for Equipment Leaks</u> Monitor components in VOC service for leaks, repair leaks in a timely manner, and report results semi-annually in accordance with 40 CFR 60 Subparts VV. Applicable components include pumps, valves, pressure relief devices, sampling systems, open-ended lines, flanges, and connectors. Affected facilities may include individual compressors.	Conduct a LDAR program in accordance with AOP Section 6.3.
#1 Reformer - Equipment in HAP Service			
Note: 40 CFR 63 General Provisions included in Section 3 apply to these affected facilities.			
5.3.10 HAP	40 CFR 63 Subpart CC 63.648 (2/4/2020) which references 40 CFR 60 Subpart VV (6/2/2008)	<u>MACT for Equipment Leaks</u> Monitor components in HAP service for leaks, repair leaks in a timely manner, and report results semi-annually in accordance with 40 CFR 60 Subparts VV, except that pressure relief devices in organic HAP service must comply with the requirements in 63.648(j). If a flare is used as a control device, the flare shall meet the requirements of 63.670. Applicable components include pumps, valves, pressure relief devices, sampling systems, open-ended lines, flanges, and connectors. Affected facilities may include individual compressors.	Conduct a LDAR program in accordance with AOP Section 6.3.
5.3.11 HAP	40 CFR 63 Subpart CC 63.648(j) and 63.655(g) (2/4/2020)	<u>Refinery MACT for Pressure Relief Devices</u> Except during a pressure release, operate, monitor, repair as necessary, and report results semiannually for each pressure relieve device (PRD) in organic HAP gas or vapor service in accordance with 40 CFR 63 Subpart CC. Conduct a root cause analysis (RCA) and corrective action analysis (CAA) as required after a pressure release to atmosphere.	Conduct MR&R in accordance with AOP Section 6.6.

#1 Reformer Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
#1 Reformer Unit - Recycle Gas Dryer Project - Components in VOC/HAP Service			
5.3.12 VOC/ HAP	OAC 977a Condition 1 (4/26/2018)	<u>BACT for Equipment Leaks</u> Valves that have the potential to leak VOC or HAP associated with the Recycle Gas Dryer Project are subject to a LDAR program consistent with 40 CFR 60 Subpart VV, enhanced as follows. The leak definition for block valves and control valves is 500 ppm.	Conduct a LDAR program in accordance with AOP Section 6.3, except: - Repair and remonitor leaks greater than the leak definition in the OAC, but less than the regulatory leak definition of applicable portions of 40 CFR 63 Subpart CC, within 30 days. - Monitoring instrument calibration and drift requirements are consistent with those in 40 CFR 60 Subpart VVa.

Naphtha HDS Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
Naphtha HDS Charge Heater (11-1401)			
Note: 40 CFR 60 and 63 General Provisions included in Section 3 apply to these affected facilities.			
5.3.13 General	OAC 1054, Condition 3 (4/12/2012) WAC 173-401-615(1)(b) & (c) (10/17/2002)	Naphtha HDS Charge Heater shall combust gaseous fuel only.	<i>Directly Enforceable</i> Certify annually that only approved fuels were combusted in the heater.
5.3.14 PM & SO ₂	OAC 211c Conditions 1(b) and 2 (9/18/2012)	<u>Cumulative Particulate and SO₂ limit</u> The 17 affected emission units shall not exceed: • Particulate: 60 tons/calendar month • SO₂: 2,354 lb/hour, calendar month average	Conduct MR&R in accordance with AOP Term 6.2.
5.3.15 SO ₂	BART Order #7836 Rev. 2, Condition 3.2 (5/13/2015) NWCAA ACO 05 (10/25/2012) which references 40 CFR 60 Subpart J 60.104(a)(1) (6/24/2008), 60.105(a)(4), 60.105(e)(3)(ii) (12/1/2015), and 60.106(e) (9/12/2012) WAC 173-401-630(1) (3/5/2016)	<u>NSPS for Refinery Fuel Gas</u> H ₂ S in the fuel gas shall not exceed 162 ppmvd (230 mg/dscm), 3-hour rolling average.	Operate a CEMS to continuously monitor H ₂ S in the fuel gas from the main mix drum in accordance with 40 CFR 60 Subpart J, 40 CFR 60 Appendices B and F, NWCAA 367 and NWCAA Appendix A. The span value for the CEMS is 300 ppmvd (425 mg/dscm) H ₂ S. Use Performance Specification 7 to evaluate CEMS performance under 60.13(c). Follow EPA Method 11, 15, 15A, or 16 to conduct relative accuracy evaluations. <i>Directly Enforceable</i> Report monthly the highest 3-hour rolling average ppmvd H ₂ S in the refinery fuel gas from the main mix drum.
5.3.16 HAP	40 CFR 63 Subpart DDDDD (1/31/2013)	<u>Major Source Boiler MACT</u> Comply with 40 CFR 63 Subpart DDDDD for boilers and process heaters.	Conduct MR&R in accordance with AOP Section 6.5.

Naphtha HDS Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
Naphtha HDS Stripper Reboiler (11-1402)			
Note: 40 CFR 60 and 63 General Provisions included in Section 3 apply to these affected facilities.			
5.3.17 General	OAC 1054, Condition 3 (4/12/12) WAC 173-401-615(1)(b) & (c) (10/17/2002)	Naphtha HDS Stripper Reboiler shall combust gaseous fuel only.	<i>Directly Enforceable</i> Certify annually that only approved fuels were combusted in the reboiler.
5.3.18 PM & SO ₂	OAC 211c Conditions 1(b) and 2 (9/18/2012)	<u>Cumulative Particulate and SO₂ limit</u> The 17 affected emission units shall not exceed: • Particulate: 60 tons/calendar month • SO₂: 2,354 lb/hour, calendar month average	Conduct MR&R in accordance with AOP Term 6.2.
5.3.19 SO ₂	BART Order #7836 Rev. 2, Condition 3.2 (5/13/2015) NWCAA ACO 05 (10/25/2012) which references 40 CFR 60 Subpart J 60.104(a)(1) (6/24/2008), 60.105(a)(4), 60.105(e)(3)(ii) (12/1/2015), and 60.106(e) (9/12/2012) WAC 173-401-630(1) (3/5/2016)	<u>NSPS for Refinery Fuel Gas</u> H ₂ S in the fuel gas shall not exceed 162 ppmvd (230 mg/dscm), 3-hour rolling average.	Operate a CEMS to continuously monitor H ₂ S in the fuel gas from the main mix drum in accordance with 40 CFR 60 Subpart J, 40 CFR 60 Appendices B and F, NWCAA 367 and NWCAA Appendix A. The span value for the CEMS is 300 ppmvd (425 mg/dscm) H ₂ S. Use Performance Specification 7 to evaluate CEMS performance under 60.13(c). Follow EPA Method 11, 15, 15A, or 16 to conduct relative accuracy evaluations. <i>Directly Enforceable</i> Report monthly the highest 3-hour rolling average ppmvd H ₂ S in the refinery fuel gas from the main mix drum.
5.3.20 HAP	40 CFR 63 Subpart DDDDD 63.7500 (1/31/2013)	<u>Major Source Boiler MACT</u> Comply with 40 CFR 63 Subpart DDDDD for boilers and process heaters.	Conduct MR&R in accordance with AOP Section 6.5.

Naphtha HDS Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
Naphtha HDS - Process Vents			
Note: 40 CFR 63 General Provisions included in Section 3 apply to these affected facilities.			
5.3.21 HAP	40 CFR 63 Subpart CC 63.643(a) (2/4/2020)	<u>Refinery MACT I – Group 1 Process Vents</u> Control HAP emissions from applicable vents by using a flare that meets the requirements of 63.670 or a control device that achieves an emission reduction of 98% mass or to 20 ppmv corrected to 3% O ₂ . This does not apply to catalyst regeneration vents or to emission points routed to a fuel gas system, provided all flares that receive fuel gas from that system are subject to 63.670, per 63.640(d)(4)-(5). Process vents may be designated as maintenance vents if the vent is used only as a result of startup, shutdown, maintenance, or inspection of equipment where equipment is emptied, depressurized, degassed, or placed into service, per 63.643(c), and the vent must comply with applicable requirements in 63.643(c)(1)-(3).	Conduct MR&R in accordance with AOP 5.14.6 through 5.14.12 (flares).
Naphtha HDS – Equipment in HAP Service			
Note: 40 CFR 63 General Provisions included in Section 3 apply to these affected facilities.			
5.3.22 HAP	40 CFR 63 Subpart CC 63.640(p)(2) (2/4/2020) which references 40 CFR 60 Subpart GGa (6/2/2008)	<u>MACT for Equipment Leaks</u> Monitor components in HAP service for leaks, repair leaks in a timely manner, and report results semi-annually in accordance with 40 CFR 60 Subpart VVa, except that pressure relief devices in organic HAP service must only comply with the requirements in 63.648(j). Applicable components include pumps, compressors, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, or instrumentation system as defined in this section.	Conduct a LDAR program in accordance with AOP Section 6.4.

Naphtha HDS Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.3.23 HAP	40 CFR 63 Subpart CC 63.648(j) and 63.655(g) (2/4/2020)	<u>Refinery MACT for Pressure Relief Devices</u> Except during a pressure release, operate, monitor, repair as necessary, and report results semiannually for each pressure relieve device (PRD) in organic HAP gas or vapor service in accordance with 40 CFR 63 Subpart CC. Conduct a root cause analysis (RCA) and corrective action analysis (CAA) as required after a pressure release to atmosphere.	Conduct MR&R in accordance with AOP Section 6.6.
Naphtha HDS – Equipment in VOC Service			
Note: 40 CFR 66 General Provisions included in Section 3 apply to these affected facilities.			
5.3.24 VOC	40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/2008) which references 40 CFR 60 Subpart VVa (6/2/2008)	<u>NSPS for Equipment Leaks</u> Monitor components in VOC service for leaks, repair leaks in a timely manner, and report results semi-annually in accordance with 40 CFR 60 Subpart VVa. Applicable components include pumps, valves, pressure relief devices, sampling systems, open-ended lines, flanges, and connectors. Affected facilities may include individual compressors.	Conduct a LDAR program in accordance with AOP Section 6.4.

#2 Reformer Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
#2 Reformer Heater (21-1421:1424)			
Note: 40 CFR 60 and 63 General Provisions included in Section 3 apply to these affected facilities.			
5.3.25 General	OAC 305b, Condition 4 (7/21/2021) WAC 173-401- 615(1)(b) & (c) (10/17/2002)	The #2 Reformer Heater shall combust only gaseous fuels.	<i>Directly Enforceable</i> Certify annually that only approved fuels were combusted in the heater.

#2 Reformer Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.3.26 General	PSD-7 A1, Condition 2 (4/21/2022) OAC 305b, Condition 1 (7/21/2021) WAC 173-401-615(1)(b) & (c) (10/17/2002)	The #2 Reformer Heater firing rate shall not exceed: 340 MMBtu/hour HHV	<i>Directly Enforceable</i> Keep records of the scf/hr of fuel gas combusted in the #2 Reformer Heater and its HHV.
5.3.27 VE	OAC 305b, Condition 3 (7/21/2021) WAC 173-401-615(1)(b) & (c) (10/17/2002)	Visual emissions shall not exceed 5% opacity for more than three aggregated minutes in any consecutive 60-minute period (Method 9A).	<i>Directly Enforceable</i> Conduct MR&R in accordance with AOP Term 6.1.
5.3.28 SO ₂	40 CFR 60 Subpart J 60.104(a)(1) (6/24/2008), 60.105(a)(4), 60.105(e)(3)(ii) (12/1/2015), and 60.106(e) (9/12/2012) WAC 173-401-630(1) (3/5/2016)	<u>NSPS for Refinery Fuel Gas</u> H ₂ S in the fuel gas shall not exceed 162 ppmvd (230 mg/dscm), 3-hour rolling average.	Operate a CEMS to continuously monitor H ₂ S in the fuel gas from the main mix drum in accordance with 40 CFR 60 Subpart J, 40 CFR 60 Appendices B and F, NWCAA 367 and NWCAA Appendix A. The span value for the CEMS is 300 ppmvd (425 mg/dscm) H ₂ S. Use Performance Specification 7 to evaluate CEMS performance under 60.13(c). Follow EPA Method 11, 15, 15A, or 16 to conduct relative accuracy evaluations. <i>Directly Enforceable</i> Report monthly the highest 3-hour rolling average ppmvd H ₂ S in the refinery fuel gas from the main mix drum.
5.3.29 SO ₂	PSD-7 A1, Condition 3 and 4 (4/21/2022) OAC 305b, Conditions 2 and 3 (7/21/2021) WAC 173-401-630(1) (3/5/2016)	<u>BACT for Fuel Gas</u> Fuel gas combusted in the #2 Reformer Heater shall not exceed any of the following: 162 ppm H₂S, 3-hour rolling average 50 ppm H₂S, 24-hour average	

#2 Reformer Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.3.30 NOx	PSD-7 A1, Condition 1c and 1d (4/21/2022) WAC 173-401-615 (10/17/2002)	NOx emissions from the #2 Reformer Heater shall not exceed any of the following: • 27.2 lb/hr as NO₂, 60-minute rolling average • 119.1 tpy as NO₂, 12-month rolling total	<i>Directly Enforceable</i> Conduct a performance test using EPA Method 7E at least once every other calendar year in accordance with NWCAA 367 and NWCAA Appendix A. Maintain monthly record of NOx consecutive 12-month rolling tons.
5.3.31 CO	PSD-7 A1, Condition 1a and 1b (4/21/2022) WAC 173-401-615(1)(b) & (c) (10/17/2002)	CO emissions from the #2 Reformer Heater shall not exceed any of the following: • 9.5 lb/hr, 60-minute rolling average • 41.7 tpy, 12-month rolling total	<i>Directly Enforceable</i> Conduct a source test using EPA Method 10 or 10B at least once every other calendar year in accordance with NWCAA Section 367 and NWCAA Appendix A. Maintain monthly record of CO consecutive 12-month rolling tons.
5.3.32 HAP	40 CFR 63 Subpart DDDDD 63.7500 (1/31/2013)	<u>Major Source Boiler MACT</u> Comply with 40 CFR 63 Subpart DDDDD for boilers and process heaters.	Conduct MR&R in accordance with AOP Section 6.5.

#2 Reformer Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
#2 Reformer – Process Vents			
Note: 40 CFR 63 General Provisions included in Section 3 apply to these affected facilities.			
5.3.33 HAP	40 CFR 63 Subpart CC 63.643(a) (2/4/2020)	<u>Refinery MACT I – Group 1 Process Vents</u> Control HAP emissions from applicable vents by using a flare that meets the requirements of 63.670 or a control device that achieves an emission reduction of 98% mass or to 20 ppmv corrected to 3% O₂. This does not apply to catalyst regeneration vents or to emission points routed to a fuel gas system, provided all flares that receive fuel gas from that system are subject to 63.670, per 63.640(d)(4)-(5). Process vents may be designated as maintenance vents if the vent is used only as a result of startup, shutdown, maintenance, or inspection of equipment where equipment is emptied, depressurized, degassed, or placed into service, per 63.643(c), and the vent must comply with applicable requirements in 63.643(c)(1)-(3).	Conduct MR&R in accordance with AOP Terms 5.14.6 through 5.14.12 (flares).
5.3.34 HAP	40 CFR 63 Subpart UUU 63.1574(f), 63.1575(a) and (b) and 63.1576(b) (11/26/2018)	<u>Refinery MACT II – OM&M Plan</u> Follow appropriate work practice standards and comply with any applicable emission standards. Prepare, maintain and implement an operation, maintenance and monitoring plan (OMMP) that meets the requirements of 63.1574(f)(2) for each control system and continuous monitoring system and operate at all times according to procedures in the plan.	Submit a semi-annual compliance report that includes any deviation from emission limitation or work practice standards and information on whether any continuous monitoring system was inoperative, inactive, malfunctioning, out-of-control, repaired or adjusted. Keep records to demonstrate that procedures in the OMMP were followed. Submit any revisions to the OMMP to the NWCAA for approval.

#2 Reformer Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.3.35 HAP	40 CFR 63 Subpart UUU 63.1566 (7/13/2016), 63.1570(f) (12/1/2015), and 63.1576(h) (11/26/2018)	<u>Refinery MACT II - Organic HAP Emissions</u> Control HAP emissions from applicable vents by using a flare that meets the requirements of 63.670 or a control device that achieves a TOC or NMTOC emission reduction of 98% by weight or to 20 ppmvd (as hexane) corrected to 3% O₂. These emission limits do <u>not</u> apply to the coke burn-off, catalyst rejuvenation, reduction or activation vents, or to the control systems used for these vents. These emission limits <u>do</u> apply to emissions from vents during active purging operations or active depressuring, regardless of the reactor vent pressure.	Operate in accordance with the OMMP developed for this unit. Report any instances of deviation from any emission limitation, operating limit or work practice standard, including any deviation that occurred during periods of startup, shutdown, and malfunction.
5.3.36 HAP	40 CFR 63 Subpart UUU 63.1567(a)(1), (a)(2), (b)(4)(iii) (2/9/2005), 63.1570(f) (12/1/2015), 63.1571(e), 63.1572(c)(1) & (d), 63.1576(h) (11/26/2018), Table 22, Item 1 (12/1/2015), Table 23, Item 2 (2/9/2005), and Table 28, Item 2 (12/1/2015) Table 41, Item 3 (12/1/2015)	<u>Refinery MACT II - Inorganic HAP Emissions</u> Control HAP emissions from applicable vents during coke burn-off and catalyst rejuvenation by reducing uncontrolled emissions of hydrogen chloride (HCl) by 92% by weight or to a concentration of 30 ppmvd corrected to 3% O₂. The daily average HCl concentration in the catalyst regenerator exhaust must not exceed the limit established during the performance test. The HCl limit established by the most recent performance test for the #2 Reformer, conducted on March 19, 2007, is 27 ppmvd HCl corrected to 3% O₂. The established operating limit for the continuous parameter monitoring system may be revised based on the results of additional performance testing.	Operate in accordance with the OMMP developed for this unit. Report any instances of deviation from any emission limitation, operating limit or work practice standard, including any deviation that occurred during periods of startup, shutdown, and malfunction. Demonstrate continuous compliance by measuring and recording the HCl concentration at least four times during a regeneration cycle or every four hours, whichever is more frequent, using a colorimetric tube sampling system. Calculate daily average HCl concentration as an arithmetic average of all samples collected during a 24-hour period. Maintain the daily average HCl concentration below the operating limit established by the most recent performance test.

#2 Reformer Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
#2 Reformer – Equipment in VOC Service			
Note: 40 CFR 60 General Provisions included in Section 3 apply to these affected facilities.			
5.3.37 VOC	40 CFR 60 Subpart GGG 60.590-60.593 (6/2/2008) which references 40 CFR 60 Subpart VV (6/2/2008)	<u>NSPS for Equipment Leaks</u> Monitor components in VOC service for leaks, repair leaks in a timely manner, and report results semi-annually in accordance with 40 CFR 60 Subparts VV. Applicable components include pumps, valves, pressure relief devices, sampling systems, open-ended lines, flanges, and connectors. Affected facilities may include individual compressors.	Conduct a LDAR program in accordance with AOP Section 6.3.
#2 Reformer – Equipment in HAP Service			
Note: 40 CFR 63 General Provisions included in Section 3 apply to these affected facilities.			
5.3.38 HAP	40 CFR 63 Subpart CC 63.648 (2/4/2020) which references 40 CFR 60 Subpart VV (6/2/2008)	<u>MACT for Equipment Leaks</u> Monitor components in HAP service for leaks, repair leaks in a timely manner, and report results semi-annually in accordance with 40 CFR 60 Subparts VV, except that pressure relief devices in organic HAP service must comply with the requirements in 63.648(j). If a flare is used as a control device, the flare shall meet the requirements of 63.670. Applicable components include pumps, valves, pressure relief devices, sampling systems, open-ended lines, flanges, and connectors. Affected facilities may include individual compressors.	Conduct a LDAR program in accordance with AOP Section 6.3.
5.3.39 HAP	40 CFR 63 Subpart CC 63.648(j) and 63.655(g) (2/4/2020)	<u>Refinery MACT for Pressure Relief Devices</u> Except during a pressure release, operate, monitor, repair as necessary, and report results semiannually for each pressure relieve device (PRD) in organic HAP gas or vapor service in accordance with 40 CFR 63 Subpart CC. Conduct a root cause analysis (RCA) and corrective action analysis (CAA) as required after a pressure release to atmosphere.	Conduct MR&R in accordance with AOP Section 6.6.

5.4. Light Ends and LPG Units

Table 5-4 Light Ends and LPG Units

Light Ends and LPG Units			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
Light Ends Unit – Equipment in VOC Service			
Note: 40 CFR 60 General Provisions included in Section 3 apply to these affected facilities.			
5.4.1 VOC	40 CFR 60 Subpart GGG 60.590-60.593 (6/2/2008) which references 40 CFR 60 Subpart VV (6/2/2008) NWCAA 580.846 (12/13/89)	<u>NSPS for Equipment Leaks</u> Monitor components in VOC service for leaks, repair leaks in a timely manner, and report results semi-annually in accordance with 40 CFR 60 Subparts VV. Applicable components include pumps, valves, pressure relief devices, sampling systems, open-ended lines, flanges, and connectors. Affected facilities may include individual compressors.	Conduct a LDAR program in accordance with AOP Section 6.3. In addition, visually inspect any relief valve within 24-hours after it has vented to atmosphere.
Light Ends Unit – Equipment in HAP Service			
Note: 40 CFR 63 General Provisions included in Section 3 apply to these affected facilities.			
5.4.2 HAP	40 CFR 63 Subpart CC 63.648 (2/4/2020) which references 40 CFR 60 Subpart VV (6/2/2008)	<u>MACT for Equipment Leaks</u> Monitor components in HAP service for leaks, repair leaks in a timely manner, and report results semi-annually in accordance with 40 CFR 60 Subparts VV, except that pressure relief devices in organic HAP service must comply with the requirements in 63.648(j). If a flare is used as a control device, the flare shall meet the requirements of 63.670. Applicable components include pumps, valves, pressure relief devices, sampling systems, open-ended lines, flanges, and connectors. Affected facilities may include individual compressors.	Conduct a LDAR program in accordance with AOP Section 6.3.

Light Ends and LPG Units			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.4.3 HAP	40 CFR 63 Subpart CC 63.648(j) and 63.655(g) (2/4/2020)	<u>Refinery MACT for Pressure Relief Devices</u> Except during a pressure release, operate, monitor, repair as necessary, and report results semiannually for each pressure relieve device (PRD) in organic HAP gas or vapor service in accordance with 40 CFR 63 Subpart CC. Conduct a root cause analysis (RCA) and corrective action analysis (CAA) as required after a pressure release to atmosphere.	Conduct MR&R in accordance with AOP Section 6.6.
Light Ends Unit – Process Vents			
Note: 40 CFR 63 General Provisions in Section 3 apply to these affected facilities.			
5.4.4 HAP	40 CFR 63 Subpart CC 63.643(a) (2/4/2020)	<u>Refinery MACT I – Group 1 Process Vents</u> Control HAP emissions from applicable vents by using a flare that meets the requirements of 63.670 or a control device that achieves an emission reduction of 98% mass or to 20 ppmv corrected to 3% O ₂ . This does not apply to catalyst regeneration vents or to emission points routed to a fuel gas system, provided all flares that receive fuel gas from that system are subject to 63.670, per 63.640(d)(4)-(5). Process vents may be designated as maintenance vents if the vent is used only as a result of startup, shutdown, maintenance, or inspection of equipment where equipment is emptied, depressurized, degassed, or placed into service, per 63.643(c), and the vent must comply with applicable requirements in 63.643(c)(1)-(3).	Conduct MR&R in accordance with AOP Terms 5.14.6 through 5.14.12 (flares).

Light Ends and LPG Units			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
LPG Unit - Equipment in VOC Service			
Note: 40 CFR 60 General Provisions included in Section 3 apply to these affected facilities.			
5.4.5 VOC	40 CFR 60 Subpart GGG 60.590-60.593 (6/2/08) which references 40 CFR 60 Subpart VV (6/2/08) NWCAA 580.846 (12/13/89)	<u>NSPS for Equipment Leaks</u> Monitor components in VOC service for leaks, repair leaks in a timely manner, and report results semi-annually in accordance with 40 CFR 60 Subparts VV. Applicable components include pumps, valves, pressure relief devices, sampling systems, open-ended lines, flanges, and connectors. Affected facilities may include individual compressors.	Conduct a LDAR program in accordance with AOP Section 6.3. In addition, visually inspect any relief valve within 24-hours after it has vented to atmosphere.
LPG Unit – Equipment in HAP Service			
Note: 40 CFR 63 General Provisions included in Section 3 apply to these affected facilities.			
5.4.6 HAP	40 CFR 63 Subpart CC 63.648 (2/4/2020) which references 40 CFR 60 Subpart VV (6/2/2008)	<u>MACT for Equipment Leaks</u> Monitor components in HAP service for leaks, repair leaks in a timely manner, and report results semi-annually in accordance with 40 CFR 60 Subparts VV, except that pressure relief devices in organic HAP service must comply with the requirements in 63.648(j). If a flare is used as a control device, the flare shall meet the requirements of 63.670. Applicable components include pumps, valves, pressure relief devices, sampling systems, open-ended lines, flanges, and connectors. Affected facilities may include individual compressors.	Conduct a LDAR program in accordance with AOP Section 6.3.
5.4.7 HAP	40 CFR 63 Subpart CC 63.648(j) and 63.655(g) (2/4/2020)	<u>Refinery MACT for Pressure Relief Devices</u> Except during a pressure release, operate, monitor, repair as necessary, and report results semiannually for each pressure relieve device (PRD) in organic HAP gas or vapor service in accordance with 40 CFR 63 Subpart CC. Conduct a root cause analysis (RCA) and corrective action analysis (CAA) as required after a pressure release to atmosphere.	Conduct MR&R in accordance with AOP Section 6.6.

Light Ends and LPG Units			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
LPG Unit – Process Vents			
Note: 40 CFR 63 General Provisions in Section 3 apply to these affected facilities.			
5.4.8 HAP	40 CFR 63 Subpart CC 63.643(a) (2/4/2020)	<u>Refinery MACT I – Group 1 Process Vents</u> Control HAP emissions from applicable vents by using a flare that meets the requirements of 63.670 or a control device that achieves an emission reduction of 98% mass or to 20 ppmv corrected to 3% O₂. This does not apply to catalyst regeneration vents or to emission points routed to a fuel gas system, provided all flares that receive fuel gas from that system are subject to 63.670, per 63.640(d)(4)-(5). Process vents may be designated as maintenance vents if the vent is used only as a result of startup, shutdown, maintenance, or inspection of equipment where equipment is emptied, depressurized, degassed, or placed into service, per 63.643(c), and the vent must comply with applicable requirements in 63.643(c)(1)-(3).	Conduct MR&R in accordance with AOP Terms 5.14.6 through 5.14.12 (flares).

5.5. Hydrocracker Unit

Table 5-5 Hydrocracker Unit

Hydrocracker Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
Hydrocracker 1st Stage Reactor Heater, R-1 (15-1401)			
Note: 40 CFR 60 and 63 General Provisions included in Section 3 apply to these affected facilities.			
5.5.1 General	OAC 1054 Condition 3 (4/12/2012) WAC 173-401-615(1)(b) & (c) (10/17/2002)	The Hydrocracker 1st Stage Reactor Heater shall combust gaseous fuel only.	<i>Directly Enforceable</i> Certify annually that only approved fuels were combusted in the heater.
5.5.2 General	OAC 966d Condition 1 (6/3/2021) WAC 173-401-615(1)(b) & (c) (10/17/2002)	Fuel combusted in the Hydrocracker 1st Stage Reactor Heater shall be limited to natural gas and refinery fuel gas.	
5.5.3 General	OAC 966d Conditions 2 and 7a (6/3/2021)	Heat input to the Hydrocracker 1st Stage Reactor Heater shall not exceed 120.9 MMBtu/hour HHV, based on a 30-day rolling average.	Maintain a record of the input to the heater in MMBtu/hour HHV, as hourly, daily and 30-day rolling averages.
5.5.4 VE	OAC 966d Condition 3 (6/3/2021) WAC 173-401-615(1)(b) & (c) (10/17/2002)	Visual emissions shall not exceed 5% opacity for more than three aggregated minutes in any consecutive 60-minute period (Method 9A).	<i>Directly Enforceable</i> Conduct MR&R in accordance with AOP Term 6.1.
5.5.5 PM & SO ₂	OAC 211c Conditions 1(l) and 2 (9/18/2012)	<u>Cumulative Particulate and SO₂ limit</u> The 17 affected emission units shall not exceed: • Particulate: 60 tons/calendar month • SO₂: 2,354 lb/hour, calendar month average	Conduct MR&R in accordance with AOP Term 6.2.

Hydrocracker Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.5.6 SO ₂	BART Order #7836 Rev. 2, Condition 3.2 (5/13/2015) NWCAA ACO 05 (10/25/2012) which references 40 CFR 60 Subpart J 60.104(a)(1) (6/24/2008), 60.105(a)(4), 60.105(e)(3)(ii) (12/1/2015), and 60.106(e) (9/12/2012) WAC 173-401-630(1) (3/5/2016)	<u>NSPS for Refinery Fuel Gas</u> H ₂ S in the fuel gas shall not exceed 162 ppmvd (230 mg/dscm), 3-hour rolling average.	Operate a CEMS to continuously monitor H ₂ S in the fuel gas from the main mix drum in accordance with 40 CFR 60 Subpart J, 40 CFR 60 Appendices B and F, NWCAA 367 and NWCAA Appendix A. The span value for the CEMS is 300 ppmvd (425 mg/dscm) H ₂ S. Use Performance Specification 7 to evaluate CEMS performance under 60.13(c). Follow EPA Method 11, 15, 15A, or 16 to conduct relative accuracy evaluations. <i>Directly Enforceable</i> Report monthly the highest 3-hour rolling average ppmvd H ₂ S in the refinery fuel gas from the main mix drum.
5.5.7 NO _x	BART Order 7836 Rev. 2, Conditions 2.5.1, 2.5.2 and 2.5.3 (5/13/2015)	NO _x emissions from the 1 st Stage Reactor Heater shall not exceed: • 26 ppmvd at 7% O₂, 24-hour rolling average Or, if this concentration-based limit is exceeded, the following mass emission rate limit shall be used to demonstrate compliance: • 4.9 lb/hour, 24-hour rolling average	Conduct biennial source testing within two months of the anniversary date of the initial test. The test shall be performed under representative operating conditions and at a heater firing rate that corresponds to the operating condition of the Hydrocracker Unit on the scheduled test day. The test shall be conducted in accordance with US EPA Reference Method 7E, NWCAA Regulation Section 367, and NWCAA Appendix A. Operate a CEMS to continuously monitor NO _x & O ₂ concentrations in the stack in accordance with NWCAA 367, NWCAA Appendix A, and 40 CFR 60 Appendices B and F.

Hydrocracker Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.5.8 NOx	OAC 966d Conditions 4, 7b and 7c (6/3/2021)	NOx emissions from the 1 st Stage Reactor Heater shall not exceed: • 26 ppmvd at 7% O₂, 24-hour rolling average Or, if this concentration-based limit is exceeded, comply with the following mass emission rate limit: • 4.9 lb/hour, 24-hour rolling average	Operate a CEMS to continuously monitor NOx & O ₂ concentrations in the stack in accordance with NWCAA 367, NWCAA Appendix A, and 40 CFR 60 Appendices B and F. Maintain a record of: • NOx ppmvd corrected to 7% oxygen, as hourly and 24-hour averages, and • NOx lb/hour, as hourly and 24-hour averages
5.5.9 NOx	BART Order #7836 Rev. 2, Condition 2.5.4 (5/13/2015) OAC 966d Condition 6 (6/3/2021)	An operating and maintenance manual that contains O&M information on the ultra-low NOx burners shall be maintained on site.	Maintain an O&M manual for the ULNB on site.

Hydrocracker Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.5.10 CO	OAC 966d Conditions 5 and 7d (6/3/2021) WAC 173-401-630(1) (3/5/2016)	CO emissions from the 1st Stage Reactor Heater shall not exceed 5.4 lb/hour.	Conduct annual source testing within 13 months of the previous test. If three consecutive source tests demonstrate emissions of 50% or less than the limit in this term, source testing frequency may be reduced to once every five years, and within 61 months of the previous source testing date. If a source test demonstrates emissions are greater than 50% of the limit in this term, source testing frequency must revert to once every 13 months until three consecutive tests demonstrate emissions of 50% or less than the limit. Perform testing at a load that is representative of normal operating conditions at the time of the test, using the average of three test runs conducted in accordance with 40 CFR 60 Appendix A, Methods 1, 2, 3A, 4 and 10, and NWCAA Section 367 and Appendix A, unless an alternative test method is approved in advance by the NWCAA. Record the following process parameters at least once every 15-minutes for each individual test run unless otherwise specified below, and include it in the performance test report: • Fuel flow, in Mscfh, • Fuel gas specific gravity and HHV in Btu/scf, sampled once on the day of the test, • Firing rate, in MMBtu/hr, and • Stack flow rate, in dry Mscf/hr. Continuous compliance with this condition shall be determined using the emission factor in lb/MMBtu generated during the most recent source test and actual firing rates in MMBtu/hour of the heater. Directly Enforceable 40 CFR 60 Appendix A, Method 10B may be used in lieu of Method 10. Maintain a record of CO emissions in lb/hour.

Hydrocracker Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.5.11 HAP	40 CFR 63 Subpart DDDDD 63.7500 (1/31/2013)	<u>Major Source Boiler MACT</u> Comply with 40 CFR 63 Subpart DDDDD for boilers and process heaters.	Conduct MR&R in accordance with AOP Section 6.5.
Hydrocracker 2nd Stage Reactor Heater, R-4 (15-1402)			
Note: 40 CFR 60 and 63 General Provisions included in Section 3 apply to these affected facilities.			
5.5.12 General	OAC 1054, Condition 3 (4/12/2012) WAC 173-401-615(1)(b) & (c) (10/17/2002)	The Hydrocracker 2nd Stage Reactor Heater shall combust gaseous fuel only.	<i>Directly Enforceable</i> Certify annually that only approved fuels were combusted in the heater.
5.5.13 PM & SO ₂	OAC 211c Conditions 1(m) and 2 (9/18/2012)	<u>Cumulative Particulate and SO₂ limit</u> The 17 affected emission units shall not exceed: • Particulate: 60 tons/calendar month • SO₂: 2,354 lb/hour, calendar month average	Conduct MR&R in accordance with AOP Term 6.2.

Hydrocracker Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.5.14 SO ₂	BART Order #7836 Rev. 2, Condition 3.2 (5/13/2015) NWCAA ACO 05 (10/25/2012) which references 40 CFR 60 Subpart J 60.104(a)(1) (6/24/2008), 60.105(a)(4), 60.105(e)(3)(ii) (12/1/2015), and 60.106(e) (9/12/2012) WAC 173-401-630(1) (3/5/2016)	<u>NSPS for Refinery Fuel Gas</u> H ₂ S in the fuel gas shall not exceed 162 ppmvd (230 mg/dscm), 3-hour rolling average.	Operate a CEMS to continuously monitor H ₂ S in the fuel gas from the main mix drum in accordance with 40 CFR 60 Subpart J, 40 CFR 60 Appendices B and F, NWCAA 367 and NWCAA Appendix A. The span value for the CEMS is 300 ppmvd (425 mg/dscm) H ₂ S. Use Performance Specification 7 to evaluate CEMS performance under 60.13(c). Follow EPA Method 11, 15, 15A, or 16 to conduct relative accuracy evaluations. <i>Directly Enforceable</i> Report monthly the highest 3-hour rolling average ppmvd H ₂ S in the refinery fuel gas from the main mix drum.
5.5.15 HAP	40 CFR 63 Subpart DDDDD 63.7500 (1/31/2013)	<u>Major Source Boiler MACT</u> Comply with 40 CFR 63 Subpart DDDDD for boilers and process heaters.	Conduct MR&R in accordance with AOP Section 6.5.

Hydrocracker Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
Hydrocracker 1st Stage Fractionator Reboiler (15-1451)			
Note: 40 CFR 60 and 63 General Provisions included in Section 3 apply to these affected facilities.			
5.5.16 General	OAC 1054, Condition 3 (4/12/2012) WAC 173-401-615(1)(b) & (c) (10/17/2002)	The Hydrocracker 1 st Stage Fractionator Reboiler shall combust gaseous fuel only.	<i>Directly Enforceable</i> Certify annually that only approved fuels were combusted in the reboiler.
5.5.17 General	OAC 1067a Condition 1 (7/29/2011) WAC 173-401-615(1)(b) & (c) (10/17/2002)	The Hydrocracker 1 st Stage Fractionator Reboiler shall combust only natural gas or refinery fuel gas.	
5.5.18 General	OAC 1067a Condition 2 and 10a (7/29/2011)	The Hydrocracker 1 st Stage Fractionator Reboiler heat input shall not exceed 198 MMBtu/hr (HHV), 365-day rolling average.	Maintain the following records of the HHV heat input rate to the 1st Stage Fractionator Reboiler: • MMBtu/hour, daily average • MMBtu/hour, 365-day rolling average
5.5.19 VE	OAC 1067a Condition 3 (7/29/2011) WAC 173-401-615(1)(b) & (c) (10/17/2002)	Visual emissions shall not exceed 5% opacity for more than three minutes in any consecutive sixty-minute period (Ecology Method 9A).	<i>Directly Enforceable</i> Conduct MR&R in accordance with AOP Term 6.1.
5.5.20 PM & SO ₂	OAC 211c Conditions 1(n) and 2 (9/18/2012)	<u>Cumulative Particulate and SO₂ limit</u> The 17 affected emission units shall not exceed: • Particulate: 60 tons/calendar month • SO ₂ : 2,354 lb/hour, calendar month average	Conduct MR&R in accordance with AOP Term 6.2.

Hydrocracker Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.5.21 SO ₂	BART Order #7836 Rev. 2, Condition 3.2 (5/13/2015) NWCAA ACO 05 (10/25/2012) which references 40 CFR 60 Subpart J 60.104(a)(1) (6/24/2008), 60.105(a)(4), 60.105(e)(3)(ii) (12/1/2015), and 60.106(e) (9/12/2012) WAC 173-401-630(1) (3/5/2016)	<u>NSPS for Refinery Fuel Gas</u> H ₂ S in the fuel gas shall not exceed 162 ppmvd (230 mg/dscm), 3-hour rolling average.	Operate a CEMS to continuously monitor H ₂ S in the fuel gas from the main mix drum in accordance with 40 CFR 60 Subpart J, 40 CFR 60 Appendices B and F, NWCAA 367 and NWCAA Appendix A. The span value for the CEMS is 300 ppmvd (425 mg/dscm) H ₂ S. Use Performance Specification 7 to evaluate CEMS performance under 60.13(c). Follow EPA Method 11, 15, 15A, or 16 to conduct relative accuracy evaluations. <i>Directly Enforceable</i> Report monthly the highest 3-hour rolling average ppmvd H ₂ S in the refinery fuel gas from the main mix drum.

Hydrocracker Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.5.22 NOx	OAC 1067a Conditions 4, 5 10b and 10c (7/29/2011)	NOx emissions from the 1 st Stage Fractionator Reboiler shall not exceed any of the following: • 9.9 lb/hr, 24-hr rolling average • 0.05 lb/MMBtu, 24-hr rolling average	Operate a CEMS to continuously monitor NOx & O ₂ concentrations in the reboiler stack in accordance with NWCAA 367, NWCAA Appendix A, and 40 CFR 60 Appendices B and F. Compliance shall be demonstrated using calculations described in 40 CFR 60 Appendix A, Method 19, using appropriate F _d factors that are based on fuel composition analyses, and the Btu heat input rate to the Reboiler Maintain the following records for the 1st Stage Fractionator Reboiler: • NOx ppmvd at 3% O₂, hourly and 24-hour average • NOx lb/MMBtu, hourly and 24-hour average • NOx lb/hour, hourly and 24-hour average • Results of any fuel composition analysis used to determine Method 19 F_d factors, and Method 19 calculations used to determine mass emission rates
5.5.23 NOx	BART Order 7836 Rev. 2 Condition 2.6 (5/13/2015)	NOx emissions from the 1st Stage Fractionator Reboiler shall not exceed any of the following: • 0.05 lb/MMBtu, 24-hour rolling average • 9.9 lb/hour, 24-hour rolling average	Operate a CEMS to continuously monitor NOx & O ₂ concentrations in the reboiler stack in accordance with NWCAA 367, NWCAA Appendix A, and 40 CFR 60 Appendices B and F.
5.5.24 NOx	BART Order #7836 Rev. 2, Condition 2.6.3 (5/13/2015) OAC 1067a Condition 9 (7/29/2011)	An operating and maintenance (O & M) manual for the ULNB installed on the 1st Stage Fractionator Reboiler shall be maintained on site.	Maintained a copy of the O & M manual for the 1st Stage Fractionator Reboiler ULNB.

Hydrocracker Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.5.25 CO	OAC 1067a Condition 6, 7, 8, 10c and 10d (7/29/2011)	CO emissions from the 1st Stage Fractionator Reboiler shall not exceed: 0.04 lb/MMBtu, 24-hr rolling average During periods when this performance-based limit is exceeded, the following mass emission rate limit shall be used to demonstrate compliance: 7.9 lb/hr, 24-hr rolling average	Conduct annual source testing within eleven to thirteen months of the anniversary of the initial test (October 2012). Testing shall be conducted in accordance with 40 CFR 60 Appendix A, Methods 1, 2, 3A, 4, and 10, 10A or 10B, and NWCAA Section 367 and Appendix A. Alternative test methods may be used if approved in advance by the NWCAA. During source testing, the reboiler shall be fired at a rate that is as close to its maximum capacity as practicable. If the reboiler is fired at a rate that is less than 90% of its maximum capacity, the reason shall be explained in the source test report. Compliance shall be determined by the results of the average of three source test runs - or - Operate a CEMS for CO and O₂ in the 1st Stage Fractionator Reboiler stack in accordance with 40 CFR 60 Appendices B and F, and NWCAA Section 367 and Appendix A. Continuous compliance shall be demonstrated using calculations described in 40 CFR 60 Appendix A, Method 19, using appropriate F_d factors that are based on fuel composition analyses, and the Btu heat input rate to the reboiler. Maintain the following records for the 1st Stage Fractionator Reboiler: - Fuel composition analysis used to determine Method 19 F_d factors, and, - Method 19 calculations used to determine mass emission rates. If a CEMS is used to comply with the CO limits, - CO ppmvd at 3% O₂, hourly and 24-hour rolling averages, - CO lb/MMBtu, hourly and 24-hour rolling averages, and, - CO lb/hour, hourly and 24-hour rolling averages.

Hydrocracker Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.5.26 HAP	40 CFR 63 Subpart DDDDD 63.7500 (1/31/2013)	<u>Major Source Boiler MACT</u> Comply with 40 CFR 63 Subpart DDDDD for boilers and process heaters.	Conduct MR&R in accordance with AOP Section 6.5.
Hydrocracker 2nd Stage Fractionator Reboiler (15-1452)			
Note: 40 CFR 60 and 63 General Provisions included in Section 3 apply to these affected facilities.			
5.5.27 General	OAC 1054, Condition 3 (4/12/2012) WAC 173-401-615(1)(b) & (c) (10/17/2002)	The Hydrocracker 2 nd Stage Fractionator Reboiler shall combust gaseous fuel only.	<i>Directly Enforceable</i> Certify annually that only approved fuels were combusted in the heater.
5.5.28 General	OAC 847d, Condition 1 (3/16/2021) WAC 173-401-615(1)(b) & (c) (10/17/2002)	The Hydrocracker 2 nd Stage Fractionator Reboiler shall combust only natural gas and/or refinery fuel gas.	
5.5.29 General	OAC 847d, Condition 3 (3/16/2021) WAC 173-401-615(1)(b) & (c) (10/17/2002)	The maximum firing rate of the 2 nd Stage Fractionator Reboiler shall not exceed: 183.4 MMBtu/hr HHV, 720-hour rolling average of the most recent 720 full operating hours.	<i>Directly Enforceable</i> Maintain a record of the MMBtu/hour firing rate as hourly averages, and 720 hour rolling averages.
5.5.30 VE	OAC 847d, Condition 2 (3/16/2021) WAC 173-401-615(1)(b) & (c) (10/17/2002)	Visual emissions shall not exceed 5% opacity for more than three aggregated minutes in any consecutive 60-minute period (Method 9A).	<i>Directly Enforceable</i> Conduct MR&R in accordance with AOP Term 6.1.

Hydrocracker Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.5.31 PM & SO ₂	OAC 211c Conditions 1(o) and 2 (9/18/2012)	<u>Cumulative Particulate and SO₂ limit</u> The 17 affected emission units shall not exceed: • Particulate: 60 tons/calendar month • SO₂: 2,354 lb/hour, calendar month average	Conduct MR&R in accordance with AOP Term 6.2.
5.5.32 SO ₂	BART Order #7836 Rev. 2, Condition 3.2 (5/13/2015) NWCAA ACO 05 (10/25/2012) which references 40 CFR 60 Subpart J 60.104(a)(1) (6/24/2008), 60.105(a)(4), 60.105(e)(3)(ii) (12/1/2015), and 60.106(e) (9/12/2012) WAC 173-401-630(1) (3/5/2016)	<u>NSPS for Refinery Fuel Gas</u> H ₂ S in the fuel gas shall not exceed 162 ppmvd (230 mg/dscm), 3-hour rolling average.	Operate a CEMS to continuously monitor H ₂ S in the fuel gas from the main mix drum in accordance with 40 CFR 60 Subpart J, 40 CFR 60 Appendices B and F, NWCAA 367 and NWCAA Appendix A. The span value for the CEMS is 300 ppmvd (425 mg/dscm) H ₂ S. Use Performance Specification 7 to evaluate CEMS performance under 60.13(c). Follow EPA Method 11, 15, 15A, or 16 to conduct relative accuracy evaluations. <i>Directly Enforceable</i> Report monthly the highest 3-hour rolling average ppmvd H ₂ S in the refinery fuel gas from the main mix drum.

Hydrocracker Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.5.33 NOx	OAC 847d, Condition 4 (3/16/2021)	NOx emissions from the 2 nd Stage Fractionator Reboiler shall not exceed: 0.07 lb/MMBtu, 1-hour average.	Conduct source testing within 13 months of the previous test. Compliance shall be determined by the average of three one-hour test runs. During testing the reboiler shall be fired at a rate that is as close to the maximum capacity as practicable. If the reboiler is fired at a rate that is less than 90% of its maximum capacity, explain the reason in the source test report. Testing shall be conducted in accordance with 40 CFR 60 Appendix A, Methods 7E and 19, and NWCAA Section 367 and Appendix A. A fuel gas composition analysis shall be conducted using a gas chromatograph of the fuel gas being fired in the Hydrocracker 2nd Stage Fractionator Reboiler during source testing. Record the following process parameters at least once every 15-minutes for each individual test run unless otherwise specified below, and include in the source test report: - Reboiler firing rate, in MMBtu/hr, - Fuel consumption rate, in Mscf/hr, and - Fuel gas composition analysis, specific gravity, and HHV in Btu/scf, sampled once on the day of the test.
5.5.34 NOx	BART Order 7836 Rev. 2 Condition 2.7.1, 2.7.2, 2.7.3 (5/13/2015)	NOx emissions from the 2 nd Stage Fractionator Reboiler shall not exceed: 0.07 lb/MMBtu, 24-hour rolling average 56.2 ton per rolling calendar year	Conduct source testing once every five years within three months of the anniversary of the initial test. Conduct testing in accordance with 40 CFR 60 Appendix A Method 20. Report tons of NOx emissions based on firing rates on a calendar month basis within 30 days after the end of the previous calendar month.

Hydrocracker Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.5.35 NOx	BART Order #7836 Rev. 2, Condition 2.7.4 (5/13/2015) OAC 847d, Condition 5 (3/16/2021)	An operating and maintenance (O & M) manual for the 2 nd Stage Fractionator Reboiler that contains O & M information on the-low NOx burners shall be maintained on site.	Maintain O & M manual for the 2 nd Stage Fractionator Reboiler.
5.5.36 HAP	40 CFR 63 Subpart DDDDD 63.7500 (1/31/2013)	<u>Major Source Boiler MACT</u> Comply with 40 CFR 63 Subpart DDDDD for boilers and process heaters.	Conduct MR&R in accordance with AOP Section 6.5.
Hydrocracker - Process Vents			
Note: 40 CFR 63 General Provisions included in Section 3 apply to these affected facilities.			
5.5.37 HAP	40 CFR 63 Subpart CC 63.643(a) (2/4/2020)	<u>Refinery MACT I – Group 1 Process Vents</u> Control HAP emissions from applicable vents by using a flare that meets the requirements of 63.670 or a control device that achieves an emission reduction of 98% mass or to 20 ppmv corrected to 3% O ₂ . This does not apply to catalyst regeneration vents or to emission points routed to a fuel gas system, provided all flares that receive fuel gas from that system are subject to 63.670, per 63.640(d)(4)-(5). Process vents may be designated as maintenance vents if the vent is used only as a result of startup, shutdown, maintenance, or inspection of equipment where equipment is emptied, depressurized, degassed, or placed into service, per 63.643(c), and the vent must comply with applicable requirements in 63.643(c)(1)-(3).	Conduct MR&R in accordance with AOP 5.14.6 through 5.14.12 (flares).

Hydrocracker Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
Hydrocracker – Equipment in VOC Service			
Note: 40 CFR 60 General Provisions included in Section 3 apply to these affected facilities.			
5.5.38 VOC	40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/2008) which references 40 CFR 60 Subpart VVa (6/2/2008)	<u>NSPS for Equipment Leaks</u> Monitor components in VOC service for leaks, repair leaks in a timely manner, and report results semi-annually in accordance with 40 CFR 60 Subpart VVa. Applicable components include pumps, valves, pressure relief devices, sampling systems, open-ended lines, flanges, and connectors. Affected facilities may include individual compressors.	Conduct a LDAR program in accordance with AOP Section 6.4.
Hydrocracker - Equipment in HAP Service			
Note: 40 CFR 63 General Provisions included in Section 3 apply to these affected facilities.			
5.5.39 HAP	40 CFR 63 Subpart CC 63.640(p)(2) (2/4/2020) which references 40 CFR 60 Subpart GGGa (6/2/2008)	<u>MACT for Equipment Leaks</u> Monitor components in HAP service for leaks, repair leaks in a timely manner, and report results semi-annually in accordance with 40 CFR 60 Subpart VVa, except that pressure relief devices in organic HAP service must only comply with the requirements in 63.648(j). Applicable components include pumps, compressors, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, or instrumentation system as defined in this section.	Conduct a LDAR program in accordance with AOP Section 6.4.
5.5.40 HAP	40 CFR 63 Subpart CC 63.648(j) and 63.655(g) (2/4/2020)	<u>Refinery MACT for Pressure Relief Devices</u> Except during a pressure release, operate, monitor, repair as necessary, and report results semiannually for each pressure relieve device (PRD) in organic HAP gas or vapor service in accordance with 40 CFR 63 Subpart CC. Conduct a root cause analysis (RCA) and corrective action analysis (CAA) as required after a pressure release to atmosphere.	Conduct MR&R in accordance with AOP Section 6.6.

Hydrocracker Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
Hydrocracker - Incremental Vacuum Gas Oil Recovery Project - Components in HAP Service			
5.5.41 HAP	OAC 850a, Condition 1 (4/26/2018)	<u>BACT for Equipment Leaks</u> Valves that have the potential to leak HAP associated with the Incremental Vacuum Gas Oil Recovery Project are subject to a LDAR program consistent with 40 CFR 60 Subpart VV, enhanced as follows. The leak definition for block valves and control valves is 500 ppm.	Conduct a LDAR program in accordance with AOP Section 6.3, except: - Repair and remonitor leaks greater than the leak definition in the OAC, but less than the regulatory leak definition of applicable portions of 40 CFR 63 Subpart CC, within 30 days. - Monitoring instrument calibration and drift requirements are consistent with those in 40 CFR 60 Subpart VVa.
Hydrocracker - 1st Stage Reactor Heater ULNB Project - Valves in VOC/HAP Service			
5.5.42 VOC/ HAP	OAC 966d Condition 8 (6/3/2021)	<u>BACT for Equipment Leaks</u> Valves that have the potential to leak VOC or HAP associated with the 1 st Stage Reactor Heater R-1 ULNB Project are subject to a LDAR program consistent with 40 CFR 60 Subpart VV, enhanced as follows. The leak definition for block valves and control valves is 500 ppm.	Conduct a LDAR program in accordance with AOP Section 6.3, except: - Repair and remonitor leaks greater than the leak definition in the OAC, but less than the regulatory leak definition of applicable portions of 40 CFR 63 Subpart CC, within 30 days. - Monitoring instrument calibration and drift requirements are consistent with those in 40 CFR 60 Subpart VVa.

5.6. Hydrogen Plants

Table 5-6 #1 and #2 Hydrogen Plants

#1 Hydrogen Plant			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
#1 Hydrogen Plant North and South Reforming Furnaces (14-1401:1402)			
Note: 40 CFR 63 General Provisions included in Section 3 apply to these affected facilities.			
5.6.1 General	OAC 1054, Condition 3 (4/12/2012) WAC 173-401- 615(1)(b) & (c) (10/17/2002)	The North and South Reforming Furnaces shall combust gaseous fuel only.	<i>Directly Enforceable</i> Certify annually that only approved fuels were combusted in the furnaces.
5.6.2 PM & SO ₂	OAC 211c Conditions 1(j), 1(k) and 2 (9/18/2012)	<u>Cumulative Particulate and SO₂ limit</u> The 17 affected emission units shall not exceed: • Particulate: 60 tons/calendar month • SO₂: 2,354 lb/hour, calendar month average	Conduct MR&R in accordance with AOP Term 6.2.

#1 Hydrogen Plant			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.6.3 SO ₂	BART Order #7836 Rev. 2, Condition 3.2 (5/13/2015) NWCAA ACO 05 (10/25/2012) which references 40 CFR 60 Subpart J 60.104(a)(1) (6/24/2008), 60.105(a)(4), 60.105(e)(3)(ii) (12/1/2015), and 60.106(e) (9/12/2012) WAC 173-401-630(1) (3/5/2016)	<u>NSPS for Refinery Fuel Gas</u> H ₂ S in the fuel gas from the main mix drum shall not exceed 162 ppmvd (230 mg/dscm), 3-hour rolling average.	Operate a CEMS to continuously monitor H ₂ S in the fuel gas from the main mix drum in accordance with 40 CFR 60 Subpart J, 40 CFR 60 Appendices B and F, NWCAA 367 and NWCAA Appendix A. The span value for the CEMS is 300 ppmvd (425 mg/dscm) H ₂ S. Use Performance Specification 7 to evaluate CEMS performance under 60.13(c). Follow EPA Method 11, 15, 15A, or 16 to conduct relative accuracy evaluations. <i>Directly Enforceable</i> Report monthly the highest 3-hour rolling average ppmvd H ₂ S in the refinery fuel gas from the main mix drum.
5.6.4 HAP	40 CFR 63 Subpart DDDDD 63.7500 (1/31/2013)	<u>Major Source Boiler MACT</u> Comply with 40 CFR 63 Subpart DDDDD for boilers and process heaters.	Conduct MR&R in accordance with AOP Section 6.5.

#1 Hydrogen Plant			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
#1 Hydrogen Plant North and South Reforming Furnaces – Equipment in HAP Service			
Note: 40 CFR 63 General Provisions in Section 3 apply to these affected facilities.			
5.6.5 HAP	40 CFR 63 Subpart CC 63.648 (2/4/2020) which references 40 CFR 60 Subpart VV (6/2/2008)	<u>MACT for Equipment Leaks</u> Monitor components in HAP service for leaks, repair leaks in a timely manner, and report results semi-annually in accordance with 40 CFR 60 Subparts VV, except that pressure relief devices in organic HAP service must comply with the requirements in 63.648(j). If a flare is used as a control device, the flare shall meet the requirements of 63.670. Applicable components include pumps, valves, pressure relief devices, sampling systems, open-ended lines, flanges, and connectors. Affected facilities may include individual compressors.	Conduct a LDAR program in accordance with AOP Section 6.3.
5.6.6 HAP	40 CFR 63 Subpart CC 63.648(j) and 63.655(g) (2/4/2020)	<u>Refinery MACT for Pressure Relief Devices</u> Except during a pressure release, operate, monitor, repair as necessary, and report results semiannually for each pressure relieve device (PRD) in organic HAP gas or vapor service in accordance with 40 CFR 63 Subpart CC. Conduct a root cause analysis (RCA) and corrective action analysis (CAA) as required after a pressure release to atmosphere.	Conduct MR&R in accordance with AOP Section 6.6.

#1 Hydrogen Plant			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
#1 Hydrogen Plant North and South Reforming Furnaces – Process Vents			
Note: 40 CFR 63 General Provisions in Section 3 apply to these affected facilities.			
5.6.7 HAP	40 CFR 63 Subpart CC 63.643(a) (2/4/2020)	<u>Refinery MACT I – Group 1 Process Vents</u> Control HAP emissions from applicable vents by using a flare that meets the requirements of 63.670 or a control device that achieves an emission reduction of 98% mass or to 20 ppmv corrected to 3% O₂. This does not apply to catalyst regeneration vents or to emission points routed to a fuel gas system, provided all flares that receive fuel gas from that system are subject to 63.670, per 63.640(d)(4)-(5). Process vents may be designated as maintenance vents if the vent is used only as a result of startup, shutdown, maintenance, or inspection of equipment where equipment is emptied, depressurized, degassed, or placed into service, per 63.643(c), and the vent must comply with applicable requirements in 63.643(c)(1)-(3).	Conduct MR&R in accordance with AOP Terms 5.14.6 through 5.14.12 (flares).

#2 Hydrogen Plant			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
#2 Hydrogen Plant SMR Furnace (46-1401)			
Note: 40 CFR 60 and 63 General Provisions included in Section 3 apply to these affected facilities.			
5.6.8 General	PSD-10-01 A1, Condition 1 (1/24/2022) OAC 1064b, Condition 2 (3/8/2022) WAC 173-401-615(1)(b) & (c) (10/17/2002)	Fuel combusted in the #2 Hydrogen SMR Furnace is limited to natural gas and PSA off-gas.	<i>Directly Enforceable</i> Certify annually that only approved fuels were combusted in the furnace in accordance with AOP Term 2.4.1.
5.6.9 SO ₂	40 CFR 60 Subpart Ja 60.102a(g)(1)(ii) (7/13/2016) 60.107a(a)(3)(iii) (12/1/2015)	<u>NSPS for Refinery Fuel Gas for Inherently Low Sulfur Gas Streams</u> H ₂ S in the fuel gas shall not exceed: • 162 ppmvd (230 mg/dscm), 3-hour rolling average • 60 ppmvd, 365 successive calendar day rolling average	
5.6.10 General	PSD-10-01 A1, Conditions 2, 8.1 and 8.2 (1/24/2022) OAC 1064b, Condition 1 and 14a (3/8/2022)	Heat input to the #2 Hydrogen SMR Furnace shall not exceed 496 MMBtu/hr HHV on a 365-day rolling average.	Maintain the following records of the HHV heat input rate to the #2 Hydrogen Plant SMR Furnace: • MMBtu/hour, hourly average • MMBtu/hour, daily average • MMBtu/hour, 365-day rolling average
5.6.11 VE	OAC 1064b, Condition 3 (3/8/2022) WAC 173-401-615(1)(b) & (c) (10/17/2002)	Visible emissions from the #2 Hydrogen Plant SMR Furnace shall not exceed five percent opacity for more than three minutes in any consecutive 60-minute period (Method 9A).	<i>Directly Enforceable</i> Conduct MR&R in accordance with AOP Term 6.1.

#2 Hydrogen Plant			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.6.12 PM ₁₀	PSD-10-01 A1, Conditions 3, 4 and 5 (1/24/2022) WAC 173-401-630(1) (3/5/2016)	PM ₁₀ (filterable and condensable) emissions from the #2 Hydrogen SMR Furnace shall not exceed any of the following: • 4.96 lb/hr • 0.010 lb/MMBtu	Compliance shall be determined by the average of three test runs using 40 CFR 60 Appendix A, Method 5 (filterable) and 40 CFR 51 Appendix M Method 202 (condensable), or alternative test method approved in advance by the NWCAA. Testing shall be performed while operating the furnace at an average firing rate that is as close to its rated capacity as practicable. If this is less than 90% of the rated capacity, the reason shall be explained in the test report. A typical mix of fuel shall be burned during the test. This mix shall be listed in the source test plan. BP must submit a test plan to NWCAA for approval at least 30 days prior to performance testing. Testing shall be conducted annually within 13 months of the previous test date. After three consecutive years of annual testing demonstrating compliance, testing may be reduced to once every five years, and within 61 months of the previous test date. If a test demonstrates noncompliance, a retest and resumption of annual testing within 13 months of the previous test date shall be conducted until three consecutive annual tests demonstrate compliance. <i>Directly Enforceable</i> Record the following process and control device parameters at least once every 15 minutes for each individual test run unless otherwise specified below, and include in the source test report: • Firing rate (MMBtu/hr), • NH₃ injection rate (lb/hr), • Natural gas consumption rate (Mscf/hr), • PSA off-gas consumption rate (Mscf/hr), • Exhaust flow rate (Mscf/hr), and, • Fuel HHV (Btu/scf), and fuel specific gravity, sampled once on the day of the test.

#2 Hydrogen Plant			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.6.13 PM _{2.5}	OAC 1064b, Conditions 4 and 11 (3/8/2022)	PM_{2.5} (filterable and condensable) emissions from the #2 Hydrogen SMR Furnace shall not exceed any of the following: • 4.96 lb/hr • 0.010 lb/MMBtu	Compliance shall be determined by the average of three test runs. Testing shall be conducted in accordance with NWCAA Section 367 and Appendix A, and 40 CFR 60 Appendix A Methods 5 and 202 unless an alternative method is approved in advance by the NWCAA. Testing shall be performed while operating the furnace at a firing rate that is as close to its rated capacity as practicable. If this is less than 90% of the rated capacity, the reason shall be explained in the test report. Testing shall be conducted annually within 13 months of the previous test date. After three consecutive years of annual testing demonstrating compliance, testing may be reduced to once every five years, and within 61 months of the previous test date. If a test demonstrates noncompliance, a resumption of annual testing within 13 months of the previous test date shall be conducted until three consecutive annual tests demonstrate compliance. Record the following process and control device parameters at least once every 15 minutes for each individual test run unless otherwise specified below, and include in the source test report: • Firing rate (MMBtu/hr), • NH₃ injection rate (lb/hr), • Natural gas consumption rate (Mscf/hr), • PSA off-gas consumption rate (Mscf/hr), • Exhaust flow rate (Mscf/hr), • Fuel HHV (Btu/scf), and fuel specific gravity, sampled once on the day of the test, • Excess O₂ (%), and, • Exhaust temperature (F).

#2 Hydrogen Plant			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.6.14 NOx	40 CFR 60 Subpart Ja 60.102a(g)(2) (7/13/2016), 60.107a(c), and 60.107a(d) (12/1/2015)	<u>NSPS for Process Heaters</u> While operating in natural draft mode, NOx emissions from the #2 Hydrogen SMR Furnace shall comply with one of the following limits at any time, provided that the appropriate parameters are monitored as specified in 60.107a: • 40 ppmvd NOx at 0% oxygen, determined daily as a 30-day rolling average, <u>or</u> • 0.040 lb/MMBtu (HHV) NOx, determined daily as a 30-day rolling average	Operate a CEMS to continuously monitor NOx and O₂ in the #2 Hydrogen SMR Furnace exhaust. The CEMS shall meet the requirements of 40 CFR 60 Subpart Ja, 40 CFR 60 Appendices B and F, NWCAA Section 367, and NWCAA Appendix A. When complying with the heating value-based limit, determine the F_d factor of the fuel gas stream no less frequently than once per day according to the monitoring requirements in 40 CFR 60.107a(d)(1)-(4).
5.6.15 NOx	OAC 1064b, Conditions 5, 14c and 14d (3/8/2022)	NOx emissions from the #2 Hydrogen SMR Furnace shall not exceed: During normal operations with SCR: • 3.54 lb/hr, 24 hour rolling average During maintenance activities without SCR: • 17.4 lb/hr, 24 hour rolling average	Operate a CEMS to continuously monitor NOx & O₂ concentrations in the furnace stack in accordance with NWCAA 367, NWCAA Appendix A, and 40 CFR 60 Appendices B and F. Maintain a record of the following for the SMR Furnace: • NOx ppmvd at 3% O₂, hourly and 24-hour average, and, • NOx lb/hr, hourly and 24-hour average, calculated using exhaust flow rate determined as per AOP term 5.6.25.
5.6.16 NOx	OAC 1064b, Conditions 12, 14g and 14h (3/8/2022)	#2 Hydrogen Plant SMR Furnace operation without SCR shall not exceed 100 hours, as a cumulative 12-monthly rolling total.	Maintain the following records for the SMR Furnace: • Time, date, duration and reason for each event when the furnace is operated without SCR, and, • Number of hours that the furnace is operated without SCR, as a cumulative 12-month rolling total.

#2 Hydrogen Plant			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.6.17 CO	OAC 1064b, Conditions 6, 14c and 14d (3/8/2022)	CO emissions from the #2 Hydrogen SMR Furnace shall not exceed: 4.31 lb/hr, 24-hour rolling average	Operate a CEMS to continuously monitor CO & O ₂ concentrations in the furnace stack in accordance with NWCAA 367, NWCAA Appendix A, and 40 CFR 60 Appendices B and F. Maintain a record of the following for the SMR Furnace: - CO ppmvd at 3% O₂, hourly and 24-hour average, and, - CO lb/hr, hourly and 24-hour average, calculated using exhaust flow rate determined as per AOP term 5.6.25.
5.6.18 SO ₂	OAC 1064b, Conditions 7, 14c, 14d and 14e (3/8/2022)	SO ₂ emissions from the #2 Hydrogen SMR Furnace shall not exceed any of the following: 2.83 lb/hr, 24-hour rolling average 6.3 tons, cumulative 12-month rolling total	Operate a CEMS to continuously monitor SO ₂ & O ₂ concentrations in the furnace stack in accordance with NWCAA 367, NWCAA Appendix A, and 40 CFR 60 Appendices B and F. Maintain a record of the following for the SMR Furnace: - SO₂ ppmvd at 3% O₂, hourly and 24-hour average, - SO₂ lb/hr, hourly and 24-hour average, calculated using exhaust flow rate determined as per AOP term 5.6.25, and, - SO₂ tons, monthly and 12-month rolling total.

#2 Hydrogen Plant			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.6.19 VOC	OAC 1064b, Conditions 8 and 11 (3/8/2022) WAC 173-401-630(1) (3/5/2016)	VOC emissions from the #2 Hydrogen SMR Furnace shall not exceed any of the following: • 2.67 lb/hr • 0.0054 lb/MMBtu	Compliance shall be determined by the average of three test runs. Testing shall be conducted in accordance with NWCAA Section 367, NWCAA Appendix A, and 40 CFR 60 Appendix A Methods 18 or 25 unless an alternative method is approved in advance by the NWCAA. Testing shall be performed while operating the furnace at a firing rate that is representative of normal operating conditions at the time of the test. Testing shall be conducted annually within 13 months of the previous test date. After three consecutive years of annual testing demonstrating compliance, testing may be reduced to once every five years, and within 61 months of the previous test date. If a test demonstrates noncompliance, a resumption of annual testing within 13 months of the previous test date shall be conducted until three consecutive annual tests demonstrate compliance. Record the following process and control device parameters at least once every 15 minutes for each individual test run unless otherwise specified below, and include in the source test report: • O₂ and NO_x CEMS data, • Firing rate (MMBtu/hr), • NH₃ injection rate (lb/hr), • Natural gas consumption rate (Mscf/hr), • PSA off-gas consumption rate (Mscf/hr), • Exhaust flow rate (Mscf/hr), • Fuel HHV (Btu/scf), and fuel specific gravity, sampled once on the day of the test, • Excess O₂ (%), and, • Exhaust temperature (F). <i>Directly Enforceable</i> 40 CFR 60 Appendix A, Method 25A or 25B may be used in lieu of Method 25.

5.6.20 NH₃	OAC 1064b, Conditions 9, 10, 11, and 14f (3/8/2022)	<u>Ammonia Periodic Source Testing</u> Ammonia emissions from the #2 Hydrogen SMR Furnace shall not exceed any of the following: • 10 ppmvd at 3% O₂, hourly average • 2.62 lb/hr Periodic compliance shall be demonstrated by annual source testing. Ongoing compliance shall be demonstrated by operating the SMR Furnace and SCR control system in accordance with the ammonia emissions monitoring plan.	Compliance shall be determined by the average of three test runs. Testing shall be conducted in accordance with NWCAA 367, NWCAA Appendix A, 40 CFR 60 Appendix A, and BAAQMD Method ST-1B unless an alternative method is approved in advance by the NWCAA. Testing shall be performed while operating the furnace at a firing rate that is representative of normal operating conditions at the time of the test. Testing shall be conducted annually within 13 months of the previous test date. After three consecutive years of annual testing demonstrating compliance, testing may be reduced to once every five years, and within 61 months of the previous test date. If a test demonstrates noncompliance, a resumption of annual testing within 13 months of the previous test date shall be conducted until three consecutive annual tests demonstrate compliance. Record the following process and control device parameters at least once every 15 minutes for each individual test run unless otherwise specified below, and include in the source test report: • O₂ and NO_x CEMS data, • Firing rate (MMBtu/hr), • NH₃ injection rate (lb/hr), • Natural gas consumption rate (Mscf/hr), • PSA off-gas consumption rate (Mscf/hr), • Exhaust flow rate (Mdsf/hr), • Fuel HHV (Btu/scf), fuel specific gravity, sampled once on the day of the test, and, • Exhaust temperature (F). Develop and implement an ammonia emissions monitoring plan. The plan shall establish a predictive relationship between the SMR Furnace operation, SCR parameters and ammonia emissions, including a correction factor to be applied to predicted ammonia slip concentration and calculated as follows: $\text{correction factor} = \frac{\text{measured NH}_3 \text{ slip from source test (ppmvd @ 3\% O}_2\text{)}}{\text{calculated NH}_3 \text{ slip (ppmvd @ 3\% O}_2\text{)}}$ The plan shall define QA/QC procedures and corrective actions to be taken when parameter monitoring indicates that an ammonia emission limit may be exceeded. The plan shall be reevaluated after each periodic source test for ammonia and may be improved and revised
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5.6.20 Cont'd	OAC 1064b, Conditions 9, 10, 11, and 14f (3/8/2022)	<u>Ammonia Periodic Source Testing, Continued</u> See description in AOP Term 5.6.20 above.	accordingly. All changes to the plan must be approved in writing by the NWCAA prior to implementation. As an alternative to a plan based on predictive monitoring of operating parameters, a plan may be developed and/or revised that is based on direct continuous emissions monitoring of ammonia from the SMR Furnace stack. Maintain records of monitoring under the plan.
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#2 Hydrogen Plant			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.6.21 SEPA MDNS	OAC 1064b, Condition 30 (3/8/2022)	<u>Air</u> CO ₂ emissions from the #2 Hydrogen SMR Furnace must not exceed 437,132 metric tons per cumulative 12-month rolling period.	Operate a CEMS to continuously monitor CO ₂ in the #2 Hydrogen SMR Furnace stack. Maintain and operate the CEMS in accordance with the requirements of 40 CFR 98. Report the cumulative 12-month rolling CO ₂ emissions from the #2 Hydrogen SMR Furnace stack to NWCAA in monthly emission reports.
5.6.22 SEPA MDNS	OAC 1064b, Condition 32 (3/8/2022) WAC 173-401-615(1)(b) & (c) (10/17/2002)	<u>Aesthetics</u> Maintain existing trees and vegetation within the existing 100-foot security setback along the perimeter fenceline on Grandview Road to the maximum extent practicable to help minimize visual impacts.	<i>Directly Enforceable</i> Certify annually that the perimeter fenceline trees and vegetation were maintained to the maximum extent practicable.
5.6.23 SEPA MDNS	OAC 1064b, Condition 33 (3/8/2022) WAC 173-401-615(1)(b) & (c) (10/17/2002)	<u>Light and Glare</u> Exterior lighting must be constructed and/or screened in a manner so as to minimize potential off-site impacts from light or glare.	<i>Directly Enforceable</i> Certify annually that exterior lighting minimizes off-site impacts from light or glare.
5.6.24 HAP	40 CFR 63 Subpart DDDDD 63.7500 (1/31/2013)	<u>Major Source Boiler MACT</u> Comply with 40 CFR 63 Subpart DDDDD for boilers and process heaters.	Conduct MR&R in accordance with AOP Section 6.5.

#2 Hydrogen Plant			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.6.25 General	OAC 1064b, Condition 13, and 14b (3/8/2022)	Determine PSA off-gas composition and #2 Hydrogen SMR Furnace exhaust stack flow rate.	Continuously monitor natural gas and PSA off-gas feed to the main burners and pilots. Sample and analyze PSA off-gas weekly for composition using UOP Laboratory Test Method 539-97 "Gas Analysis by Gas Chromatography" or equivalent. Use composition to determine the heat content, Btu/scf, and the EPA Method 19 F_d factor. An alternative method can be used to determine the F_d factor with prior approval from NWCAA. Determine stack exhaust flow rate in dry scf/hour, as hourly and 24-hour averages, using EPA Method 19, or alternative method approved by NWCAA. Flow rate shall reflect proportions of natural gas and PSA off-gas in the furnace fuel. - PSA off-gas contribution: use monthly average PSA off-gas F_d. - Natural gas contribution: use natural gas F_d from EPA Method 19 Table 19-2. Maintain the following records: - Weekly PSA off-gas composition, - Weekly and monthly PSA off gas F_d results, - Hourly stack exhaust flow rate (dry scf/hour), 24-hour average stack exhaust flow rate (dry scf/hour).
5.6.26 General	PSD-10-01 A1, Condition 16 (1/24/2022)	<u>O&M Manual</u> Within 90 days of start-up of the #2 Hydrogen Plant SMR Furnace, identify operational parameters and practices that will constitute "good combustion practices." These operational parameters and practices shall be included in an O&M manual for the facility. If a failure to follow the requirements of the manuals results in excess emissions, that failure may be considered credible evidence that the event was caused by poor or inadequate operation or maintenance	Maintain an O&M manual for the #2 Hydrogen Plant SMR Furnace. The O&M manual shall be onsite and available for review by Ecology, NWCAA, or the EPA.

#2 Hydrogen Plant			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
#2 Hydrogen Plant Flare (46-2803)			
Note: 40 CFR 60 and 63 General Provisions included in Section 3 apply to these affected facilities.			
5.6.27 VE	OAC 1064b, Condition 16 (3/8/2022) WAC 173-401-615(1)(b) & (c) (10/17/2002)	Visible emissions from the #2 Hydrogen Plant Flare shall not exceed five percent opacity for more than three minutes in any consecutive 60-minute period (Method 9A).	<i>Directly Enforceable</i> Conduct MR&R in accordance with AOP Term 6.1.
5.6.28 General	PSD-10-01 A1, Condition 6 (1/24/2022) OAC 1064b, Condition 15 (3/8/2022) WAC 173-401-615(1)(b) & (c) (10/17/2002)	The #2 Hydrogen Plant Flare pilot fuel and header sweep gas are limited to natural gas.	<i>Directly Enforceable</i> Certify annually that only natural gas was used for pilot fuel and header sweep gas in the #2 Hydrogen Plant Flare.
5.6.29 General	PSD-10-01 A1, Condition 7 and 8.4 (1/24/2022) OAC 1064b, Condition 17 and 18 (3/8/2022)	Monitor the gas flow rate to the #2 Hydrogen Plant Flare using a flow meter and determine the volumetric flow in standard cubic feet per minute.	Operate a flow meter that monitors the flow rate of gasses combusted in the flare that is compensated for pressure and temperature. Maintain a record of the gas flow rate to the flare in scfm, hourly average.
5.6.30 General	PSD-10-01 A1, Condition 8.3 (1/24/2022)	Record the heat content of gases flared in the #2 Hydrogen Plant Flare.	Maintain a record of the heat content of gases combusted in the flare in Btu/scf, hourly average.
5.6.31 SO ₂	40 CFR 60 Subpart Ja 60.103a(h) (9/12/2012) and 60.107a (a)(3)(iii) (12/1/2015)	<u>NSPS for Flares</u> The H ₂ S content of gases combusted in the #2 Hydrogen Plant Flare shall not exceed: 162 ppmv, 3-hour rolling average	Certify annually that gases combusted in the #2 Hydrogen Plant Flare are inherently low in sulfur in accordance with AOP Term 2.4.1.

#2 Hydrogen Plant			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.6.32 SO ₂	40 CFR 60 Subpart Ja 60.103a(a), (b), (c)(1), (d) & (e) and 60.108a(c)(1) (9/12/2012)	<u>Flare Management Plan</u> Implement a flare management plan and optimize management of the refinery fuel gas system to minimize flaring. Conduct a root cause analysis and associated corrective action for flaring events greater than 500,000 scfd above baseline flaring and for events resulting in greater than 500 lb SO ₂ in any 24-hour period.	Maintain the following records: • A copy of the flare management plan • Records on discharge events greater than 500 lb SO₂ in any 24-hour period, • Records on discharge events greater than 500,000 scf above baseline in any 24-hour period as required by 60.103a(c), and, • A root cause analysis and corrective action for each discharge event meeting one of the conditions specified in 60.103a(c)(1).
5.6.33 HAP	40 CFR 63 Subpart CC 63.670 (2/4/2020) 63.671 (12/1/2015) 63.652 (12/1/2015)	A flare used as a control device for an emission point subject to this subpart shall meet the applicable requirements for flares as specified in 63.670(a)-(q) and the applicable requirements of 63.671. Or Comply with the emissions averaging requirements of 63.652.	Conduct MR&R in accordance with AOP Terms 5.14.6 through 5.14.13 (flares). Or Comply with the emissions averaging provisions of 63.652 and AOP Term 5.6.37 for all Group 1 process events routed to the flare.
#2 Hydrogen Plant – Equipment in VOC Service			
Note: 40 CFR 60 General Provisions included in Section 3 apply to these affected facilities.			
5.6.34 VOC	40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/08) which references 40 CFR 60 Subpart VVa (6/2/08)	<u>NSPS for Equipment Leaks</u> Monitor components in VOC service for leaks, repair leaks in a timely manner, and report results semi-annually in accordance with 40 CFR 60 Subpart VVa. Applicable components include pumps, valves, pressure relief devices, sampling systems, open-ended lines, flanges, and connectors. Affected facilities may include individual compressors.	Conduct a LDAR program in accordance with AOP Section 6.4.

#2 Hydrogen Plant			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
#2 Hydrogen Plant – Equipment in HAP Service			
Note: 40 CFR 63 General Provisions included in Section 3 apply to these affected facilities.			
5.6.35 HAP	40 CFR 63 Subpart CC 63.640(p)(2) (2/4/2020) which references 40 CFR 60 Subpart GGGa (6/2/2008)	<u>MACT for Equipment Leaks</u> Monitor components in HAP service for leaks, repair leaks in a timely manner, and report results semi-annually in accordance with 40 CFR 60 Subpart VVa, except that pressure relief devices in organic HAP service must only comply with the requirements in 63.648(j). Applicable components include pumps, compressors, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, or instrumentation system as defined in this section.	Conduct a LDAR program in accordance with AOP Section 6.4.
5.6.36 HAP	40 CFR 63 Subpart CC 63.648(j) and 63.655(g) (2/4/2020)	<u>Refinery MACT for Pressure Relief Devices</u> Except during a pressure release, operate, monitor, repair as necessary, and report results semiannually for each pressure relieve device (PRD) in organic HAP gas or vapor service in accordance with 40 CFR 63 Subpart CC. Conduct a root cause analysis (RCA) and corrective action analysis (CAA) as required after a pressure release to atmosphere.	Conduct MR&R in accordance with AOP Section 6.6.

#2 Hydrogen Plant			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
#2 Hydrogen Plant – Process Vents			
Note: 40 CFR 63 General Provisions in Section 3 apply to these affected facilities.			
5.6.37 HAP	40 CFR 63 Subpart CC 63.643(a) (2/4/2020) 63.642(g) 63.652 (12/1/2015)	<u>Refinery MACT I – Group 1 Process Vents</u> Control HAP emissions from applicable vents by using a flare that meets the requirements of 63.670 or a control device that achieves an emission reduction of 98% mass or to 20 ppmv corrected to 3% O₂. This does not apply to catalyst regeneration vents or to emission points routed to a fuel gas system, provided all flares that receive fuel gas from that system are subject to 63.670, per 63.640(d)(4)-(5). Process vents may be designated as maintenance vents if the vent is used only as a result of startup, shutdown, maintenance, or inspection of equipment where equipment is emptied, depressurized, degassed, or placed into service, per 63.643(c), and the vent must comply with applicable requirements in 63.643(c)(1)-(3). Or Comply with 63.642(g) using the emissions averaging provisions of 63.652 for all Group 1 process vents at the #2 Hydrogen Plant.	Conduct MR&R in accordance with AOP Terms 5.14.6 through 5.14.13 (flares). Or Comply with the emissions averaging provisions of 63.652 for all Group 1 process vents at the #2 Hydrogen Plant.

5.7. Delayed Coker Unit

Table 5-7 Delayed Coker Unit

Delayed Coker Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
East Coker Charge Heater (12-1402) and West Coker Charge Heater (12-1401)			
Note: 40 CFR 60 and 63 General Provisions included in Section 3 apply to these affected facilities.			
5.7.1 General	PSD 16-01 Condition XIV.A (5/23/2017)	Install and operate the heaters in accordance with the information provided in the application.	Comply with MR&R in accordance with AOP Terms 5.7.2 and 5.7.4-5.7.11.

5.7.2 PM	PSD 16-01 Conditions V.D, V.E, VIII.D, IX.A, IX.B WAC 173-401-630(1) (3/5/2016)	PM (filterable) emissions from each Coker Heater must not exceed the following limit: • 0.0025 lb/MMBtu, 1-hour average PM₁₀ and PM_{2.5} emissions, including filterable and condensable combined particulate, from each Coker Heater must not exceed the following limit • 0.010 lb/MMBtu, 1-hour average	Conduct source testing using EPA Method 5 or 201A (for filterable particulate matter) and Method 202 (for condensable particulate), or other method pre-approved by the NWCAA within 13 months of the most recent test. During testing, the heater must be fired at 90% or higher of the normal maximum operating rate, which is the 90th percentile of the average hourly operating rates during the previous 12-month period. Retesting is required within 60 days if the heater firing rate, based on a 6-month average, is above 110% of the average firing rate measured during the most recent source test. After three consecutive tests on each Coker Heater demonstrate emissions of less than the limits in this term, testing of each Coker Heater may be reduced to once every five years. If a test demonstrates emissions are greater than the emission limits in this condition, testing for that pollutant must revert back to once every 13 months until three consecutive tests for that pollutant demonstrate compliance with the limit. Keep test calculations, results, and supporting information used for compliance determination. Maintain records as per AOP Section 2.4.3. In addition, maintain records onsite for at least 2 years from date of generation, and make records available for inspection within 10 days of request. <i>Directly Enforceable</i> Record the following process parameters at least once every 15-minutes for each individual test run unless otherwise specified below, and include it in the performance test report: • Fuel flow, in Mscfh, • Fuel gas specific gravity and HHV in Btu/scf, sampled once on the day of the test, and, • Firing rate, in MMBtu/hr.
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Delayed Coker Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.7.3 SO ₂	40 CFR 60 Subpart Ja 60.102a(g)(1)(ii) (7/13/2016) 60.107a(a)(2) (12/1/2015) WAC 173-401-630(1) (3/5/2016)	<u>NSPS for Refinery Fuel Gas</u> H ₂ S in the fuel gas shall not exceed: • 162 ppmvd (230 mg/dscm), 3-hour rolling average • 60 ppmvd, 365 successive calendar day rolling average	Operate a CEMS to continuously monitor H ₂ S in the Coker Heater fuel gas. The CEMS shall meet the requirements of 40 CFR 60 Subpart Ja, 40 CFR 60 Appendices B and F, NWCAA 367 and NWCAA Appendix A. The span value for the CEMS is 300 ppmv H ₂ S. Use Performance Specification 7 to evaluate CEMS performance under 60.13(c). Follow EPA Method 11, 15, 15A, or 16 to conduct relative accuracy evaluations. <i>Directly Enforceable</i> Report monthly the highest 3-hour rolling average ppmvd H ₂ S in the refinery fuel gas from the main mix drum.
5.7.4 SO ₂	PSD 16-01 Conditions V.C, VIII.C, VIII.H, IX.A, IX.B (5/23/2017)	SO ₂ emissions from both heaters combined must not exceed the following limits: • 37 lb/hr, calendar day average, including startup and shutdown. • 132 tons per year, 12-month rolling average	Operate a CEMS to continuously monitor SO ₂ & O ₂ concentrations in each Coker Heater stack in accordance with NWCAA 367, NWCAA Appendix A, and 40 CFR 60 Appendices B and F. Coker off gas combusted in the Coker Heaters must be sampled and analyzed on a weekly basis for composition using Universal Oil Products Laboratory Test Method 539-97 or equivalent. The gas composition must be used to determine the heat content of the gas in Btu/scf (HHV), and to determine the EPA Method 19 F _d factor for the gas. An alternative to EPA Method 19 can be used to determine the F _d factor if pre-approved by NWCAA. Keep CEM calculations, results, and supporting information used for compliance determination. Maintain records as per AOP Section 2.4.3. In addition, maintain records onsite for at least 2 years from date of generation, and make records available for inspection within 10 days of request.

Delayed Coker Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.7.5 General	PSD 16-01 Section V (5/23/2017) WAC 173-401- 615(1)(b) & (c) (10/17/2002)	Comply with applicable emission limits based on the following operating modes: • Forced draft mode – when the forced draft fan is operating, • Natural draft mode – when the forced draft fan is not operating, • Normal operations mode – when hot residual oil at normal coking temperatures (900F or higher) is sent to the coking drum to produce coke. Online cleaning is part of the normal operations mode, • Standby mode – when circulating process materials to maintain unit temperatures when not producing coke from the heater, • Startup mode – starts when fuel gas is introduced to the heater burners to heat process materials for coking and ends when process material leaving the heater reaches normal coking temperatures (900F), • Pre-startup activities – include equipment preparation and verification activities following maintenance events (e.g., curing refractory, general mechanical checkout of equipment, instrument system review, pressure testing, and purging equipment, • Shutdown mode – starts when fuel gas to the heater burners is stopped and ends when heater stack oxygen level reaches 18 percent or greater, as measured by the CEMS.	<i>Directly Enforceable</i> Monitor and record the operating mode of each Coker Heater.

Delayed Coker Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.7.6 CO	PSD 16-01 Conditions V.B, VIII.B, VIII.H, IX.A, IX.B (5/23/2017) WAC 173-401-630(1) (3/5/2016)	CO emissions from each Coker Charge Heater shall not exceed the following limits during normal operation in forced and natural draft modes: • 33 ppmvd at 0% O₂, 30-day rolling average (excluding standby, startup, and shutdown) • 6.1 lb/hr, calendar day average CO emissions from each Coker Charge Heater shall not exceed the following limit during operation in startup and shutdown mode: • 75.0 lb/hr, 1-hour average CO emissions from each Coker Charge Heater shall not exceed the following limit during operation in standby mode: • 75.0 lb/hr, 24-hr rolling average	Operate a CEMS to continuously monitor CO & O₂ concentrations in each Coker Heater stack in accordance with NWCAA 367, NWCAA Appendix A, and 40 CFR 60 Appendices B and F. Coker off gas combusted in the Coker Heaters must be sampled and analyzed on a weekly basis for composition using Universal Oil Products Laboratory Test Method 539-97 or equivalent. The gas composition must be used to determine the heat content of the gas in Btu/scf (HHV), and to determine the EPA Method 19 F_d factor for the gas. An alternative to EPA Method 19 can be used to determine the F_d factor if pre-approved by NWCAA. Keep CEM calculations, results, and supporting information used for compliance determination. Maintain records as per AOP Section 2.4.3. In addition, maintain records onsite for at least 2 years from date of generation, and make records available for inspection within 10 days of request. <i>Directly Enforceable</i> Keep a record of operating mode for each Coker Heater in accordance with AOP Term 5.7.5.

Delayed Coker Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.7.7 NOx	PSD 16-01 Conditions V.A, VIII.A, VIII.H, IX.A, IX.B (5/23/2017) WAC 173-401-630(1) (3/5/2016)	NOx emissions from each Coker Charge Heater shall not exceed the following limits during normal operation, including startup and shutdown, based on operating mode: - Forced draft mode: 6.0 x 10¹ ppmvd at 0% O₂, 30-day rolling average 18.2 lb/hr, calendar day average - Natural draft mode: 4.0 x 10¹ ppmvd at 0% O₂, 30-day rolling average, applicable at and after 30 consecutive days of operation in natural draft mode 6.0 x 10¹ ppmvd at 0% O₂, 30-day rolling average if operating less than 30 consecutive days in natural draft mode, 12.1 lb/hr, calendar day average NOx emissions from each Coker Charge Heater shall not exceed the following limit during operation in standby mode: 8.0 lb/hr, rolling 24-hour average	Operate a CEMS to continuously monitor NOx & O₂ concentrations in each Coker Heater stack in accordance with NWCAA 367, NWCAA Appendix A, and 40 CFR 60 Appendices B and F. Coker off gas combusted in the Coker Heaters must be sampled and analyzed on a weekly basis for composition using Universal Oil Products Laboratory Test Method 539-97 or equivalent. The gas composition must be used to determine the heat content of the gas in Btu/scf (HHV), and to determine the EPA Method 19 F_d factor for the gas. An alternative to EPA Method 19 can be used to determine the F_d factor if pre-approved by NWCAA. Keep CEM calculations, results, and supporting information used for compliance determination. Maintain records as per AOP Section 2.4.3. In addition, maintain records onsite for at least 2 years from date of generation, and make records available for inspection within 10 days of request. <i>Directly Enforceable</i> Keep a record of operating mode for each Coker Heater in accordance with AOP Term 5.7.5.

Delayed Coker Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.7.8 NOx	40 CFR 60 Subpart Ja 60.102a(g)(2) (7/13/2016), 60.107a(c), and 60.107a(d) (12/1/2015)	<u>NSPS for Process Heaters</u> While operating in natural draft mode, NOx emissions from each Coker Charge Heater shall comply with one of the following limits at any time, provided that the appropriate parameters are monitored as specified in 60.107a: • 40 ppmvd NOx at 0% oxygen, determined daily as a 30-day rolling average, <u>or</u> • 0.040 lb/MMBtu (HHV) NOx, determined daily as a 30-day rolling average While operating in forced draft mode, NOx emissions from either Coker Charge Heater shall comply with one of the following limits at any time, provided that the appropriate parameters are monitored as specified in 60.107a: • 60 ppmvd NOx at 0% oxygen, determined daily as a 30-day rolling average, <u>or</u> • 0.060 lb/MMBtu (HHV) NOx, determined daily as a 30-day rolling average	Operate a CEMS to continuously monitor NOx and O₂ in each Coker Charge Heater stack. The CEMS shall meet the requirements of 40 CFR 60 Subpart Ja, 40 CFR 60 Appendices B and F, NWCAA Section 367, and NWCAA Appendix A. When complying with the heating value-based limit, determine the F_d factor of the fuel gas stream no less frequently than once per day according to the monitoring requirements in 40 CFR 60.107a(d)(1)-(4).

Delayed Coker Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.7.9 VOC	PSD 16-01 Conditions V.F, VIII.E, IX.A, IX.B (5/23/2017) WAC 173-401-630(1) (3/5/2016)	VOC emissions from each Coker Heater must not exceed the following limit: 0.0054 lb/MMBtu, 1-hour average	Conduct source testing using EPA Method 25A, or other method pre-approved by the NWCAA within 20 calendar quarters of the most recent test. During testing, the heater must be fired at 90% or higher of the normal maximum operating rate, which is the 90th percentile of the average hourly operating rates during the previous 12-month period. Retesting is required within 60 days if the heater firing rate, based on a 6-month average, is above 110% of the average firing rate measured during the most recent source test. Keep test calculations, results, and supporting information used for compliance determination. Maintain records as per AOP Section 2.4.3. In addition, maintain records onsite for at least 2 years from date of generation, and make records available for inspection within 10 days of request. <i>Directly Enforceable</i> Record the following process parameters at least once every 15-minutes for each individual test run unless otherwise specified below, and include it in the performance test report: - Fuel flow, in Mscfh, - Fuel gas specific gravity and HHV in Btu/scf, sampled once on the day of the test, and, - Firing rate, in MMBtu/hr.

Delayed Coker Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.7.10 H ₂ SO ₄	PSD 16-01 Conditions V.G, VIII.F, IX.A, IX.B (5/23/2017) WAC 173-401-630(1) (3/5/2016)	H ₂ SO ₄ emissions from each Coker Heater must not exceed the following limit: 0.0053 lb/MMBtu, 1-hour average	Conduct source testing using EPA Method 8, or other method pre-approved by the NWCAA within 20 calendar quarters of the most recent test. During testing, the heater must be fired at 90% or higher of the normal maximum operating rate, which is the 90th percentile of the average hourly operating rates during the previous 12-month period. Retesting is required within 60 days if the heater firing rate, based on a 6-month average, is above 110% of the average firing rate measured during the most recent source test. Keep test calculations, results, and supporting information used for compliance determination. Maintain records as per AOP Term 2.4.3. In addition, maintain records onsite for at least 2 years from date of generation, and make records available for inspection within 10 days of request. <i>Directly Enforceable</i> Record the following process parameters at least once every 15-minutes for each individual test run unless otherwise specified below, and include it in the performance test report: - Fuel flow, in Mscfh, - Fuel gas specific gravity and HHV in Btu/scf, sampled once on the day of the test, and, - Firing rate, in MMBtu/hr.
5.7.11 CO _{2e}	PSD 16-01 Conditions V.H, VIII.G (5/23/2017)	CO _{2e} emissions from each Coker Heater must not exceed the following limit: 36,631 lb/hr, calendar year average	Demonstrate compliance with this limit by fuel tracking and reporting in accordance with 40 CFR Part 98 Subpart C.
5.7.12 HAP	40 CFR 63 Subpart DDDDD 63.7500 (1/31/2013)	<u>Major Source Boiler MACT</u> Comply with 40 CFR 63 Subpart DDDDD for boilers and process heaters.	Conduct MR&R in accordance with AOP Section 6.5.

Delayed Coker Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
Delayed Coker - Process Vents			
Note: 40 CFR 63 General Provisions included in Section 3 apply to these affected facilities.			
5.7.13 HAP	40 CFR 63 Subpart CC 63.641 63.643(a) (2/4/2020)	<u>Refinery MACT I – Group 1 Process Vents</u> For delayed coker vents, which contain uncondensed vapors from the delayed coking unit's blowdown system, and do not include direct atmospheric venting, deheading, draining, or decoking (coke cutting): Control HAP emissions from applicable vents by using a flare that meets the requirements of 63.670 or a control device that achieves an emission reduction of 98% mass or to 20 ppmv corrected to 3% O ₂ . This does not apply to catalyst regeneration vents or to emission points routed to a fuel gas system, provided all flares that receive fuel gas from that system are subject to 63.670, per 63.640(d)(4)-(5). Process vents may be designated as maintenance vents if the vent is used only as a result of startup, shutdown, maintenance, or inspection of equipment where equipment is emptied, depressurized, degassed, or placed into service, per 63.643(c), and the vent must comply with applicable requirements in 63.643(c)(1)-(3).	Conduct MR&R in accordance with AOP Terms 5.14.6 through 5.14.12 (flares).

Delayed Coker Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
Delayed Coker – Coker Blowdown Vapors			
Note: 40 CFR 60 and 63 General Provisions included in Section 3 apply to these affected facilities.			
5.7.14 VOC/ SO ₂	OAC 1201b, Condition 9 and 10 (3/8/2022)	Coker blowdown vapors shall be routed to and recovered by Coker wet gas recovery compressor. When the Coker wet gas recovery compressor is unavailable due to process upset or maintenance activity, both flare gas recovery compressors shall be lined to the low-pressure flare header during the coke drum blowdown process. The vent gas from the sour water storage tanks must continue to be routed upstream of the #1 TGU incinerator. During maintenance operations, and certain malfunction events, an alternative method of ensuring compliance is to line both the high- and low-pressure flare gas recovery compressors to the low-pressure flare header to maximize the collection of Coker blow down vapors to the extent practicable.	Continuously monitor and record the operating position of the valve directing blowdown vapors to suction of the wet gas compressor and pressure in the blowdown drum. Follow written standard operating procedures that assure that Coker blowdown vapors are properly routed to Coker Wet Gas Compressor, except: - When pressure in the blowdown drum is near the suction pressure of the wet gas compressor, - During a process upset or when maintenance is required. A record shall be kept of each process upset or maintenance activity when Coker blowdown vapors are not recovered in accordance with condition b. above. Records shall include the time, date, duration and description of each event and an estimate of the resulting SO₂ emissions that would have otherwise been recovered.

Delayed Coker Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.7.15 HAP	40 CFR 63 Subpart CC 63.657(a)(1)(i), (b), (d) & (f) Table 13 (11/26/2018)	<u>MACT Existing DCU Coke Drum Depressurizing</u> Depressure each coke drum to a closed blowdown system until the average coke drum vessel pressure is two psig or less, determined on a rolling 60-event average, prior to venting to the atmosphere, draining or deheading the coke drum at the end of the cooling cycle. Double-quenching: Each coke drum may be partially drained prior to achieving the applicable limits of this section in order to double-quench a coke drum that did not cool adequately using the normal cooling process steps provided that a CPMS that meets the requirements of Table 13 of this subpart is in place to measure drain water temperature at the bottom of the coke drum or in the drain line as near as practical to the coke drum, and the drain water temperature is maintained below 210 degrees Fahrenheit during the partial drain associated with the double-quench event.	Install, operate, calibrate & maintain a monitoring system to determine coke drum vessel pressure in a representative location, capable of measuring a pressure of 2.0 psig within ± 0.5 psig, verified annually or at the frequency specified by instrument manufacturer & verified following any period of more than 24 hours throughout which the pressure exceeded the maximum rated pressure of the sensor, or the data recorder was off scale. All components of the pressure monitoring system must be visually inspected for integrity, oxidation & galvanic corrosion every three months, unless the system has a redundant pressure sensor. The output of the pressure monitoring system must be reviewed each day the unit is operated to ensure the pressure readings fluctuate as expected between operating & cooling/decoking cycles to verify pressure taps are not plugged. Determine coke drum vessel pressure on a five-minute rolling average basis while coke drum is vented to closed blowdown system. Use the last complete five-minute rolling average pressure measured just prior to initiating steps to isolate the coke drum prior to venting, draining or deheading. <u>If utilizing the double-quench provisions:</u> Install, operate, calibrate, and maintain a CPMS to measure the drain water temperature at the bottom of the coke drum or in the drain line as near as practical to the coke drum. The CPMS must meet a minimum accuracy requirement of ± 1 percent over the normal range of temperature measured, expressed in degrees Celsius (C), or 2.8 degrees C, whichever is greater. Conduct calibration checks at least annually; conduct calibration checks following any period of more than 24 hours throughout which the temperature exceeded the manufacturer's specified maximum rated temperature or install a new temperature sensor. At least quarterly, inspect all components for integrity and all electrical connections for continuity, oxidation, and galvanic corrosion, unless the CPMS has a redundant temperature sensor. Record the results of each calibration check and inspection.

Delayed Coker Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
Delayed Coker – Lean Oil Adsorption System			
Note: 40 CFR 60 and 63 General Provisions included in Section 3 apply to these affected facilities.			

5.7.16 TOC	40 CFR 60 Subpart NNN 60.662(a) and (b), 60.663(b), (c), and (d), 60.664(c) and (d), 60.665(a), (b)(2) and (b)(3) (2/27/2014) 40 CFR 65 Subpart D 65.62(b)(1) 65.166(a), (b)(2) and (3), (c) 65.167(b) (12/14/2000) 65.6(c) (4/20/2006)	For each vent stream at the Lean Oil Adsorption System subject to 40 CFR 60 Subpart NNN, comply with one of the following options: • Reduce emissions of TOC (less methane and ethane) by 98 weight-percent, or to a TOC (less methane and ethane) concentration of 20 ppmv, on a dry basis corrected to 3 percent oxygen, whichever is less stringent. If a boiler or process heater is used to comply with this paragraph, then the vent stream shall be introduced into the flame zone of the boiler or process heater, or, • Combust the emissions in a flare that meets the requirements of §60.18.	When using a boiler or process heater to seek to comply with this AOP term, perform the following: • Install, calibrate, maintain and operate according to the manufacturer's specifications the following equipment: ◦ A flow indicator that provides a record of vent stream flow to the boiler or process heater at least once every hour for each affected facility. The flow indicator shall be installed in the vent stream from each distillation unit within an affected facility at a point closest to the inlet of each boiler or process heater and before being joined with any other vent stream. ◦ A temperature monitoring device in the firebox equipped with a continuous recorder and having an accuracy of ± 1 percent of the temperature being measured expressed in degrees Celsius or ± 0.5 °C, whichever is greater, for boilers or process heaters of less than 44 MW (150 million Btu/hr) heat input design capacity. • Monitor and record the periods of operation of the boiler or process heater if the design heat input capacity of the boiler or process heater is 44 MW (150 million Btu/hr) or greater. The records must be readily available for inspection. • Maintain the following records: a description of the location at which the vent stream is introduced into the boiler or process heater, and the average combustion temperature of the boiler or process heater with a design heat input capacity of less than 44 MW (150 million Btu/hr) measured at least every 15 minutes and averaged over the same time period of the performance testing. When using a flare to comply with this AOP term, install, calibrate, maintain, and operate according to manufacturer's specifications the following equipment: • Install, calibrate, maintain, and operate according to manufacturer's specifications the following equipment: ◦ A heat sensing device, such as a ultra-violet beam sensor or thermocouple, at the pilot light to indicate the continuous presence of a flame. ◦ A flow indicator that provides a record of vent stream flow to the flare at least once every hour for each affected facility. The flow indicator shall be installed in the vent stream from each affected
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Delayed Coker Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
	See AOP Term 5.7.16 above.	See AOP Term 5.7.16 above.	facility at a point closest to the flare and before being joined with any other vent stream. - Maintain the following records: all visible emission readings, heat content determinations, flow rate measurements, and exit velocity determinations made during the performance test, continuous records of the flare pilot flame monitoring, and records of all periods of operations during which the pilot flame is absent. If using 40 CFR 65 Subpart D to comply with the requirements of this AOP term, report the following semiannually: - Total affected source operating time, - Periods when the monitored vent streams were diverted from the control device through a bypass line, - All times when car sealed valves were opened or when the car seal was broken, - All periods when all pilot flames were absent or the flare flame was absent, and, A report of startups, shutdowns, and malfunctions when excess emissions occur.
Delayed Coker - Equipment in VOC Service			
Note: 40 CFR 63 General Provisions included in Section 3 apply to these affected facilities.			
5.7.17 VOC	OAC 1200, Condition 1 (5/24/2017) 40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/08) which references 40 CFR 60 Subpart VVa (6/2/08)	<u>NSPS for Equipment Leaks</u> Monitor components in VOC service for leaks, repair leaks in a timely manner, and report results semi-annually in accordance with 40 CFR 60 Subpart VVa. Applicable components include pumps, valves, pressure relief devices, sampling systems, open-ended lines, flanges, and connectors. Affected facilities may include individual compressors.	Conduct a LDAR program in accordance with AOP Section 6.4.

Delayed Coker Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
Delayed Coker - Equipment in HAP Service			
Note: 40 CFR 63 General Provisions included in Section 3 apply to these affected facilities.			
5.7.18 HAP	40 CFR 63 Subpart CC 63.640(p)(2) (2/4/2020) which references 40 CFR 60 Subpart GGGa (6/2/2008)	<u>MACT for Equipment Leaks</u> Monitor components in HAP service for leaks, repair leaks in a timely manner, and report results semi-annually in accordance with 40 CFR 60 Subpart VVa, except that pressure relief devices in organic HAP service must only comply with the requirements in 63.648(j). Applicable components include pumps, compressors, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, or instrumentation system as defined in this section.	Conduct a LDAR program in accordance with AOP Section 6.4.
5.7.19 HAP	40 CFR 63 Subpart CC 63.648(j) and 63.655(g) (2/4/2020)	<u>Refinery MACT for Pressure Relief Devices</u> Except during a pressure release, operate, monitor, repair as necessary, and report results semiannually for each pressure relieve device (PRD) in organic HAP gas or vapor service in accordance with 40 CFR 63 Subpart CC. Conduct a root cause analysis (RCA) and corrective action analysis (CAA) as required after a pressure release to atmosphere.	Conduct MR&R in accordance with AOP Section 6.6.

5.8. Sulfur Recovery Complex

Table 5-8 Sulfur Recovery Complex

Sulfur Recovery Complex			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
Entire Sulfur Recovery Complex			
Note: 40 CFR 60 and 63 General Provisions included in Section 3 apply to these affected facilities.			
5.8.1 SO ₂	BART Order #7836 Rev. 2, Condition 4.1.1.4 (5/13/2015) OAC 1201b, Condition 5 (3/8/2022)	Total SO ₂ emitted from the Sulfur Recovery Complex shall not exceed 99 tons during any consecutive 12-month rolling period.	Include the consecutive 12-month rolling tons of SO ₂ emitted from the Sulfur Recovery Complex in monthly emission reports.
5.8.2 General	OAC 1201b, Condition 11 (3/8/2022) which references 40 CFR 63 Subpart UUU 63.1569 (11/26/2018)	Any lines that allow a bypass of sulfur bearing compounds normally emitted from the Incinerator and #2 TGU stacks shall be monitored for the presence of flow if the bypass line vents to the atmosphere.	Report any instances of flow bypass in accordance with NWCAA Section 340 or 341. These reportable events shall be considered a startup, shutdown or upset condition.

Sulfur Recovery Complex			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.8.3 General	OAC 1201b, Condition 7 (3/8/2022) 40 CFR Subpart UUU 63.1568(a)(3), (c)(2) (7/13/2016) 63.1574(f) (11/19/2020) 63.1576(e) and (f) (11/26/2018)	Prepare an Operation, Maintenance and Monitoring Plan (OMMP) according to the requirements of 40 CFR Subpart UUU 63.1574(f) and operate at all times according to the procedures in the plan.	Submit any revisions to OMMP to the NWCAA for approval. Maintain OMMP and report deviations with each applicable emission limitation and each applicable operating limit, including periods of startup, shutdown and malfunction. Report instances when not meeting the applicable work practice standards in 63.1575. Include in the OMMP the following: Process and control device parameters to be monitored for each affected source, along with established operating limits. Procedures for monitoring emissions and process and control device operating parameters for each affected source. Quality control plan for each continuous emission monitoring system you use to meet an emission limit in this subpart. This plan must include procedures you will use for calibrations, accuracy audits, and adjustments to the system needed to meet applicable requirements for the system. Maintenance schedule for each affected source, monitoring system, and control device that is generally consistent with the manufacturer's instructions for routine and long-term maintenance. Maintenance schedule for each monitoring system and control device for each affected source that is generally consistent with the manufacturer's instructions for routine and long-term maintenance. Keep a current copy of the operation, maintenance, and monitoring plan onsite and available for inspection. Keep records to show continuous compliance with the procedures in the operation, maintenance, and monitoring plan. Keep the records of any changes that affect emission control system performance.

Sulfur Recovery Complex			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.8.4 HAP	40 CFR Subpart UUU 63.1569(c)(1) (11/26/2018) which references Tables 36 and 39 to Subpart UUU (2/9/2005)	<u>Refinery MACT II – Bypass Lines</u> Demonstrate continuous compliance with the work practice standards by using: A car-seal or lock to ensure that bypass valves are closed and cannot be reopened without disabling the safe device.	Conduct monthly visual inspections of the car-seals or locks to ensure there is no flow in the bypass lines. Maintain records of bypass line valve inspections to assure valve is maintained in the closed position and whether flow is present in the line.
5.8.5 HAP	40 CFR 63 Subpart CC 63.648(j) and 63.655(g) (2/4/2020)	<u>Refinery MACT for Pressure Relief Devices</u> Except during a pressure release, operate, monitor, repair as necessary, and report results semiannually for each pressure relieve device (PRD) in organic HAP gas or vapor service in accordance with 40 CFR 63 Subpart CC. Conduct a root cause analysis (RCA) and corrective action analysis (CAA) as required after a pressure release to atmosphere.	Conduct MR&R in accordance with AOP Section 6.6.

Sulfur Recovery Complex			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.8.6 SO ₂ and HAP	40 CFR 60 Subpart Ja 60.102a(f)(1)(i) (7/13/2016) 60.106a(a)(1) (11/26/2018) 40 CFR 63 Subpart UUU 63.1568(a)(1), (2), & (4)(iii), (c)(1) (7/13/16), 63.1572(a), (c) and (d) and 63.1576(a), (b), (d), (e), (g)-(i) (11/26/2018) Table 29 Line 1a, Table 30 Lines 1 and 6, Table 34 Line 1a, and Table 35 Lines 1, 5a and 5b, Table 40 Line 5, Table 41 Lines 9 and 10 (12/1/15)	<u>Sulfur Recovery Units – SO₂ and HAP Emissions</u> For Claus units that use only ambient air in the Claus burner or that elect not to monitor O₂ concentration of the air/oxygen mixture used in the Claus burner or for non-Claus sulfur recovery plants, this SO₂ emissions limit is 250 ppmv (dry basis) at zero percent excess air. During periods of startup or shutdown, the following alternate work practices apply: • Maintain daily average combustion zone temperature at or above 1200° F, and • Maintain daily average O₂ concentration in the exhaust gas stream at or above 2% (volume), dry basis.	Install, operate & maintain a continuous monitoring system to measure SO₂ emissions & O₂ for correcting data for excess air from each exhaust stack. Collect hourly average SO₂ (dry basis) & percent excess air data; determine & record each 12-hour rolling average concentration of SO₂. SO₂ CEMS & O₂ monitor shall be operated in accordance with 40 CFR 60 Appendix B Performance Specification 2 using a span value of two times the limit at highest O₂ concentration; use Methods 6 or 6C (40 CFR 60 Appendix A-4) for certifying SO₂ monitor & Methods 3A or 3B (40 CFR 60 Appendix A-2) for certifying O₂ monitor; & Procedure 1 (40 CFR 60 Appendix F) except relative accuracy test audits are required annually instead of quarterly. CEMS shall be operated in accordance with 40 CFR 60 Subparts A & J, Appendix F, & NWCAA 367 & NWCAA Appendix A. Install, operate, & maintain a continuous parameter monitoring system to measure & record temperature in combustion zone & oxygen content of exit gas stream. Determine & record hourly average & daily average combustion zone temperature & O₂ content during periods of startup & shutdown. Conduct calibration checks at least annually; following any period of more than 24 hours throughout which sensor reading exceeds manufacturer's specified max operating range or install a new sensor; at least quarterly, inspect all components for integrity & all electrical connections for continuity/oxidation/corrosion; & record results of each calibration & inspection. Keep records of time, date & duration of each startup or shutdown when alternate work practices standards were used to comply. Except for monitoring malfunctions, associated repairs, & required QA/QC activities, conduct all monitoring in continuous operation at all times source is operating. Do not use data recorded during required QA/QC activities for fulfilling minimum data availability requirements. Use data collected during all other periods to assess control device & associated control system. Submit semiannual MACT reports listing any deviations from emission limitations or alternate work practices (or a statement declaring there were none), any continuous emission monitoring systems that were inoperative, inactive, out-of-control, repaired or adjusted; & a copy of any CEMS performance evaluation data conducted, unless previously submitted.

Sulfur Recovery Complex			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.8.7 SO ₂	40 CFR 60 Subpart Ja 60.106a(b) (11/26/2018) 60.108a(d) 40 CFR 60 Subpart A 60.7(c) (2/12/1999)	For the purpose of reports required by §60.7(c), periods of excess emissions for sulfur recovery plants subject to the emissions limitations in §60.102a(f) are defined as: All 12-hour periods during which the average concentration of SO₂ as measured by the SO₂ continuous monitoring system required exceeds the applicable emission limit (dry basis, zero percent excess air). Note: Determine all averages as the arithmetic average of the applicable 1- hour averages, e.g., determine the rolling 12-hour average as the arithmetic average of 12 contiguous 1-hour averages.	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 date that the exceedance occurred, • An explanation of the exceedance, • Whether the exceedance was concurrent with a startup, shutdown, or malfunction of an affected facility or control system, • A description of the action taken, if any, • The information described in AOP Term 5.8.9, • 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, and, • A written statement, signed by a responsible official, certifying the accuracy and completeness of the information contained in the report.

Sulfur Recovery Complex			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.8.8 SO ₂	40 CFR 60 Subpart Ja 60.103a(c)(3), (d)(1), (d)(5), and (e) (9/12/2012)	Each time the SO ₂ emissions are more than 227 kg (500 lb) greater than the amount that would have been emitted if the SO ₂ or reduced sulfur concentration was equal to the applicable emissions limit in §60.102a(f)(1) or (2) during one or more consecutive periods of excess emissions or any 24-hour period, whichever is shorter, conduct a root cause analysis and a corrective action analysis.	A root cause analysis and corrective action analysis must be completed as soon as possible, but no later than 45 days after a discharge meeting the condition specified in this AOP Term. If a single continuous discharge meets the condition specified in this AOP Term for 2 or more consecutive 24-hour periods, a single root cause analysis and corrective action analysis may be conducted. If discharges occur that meet the condition specified in this AOP Term for more than one affected facility in the same 24-hour period, initial root cause analyses shall be conducted for each affected facility. If the initial root cause analyses indicate that the discharges have the same root cause(s), the initial root cause analyses can be recorded as a single root cause analysis and a single corrective action analysis may be conducted. All corrective action(s) must be implemented within 45 days of the discharge for which the root cause and corrective action analyses were required or as soon thereafter as practicable. If an owner or operator concludes that corrective action should not be conducted, the owner or operator shall record and explain the basis for that conclusion no later than 45 days following the discharge as specified in §60.108a(c)(6)(ix). For corrective actions that cannot be fully implemented within 45 days following the discharge for which the root cause and corrective action analyses were required, the owner or operator shall develop an implementation schedule to complete the corrective action(s) as soon as practicable. No later than 45 days following the discharge for which a root cause and corrective action analyses were required, the owner or operator shall record the corrective action(s) completed to date, and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates as specified in §60.108a(c)(6)(x).

Sulfur Recovery Complex			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.8.9 SO ₂	40 CFR 60 Subpart Ja 60.108a(a) and (c)(6) (9/12/2012)	Each owner or operator subject to the emissions limitations in §60.102a shall comply with the notification, recordkeeping, and reporting requirements in §60.7 and other requirements as specified in this section.	The owner or operator shall maintain records of discharges greater than 500 lb SO₂ in excess of the allowable limits. The following information shall be recorded no later than 45 days following the end of a discharge exceeding the thresholds: • A description of the discharge, • The date and time the discharge was first identified and the duration of the discharge, • The measured or calculated cumulative quantity of gas discharged over the discharge duration. If the discharge duration exceeds 24 hours, record the discharge quantity for each 24-hour period, • The measured concentration of SO₂ discharged to the atmosphere, • The cumulative quantity of H₂S and SO₂ released into the atmosphere, • The steps that the owner or operator took to limit the emissions during the discharge, • The root cause analysis and corrective action analysis conducted as required in §60.103a(d), including an identification of the affected facility, the date and duration of the discharge, a statement noting whether the discharge resulted from the same root cause(s) identified in a previous analysis and either a description of the recommended corrective action(s) or an explanation of why corrective action is not necessary under §60.103a(e), and, • For any corrective action analysis for which corrective actions are required in §60.103a(e), a description of the corrective action(s) completed within the first 45 days following the discharge and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.

Sulfur Recovery Complex			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.8.10 SO ₂	40 CFR 60 Subpart Ja 60.102a(g)(1)(ii) (7/13/2016) 60.107a(a)(2) (12/1/2015) WAC 173-401-630(1) (3/5/2016)	<u>NSPS for Refinery Fuel Gas</u> H ₂ S in the fuel gas shall not exceed: • 162 ppmvd (230 mg/dscm), 3-hour rolling average • 60 ppmvd, 365 successive calendar day rolling average	Operate a CEMS to continuously monitor H ₂ S in the fuel gas. The CEMS shall meet the requirements of 40 CFR 60 Subpart Ja, 40 CFR 60 Appendices B and F, NWCAA 367 and NWCAA Appendix A. The span value for the CEMS is 300 ppmv H ₂ S. Use Performance Specification 7 to evaluate CEMS performance under 60.13(c). Follow EPA Method 11, 15, 15A, or 16 to conduct relative accuracy evaluations. <i>Directly Enforceable</i> Report monthly the highest 3-hour rolling average ppmvd H ₂ S in the refinery fuel gas from the main mix drum.
Incinerator (17-1481) and #1 TGU			
Note: 40 CFR 60 and 63 General Provisions included in Section 3 apply to these affected facilities.			
5.8.11 General	OAC 1054, Condition 4 (4/12/12) WAC 173-401-615(1)(b) & (c) (10/17/2002)	Supplemental fuel combusted in the Incinerator shall be gaseous fuel only.	<i>Directly Enforceable</i> Certify annually that only approved fuels were combusted as supplemental fuel in the incinerator.
5.8.12 VE	OAC 1201b, Condition 2 (3/8/2022) WAC 173-401-615(1)(b) & (c) (10/17/2002)	Visual emissions from the Incinerator shall not exceed 10% opacity for more than three aggregated minutes in any consecutive 60-minute period (Method 9A).	<i>Directly Enforceable</i> Conduct MR&R in accordance with AOP Term 6.1.
5.8.13 PM & SO ₂	OAC 211c Conditions 1(p) and 2 (9/18/2012)	<u>Cumulative Particulate and SO₂ limit</u> The 17 affected emission units shall not exceed: • Particulate: 60 tons/calendar month • SO₂: 2,354 lb/hour, calendar month average	Conduct MR&R in accordance with AOP Term 6.2.

Sulfur Recovery Complex			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.8.14 SO ₂	BART Order #7836 Rev. 2, Condition 4.1.1.1, 4.1.1.2, 4.1.1.3 (5/13/2015) OAC 1201b, Condition 3 (3/8/2022)	Except as provided under AOP Term 5.8.15, SO ₂ from the Incinerator shall not exceed any of the following: a. 250 ppm by volume, dry basis, corrected to zero percent oxygen, based on a 12-hour rolling average. The 12-hour rolling average shall be calculated based on corrected hourly averages for the twelve, most recent, consecutive clock hours (BACT limit) b. 1,500 ppm by volume, dry basis, corrected to zero percent oxygen, based on a one-hour average.	Operate a CEMS to continuously monitor SO ₂ & O ₂ concentrations in the Incinerator stack in accordance with NWCAA 367, NWCAA Appendix A, and 40 CFR 60 Appendices B and F. Any one-hour average that is invalidated due to the CEM exceeding its upper range or invalidated due to inactivating the CEM when SO ₂ concentrations are over the 1,500 ppm limit is considered prima-facie evidence that that limit has been exceeded.
5.8.15 SO ₂	OAC 1201b, Condition 4 (3/8/2022)	<u>Startup and Shutdown</u> The SO ₂ BACT limit of 250 ppm, 12-hr-rolling average in AOP Term 5.8.14 does not apply during startup and shutdown events as defined in 40 CFR 63.2.	During startup and shutdown events, send any startup or shutdown purge gases to a thermal oxidizer or incinerator operated at a minimum hourly average temperature of 1,200 degrees Fahrenheit in the firebox and a minimum hourly average outlet oxygen (O ₂) concentration of two volume percent (dry basis).
5.8.16 SO ₂	OAC 1201b, Condition 6 (3/8/2022)	SO ₂ emissions from the incinerator stack shall not exceed 40 lb/hour.	Conduct annual source testing within 13 months of the previous test in accordance with 40 CFR 60 Appendix A, Method 6C, or other alternative test methods approved in advance by the NWCAA, NWCAA 367 and NWCAA Appendix A. Testing shall be done under maximum operating rates that are at, or above, 80% of full capacity. Record the following process parameters at least once every 15 minutes for each individual test run unless otherwise specified, and include in the source test report: • Supplemental natural gas rate (scf/hr), and, • Sulfur plant production rate (long tons/day).

Sulfur Recovery Complex			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.8.17 NOx	OAC 1201b, Condition 13(A) (3/8/2022)	NOx emissions from the Incinerator stack shall not exceed 4.0 lb/hr.	Conduct annual source testing within 13 months of the previous test in accordance with 40 CFR 60 Appendix A, Method 7E, or other alternative test methods approved in advance by the NWCAA, NWCAA 367 and NWCAA Appendix A. Testing shall be done under maximum operating rates that are at, or above, 80% of full capacity. Record the following process parameters at least once every 15 minutes for each individual test run unless otherwise specified, and include in the source test report: • Supplemental natural gas rate (scf/hr), and, • Sulfur plant production rate (long tons/day).
5.8.18 CO	OAC 1201b, Condition 13(B) (3/8/2022)	CO emissions from the Incinerator stack shall not exceed 52.5 lb/hr.	Conduct annual source testing within 13 months of the previous test in accordance with 40 CFR 60 Appendix A, Method 10, or other alternative test methods approved in advance by the NWCAA, NWCAA 367 and NWCAA Appendix A. Testing shall be done under maximum operating rates that are at, or above, 80% of full capacity. Record the following process parameters at least once every 15 minutes for each individual test run unless otherwise specified, and include in the source test report: • Supplemental natural gas rate (scf/hr), and, • Sulfur plant production rate (long tons/day).

5.8.19 HAP	40 CFR 63 Subpart UUU 63.1568(a)(1), (2), (4)(iii), and (c), (7/13/2016) which references 40 CFR Subpart Ja 60.102a(f)(1) (7/13/2016), 63.1572(a), (c) and (d) and 63.1576(a), (b), (d), (e), (g)-(i) (11/26/2018), Table 29 Line 1a, Table 30 Lines 1 and 6, Table 34 Line 1a, and Table 35 Lines 1, 5a and 5b, Table 40 Line 5, Table 41 Lines 9 and 10 (12/1/2015)	<u>Refinery MACT II – Organic HAP Emissions</u> Meet a SO₂ limit of 250 ppmvd at 0% excess air for any discharge from a Claus sulfur recovery unit on a 12-hour rolling average. This limit shall be in effect at all times except periods of startup and shutdown. During periods of startup or shutdown, send any startup or shutdown purge gases to: • A flare that meets the requirements of 63.670, or, • A thermal oxidizer or incinerator operated at a minimum hourly average temperature of 1,200 degrees Fahrenheit in the firebox and a minimum hourly average outlet O₂ concentration of 2 volume percent, dry basis.	Install, operate, & maintain air flow meters & instruments to continuously measure oxygen concentration in Claus burners. Install, operate & maintain a continuous monitoring system to measure SO₂ emissions & O₂ for correcting data for excess air from each exhaust stack. Collect hourly average SO₂ (dry basis) & percent excess air data; determine & record each 12-hour rolling average concentration of SO₂. SO₂ CEMS & O₂ monitor shall be operated in accordance with 40 CFR 60 Appendix B Performance Specification 2 using a span value of two times the limit at highest O₂ concentration; use Methods 6 or 6C (40 CFR 60 Appendix A-4) for certifying SO₂ monitor & Methods 3A or 3B (40 CFR 60 Appendix A-2) for certifying O₂ monitor; & Procedure 1 (40 CFR 60 Appendix F) except relative accuracy test audits are required annually instead of quarterly. CEMS shall be operated in accordance with 40 CFR 60 Subparts A & J, Appendix F, & NWCAA 367 & NWCAA Appendix A. Install, operate, & maintain a continuous parameter monitoring system to measure & record temperature in combustion zone & oxygen content of exit gas stream. Determine & record hourly average & daily average combustion zone temperature & O₂ content during periods of startup & shutdown. Conduct calibration checks at least annually; following any period of more than 24 hours throughout which sensor reading exceeds manufacturer's specified max operating range or install a new sensor; at least quarterly, inspect all components for integrity & all electrical connections for continuity/oxidation/corrosion; & record results of each calibration & inspection. Keep records of time, date & duration of each startup or shutdown when alternate work practices standards were used to comply. Except for monitoring malfunctions, associated repairs, & required QA/QC activities, conduct all monitoring in continuous operation at all times source is operating. Do not use data recorded during required QA/QC activities for fulfilling minimum data availability requirements. Use data collected during all other periods to assess control device & associated control system. Submit semiannual MACT reports listing any deviations from emission limitations or alternate work practices (or a statement declaring there were none), any continuous emission monitoring systems that were inoperative, inactive, out-of-control, repaired or adjusted; & a copy of any CEMS performance evaluation data conducted, unless previously submitted.
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Sulfur Recovery Complex			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
#2 Tail Gas Unit (25)			
Note: 40 CFR 60 and 63 General Provisions included in Section 3 apply to these affected facilities.			
5.8.20 General	OAC 1201b, Condition 1 (3/8/2022)	Supplemental fuel gas combusted in the #2 Tail Gas Unit is limited to natural gas.	<i>Directly Enforceable</i> Certify annually that only approved fuels were combusted as supplemental fuel in the #2 TGU.
5.8.21 VE	OAC 1201b, Condition 2 (3/8/2022)	Visual emissions from the #2 TGU Stack shall not exceed 10% opacity for more than three aggregated minutes in any consecutive 60-minute period (Method 9A).	<i>Directly Enforceable</i> Conduct MR&R in accordance with AOP Term 6.1.
5.8.22 SO ₂	OAC 1201b, Condition 6 (3/8/2022)	SO ₂ emissions from the #2 TGU Stack shall not exceed 24.0 lb/hour.	Conduct annual source testing within 13 months of the previous test in accordance with 40 CFR 60 Appendix A, Method 6C, or other alternative test methods approved in advance by the NWCAA, NWCAA 367 and NWCAA Appendix A. Testing shall be done under maximum operating rates that are at, or above, 80% of full capacity. Record the following process parameters at least once every 15 minutes for each individual test run unless otherwise specified, and include in the source test report: • Supplemental natural gas rate (scf/hr), and, • Sulfur plant production rate (long tons/day).
5.8.23 SO ₂	BART Order #7836 Rev. 2, Condition 4.1.1.1, 4.1.1.2, 4.1.1.3 (5/13/2015) OAC 1201b, Condition 3 (3/8/2022)	Except as provided under AOP Term 5.8.24, SO ₂ from the #2 TGU stack shall not exceed any of the following: a. 250 ppm by volume, dry basis, corrected to zero percent oxygen, based on a 12-hour rolling average. The 12-hour rolling average shall be calculated based on corrected hourly averages for the twelve, most recent, consecutive clock hours (BACT limit) b. 1,500 ppm by volume, dry basis, corrected to zero percent oxygen, based on a one-hour average.	Operate a CEMS to continuously monitor SO ₂ & O ₂ concentrations in the #2 TGU stack in accordance with NWCAA 367, NWCAA Appendix A, and 40 CFR 60 Appendices B and F. Any one-hour average that is invalidated due to the CEM exceeding its upper range or invalidated due to inactivating the CEM when SO ₂ concentrations are over the 1,500 ppm limit is considered prima-facie evidence that that limit has been exceeded.

Sulfur Recovery Complex			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.8.24 SO ₂	OAC 1201b, Condition 4 (3/8/2022)	<u>Startup and Shutdown</u> The SO ₂ BACT limit of 250 ppm, 12-hr-rolling average in AOP Term 5.8.23 does not apply during startup and shutdown events as defined in 40 CFR 63.2.	During startup and shutdown events, send any startup or shutdown purge gases to a thermal oxidizer or incinerator operated at a minimum hourly average temperature of 1,200 degrees Fahrenheit in the firebox and a minimum hourly average outlet oxygen (O ₂) concentration of two volume percent (dry basis).

5.8.25 HAP	40 CFR 63 Subpart UUU 63.1568(a)(1), (2), (4)(iii), and (c), (7/13/2016) which references 40 CFR Subpart Ja 60.102a(f)(1) (7/13/2016), 63.1572(a), (c) and (d) and 63.1576(a), (b), (d), (e), (g)-(i) (11/26/2018), Table 29 Line 1a, Table 30 Lines 1 and 6, Table 34 Line 1a, and Table 35 Lines 1, 5a and 5b, Table 40 Line 5, Table 41 Lines 9 and 10 (12/1/2015)	<u>Refinery MACT II – Organic HAP Emissions</u> Meet a SO₂ limit of 250 ppmvd at 0% excess air, or a concentration determined using Equation 1 of 60.102a(f)(1)(i), for any discharge from a Claus sulfur recovery unit on a 12-hour rolling average. During periods of startup or shutdown, send any startup or shutdown purge gases to: • A flare that meets the requirements of 63.670, or, • A thermal oxidizer or incinerator operated at a minimum hourly average temperature of 1,200 degrees Fahrenheit in the firebox and a minimum hourly average outlet O₂ concentration of 2 volume percent, dry basis.	Install, operate, & maintain air flow meters & instruments to continuously measure oxygen concentration in Claus burners. Install, operate & maintain a continuous monitoring system to measure SO₂ emissions & O₂ for correcting data for excess air from each exhaust stack. Collect hourly average SO₂ (dry basis) & percent excess air data; determine & record each 12-hour rolling average concentration of SO₂. SO₂ CEMS & O₂ monitor shall be operated in accordance with 40 CFR 60 Appendix B Performance Specification 2 using a span value of two times the limit at highest O₂ concentration; use Methods 6 or 6C (40 CFR 60 Appendix A-4) for certifying SO₂ monitor & Methods 3A or 3B (40 CFR 60 Appendix A-2) for certifying O₂ monitor; & Procedure 1 (40 CFR 60 Appendix F) except relative accuracy test audits are required annually instead of quarterly. CEMS shall be operated in accordance with 40 CFR 60 Subparts A & J, Appendix F, & NWCAA 367 & NWCAA Appendix A. Install, operate, & maintain a continuous parameter monitoring system to measure & record temperature in combustion zone & oxygen content of exit gas stream. Determine & record hourly average & daily average combustion zone temperature & O₂ content during periods of startup & shutdown. Conduct calibration checks at least annually; following any period of more than 24 hours throughout which sensor reading exceeds manufacturer's specified max operating range or install a new sensor; at least quarterly, inspect all components for integrity & all electrical connections for continuity/oxidation/corrosion; & record results of each calibration & inspection. Keep records of time, date & duration of each startup or shutdown when alternate work practices standards were used to comply. Except for monitoring malfunctions, associated repairs, & required QA/QC activities, conduct all monitoring in continuous operation at all times source is operating. Do not use data recorded during required QA/QC activities for fulfilling minimum data availability requirements. Use data collected during all other periods to assess control device & associated control system. Submit semiannual MACT reports listing any deviations from emission limitations or alternate work practices (or a statement declaring there were none), any continuous emission monitoring systems that were inoperative, inactive, out-of-control, repaired or adjusted; & a copy of any CEMS performance evaluation data conducted, unless previously submitted.
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Sulfur Recovery Complex			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
Elemental Sulfur Pits and Storage Tanks			
Note: 40 CFR 63 General Provisions included in Section 3 apply to these affected facilities.			
5.8.26 SO ₂	40 CFR Subpart Ja 60.102a(f)(3) (7/13/2016)	Emissions from the elemental sulfur storage pits shall be controlled through a closed vent system routed to a device capable of meeting the emission limits of 40 CFR 60 Subpart Ja (250 ppm SO ₂ corrected to 0% O ₂ based on 12-hour rolling average). This emission limit does not apply during periods of sulfur pit maintenance not to exceed 240 periods per year.	Operate a CEMS to continuously monitor SO ₂ & O ₂ concentrations in the Incinerator and #2 TGU stacks in accordance with NWCAA 367, NWCAA Appendix A, and 40 CFR 60 Appendices B and F. During periods of sulfur pit maintenance (not to exceed 240 hours per year), record time periods during which sulfur pit vents were not controlled and measures taken to minimize emissions during these periods. Examples of these measures include not adding fresh sulfur or shutting off vent fans.
5.8.27 SO ₂	OAC 1201b, Condition 8 and 12 (3/8/2022)	Emissions from the elemental sulfur storage pits shall be controlled through a closed vent system routed to a device capable of meeting the emission limits of AOP Term 5.8.14. During periods of maintenance, measures shall be taken to minimize emissions during periods for which the sulfur pit vents were not controlled.	During periods when the Incinerator is taken off-line for maintenance and emissions from the sulfur pits and sulfur tank are no longer routed to the CEM equipped Incinerator stack, the following monitoring plan shall be utilized to determine emissions from the sulfur pits: Once per shift, measure and record the vented scrubber overhead stack emissions, as appropriate, with a colorimetric detector tube to determine H ₂ S and SO ₂ concentrations in the vented gas. At least once per shift maintain records to demonstrate that sulfur pit emissions are being collected and treated. Report total mass emissions of H ₂ S and SO ₂ in monthly emissions reports during periods when this monitoring plan is utilized. Record the time periods during which the sulfur pit vents were not controlled and describe measures that were taken to minimize emissions during these periods.

Sulfur Recovery Complex			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
Sour Water Unit – Components in VOC/HAP Service			
Note: 40 CFR 60 General Provisions included in Section 3 apply to these affected facilities.			
5.8.28 VOC/ HAP	OAC 1043, Condition 1 (5/29/2009) 40 CFR 63 Subpart CC 63.640(p)(2) (2/4/2020) which references 40 CFR 60 Subpart GGGa (6/2/2008)	<u>MACT and BACT for Equipment Leaks</u> Monitor components in HAP service for leaks, repair leaks in a timely manner, and report results semi-annually in accordance with 40 CFR 60 Subpart VVa, except that pressure relief devices in organic HAP service must only comply with the requirements in 63.648(j). Applicable components include pumps, compressors, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, or instrumentation system as defined in this section.	Conduct a LDAR program in accordance with AOP Section 6.4.
5.8.29 HAP	40 CFR 63 Subpart CC 63.648(j) and 63.655(g) (2/4/2020)	<u>Refinery MACT for Pressure Relief Devices</u> Except during a pressure release, operate, monitor, repair as necessary, and report results semiannually for each pressure relieve device (PRD) in organic HAP gas or vapor service in accordance with 40 CFR 63 Subpart CC. Conduct a root cause analysis (RCA) and corrective action analysis (CAA) as required after a pressure release to atmosphere.	Conduct MR&R in accordance with AOP Section 6.6.

5.9. #1 Diesel HDS Unit

Table 5-9 #1 Diesel HDS Unit

#1 Diesel HDS Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
#1 Diesel HDS Charge Heater (13-1401)			
Note: 40 CFR 60 and 63 General Provisions included in Section 3 apply to these affected facilities.			
5.9.1 General	OAC 1054, Condition 3 (4/12/2012) WAC 173-401-615(1)(b) & (c) (10/17/2002)	#1 Diesel HDS Charge Heater shall combust gaseous fuel only.	<i>Directly Enforceable</i> Certify annually that only approved fuels were combusted in the heater in accordance with AOP Term 2.4.1.
5.9.2 General	OAC 949c Condition 1 (6/3/2021) WAC 173-401-615(1)(b) & (c) (10/17/2002)	Fuel combusted in the #1 Diesel HDS Charge Heater is limited to natural gas and refinery fuel gas.	
5.9.3 VE	OAC 949c Condition 2 (6/3/2021) WAC 173-401-615(1)(b) & (c) (10/17/2002)	Visual emissions from the #1 Diesel HDS Charge Heater shall not exceed 5% for more than three aggregated minutes in any consecutive 60-minute period (Method 9A).	<i>Directly Enforceable</i> Conduct MR&R in accordance with AOP Term 6.1.
5.9.4 PM & SO ₂	OAC 211c Conditions 1(h) and 2 (9/18/2012)	<u>Cumulative Particulate and SO₂ limit</u> The 17 affected emission units shall not exceed: • Particulate: 60 tons/calendar month • SO₂: 2,354 lb/hour, calendar month average	Conduct MR&R in accordance with AOP Term 6.2.

#1 Diesel HDS Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.9.5 SO ₂	BART Order #7836 Rev. 2, Condition 3.2 (5/13/2015) NWCAA ACO 05 (10/25/2012) which references 40 CFR 60 Subpart J 60.104(a)(1) (6/24/2008), 60.105(a)(4), 60.105(e)(3)(ii) (12/1/2015), and 60.106(e) (9/12/2012) WAC 173-401-630(1) (3/5/2016)	<u>NSPS for Refinery Fuel Gas</u> H ₂ S in the fuel gas shall not exceed 162 ppmvd (230 mg/dscm), 3-hour rolling average.	Operate a CEMS to continuously monitor H ₂ S in the fuel gas from the main mix drum in accordance with 40 CFR 60 Subpart J, 40 CFR 60 Appendices B and F, NWCAA 367 and NWCAA Appendix A. The span value for the CEMS is 300 ppmvd (425 mg/dscm) H ₂ S. Use Performance Specification 7 to evaluate CEMS performance under 60.13(c). Follow EPA Method 11, 15, 15A, or 16 to conduct relative accuracy evaluations. <i>Directly Enforceable</i> Report monthly the highest 3-hour rolling average ppmvd H ₂ S in the refinery fuel gas from the main mix drum.
5.9.6 NO _x	BART Order #7836 Rev. 2, Condition 2.4.1 (5/13/2015) OAC 949c Condition 3 (6/3/2021)	NO _x emissions from the #1 Diesel HDS Charge Heater shall not exceed: 0.040 lb/MMBtu (HHV), 24-hour rolling average If this emission limit is exceeded, the following shall be used to determine compliance. 1.9 lb/hour, 24-hour rolling average	Operate CEMS to continuously monitor NO _x & O ₂ concentrations in the #1 Diesel HDS Charge Heater in accordance with NWCAA 367, NWCAA Appendix A, and 40 CFR 60 Appendices B and f.
5.9.7 NO _x	OAC 949c Condition 7 (6/3/2021)	An operating and maintenance (O&M) manual shall be maintained on-site for the #1 Diesel HDS Charge Heater that includes information on operation and maintenance of ULNB.	Keep operating and maintenance manuals on-site for the #1 Diesel HDS Charge Heater.

#1 Diesel HDS Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.9.8 CO	OAC 949c Condition 4 (6/3/2021) WAC 173-401-630(1) (3/5/2016)	CO emissions from the #1 Diesel HDS Charge Heater shall not exceed: 3.2 lb/hour	Conduct a source test at least once every three years and within 37 months of the previous test. If three consecutive source tests demonstrate emissions of 50% or less than the limit in this condition, source testing frequency may be reduced to once every five years, and within 61 months of the previous source test. If a source test demonstrates emissions are greater than 50% of the limit in this condition, source testing frequency must revert back to once every three years and within 37 months of the previous test until three consecutive tests demonstrate emissions of 50% or less than the limit. Fire the heater at a load that is representative of normal operations at the time of the test. Use the average of three test runs executed in accordance with test methods 1, 2, 3A, 4, and 10 of 40 CFR 60 Appendix A in conjunction with NWCAA 367, and NWCAA Appendix A. NWCAA must approve any proposed alternative test methods in advance. Record the following process parameters at least once every 15-minutes for each individual test run unless otherwise specified below, and include it in the performance test report: - Fuel flow, in Mscfh, - Fuel gas HHV in Btu/scf, sampled once on the day of the test, - Firing rate, in MMBtu/hr, and, - Stack flow rate, in dry Mscf/hr. <i>Directly Enforceable</i> 40 CFR 60 Appendix A, Method 10B may be used in lieu of Method 10.

#1 Diesel HDS Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.9.9 HAP	40 CFR 63 Subpart DDDDD 63.7500 (1/31/2013)	<u>Major Source Boiler MACT</u> Comply with 40 CFR 63 Subpart DDDDD for boilers and process heaters.	Conduct MR&R in accordance with AOP Section 6.5.
#1 Diesel HDS Stabilizer Reboiler (13-1402)			
Note: 40 CFR 60 and 63 General Provisions included in Section 3 apply to these affected facilities.			
5.9.10 General	OAC 1054, Condition 3 (4/12/2012) WAC 173-401-615(1)(b) & (c) (10/17/2002)	#1 Diesel HDS Stabilizer Reboiler shall combust gaseous fuel only.	<i>Directly Enforceable</i> Certify annually that only approved fuels were combusted in the reboiler in accordance with AOP Term 2.4.1.
5.9.11 General	OAC 949c, Condition 1 (6/3/2021) WAC 173-401-615(1)(b) & (c) (10/17/2002)	Fuel combusted in the #1 Diesel HDS Stabilizer Reboiler shall be limited to natural gas and refinery fuel gas.	
5.9.12 VE	OAC 949c, Condition 2 (6/3/2021) WAC 173-401-615(1)(b) & (c) (10/17/2002)	Visual emissions from the #1 Diesel HDS Stabilizer Reboiler shall not exceed 5% for more than three aggregated minutes in any consecutive 60-minute period (Method 9A).	<i>Directly Enforceable</i> Conduct MR&R in accordance with AOP Term 6.1.
5.9.13 PM & SO ₂	OAC 211c, Conditions 1(i) and 2 (9/18/2012)	<u>Cumulative Particulate and SO₂ limit</u> The 17 affected emission units shall not exceed: • Particulate: 60 tons/calendar month • SO₂: 2,354 lb/hour, calendar month average	Conduct MR&R in accordance with AOP Term 6.2.

#1 Diesel HDS Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.9.14 SO ₂	BART Order #7836 Rev. 2, Condition 3.2 (5/13/2015) NWCAA ACO 05 (10/25/2012) which references 40 CFR 60 Subpart J 60.104(a)(1) (6/24/2008), 60.105(a)(4), 60.105(e)(3)(ii) (12/1/2015), and 60.106(e) (9/12/2012) WAC 173-401-630(1) (3/5/2016)	<u>NSPS for Refinery Fuel Gas</u> H ₂ S in the fuel gas shall not exceed 162 ppmvd (230 mg/dscm), 3-hour rolling average.	Operate a CEMS to continuously monitor H ₂ S in the fuel gas from the main mix drum in accordance with 40 CFR 60 Subpart J, 40 CFR 60 Appendices B and F, NWCAA 367 and NWCAA Appendix A. The span value for the CEMS is 300 ppmvd (425 mg/dscm) H ₂ S. Use Performance Specification 7 to evaluate CEMS performance under 60.13(c). Follow EPA Method 11, 15, 15A, or 16 to conduct relative accuracy evaluations. <i>Directly Enforceable</i> Report monthly the highest 3-hour rolling average ppmvd H ₂ S in the refinery fuel gas from the main mix drum.
5.9.15 NO _x	BART Order #7836 Rev. 2, Condition 2.4.2 (5/13/2015) OAC 949c, Condition 5 (6/3/2021)	NO _x emissions from the #1 Diesel HDS Stabilizer Reboiler shall not exceed: 26 ppmvd at 7% O₂ based on a 24-hour rolling average If this limit is exceeded, the following shall be used to determine compliance. 2.2 lb/hour based on a 24-hour rolling average.	Operate a CEMS to continuously monitor NO _x & O ₂ concentrations in the Stabilizer Reboiler stack in accordance with NWCAA 367, NWCAA Appendix A, and 40 CFR 60 Appendices B and F.
5.9.16 NO _x	OAC 949c, Condition 7 (6/3/2021)	An operating and maintenance (O&M) manual shall be maintained on-site for the #1 Diesel HDS Stabilizer Reboiler that includes information on operation and maintenance of ULNB.	Keep operating and maintenance manuals on-site for the reboiler.

#1 Diesel HDS Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.9.17 CO	OAC 949c Condition 6 (6/3/2021)	CO emissions from the #1 Diesel HDS Stabilizer Reboiler shall not exceed: 3.8 lb/hour	Conduct a source test at least once every three years and within 37 months of the previous test. If three consecutive source tests demonstrate emissions of 50% or less than the limit in this condition, source testing frequency may be reduced to once every five years, and within 61 months of the previous source test. If a source test demonstrates emissions are greater than 50% of the limit in this condition, source testing frequency must revert back to once every three years and within 37 months of the previous test until three consecutive tests demonstrate emissions of 50% or less than the limit. Fire the reboiler at a load that is representative of normal operations at the time of the test. Use the average of three test runs executed in accordance with test methods 1 through 4, and 10 of 40 CFR 60 Appendix A in conjunction with NWCAA 367, and NWCAA Appendix A. NWCAA must approve any proposed alternative test methods in advance. Record the following process parameters at least once every 15-minutes for each individual test run unless otherwise specified below, and include it in the performance test report: - Fuel flow, in Mscfh, - Fuel gas HHV in Btu/scf, sampled once on the day of the test, - Firing rate, in MMBtu/hr, and, - Stack flow rate, in dry Mscf/hr.
5.9.18 HAP	40 CFR 63 Subpart DDDDD 63.7500 (1/31/2013)	<u>Major Source Boiler MACT</u> Comply with 40 CFR 63 Subpart DDDDD for boilers and process heaters.	Conduct MR&R in accordance with AOP Section 6.5.

#1 Diesel HDS Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
#1 Diesel HDS – Process Vents			
Note: 40 CFR 63 General Provisions included in Section 3 apply to these affected facilities.			
5.9.19 HAP	40 CFR 63 Subpart CC 63.643(a) (2/4/2020)	<u>Refinery MACT I – Group 1 Process Vents</u> Control HAP emissions from applicable vents by using a flare that meets the requirements of 63.670 or a control device that achieves an emission reduction of 98% mass or to 20 ppmv corrected to 3% O ₂ . This does not apply to catalyst regeneration vents or to emission points routed to a fuel gas system, provided all flares that receive fuel gas from that system are subject to 63.670, per 63.640(d)(4)-(5). Process vents may be designated as maintenance vents if the vent is used only as a result of startup, shutdown, maintenance, or inspection of equipment where equipment is emptied, depressurized, degassed, or placed into service, per 63.643(c), and the vent must comply with applicable requirements in 63.643(c)(1)-(3).	Conduct MR&R in accordance with AOP Terms 5.14.6 through 5.14.12 (flares).

#1 Diesel HDS Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
#1 Diesel HDS - Equipment in HAP Service			
Note: 40 CFR 63 General Provisions included in Section 3 apply to these affected facilities.			
5.9.20 HAP	40 CFR 63 Subpart CC 63.648 (2/4/2020) which references 40 CFR 60 Subpart VV (6/2/2008)	<u>MACT for Equipment Leaks</u> Monitor components in HAP service for leaks, repair leaks in a timely manner, and report results semi-annually in accordance with 40 CFR 60 Subparts VV, except that pressure relief devices in organic HAP service must comply with the requirements in 63.648(j). If a flare is used as a control device, the flare shall meet the requirements of 63.670. Applicable components include pumps, valves, pressure relief devices, sampling systems, open-ended lines, flanges, and connectors. Affected facilities may include individual compressors.	Conduct a LDAR program in accordance with AOP Section 6.3.
5.9.21 HAP	40 CFR 63 Subpart CC 63.648(j) and 63.655(g) (2/4/2020)	<u>Refinery MACT for Pressure Relief Devices</u> Except during a pressure release, operate, monitor, repair as necessary, and report results semiannually for each pressure relieve device (PRD) in organic HAP gas or vapor service in accordance with 40 CFR 63 Subpart CC. Conduct a root cause analysis (RCA) and corrective action analysis (CAA) as required after a pressure release to atmosphere.	Conduct MR&R in accordance with AOP Section 6.6.
#1 Diesel HDS – Heater Reliability Project - Valves in VOC/HAP Service			
5.9.22 VOC/ HAP	OAC 949c Condition 8 (6/3/2021)	<u>BACT for Equipment Leaks</u> Valves that have the potential to leak VOC or HAP associated with the #1 DHDS Heater Reliability Project are subject to a LDAR program consistent with 40 CFR 60 Subpart VV, enhanced as follows. The leak definition for block valves and control valves is 500 ppm.	Conduct a LDAR program in accordance with AOP Section 6.3, except: - Repair and remonitor leaks greater than the leak definition in the OAC, but less than the regulatory leak definition of applicable portions of 40 CFR 63 Subpart CC, within 30 days. - Monitoring instrument calibration and drift requirements are consistent with those in 40 CFR 60 Subpart VVa.

5.10. #2 Diesel HDS Unit

Table 5-10 #2 Diesel HDS Unit

#2 Diesel HDS Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
#2 Diesel HDS Charge Heater (26-1401)			
Note: 40 CFR 60 and 63 General Provisions included in Section 3 apply to these affected facilities.			
5.10.1 General	OAC 892d, Condition 1 (6/3/2021) WAC 173-401-615(1)(b) & (c) (10/17/2002)	Fuel combusted in the #2 Diesel HDS Charge Heater is limited to natural gas and refinery fuel gas.	<i>Directly Enforceable</i> Certify annually that only approved fuels were combusted in the heater.
5.10.2 General	OAC 892d, Condition 2 (6/3/2021)	Heat input to the #2 Diesel HDS Charge Heater shall not exceed 35 MMBtu/hr HHV on a 720-hr rolling average.	Maintain a record of the 720-hr rolling average heat input in MMBtu/hr (HHV) to the heater.
5.10.3 VE	OAC 892d, Condition 3 (6/3/2021) WAC 173-401-615(1)(b) & (c) (10/17/2002)	Visual emissions from the #2 Diesel HDS Charge Heater shall not exceed 5% for more than three aggregated minutes in any consecutive 60-minute period (Method 9A).	<i>Directly Enforceable</i> Conduct MR&R in accordance with AOP Term 6.1.

#2 Diesel HDS Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.10.4 SO ₂	40 CFR 60 Subpart J 60.104(a)(1) (6/24/2008), 60.105(a)(4), 60.105(e)(3)(ii) (12/1/2015), and 60.106(e) (9/12/2012) WAC 173-401-630(1) (3/5/2016)	<u>NSPS for Refinery Fuel Gas</u> H ₂ S in the fuel gas shall not exceed 162 ppmvd (230 mg/dscm), 3-hour rolling average.	Operate a CEMS to continuously monitor H ₂ S in the fuel gas from the main mix drum in accordance with 40 CFR 60 Subpart J, 40 CFR 60 Appendices B and F, NWCAA 367 and NWCAA Appendix A. The span value for the CEMS is 300 ppmvd (425 mg/dscm) H ₂ S. Use Performance Specification 7 to evaluate CEMS performance under 60.13(c). Follow EPA Method 11, 15, 15A, or 16 to conduct relative accuracy evaluations. <i>Directly Enforceable</i> Report monthly the highest 3-hour rolling average ppmvd H ₂ S in the refinery fuel gas from the main mix drum.
5.10.5 SO ₂	OAC 892d, Condition 4 (6/3/2021) WAC 173-401-630(1) (3/5/2016)	<u>BACT for Fuel Gas</u> Fuel gas combusted in the #2 Diesel HDS Charge Heater shall not exceed any of the following: • 162 ppm H₂S, 3-hour rolling average • 50 ppm H₂S, 24-hour rolling average	
5.10.6 NO _x	OAC 892d, Condition 7 (6/3/2021)	An operating and maintenance manual that contains O&M information on the ultra-low NO _x burners shall be maintained on site.	Maintain O&M manual for the ULNB on-site.

# 2 Diesel HDS Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.10.7 NOx	OAC 892d, Condition 5 (6/3/2021)	NOx emissions from the #2 Diesel HDS Charge Heater shall not exceed: 0.035 lb/MMBtu	Conduct an annual source test within 13 months of the previous test. Fire the heater at a load that is both representative of normal operations at the time of the test, and that is the maximum firing rate that is reasonably achievable given the current unit operating conditions. Use test methods 1 through 4, and 7E of 40 CFR 60 Appendix A in conjunction with NWCAA 367, and NWCAA Appendix A. NWCAA must approve any proposed alternative test methods in advance. Record the following process parameters at least once every 15-minutes for each individual test run unless otherwise specified below, and include it in the performance test report: - Fuel flow, in Mscfh, - Fuel gas HHV in Btu/scf, sampled once on the day of the test, - Firing rate, in MMBtu/hr, and, - Stack flow rate, in dry Mscf/hr.

#2 Diesel HDS Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.10.8 CO	OAC 892d, Condition 6 (6/3/2021)	CO emissions from the #2 DHDS Charge Heater shall not exceed: 70 ppmvd at 7% O₂	Conduct a source test within 13 months of the previous test. If three consecutive source tests demonstrate emissions of 50% or less than the limit in this condition, source testing frequency may be reduced to once every five years, and within 61 months of the previous source test. If a source test demonstrates emissions are greater than 50% of the limit in this condition, source testing frequency must revert to once every 13 months until three consecutive tests demonstrate emissions of 50% or less than the limit. Fire the heater at a load that is representative of normal operations at the time of the test. Use the average of three test runs executed in accordance with test methods 1 through 4, and 10 of 40 CFR 60 Appendix A in conjunction with NWCAA 367, and NWCAA Appendix A. NWCAA must approve any proposed alternative test methods in advance. Record the following process parameters at least once every 15-minutes for each individual test run unless otherwise specified below, and include it in the performance test report: - Fuel flow, in Mscfh, - Fuel gas HHV in Btu/scf, sampled once on the day of the test, - Firing rate, in MMBtu/hr, and, - Stack flow rate, in dry Mscf/hr.
5.10.9 HAP	40 CFR 63 Subpart DDDDD 63.7500 (1/31/2013)	<u>Major Source Boiler MACT</u> Comply with 40 CFR 63 Subpart DDDDD for boilers and process heaters.	Conduct MR&R in accordance with AOP Section 6.5.

#2 Diesel HDS Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
#2 Diesel HDS - Equipment in VOC Service			
Note: 40 CFR 60 General Provisions included in Section 3 apply to these affected facilities			
5.10.10 VOC	40 CFR 60 Subpart GGG 60.590-60.593 (6/2/2008) which references 40 CFR 60 Subpart VV (6/2/2008)	<u>NSPS for Equipment Leaks</u> Monitor components in VOC service for leaks, repair leaks in a timely manner, and report results semi-annually in accordance with 40 CFR 60 Subparts VV. Applicable components include pumps, valves, pressure relief devices, sampling systems, open-ended lines, flanges, and connectors. Affected facilities may include individual compressors.	Conduct a LDAR program in accordance with AOP Section 6.3.
#2 Diesel HDS - Equipment in HAP Service			
Note: 40 CFR 63 General Provisions included in Section 3 apply to these affected facilities			
5.10.11 HAP	40 CFR 63 Subpart CC 63.648 (2/4/2020) which references 40 CFR 60 Subpart VV (6/2/2008)	<u>MACT for Equipment Leaks</u> Monitor components in HAP service for leaks, repair leaks in a timely manner, and report results semi-annually in accordance with 40 CFR 60 Subparts VV, except that pressure relief devices in organic HAP service must comply with the requirements in 63.648(j). If a flare is used as a control device, the flare shall meet the requirements of 63.670. Applicable components include pumps, valves, pressure relief devices, sampling systems, open-ended lines, flanges, and connectors. Affected facilities may include individual compressors.	Conduct a LDAR program in accordance with AOP Section 6.3.
5.10.12 HAP	40 CFR 63 Subpart CC 63.648(j) and 63.655(g) (2/4/2020)	<u>Refinery MACT for Pressure Relief Devices</u> Except during a pressure release, operate, monitor, repair as necessary, and report results semiannually for each pressure relieve device (PRD) in organic HAP gas or vapor service in accordance with 40 CFR 63 Subpart CC. Conduct a root cause analysis (RCA) and corrective action analysis (CAA) as required after a pressure release to atmosphere.	Conduct MR&R in accordance with AOP Section 6.6.

#2 Diesel HDS Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
#2 Diesel HDS - Heater Reliability Project - Components in VOC/HAP Service			
5.10.13 VOC/ HAP	OAC 892d, Condition 8 (6/3/2021)	<u>BACT for Equipment Leaks</u> Valves that have the potential to leak VOC or HAP associated with the Heater Reliability Project are subject to a LDAR program consistent with 40 CFR 60 Subpart GGG, enhanced as follows. • The leak definition for block valves and control valves is 500 ppm. • The leak definition for pumps is 2,000 ppm.	Conduct a LDAR program in accordance with AOP Section 6.3, except: • Repair and remonitor leaks greater than the leak definition in the OAC, but less than the regulatory leak definition of applicable portions of 40 CFR 63 Subpart CC, within 30 days. • Monitoring instrument calibration and drift requirements are consistent with those in 40 CFR 60 Subpart VVa.
#2 Diesel HDS – Process Vents			
Note: 40 CFR 63 General Provisions included in Section 3 apply to these affected facilities			
5.10.14 HAP	40 CFR 63 Subpart CC 63.643(a) (2/4/2020)	<u>Refinery MACT I – Group 1 Process Vents</u> Control HAP emissions from applicable vents by using a flare that meets the requirements of 63.670 or a control device that achieves an emission reduction of 98% mass or to 20 ppmv corrected to 3% O ₂ . This does not apply to catalyst regeneration vents or to emission points routed to a fuel gas system, provided all flares that receive fuel gas from that system are subject to 63.670, per 63.640(d)(4)-(5). Process vents may be designated as maintenance vents if the vent is used only as a result of startup, shutdown, maintenance, or inspection of equipment where equipment is emptied, depressurized, degassed, or placed into service, per 63.643(c), and the vent must comply with applicable requirements in 63.643(c)(1)-(3).	Conduct MR&R in accordance with AOP Terms 5.14.6 through 5.14.12 (flares).

5.11. #3 Diesel HDS Unit

Table 5-11 #3 Diesel HDS Unit

#3 Diesel HDS Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
#3 Diesel HDS Charge Heater (27-1401)			
Note: 40 CFR 60 and 63 General Provisions included in Section 3 apply to these affected facilities.			
5.11.1 General	PSD-10-01 A1, Condition 9 (1/24/2022) OAC 1064b, Condition 19 (3/8/2022) WAC 173-401-615(1)(b) & (c) (10/17/2002)	Fuel combusted in the #3 DHDS Charge Heater is limited to natural gas and refinery fuel gas.	<i>Directly Enforceable</i> Certify annually that only approved fuels were combusted in the heater.
5.11.2 General	PSD-10-01 A1, Conditions 10 and 14 (1/24/2022) OAC 1064b, Conditions 20 and 29a (3/8/2022)	Heat input to the #3 DHDS Charge Heater shall not exceed 28 MMBtu/hr HHV, based on a 365-day rolling average.	Maintain the following records of the HHV heat input rate to the #3 DHDS Charge Heater: • MMBtu/hour, hourly average • MMBtu/hour, daily average • MMBtu/hour, 365-day rolling average
5.11.3 VE	OAC 1064b, Condition 21 (3/8/2022) WAC 173-401-615(1)(b) & (c) (10/17/2002)	Visible emissions from the #3 DHDS Charge Heater shall not exceed five percent opacity for more than three minutes in any consecutive 60-minute period (Method 9A).	<i>Directly Enforceable</i> Conduct MR&R in accordance with AOP Term 6.1.

#3 Diesel HDS Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.11.4 PM ₁₀	PSD-10-01 A1, Conditions 11, 12 and 13 (1/24/2022) WAC 173-401-630(1) (3/5/2016)	PM ₁₀ (filterable and condensable) emissions from the #3 DHDS Charge Heater shall not exceed any of the following: • 0.28 lb/hr • 0.010 lb/MMBtu	Compliance shall be determined by the average of three test runs using 40 CFR 60 Appendix A, Method 5 (filterable) and 40 CFR 51 Appendix M Method 202 (condensable), or alternative test method approved in advance by the NWCAA. Testing shall be conducted within 37 months of the previous testing date. Testing shall be performed while operating the heater at an average firing rate that is as close to its rated capacity as practicable. If this is less than 90% of the rated capacity, the reason shall be explained in the test report. A typical mix of fuel shall be burned during the test. This mix shall be listed in the source test plan. A test plan shall be submitted to NWCAA for approval at least 30 days prior to performance testing. <i>Directly enforceable</i> Record the following process parameters at least once every 15-minutes for each individual test run unless otherwise specified below, and include it in the performance test report: • Fuel flow, in Mscfh, • Fuel gas HHV in Btu/scf, sampled once on the day of the test, and, • Firing rate, in MMBtu/hr.

#3 Diesel HDS Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.11.5 PM _{2.5}	OAC 1064b, Conditions 23 and 27 (3/8/2022)	PM_{2.5} (filterable and condensable) emissions from the #3 DHDS Charge Heater shall not exceed any of the following: • 0.28 lb/hr • 0.010 lb/MMBtu	Compliance shall be determined by the average of three test runs. Testing shall be conducted in accordance with NWCAA Section 367, Appendix A, and 40 CFR 60 Appendix A Methods 5 and 202 unless an alternative method is approved in advance by the NWCAA. Testing shall be conducted within 37 months of the most recent test. Testing shall be performed while operating the heater at a firing rate that is as close to its rated capacity as practicable. If this is less than 90% of the rated capacity, the reason shall be explained in the test report. Record the following process parameters at least once every 15-minutes for each individual test run unless otherwise specified below, and include it in the performance test report: • Fuel flow, in Mscfh, • Fuel gas HHV in Btu/scf, sampled once on the day of the test, and, • Firing rate, in MMBtu/hr.
5.11.6 SO ₂	OAC 1064b, Condition 22 (3/8/2022)	The H₂S content of fuel combusted in the #3 DHDS Charge Heater shall not exceed: • 50 ppmv, 24-hour rolling average	Operate a CEMS to continuously monitor H₂S in the fuel gas from the main mix drum in accordance with 40 CFR 60 Subpart J, 40 CFR 60 Appendices B and F, NWCAA 367 and NWCAA Appendix A. The span value for the CEMS is 300 ppmv (425 mg/dscm) H₂S. Use Performance Specification 7 to evaluate CEMS performance under 60.13(c). Follow EPA Method 11, 15, 15A, or 16 to conduct relative accuracy evaluations.

#3 Diesel HDS Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.11.7 SO ₂	40 CFR 60 Subpart Ja 60.102a(g)(1)(ii) (7/13/2016) 60.107a(a)(2) (12/1/2015) WAC 173-401-630(1) (3/5/2016)	<u>NSPS for Refinery Fuel Gas</u> H ₂ S in the fuel gas shall not exceed: • 162 ppmvd (230 mg/dscm), 3-hour rolling average • 60 ppmvd, 365 successive calendar day rolling average	Operate a CEMS to continuously monitor H ₂ S in the fuel gas. The CEMS shall meet the requirements of 40 CFR 60 Subpart Ja, 40 CFR 60 Appendices B and F, NWCAA 367 and NWCAA Appendix A. The span value for the CEMS is 300 ppmv H ₂ S. Use Performance Specification 7 to evaluate CEMS performance under 60.13(c). Follow EPA Method 11, 15, 15A, or 16 to conduct relative accuracy evaluations. <i>Directly Enforceable</i> Report monthly the highest 3-hour rolling average ppmvd H ₂ S in the refinery fuel gas from the main mix drum.
5.11.8 SO ₂	OAC 1064b, Conditions 26 and 29b (3/8/2022)	SO ₂ emissions from the #3 DHDS Charge Heater shall not exceed any of the following: • 3.04 lb/hour • 0.11 lb/MMBtu • 3.2 tons, consecutive 12-month rolling total	Operate a CEMS to continuously monitor total sulfur in the #3 DHDS Charge Heater fuel gas. The CEMS shall meet the performance specification and data quality assurance procedures as approved by NWCAA in writing, NWCAA 367, and NWCAA Appendix A. Assume 100% conversion of total sulfur in fuel gas to SO ₂ after combustion unless an alternative methodology is approved by the NWCAA in writing. Keep a record of SO ₂ emissions from the heater in cumulative tons per each 12-month rolling period.

#3 Diesel HDS Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.11.9 NOx	OAC 1064b, Conditions 24 and 27 (3/8/2022)	NOx emissions from the #3 DHDS Charge Heater shall not exceed any of the following: • 0.98 lb/hour • 0.035 lb/MMBtu	Compliance shall be determined by the average of three test runs. Testing shall be conducted in accordance with NWCAA Section 367, Appendix A, and 40 CFR 60 Appendix A Method 7E unless an alternative method is approved in advance by the NWCAA. Testing shall be conducted within 37 months of the most recent test. Testing shall be performed while operating the heater at a firing rate that is as close to its rated capacity as practicable. If this is less than 90% of the rated capacity, the reason shall be explained in the test report. Record the following process parameters at least once every 15 minutes for each individual test run unless otherwise specified below, and include in the source test report: • Firing rate (MMBtu/hr), • Fuel flow rate (Mscf/hr), and, • Fuel HHV (Btu/scf), sampled once on the day of the test.
5.11.10 NOx	OAC 1064b, Condition 28 (3/8/2022)	An operating and maintenance (O & M) manual for the #3 DHDS Charge Heater ultra-low NOx burners shall be maintained on site.	Maintain an O & M manual for the #3 DHDS Charge Heater ultra-low NOx burners.

#3 Diesel HDS Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.11.11 CO	OAC 1064b, Conditions 25 and 27 (3/8/2022)	CO emissions from the #3 DHDS Charge Heater shall not exceed any of the following: 1.03 lb/hour 0.037 lb/MMBtu	Compliance shall be determined by the average of three test runs. Testing shall be conducted in accordance with NWCAA Section 367, Appendix A, and 40 CFR 60 Appendix A Method 10 unless an alternative method is approved in advance by the NWCAA. Testing shall be conducted within 37 months of the most recent test. Testing shall be performed while operating the heater at a firing rate that is as close to its rated capacity as practicable. If this is less than 90% of the rated capacity, the reason shall be explained in the test report. Record the following process parameters at least once every 15 minutes for each individual test run unless otherwise specified below, and include in the source test report: - Firing rate (MMBtu/hr), - Fuel flow rate (Mscf/hr), and, - Fuel HHV (Btu/scf), sampled once on the day of the test.
5.11.12 HAP	40 CFR 63 Subpart DDDDD 63.7500 (1/31/2013)	<u>Major Source Boiler MACT</u> Comply with 40 CFR 63 Subpart DDDDD for boilers and process heaters.	Conduct MR&R in accordance with AOP Section 6.5.
5.11.13 General	PSD-10-01 A1, Condition 16 (1/24/2022)	<u>O&M Manual</u> Within 90 days of start-up of the #3 DHDS Charge Heater, identify operational parameters and practices that will constitute "good combustion practices." These operational parameters and practices shall be included in an O&M manual for the facility. If a failure to follow the requirements of the manuals results in excess emissions that failure may be considered credible evidence that the event was caused by poor or inadequate operation or maintenance.	Maintain an O&M manual for the #3 DHDS Charge Heater. The O&M manual shall be onsite and available for review by Ecology, NWCAA, or the EPA.

#3 Diesel HDS Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
#3 Diesel HDS – Equipment in VOC Service			
Note: 40 CFR 60 General Provisions included in Section 3 apply to these affected facilities.			
5.11.14 VOC	40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/2008) which references 40 CFR 60 Subpart VVa (6/2/2008)	<u>NSPS for Equipment Leaks</u> Monitor components in VOC service for leaks, repair leaks in a timely manner, and report results semi-annually in accordance with 40 CFR 60 Subpart VVa. Applicable components include pumps, valves, pressure relief devices, sampling systems, open-ended lines, flanges, and connectors. Affected facilities may include individual compressors.	Conduct a LDAR program in accordance with AOP Section 6.4.
#3 Diesel HDS – Equipment in HAP Service			
Note: 40 CFR 63 General Provisions included in Section 3 apply to these affected facilities.			
5.11.15 HAP	40 CFR 63 Subpart CC 63.640(p)(2) (2/4/2020) which references 40 CFR 60 Subpart GGGa (6/2/2008)	<u>MACT for Equipment Leaks</u> Monitor components in HAP service for leaks, repair leaks in a timely manner, and report results semi-annually in accordance with 40 CFR 60 Subpart VVa, except that pressure relief devices in organic HAP service must only comply with the requirements in 63.648(j). Applicable components include pumps, compressors, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, or instrumentation system as defined in this section.	Conduct a LDAR program in accordance with AOP Section 6.4.
5.11.16 HAP	40 CFR 63 Subpart CC 63.648(j) and 63.655(g) (2/4/2020)	<u>Refinery MACT for Pressure Relief Devices</u> Except during a pressure release, operate, monitor, repair as necessary, and report results semiannually for each pressure relieve device (PRD) in organic HAP gas or vapor service in accordance with 40 CFR 63 Subpart CC. Conduct a root cause analysis (RCA) and corrective action analysis (CAA) as required after a pressure release to atmosphere.	Conduct MR&R in accordance with AOP Section 6.6.

#3 Diesel HDS Unit			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
#3 Diesel HDS – Process Vents			
Note: 40 CFR 63 General Provisions included in Section 3 apply to these affected facilities.			
5.11.17 HAP	40 CFR 63 Subpart CC 63.643(a) (2/4/2020)	<u>Refinery MACT I – Group 1 Process Vents</u> Control HAP emissions from applicable vents by using a flare that meets the requirements of 63.670 or a control device that achieves an emission reduction of 98% mass or to 20 ppmv corrected to 3% O₂. This does not apply to catalyst regeneration vents or to emission points routed to a fuel gas system, provided all flares that receive fuel gas from that system are subject to 63.670, per 63.640(d)(4)-(5). Process vents may be designated as maintenance vents if the vent is used only as a result of startup, shutdown, maintenance, or inspection of equipment where equipment is emptied, depressurized, degassed, or placed into service, per 63.643(c), and the vent must comply with applicable requirements in 63.643(c)(1)-(3).	Conduct MR&R in accordance with AOP Terms 5.14.6 through 5.14.12 (flares).

5.12. Calciners and Coke Handling

Table 5-12 #1 and #2 Calciner, #3 Calciner, and Coke Handling

#1 and #2 Calciners			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
#1 and #2 Calciners, Stack #1 (20-70)			
Note: 40 CFR 60 General Provisions included in Section 3 apply to these affected facilities.			
5.12.1 VE	OAC 660b Condition 3 (7/6/2021) OAC 689c Condition 1.1.5 (6/3/2021)	Visual emissions shall not exceed 20% opacity for more than six aggregated minutes in any consecutive 60-minute period (Method 9B).	Conduct MR&R in accordance with AOP Term 6.1 of this permit, except the applicable compliance method is Ecology Method 9B instead of Ecology Method 9A.
5.12.2 PM & SO ₂	OAC 211c Conditions 1(s) and 2 (9/18/2012)	<u>Cumulative Particulate and SO₂ limit</u> The 17 affected emission units shall not exceed: • Particulate: 60 tons/calendar month • SO₂: 2,354 lb/hour, calendar month average	Conduct MR&R in accordance with AOP Term 6.2.
5.12.3 SO ₂	NWCAA ACO 05 (10/25/2012) which references 40 CFR 60 Subpart J 60.104(a)(1) (6/24/2008), 60.105(a)(4), 60.105(e)(3)(ii) (12/1/2015), and 60.106(e) (9/12/2012) WAC 173-401-630(1) (3/5/2016)	<u>NSPS for Refinery Fuel Gas</u> H ₂ S in the fuel gas shall not exceed 162 ppmvd (230 mg/dscm), 3-hour rolling average.	Operate a CEMS to continuously monitor H ₂ S in the fuel gas from the main mix drum in accordance with 40 CFR 60 Subpart J, 40 CFR 60 Appendices B and F, NWCAA 367 and NWCAA Appendix A. The span value for the CEMS is 300 ppmvd (425 mg/dscm) H ₂ S. Use Performance Specification 7 to evaluate CEMS performance under 60.13(c). Follow EPA Method 11, 15, 15A, or 16 to conduct relative accuracy evaluations. <i>Directly Enforceable</i> Report monthly the highest 3-hour rolling average ppmvd H ₂ S in the refinery fuel gas from the main mix drum.

#1 and #2 Calciners			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.12.4 SO ₂	OAC 660b Conditions 2 and 4 (7/6/2021) OAC 689c Conditions 1.1.2, 2.1.2, & 3.1.2, (6/3/2021)	SO ₂ emissions from the #1 and #2 Calciner stack shall not exceed any of the following: • 35 ppmvd at 7% O₂, calendar day average • 175 tons, consecutive 12-month rolling total	Operate a CEMS to continuously monitor SO ₂ & O ₂ concentrations in the #1 and #2 Calciner stack in accordance with NWCAA 367, NWCAA Appendix A, and 40 CFR 60 Appendices B and F. Include in the monthly report: • SO₂ ppmvd at 7% O₂, highest calendar day average, and, • SO₂ tons, consecutive 12-month rolling total.
5.12.5 NO _x	OAC 689c Conditions 1.1.1, 2.1.1 & 3.1.1 (6/3/2021) WAC 173-401-630(1) (3/5/2016)	NO _x emissions from the #1 and #2 Calciner stack shall not exceed any of the following: • 325 ppmvd at 7% O₂, calendar day average • 509 tons, consecutive 12-month rolling total	Operate a CEMS to continuously monitor NO _x & O ₂ in accordance with NWCAA 367, NWCAA Appendix A, and 40 CFR 60 Appendices B and F. Include in monthly report: • NO_x ppmvd at 7% O₂, monthly highest calendar day average. <i>Directly Enforceable</i> Maintain a record of the NO _x tons, consecutive 12-month rolling total.

#1 and #2 Calciners			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.12.6 PM ₁₀	OAC 689c Condition 1.1.3 and 2.1.3 (6/3/2021) 40 CFR 64 CAM (10/22/1997) WAC 173-401-630(1) (3/5/2016)	PM₁₀ emissions from the #1 and #2 Calciner stack shall not exceed: • 34 tons, consecutive 12-month rolling total Operate at least two WESP cells at all times with a secondary voltage greater than 35kV DC and a secondary current greater than 300 milliamps DC. Operate the WESP in accordance with the #1 and #2 Calciner Monitoring Plan dated October 7, 1999. After each maintenance turnaround determine the integrity of the WESP by running an air load test on the WESP and compare variance from testing conducted during original construction.	Maintain a record of: • The WESP system operating configuration (which WESP cells are in operation), • Operational mode (normal, startup, shutdown, hot standby), • Predicted (or measured) actual WESP stack flow (acfm), • Secondary voltages and secondary currents for each operating WESP cell (kV and milliamps), and, • Air load testing results of the WESP following each turnaround. All required WESP operating data shall be recorded at least once every 10 minutes. Report monthly that the WESP was operated at all times with at least two cells with a secondary voltage greater than 35kV DC and a secondary current greater than 300 milliamps DC. <i>Directly Enforceable</i> Maintain a record of the PM₁₀ tons, consecutive 12-month rolling total.

#1 and #2 Calciners			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.12.7 H ₂ SO ₄	OAC 660b Condition 1 (7/6/2021)	H ₂ SO ₄ emissions from the #1 and #2 Calciner stack shall not exceed: 15.0 lb/hour	Conduct source testing within 13 months of the previous test. If three consecutive tests demonstrate emissions of 50% or less than the limits in this condition, source testing frequency may be reduced to once every two years, and within 25 months of the previous source testing date. If a source test demonstrates emissions are greater than 50% of the limit in this condition, source testing frequency shall revert to once every 13 months until three tests demonstrate emissions of 50% or less than the limit. Perform testing in accordance with NWCAA 367 and NWCAA Appendix A, and 40 CFR 60 Appendix A Methods 1, 2, 4 and 8, CTM-13B, or other test method approved in advance by the NWCAA. Record the following process and control device parameters at least once every 15 minutes for each individual test run unless otherwise specified below, and include in the source test report: - Calcined coke production rate (STPH), - WESP operating configuration and operational mode, recorded once for each test run, - Predicted or measured actual WESP stack flow (acfm), and, - WESP secondary voltages and currents (kV and mA, 1-hour average).

#1 and #2 Calciners			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.12.8 H ₂ SO ₄	OAC 689c Conditions 1.1.4 and 2.1.4 (6/3/2021) 40 CFR 64 CAM (10/22/1997) WAC 173-401-630(1) (3/5/2016)	H ₂ SO ₄ emissions from the #1 and #2 Calciner stack shall not exceed: 62 mg/dscm at 7% O₂, calendar day average 39 tons, consecutive 12-month rolling total Operate the WESP in accordance with the #1 and #2 Calciner Monitoring Plan dated October 7, 1999. After each maintenance turnaround determine the integrity of the WESP by running an air load test on the WESP and compare variance from testing conducted during original construction.	Maintain records of: - The WESP system operating configuration (which WESP cells are in operation), - Operational mode (normal, startup, shutdown, hot standby), - Predicted (or measured) actual WESP stack flow (acfm), and, - Air load testing results of the WESP following each turnaround. All required WESP operating data shall be recorded at least once every 10 minutes. <i>Directly Enforceable</i> Maintain a record of the H₂SO₄ tons, consecutive 12-month rolling total, using the emission factor generated by the most recent source test conducted in accordance with AOP Term 5.12.7.

#3 Calciner			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
#3 Calciner, Stack #2 (20-71)			
Note: 40 CFR 60 General Provisions included in Section 3 apply to these affected facilities.			
5.12.9 VE	OAC 985c, Condition 3, (3/15/2022) PSD-89-2, Condition 2(g) (1/30/1989) WAC 173-401-615(1)(b) & (c) (10/17/2002)	Visual emissions shall not exceed an average of 20% opacity in any consecutive six-minute period (Method 9).	<i>Directly Enforceable</i> Conduct MR&R in accordance with AOP Term 6.1 of this permit, except that the applicable compliance method is EPA Method 9 instead of Ecology Method 9A.

#3 Calciner			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.12.10 SO ₂	NWCAA ACO 05 (10/25/2012) which references 40 CFR 60 Subpart J 60.104(a)(1) (6/24/2008), 60.105(a)(4), 60.105(e)(3)(ii) (12/1/2015), and 60.106(e) (9/12/2012) WAC 173-401-630(1) (3/5/2016)	<u>NSPS for Refinery Fuel Gas</u> H ₂ S in the supplemental fuel gas combusted in the #3 Calciner shall not exceed 162 ppmvd (230 mg/dscm), 3-hour rolling average.	Operate a CEMS to continuously monitor H ₂ S in the fuel gas in accordance with 40 CFR 60 Subpart J, 40 CFR 60 Appendices B and F, NWCAA 367 and NWCAA Appendix A. The span value for the CEMS is 300 ppmvd (425 mg/dscm) H ₂ S. Use Performance Specification 7 to evaluate CEMS performance under 60.13(c). Follow EPA Method 11, 15, 15A, or 16 to conduct relative accuracy evaluations. <i>Directly Enforceable</i> Report monthly the highest 3-hour rolling average ppmvd H ₂ S in the refinery fuel gas from the main mix drum.
5.12.11 SO ₂	PSD-89-2, Condition 2 and 4 (a) & (c) (1/30/1989) WAC 173-401-630(1) (3/5/2016)	SO ₂ emissions from the #3 Calciner stack shall not exceed any of the following: 160 ppmvd at 7% O₂, calendar day average 504 tons, consecutive 12-month rolling total	Operate a CEMS to continuously monitor SO ₂ & O ₂ concentrations in the Calciner Stack #2 in accordance with NWCAA 367, NWCAA Appendix A, and 40 CFR 60 Appendices B and F. <i>Directly Enforceable</i>
5.12.12 SO ₂	PSD-89-2, Condition 2 (f) (1/30/1989) WAC 173-401-630(1) (3/5/2016)	SO ₂ scrubber control efficiency shall be no less than 90%.	Maintain monthly record of SO ₂ cumulative 12-month rolling tons.
5.12.13 NO _x	PSD-89-2, Condition 2 (e) and 4 (1/30/1989) WAC 173-401-630(1) (3/5/2016)	NO _x emissions from the #3 Calciner stack shall not exceed: 509 tons, consecutive 12-month rolling total	Operate a CEMS to continuously monitor NO _x & O ₂ concentrations in the Calciner Stack #2 in accordance with NWCAA 367, NWCAA Appendix A, and 40 CFR 60 Appendices B and F, except that NO _x span drift may not exceed 5.0% of full scale. <i>Directly Enforceable</i> Maintain monthly record of NO _x cumulative 12-month rolling tons.

5.12.14 PM/ PM₁₀	OAC 985c, Conditions 2, 5, 6, 7, 8, 9 & 10 (3/15/2022) PSD-89-2, Condition 2 (b) & (d) (1/30/1989) 40 CFR 64 CAM (10/22/1997) WAC 173-401-630(1) (3/5/2016)	PM/PM₁₀ emissions from the from the #3 Calciner stack shall not exceed any of the following: • 0.010 gr/dscf at 7% O₂, 60-minute rolling average • 26 tons, consecutive 12-month rolling total Follow the conditions for demonstrating compliance in accordance with the current Ecology/NWCAA Approved Calciner Hearth #3 Wet Electrostatic Precipitator (#2 WESP) Monitoring Plan. Operate at least one WESP cell at all times with a secondary voltage greater than 35 kV DC and a secondary current greater than 300 milliamps DC. The WESP shall be operated with the maximum available Specific Collection Area (SCA). In no case shall the WESP be operated with a SCA of less than 126 ft²/1,000 acfm, 60-minute rolling average. $SCA = \frac{WESP \text{ collection area in } ft^2}{Stack \text{ flow in } 1000 \text{ acfm}}$ Where the WESP collection area does not include cells that are operating in flush mode and the stack flow is predicted from the calcined coke production rate. After each maintenance turnaround determine the integrity of the WESP by running an air load test on the WESP and compare variance from testing conducted during original construction.	Conduct source testing within 13 months of the previous test. If three consecutive source tests demonstrate emissions of 50% or less than the respective limit, source testing frequency may be reduced to once every two years, and within 25 months of the previous source testing date. If a source test for a particular pollutant demonstrates emissions are greater than 50% of the respective limit, source testing frequency for that pollutant shall revert back to once every 13 months until three consecutive tests demonstrate emissions of 50% or less than the limit. Testing shall be conducted in accordance with NWCAA Section 367, NWCAA Appendix A and 40 CFR 60 Appendix A Test Methods 5 and 202. Record the following process and control device parameters at least once every 15 minutes for each individual test run unless otherwise specified below, and include in the source test report: • Calcined coke production rate (STPH), • WESP operating configuration and operational mode, recorded once for each test run, • Predicted or measured actual WESP stack flow (acfm), • WESP secondary voltages and currents (kV and mA, 1-hour average), and, • Specific collection area (ft²/1,000 acfm). Maintain records of: • The WESP system operating configuration (which WESP cells are in operation), • Operational mode (normal, startup, shutdown, hot standby), • Predicted (or measured) actual WESP stack flow (acfm), • Calcined coke production rate (tons/hour), • Specific Collection Area (ft²/1,000 acfm), • Secondary voltages and secondary currents for each operating WESP cell (kV and milliamps), and, • Air load testing results of the WESP following each turnaround. All required WESP operating data shall be recorded at least once every 10 minutes. <i>Directly Enforceable</i> Maintain a record of the PM/PM₁₀ tons, consecutive 12-month rolling total.
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#3 Calciner			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.12.15 H ₂ SO ₄	OAC 985c, Condition 1 and 10, (3/15/2022) PSD-95-01 Amendment 2 Conditions 1, 2 & 3 (4/12/2022) 40 CFR 64 CAM (10/22/1997)	Sulfuric acid mist (H₂SO₄) emissions from the #3 Calciner stack shall not exceed any of the following: 18.3 lb/hr, 60-minute rolling average 50 mg/dscm, corrected to 7% O₂, 60-minute rolling average Follow the conditions for demonstrating compliance in accordance with the current Ecology/NWCAA Approved Calciner Hearth #3 Wet Electrostatic Precipitator (#2 WESP) Monitoring Plan. Operate at least one WESP cell at all times with a secondary voltage greater than 35kV DC and a secondary current greater than 300 milliamps DC. The WESP shall be operated with the maximum available Specific Collection Area (SCA). In no case shall the WESP be operated with a SCA of less than 126 ft²/1,000 acfm, 60-minute rolling average. $SCA = \frac{WESP \text{ collection area in } ft^2}{Stack \text{ flow in } 1000 \text{ acfm}}$ Where the WESP collection area does not include cells that are operating in flush mode and the stack flow is predicted from the calcined coke production rate. After each maintenance turnaround determine the integrity of the WESP by running an air load test on the WESP and compare variance from testing conducted during original construction.	Conduct source testing within 13 months of the previous test. If three consecutive source tests demonstrate emissions of 50% or less than the respective limit, source testing frequency may be reduced to once every two years, and within 25 months of the previous source testing date. If a source test for a particular pollutant demonstrates emissions are greater than 50% of the respective limit, source testing frequency for that pollutant shall revert back to once every 13 months until three consecutive tests demonstrate emissions of 50% or less than the limit. Testing shall be conducted in accordance with NWCAA Section 367, NWCAA Appendix A and 40 CFR 60 Appendix A Test Method 8, and Conditional Test Method 13, or other test method approved in advance by the NWCAA. Record the following process and control device parameters at least once every 15 minutes for each individual test run unless otherwise specified below, and include in the source test report: - Calcined coke production rate (STPH), - WESP operating configuration and operational mode, recorded once for each test run, - Predicted or measured actual WESP stack flow (acfm), - WESP secondary voltages and currents (kV and mA, 1-hour average), and, - Specific collection area (ft²/1,000 acfm). Maintain records of: - The WESP system operating configuration (which WESP cells are in operation), - Operational mode (normal, startup, shutdown, hot standby), - Predicted (or measured) actual WESP stack flow (acfm), - Calcined coke production rate (tons/hour), - Specific Collection Area (ft²/1,000 acfm), - Secondary voltages and secondary currents for each operating WESP cell (kV and milliamps), and, - Air load testing results of the WESP following each turnaround. All required WESP operating data shall be recorded at least once every 10 minutes.

Coke Handling – Railcar Loading Baghouses, Silos, and Transfer Systems			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.12.16 VE	PSD-89-2, Condition 3 (1/30/1989) WAC 173-401-615(1)(b) & (c) (10/17/2002)	Visual emissions from the new silo, the railcar load out and the new hearth transfer tower shall not exceed 20% opacity in any consecutive six-minute period (Method 9).	<i>Directly Enforceable</i> Conduct MR&R in accordance with AOP Term 6.1 of this permit, except that the applicable compliance method is EPA Method 9 instead of Ecology Method 9A.
5.12.17 PM	PSD-89-2, Condition 3 (1/30/1989) WAC 173-401-615(1)(b) & (c) (10/17/2002)	Particulate emissions from the new silo, the railcar load out and the new hearth transfer tower shall not exceed any of the following: • 0.01 gr/dscf • 21 tons, consecutive 12-month rolling	<i>Directly Enforceable</i> Maintain monthly record of PM ₁₀ cumulative 12-month rolling tons.

5.13. Boilers and Cooling Towers

Table 5-13 #4, #5, #6 and #7 Boilers, #1 and #2 Cooling Towers

#4 Boiler			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
#4 Boiler (30-1604)			
Note: 40 CFR 60 and 63 General Provisions included in Section 3 apply to these affected facilities			
5.13.1 VE	OAC 351f Condition 1 (6/3/2021) WAC 173-401-615(1)(b) & (c) (10/17/2002)	Visual emissions from the #4 Boiler shall not exceed 5% opacity for more than three aggregated minutes in any 60-minute period as measured by Washington State Department of Ecology Method 9A.	<i>Directly Enforceable</i> Conduct MR&R in accordance with AOP Term 6.1 of this permit.
5.13.2 SO ₂	OAC 351f Condition 2 (6/3/2021) NWCAA ACO 05 (10/25/2012) which references 40 CFR 60 Subpart J 60.104(a)(1) (6/24/2008), 60.105(a)(4), 60.105(e)(3)(ii) (12/1/2015), and 60.106(e) (9/12/2012) 40 CFR 60 Subpart Db 60.40b(c) (2/16/2012) WAC 173-401-630(1) (3/5/2016)	<u>BACT and NSPS for Refinery Fuel Gas and Industrial Boilers</u> H ₂ S in the fuel gas shall not exceed 162 ppmvd (230 mg/dscm), 3-hour rolling average.	Operate a CEMS to continuously monitor H ₂ S in the fuel gas from the main mix drum in accordance with 40 CFR 60 Subpart J, 40 CFR 60 Appendices B and F, NWCAA 367 and NWCAA Appendix A. The span value for the CEMS is 300 ppmvd (425 mg/dscm) H ₂ S. Use Performance Specification 7 to evaluate CEMS performance under 60.13(c). Follow EPA Method 11, 15, 15A, or 16 to conduct relative accuracy evaluations. <i>Directly Enforceable</i> Report monthly the highest 3-hour rolling average ppmvd H ₂ S in the refinery fuel gas from the main mix drum.

#4 Boiler			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.13.3 NOx	OAC 351f, Conditions 3 and 6 (6/3/2021)	NOx emissions from the #4 Boiler shall not exceed: 33 ppmvd at 3% O₂, 24-hour rolling average If the concentration-based limit is exceeded, the following mass emission rate limit shall be used to demonstrate compliance: 8.63 lb/hour, 24-hour rolling average	Operate a CEMs to continuously monitor NOx & O ₂ concentrations in the #4 Boiler stack in accordance with NWCAA 367, NWCAA Appendix A, 40 CFR 60 Subpart Db and 40 CFR 60 Appendices B and F. If the concentration-based NOx limit is exceeded, compliance with the alternative mass emission rate limit shall be determined by using calculations detailed in Method 19 and using appropriate F _d factors calculated based on a fuel composition analysis conducted within 14 days of the event. Include calendar month NOx in tons in monthly emission reports.
5.13.4 NOx	40 CFR 60 Subpart Db 60.44b(a)(1)(ii) and (i) (2/16/2012), 60.46b(c) & (e) (2/17/2014), 60.48b(b)-(f) and 60.49b(g) (2/16/2012)	<u>NSPS for Industrial Boilers</u> NOx emissions from the boiler shall not exceed: 0.2 lb/MMBtu, 30-day rolling average of most recent consecutive steam operating days.	Operate a CEMS to continuously monitor NOx & O ₂ concentrations in the #4 Boiler stack in accordance with NWCAA 367, NWCAA Appendix A, 40 CFR 60 Subpart Db and 40 CFR 60 Appendices B and F. Span value for the NOx CEM shall be 500 ppm, or in accordance 40 CFR 75 Appendix A. An alternative span value is acceptable provided that the span value is set high enough to ensure that all emissions from the unit can be quantified. Maintain the following records for each steam generating day. - Average hourly NOx emission rates expressed as NO₂ in lb/MMBtu heat input, 30-day rolling average NOx in lb/MMBtu heat input, - Identification of F_d factor used for calculations, - Identification of times pollutant concentrations exceeded span of monitoring system, and, - Description of modifications to CEMS that would affect ability to comply with Performance Specification 2 or 3.

#4 Boiler			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.13.5 CO	OAC 351f, Condition 5 (6/3/2021) WAC 173-401-630(1) (3/5/2016)	CO emissions from the #4 Boiler shall not exceed: 15.9 lb/hour	Conduct source testing within 13 months of the previous source test. If three consecutive source tests demonstrate emissions of 50% or less than the limit in this term, source testing frequency may be reduced to once every five years, and within 61 months of the previous source test. If a source test demonstrates emissions are greater than 50% of the limit in this term, source testing shall revert back to once every 13 months until three consecutive tests demonstrate emissions of 50% or less than the limit. Source testing shall be conducted at a load that is representative of normal operating conditions at the time of the test. Use the average of three test runs performed in accordance with 40 CFR 60 Appendix A, Methods 1, 2, 3A, 4 and 10, NWCAA Section 367 and NWCAA Appendix A. Record the following process parameters at least once every 15-minutes for each individual test run unless otherwise specified below, and include it in the performance test report: - O₂ and NO_x CEMS data, - Firing rate, in MMBtu/hr, - Steam production, in 1,000-lb/hr, - Fuel consumption rate in Mscfh, and, - Fuel gas specific gravity and HHV in Btu/scf, sampled once on the day of the test. <i>Directly Enforceable</i> 40 CFR 60 Appendix A, Method 10B may be used in lieu of Method 10.

#4 Boiler			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.13.6 General	OAC 351f Condition 5 (6/3/2021)	<u>Operation & Maintenance</u> Develop and maintain an operation & maintenance (O&M) manual for all equipment that may affect pollution emissions to the atmosphere. Excess emissions that result from failing to follow the O&M manual may be considered proof that the equipment was not properly operated and maintained.	Maintain an operation & maintenance manual for the #4 Boiler.
5.13.7 HAP	40 CFR 63 Subpart DDDDD 63.7485 (1/31/2013)	<u>Major Source Boiler MACT</u> Comply with 40 CFR 63 Subpart DDDDD for boilers and process heaters.	Conduct MR&R in accordance with AOP Section 6.5.

#5 Boiler			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
#5 Boiler (30-1606)			
Note: 40 CFR 60 and 63 General Provisions included in Section 3 apply to these affected facilities.			
5.13.8 General	OAC 814d, Condition 1 (6/3/2021) PSD-02-04 Amendment 2, Condition 1 & 8 (2/23/2022) WAC 173-401-615(1)(b) & (c) (10/17/2002)	The #5 Boiler shall combust only natural gas and/or refinery fuel gas.	<i>Directly Enforceable</i> Certify annually that only approved fuels were combusted in the boiler.
5.13.9 General	PSD-02-04 Amendment 2, Condition 10 (2/23/2022)	Facility shall identify "good combustion practices" for the #5 Boiler. These operational practices and parameters shall be included in the O&M manual for the facility.	O&M manual shall be maintained and followed and be available onsite for review.

#5 Boiler			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.13.10 VE	OAC 814d, Condition 2 (6/3/2021) WAC 173-401-615(1)(b) & (c) (10/17/2002)	Visual emissions from the #5 Boiler shall not exceed five percent opacity for more than three minutes in any consecutive 60-minute period (Method 9A).	<i>Directly Enforceable</i> Conduct MR&R in accordance with AOP Term 6.1.
5.13.11 SO ₂	OAC 814d, Condition 3 (6/3/2021) WAC 173-401-630(1) (3/5/2016)	<u>BACT for Fuel Gas</u> Fuel gas combusted in the #5 Boiler shall not exceed any of the following: • 162 ppm H₂S, 3-hour rolling average • 50 ppm H₂S, 24-hour rolling average	Operate a CEMS to continuously monitor H ₂ S in the fuel gas from the main mix drum in accordance with 40 CFR 60 Subpart J, 40 CFR 60 Appendices B and F, NWCAA 367 and NWCAA Appendix A. The span value for the CEMS is 300 ppmvd (425 mg/dscm) H ₂ S. Use Performance Specification 7 to evaluate CEMS performance under 60.13(c). Follow EPA Method 11, 15, 15A, or 16 to conduct relative accuracy evaluations.
5.13.12 SO ₂	40 CFR 60 Subpart J 60.104(a)(1) (6/24/2008), 60.105(a)(4), 60.105(e)(3)(ii) (12/1/2015), and 60.106(e) (9/12/2012) 40 CFR 60 Subpart Db 60.40b(c) (2/16/2012) WAC 173-401-630(1) (3/5/2016)	<u>BACT and NSPS for Refinery Fuel Gas and Industrial Boilers</u> H ₂ S in the fuel gas shall not exceed 162 ppmvd (230 mg/dscm), 3-hour rolling average.	<i>Directly Enforceable</i> Report monthly the highest 3-hour rolling average ppmvd H ₂ S in the refinery fuel gas from the main mix drum.

#5 Boiler			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.13.13 NOx	40 CFR 60 Subpart Db 60.44b(a)(1)(ii) and (i) (2/16/2012), 60.46b(c) & (e) (2/17/2014), 60.48b(b)-(f) and 60.49b(g) (2/16/2012)	<u>NSPS for Industrial Boilers</u> NOx emissions from the #5 Boiler shall not exceed: 0.2 lb/MMBtu, 30-day rolling average of most recent consecutive steam operating days.	Operate a CEMS to continuously monitor NOx & O ₂ concentrations in the #5 Boiler stack in accordance with NWCAA 367, NWCAA Appendix A, 40 CFR 60 Subpart Db and 40 CFR 60 Appendices B and F. Span value for the NOx CEM shall be 500 ppm, or in accordance with 40 CFR 75 Appendix A. An alternative span value is acceptable provided that the span value is set high enough to ensure that all emissions from the unit can be quantified. Maintain the following records for each steam generating day. - Average hourly NOx emission rates expressed as NO₂ in lb/MMBtu heat input, - Thirty day rolling average NOx in lb/MMBtu heat input, - Identification of F_d factor used for calculations, - Identification of times pollutant concentrations exceeded span of monitoring system, and, - Description of modifications to CEM that would affect ability to comply with Performance Specification 2 or 3.
5.13.14 NOx	PSD-02-04 Amendment 2, Conditions 4, 7, and 8 (2/23/2022)	NOx emissions from the #5 Boiler shall not exceed: 10.1 lb/hr, calendar day average	Operate a CEMS to continuously monitor NOx & O ₂ concentrations in the #5 Boiler stack in accordance with NWCAA 367, NWCAA Appendix A, and 40 CFR 60 Appendices B and F. Include maximum monthly NOx lb/hr calendar day average in monthly report.

#5 Boiler			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.13.15 CO	PSD-02-04 Amendment 2, Conditions 5, 6, 7, and 8 (2/23/2022)	CO emissions from the #5 Boiler shall not exceed: 18.1 lb/hr, calendar day average Except that during startup conditions: - CO shall not exceed 50 lb/hr, averaged over the startup period, - CO emissions during startup shall be monitored and included in the emission inventory for the year, - Startup periods are limited to 12 hours, except, if refractory work has been done during a maintenance shutdown, the period is limited to 30 hours, and, - Startups claiming use of these provisions is limited to six per year.	Operate a CEMS to continuously monitor CO & O ₂ concentrations in the #5 Boiler stack in accordance with NWCAA 367, NWCAA Appendix A, and 40 CFR 60 Appendices B and F. Include the maximum monthly CO lb/hr calendar day average in the monthly report.
5.13.16 HAP	40 CFR 63 Subpart DDDDD 63.7485 (1/31/2013)	<u>Major Source Boiler MACT</u> Comply with 40 CFR 63 Subpart DDDDD for boilers and process heaters.	Conduct MR&R in accordance with AOP Section 6.5.

#6 and #7 Boilers			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
#6 Boiler (30-1607) and #7 Boiler (30-1608)			
Note: 40 CFR 60 and 63 General Provisions included in Section 3 apply to these affected facilities.			
5.13.17 General	OAC 1001e Condition 1, (4/14/2022) PSD-07-01 Amendment 2, Condition 1 (2/24/2016) WAC 173-401-615(1)(b) & (c) (10/17/2002)	The #6 and #7 Boilers shall burn only natural gas and/or refinery fuel gas.	<i>Directly Enforceable</i> Certify annually that only approved fuels were combusted in the boilers.

#6 and #7 Boilers			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.13.18 General	PSD-07-01 Amendment 2, Condition 16 (2/24/2016)	<u>Operation and Maintenance</u> Identify operational parameters and practices that will constitute "good combustion practices" for the #6 and #7 Boilers. These operational parameters and practices shall be included in an O&M manual. If a failure to follow the O&M manual results in excess emissions that failure may be considered credible evidence that the event was caused by poor or inadequate operation or maintenance.	Maintain an O&M manual for the boilers.
5.13.19 VE	OAC 1001e Condition 2 (4/14/2022) WAC 173-401-615(1)(b) & (c) (10/17/2002)	Visual emissions from each boiler shall not exceed 5% opacity for more than three aggregated minutes in any consecutive 60-minute period (Method 9A).	<i>Directly Enforceable</i> Conduct MR&R in accordance with AOP Term 6.1.
5.13.20 PM ₁₀	PSD-07-01 Amendment 2, Conditions 4 and 11 (2/24/2016)	PM ₁₀ emissions from each of the #6 and #7 Boilers shall not exceed: 5.0 lb/hr, calendar day average 14.8 tpy, 12-month rolling total	Conduct an annual source test using 40 CFR 60 Appendix A Method 5 or 5i (front half) and 40 CFR 51 Appendix M Method 202 (back half) or equivalent test method approved in advance by Ecology. Testing shall be conducted in accordance with NWCAA Section 367 and NWCAA Appendix A. After three consecutive years of annual tests on each boiler stack have demonstrated compliance, testing of each boiler stack may be reduced to once every five years. If a test demonstrates noncompliance, resumption of annual testing is required for the unit until three consecutive years demonstrate compliance. Demonstrate continuous compliance with the daily and annual limits by applying an emission factor developed during the most recent test and fuel usage for the period.

#6 and #7 Boilers			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.13.21 SO ₂	PSD-07-01 Amendment 2, Conditions 3 and 10 (2/24/2016)	SO₂ emissions from each of the #6 and #7 Boilers shall not exceed any of the following: • 39.3 lb/hr, 3-hour rolling average • 21.4 lb/hr, calendar day average • 59.6 ton/yr, 12-month rolling total	Once per calendar month sample the fuel gas for total sulfur using ASTM Test Method D-5504, EPA TO-15, or another method approved by Ecology. A minimum of 3 samples, taken at least 15 minutes apart, shall be run per monthly test. And, Operate a CEMS to continuously monitor H₂S in the fuel gas. The CEMS shall meet the requirements of 40 CFR 60 Subpart J, 40 CFR 60 Appendices B and F, NWCAA 367 and NWCAA Appendix A. Follow 40 CFR 60 Appendix A Method 11, 15, 15A 16 or equivalent method approved in advance by Ecology shall be used for RATAs. Or, as an alternative to monthly total sulfur analysis and operating an H₂S CEMS: Operate a CEMS to continuously monitor SO₂ in Boilers #6 and #7 stacks. The CEMS shall meet the performance specification and data quality assurance procedures as approved by NWCAA in writing, NWCAA 367, and NWCAA Appendix A. <i>Directly Enforceable</i> Or, with written approval from the Washington Department of Ecology, as an alternative to the monthly total sulfur fuel gas grab sampling and H₂S CEMS above, or an SO₂ CEMS, operate a total sulfur CEMS to continuously monitor total sulfur in the fuel gas. The CEMS shall meet the performance specification and data quality assurance procedures as approved by NWCAA in writing, NWCAA 367, and NWCAA Appendix A. Assume 100% conversion of total sulfur in fuel gas to SO₂ after combustion unless an alternative methodology is approved by the NWCAA in writing.

#6 and #7 Boilers			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.13.22 SO ₂	40 CFR 60 Subpart Ja 60.102a(g)(1)(ii) (7/13/2016) 60.107a(a)(2) (12/1/2015) WAC 173-401-630(1) (3/5/2016)	<u>NSPS for Refinery Fuel Gas</u> H ₂ S in the fuel gas shall not exceed: • 162 ppmvd (230 mg/dscm), 3-hour rolling average • 60 ppmv, 365 successive calendar day rolling average	Operate a CEMS to continuously monitor H₂S in the fuel gas. The CEMS shall meet the requirements of 40 CFR 60 Subpart Ja, 40 CFR 60 Appendices B and F, NWCAA 367 and NWCAA Appendix A. The span value for the CEMS is 300 ppmv H₂S. Use Performance Specification 7 to evaluate CEMS performance under 60.13(c). Follow EPA Method 11, 15, 15A, or 16 to conduct relative accuracy evaluations. <i>Directly Enforceable</i> Report monthly the highest 3-hour rolling average ppmvd H₂S in the refinery fuel gas from the main mix drum.

#6 and #7 Boilers			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.13.23 NOx	40 CFR 60 Subpart Db 60.44b(a)(1)(ii) and (i) (2/16/2012), 60.46b(c) & (e) (2/17/2014), 60.48b(b)-(f) and 60.49b(g) (2/16/2012)	<u>NSPS for Industrial Boilers</u> NOx emissions from the #6 and #7 Boilers shall not exceed: 0.2 lb/MMBtu, 30-day rolling average of most recent consecutive steam operating days.	Operate a CEMS to continuously monitor NOx & O ₂ concentrations in the #6 and #7 Boiler stacks in accordance with NWCAA 367, NWCAA Appendix A, 40 CFR 60 Subpart Db and 40 CFR 60 Appendices B and F. Span value for the NOx CEM shall be 500 ppm, or in accordance with 40 CFR 75 Appendix A. An alternative span value is acceptable provided that the span value is set high enough to ensure that all emissions from the unit can be quantified. Maintain the following records for each steam generating day. - Average hourly NOx emission rates expressed as NO₂ in lb/MMBtu heat input, - Thirty day rolling average NOx in lb/MMBtu heat input, - Identification of F_d factor used for calculations, - Identification of times pollutant concentrations exceeded span of monitoring system, and, - Description of modifications to CEM that would affect ability to comply with Performance Specification 2 or 3.
5.13.24 NOx	OAC 1001e Conditions 3, 4, and 5 (4/14/2022)	NOx emissions from each of the #6 and #7 Boilers shall not exceed: During periods of normal operation, defined as firing the boiler at or above 18 MMBtu/hr (HHV), 4.0 lb/hr based on a one-hour average During periods of hot standby, defined as firing the boiler below 18 MMBtu/hr (HHV), 2.0 lb/hr based on a one-hour average	Operate a CEMS to continuously monitor NOx & O ₂ concentrations in the #6 and #7 Boiler stacks in accordance with NWCAA 367, NWCAA Appendix A, and 40 CFR 60 Appendices B and F. Continuously record the heat input (HHV) to each boiler on the basis of hourly averages.

5.13.25 NH₃	OAC 1001e Conditions 6 and 7 (4/14/2022)	Ammonia emissions from the #6 and #7 Boilers shall not exceed: • 10.0 ppmvd at 3% O₂, 24-hour rolling average	Compliance shall be determined by Bay Area Air Quality Management District Source Test Procedure #1B (BAAQMD ST-1B) by the average of three, 60-minute test runs while firing the boilers at a load that is representative of normal operations at the time of the test, or an alternative method approved in advance by the NWCAA. Compliance tests shall be conducted within 13 months of the previous test date. If three consecutive source tests demonstrate emissions of 50% or less than the ammonia limit, source testing frequency may be reduced to once every five years, and within 61 months of the previous test date. If a source test demonstrates emissions are greater than 50% of the ammonia limit, source testing frequency shall revert to once every 13 months until three consecutive tests demonstrate emissions of 50% or less than the ammonia limit. Record the following process and control device parameters at least once every 15 minutes for each individual test run unless otherwise specified below, and include in the source test report: • O₂ and NO_x CEMS data, • Firing rate (MMBtu/hr), • NH₃ feed rate (lb/hr), • Fuel consumption rate (scf/hr), • Steam production (1000-lb/hr), • Fuel gas HHV (Btu/scf) and fuel gas specific gravity, sampled once on the day of the test, and, • Exhaust temperature (F). Develop and implement an ammonia emissions monitoring plan. The plan shall establish a predictive relationship between the boiler and SCR parameters and ammonia emissions, including a correction factor to be applied to predicted ammonia slip concentration and calculated as follows: $\text{correction factor} = \frac{\text{measured NH}_3 \text{ slip from source test (ppmvd @ 3\% O}_2\text{)}}{\text{calculated NH}_3 \text{ slip (ppmvd @ 3\% O}_2\text{)}}$ The plan shall define QA/QC procedures and corrective actions to be taken when parameter monitoring indicates that an ammonia emission limit may be exceeded. The plan shall be reevaluated after each periodic source test for ammonia and may be improved and amended accordingly. All changes to the plan must be approved in writing by the NWCAA prior to implementation. Maintain a copy of all written approvals with the plan.
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#6 and #7 Boilers			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.13.26 CO	PSD-07-01 Amendment 2, Conditions 2, 9, 12, and 13 (2/24/2016)	CO emissions from each of the #6 and #7 Boilers shall not exceed: During normal operations: 13.3 lb/hr, calendar day average During startup periods, defined as starting the boiler from an inactive cold state, and ending when operating above 91 MMBtu/hr (HHV), or after 8 hours of operation, whichever is sooner: 50 lb/hr, averaged over the startup period	Operate a CEMS to continuously monitor CO & O ₂ concentrations in the #6 and #7 Boiler stacks in accordance with NWCAA 367, NWCAA Appendix A, and 40 CFR 60 Appendices B and F. Include CO emissions from startup in annual emissions report.
5.13.27 HAP	40 CFR 63 Subpart DDDDD 63.7485 (1/31/2013)	<u>Major Source Boiler MACT</u> Comply with 40 CFR 63 Subpart DDDDD for boilers and process heaters.	Conduct MR&R in accordance with AOP Section 6.5.

#6 and #7 Boilers			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.13.28 General	PSD-07-01 Amendment 2, Condition 14 (2/24/2016)	Recordkeeping and reporting for the #6 & #7 Boilers.	Report monthly: - Monthly maximum of CO, SO₂, and PM₁₀ emissions from each boiler, - Monthly total sulfur analysis of fuel gas in accordance with AOP Condition 5.13.21, - SO₂ tons, 12 month rolling total for each boiler, - Periods during which required data was not collected and reason it was not collected, and, - Time, duration, magnitude, probable cause and corrective actions related to excess emission events. Maintain the following records: - Time, duration, magnitude, probable cause and corrective actions related to excess emission events, - Results of any compliance tests, and, - Results of any CEM RATAs. <i>Directly enforceable</i> If using the total sulfur CEMS alternative in AOP Term 5.13.21, report monthly the maximum 3-hour rolling average and calendar day average lb/hr SO₂ emissions from each boiler assuming 100% conversion of total sulfur to SO₂.
#6 and #7 Boilers Project - Components in VOC/HAP Service			
5.13.29 VOC/ HAP	OAC 1001e Condition 8 (4/14/2022)	<u>BACT for Equipment Leaks</u> The following provisions shall be in effect for new valves associated with the #6 and #7 Boiler project that have the potential to leak VOC or HAP. The leak definition for block valves and control valves is 500 ppm.	Conduct a LDAR program in accordance with AOP Section 6.3, except that: Repair and remonitor leaks greater than the leak definition in this AOP Term, but less than the regulatory leak definition of applicable portions of 40 CFR 63 Subpart CC, within 30 days.

Cooling Towers			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
#1 Cooling Tower (30)			
Note: 40 CFR 63 General Provisions included in Section 3 apply to these affected facilities.			
5.13.30 HAP	40 CFR 63 Subpart CC 63.654(c)–(g) (6/20/2013), and 63.655 (i)(5) (2/4/2020)	<u>MACT for Heat Exchangers in Organic HAP Service</u> Conduct monthly sampling for total strippable hydrocarbons on the cooling water return line using the Modified El Paso Method. If a leak is detected ≥ 6.2 ppmv total strippable hydrocarbons (as methane), repair the leaking heat exchanger in organic HAP service within 45 days unless a delay of repair is utilized.	Maintain the following records. - Results of monthly sampling, - Date of repair when leaks are identified, and, - Reasons for each delay of repair when utilized.
#2 Cooling Tower (24)			
Note: 40 CFR 63 General Provisions included in Section 3 apply to these affected facilities.			
5.13.31 VOC	OAC 289b Condition 1 (7/21/2021) WAC 173-401-615(1)(b) & (c) (10/17/2002)	A hydrocarbon monitor shall be installed and operated on the #2 Cooling Tower in accordance with the manufacturer's specifications.	<i>Directly Enforceable</i> Maintain a record of the manufacturer's operation and maintenance manual, and any maintenance and repair activities performed on the hydrocarbon monitor.
5.13.32 HAP	40 CFR 63 Subpart CC 63.654(c)–(g) (6/20/2013), and 63.655 (i)(5) (2/4/2020)	<u>MACT for Heat Exchangers in Organic HAP Service</u> Conduct monthly sampling for total strippable hydrocarbons on the cooling water return line using the Modified El Paso Method. If a leak is detected ≥ 6.2 ppmv total strippable hydrocarbons (as methane), repair the leaking heat exchanger in organic HAP service within 45 days unless a delay of repair is utilized.	Maintain the following records. - Results of monthly sampling, - Date of repair when leaks are identified, and, - Reasons for each delay of repair when utilized.

5.14. Flares and Flare Gas Recovery

Table 5-14 High Pressure Flare, Low Pressure Flare and Flare Gas Recovery

Flares and Flare Gas Recovery			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
High- and Low-Pressure Flares (28-1803 and 28-1804)			
Note: 40 CFR 60 and 63 General Provisions included in Section 3 apply to these affected facilities.			
5.14.1 PM & SO ₂	OAC 211c Conditions 1(q), 1(r) and 2 (9/18/2012)	<u>Cumulative Particulate and SO₂ limit</u> The 17 affected emission units shall not exceed: • Particulate: 60 tons/calendar month • SO₂: 2,354 lb/hour, calendar month average	Conduct MR&R in accordance with AOP Term 6.2.
5.14.2 SO ₂	40 CFR 60 Subpart Ja 60.103a(f) & (h) (9/12/2012), and 60.107a(a)(2) & (i)(2) (12/1/2015)	<u>NSPS Ja H₂S limit for Flares</u> The H ₂ S content of gases combusted in the flare shall not exceed 162 ppmv on a 3-hour rolling average basis. Process upset gases or fuel gas that is released to the flares as a result of relief valve leakage or other emergency malfunctions are exempt from this limit.	Operate a CEMS to continuously monitor the H ₂ S content of gases combusted in the High- and Low-Pressure Flares. The CEMS shall meet the requirements of 40 CFR 60.107a(e)(2), NWCAA 367 and NWCAA Appendix A. Follow 40 CFR 60 Appendix A Method 11, 15 or 15A.
5.14.3 SO ₂	40 CFR 60 Subpart Ja 60.107a(f) (12/1/2015)	<u>NSPS Flow Monitoring for Flares</u> Measure and record the flow rate of gas discharged to the flares.	Operate a continuous parameter monitoring system (CPMS) to measure and record the flow rate of gas discharged to the flare. The CPMS shall be installed, operated, calibrated, and maintained in accordance with 60.107a (f)(1).
5.14.4 SO ₂	40 CFR 60 Subpart Ja 60.103a(a), (b), (c)(1), (d) & (e) and 60.108a(c)(1) & (6) (9/12/2012)	<u>NSPS Flare Management Plan</u> Develop and implement a 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. Revise the plan periodically to account for changes in flare operation.	Submit the flare management plan to the NWCAA and EPA. The plan needs to be resubmitted only when an alternative baseline flow rate is added, the existing baseline is revised, a flare gas recovery system is installed, or the flare designations are changed. Maintain a copy of the flare management plan.

Flares and Flare Gas Recovery			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.14.5 SO ₂	40 CFR 60 Subpart Ja 60.103a(c)(1), (d), (e), & (f); and 60.108a(c)(6) & (d) (9/12/2012), and 60.107a(e)(1) & (f)(1) (12/1/2015)	<u>NSPS Ja RCA and CAA</u> Conduct a root cause analysis (RCA) and corrective action analysis (CAA) for the following flaring events (discharges): - greater than 500,000 scf above baseline in any 24-hour period, and, - 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 & operate a continuous monitoring system for total reduced sulfur concentration in gas discharged to the flares in accordance with 40 CFR 60 Subparts A & Ja & 40 CFR 60 Appendices B & F, the Alternative Monitoring Plan submitted to the EPA dated July 30, 2019, and the approval letter from the EPA received September 9, 2019. Install & operate CPMS to measure & record flow rate of gas discharged to any flare in accordance with manufacturer's specifications & 40 CFR 60 Subpart Ja. If 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 & operational integrity & all electrical connections for oxidation & galvanic corrosion. Recalibrate flow monitor in accordance with manufacturer's procedures & specifications biennially or at a frequency specified by manufacturer. Maintain discharge records, including but not limited to: - Description, date, time & duration of discharge, - Measured or calculated cumulative quantity of gas discharged to flare over discharge duration, - For discharges of > 500 lb SO₂ in any 24-hr period, - Measured total sulfur concentration or both measured H₂S concentration & estimated total sulfur concentration, and, - Cumulative quantity of H₂S & SO₂ released into atmosphere. - Steps taken to limit emissions during discharge, - RCA & CAA results, implementation schedule for actions not completed within 45 days, including proposed commencement & completion dates, and, - For discharges resulting from a planned startup or shutdown, a statement that an RCA & CAA is not necessary because flare management plan was followed. Submit records of any discharges with semiannual excess emission reports according to 60.7(c) and in accordance with AOP Term 3.1.4.2.

Flares and Flare Gas Recovery			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.14.6 HAP	40 CFR 63 Subpart CC 63.670(o)(1) & (o)(2) (2/4/2020)	<u>Refinery MACT Flare Management Plan (FMP)</u> Develop and implement a flare management plan (FMP) that includes but is not limited to: flare system design; equipment & practices to minimize 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. Update the plan periodically to account for changes in operation of the flare. Submit any revisions of the plan that change the smokeless design capacity of the flare to the EPA (RTP) and NWCAA.

Flares and Flare Gas Recovery			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.14.7 HAP	40 CFR 63 Subpart CC 63.670(c), (h), (p), and (q), and 63.655(g)(11)(ii) and (i)(9)(ii) and (viii) (2/4/2020), and 63.671(a) and (b) (12/1/2015)	<u>Refinery MACT – VE (< Flare Smokeless Design Capacity)</u> Operate with no visible emissions (VE), except for periods not to exceed a total of five minutes during any two consecutive hours, when regulated material is routed to the flare and flare vent gas flow rate is less than the smokeless design capacity of the flare.	Monitor the flare by either: - Continuously recording (at least one frame every 15 seconds with time & date stamp) images of the flare flame & a reasonable distance from the flare flame at an angle suitable for VE observations using a video surveillance camera that provides real-time output to control room or other continuously manned location where images may be viewed at any time, or - Conducting daily observations using EPA Method 22 for VE each day regulated material is routed to the flare for five minutes. Any time VE are seen from the flare (even if minimum daily observation has already been performed), conduct VE observations (of flare stack or video surveillance images) using EPA Method 22 for five minutes. If VE is observed for more than one continuous minute during the five minutes, extend the observation period to two hours or until five minutes of VE are observed. Record all instances where VE are observed for more than five minutes during any two consecutive hours. Keep all video surveillance images with date & time stamps, results of all VE observations, total duration of VE, cumulative number of minutes of VE in each two-hour period & whether a five minute or two hour observation were performed. If VE observation performed more than one time per day, each record must identify date & time each observation performed. Maintain a record of the smokeless design capacity of the flare. Report in semiannual MACT report all instances where VE are observed for more than five minutes during any two consecutive hour period & any periods that VE monitoring was not performed as required.

Flares and Flare Gas Recovery			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.14.8 HAP	40 CFR 63 Subpart CC 63.670(d), (i), (k), (p) and (q), and 63.655(g)(11)(iii) and (i)(9)(iii), (v), (vii), and (viii) (2/4/2020), and 63.671(a)-(d) (12/1/2015)	<u>Refinery MACT – Flare V_{tip} (< Flare Smokeless Design Capacity)</u> Whenever flare vent gas flow rate is less than the smokeless design capacity of the flare and regulated material is routed to the flare for at least 15 minutes, actual flare tip velocity (V_{tip}) must be: - less than 60 feet per second, or - less than 400 feet per second & also less than the max allowed flare tip velocity (V_{max}) calculated as: $\text{Log}_{10} (V_{max}) = (\text{NHV}_{vg} + 1,212) / 850$ where: V_{max} = Max allowed flare tip velocity, in ft/sec. NHV_{vg} = Net heating value of flare vent gas, as determined by equations in 63.670(j) & (l), in Btu/scf.	Install, operate, calibrate and maintain a monitoring system capable of continuously measuring, calculating and recording the volumetric flow rate of flare vent gas and supplemental gas in the flare header, and steam used to assist combustion at the flare tip. The monitors shall output in standards conditions of 20° C and 1 atm. Calculate V_{tip} in feet per second 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, in actual cubic feet Area = Unobstructed area of the flare tip, in square feet Maintain a record of the V_{tip}, individually monitored volumetric flow rates, the cumulative volumetric flow rate at the flare tip, and each temperature or pressure used to correct flows to standard conditions. All of these monitoring parameters shall be recorded as 15-minute block averages. Maintain a record of each period that V_{tip} exceeds the velocity limits during periods when regulated gas is being routed to the flare, each period that the flare is not monitored as required, each period that the flow of vent gas exceeds the smokeless capacity of the flare and each period where there is vent gas to the flare but no flow of regulated gas. Report in the semiannual MACT report all 15-minute block average periods where V_{tip} exceeded an operating limit and any periods that V_{tip} monitoring was not performed as required.

Flares and Flare Gas Recovery			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.14.9 HAP	40 CFR 63 Subpart CC 63.670(o)(7)(ii)-(v), (p) and (q), and 63.655(g)(11)(ii) and (iii) and (i)(9)(viii), and (ix)-(xi) (2/4/2020), and 63.671(a)-(d) (12/1/2015)	<u>Refinery MACT – Emergency Flaring (> Flare Smokeless Design Capacity)</u> When flare vent gas flow exceeds the smokeless capacity of the flare based on a 15-minute block average, a violation occurs when VE exceeds a total of 5 minutes during any 2 consecutive hours or when the 15-minute block average V_{tip} exceeds V_{max}, for: 2 flaring events of the same type that were not caused by a force majeure event from a single flare occurring for the same root causes for the same equipment within 3 calendar years, or, 3 flaring events of the same type that were not caused by a force majeure event from a single flare occurring for any reason for the same equipment within 3 calendar years.	Maintain records of each flaring event, including, but not limited to: - Date, start & stop time of each flaring event when flow of vent gas exceeds smokeless capacity of the flare, 15-minute block average cumulative flows for flare vent gas & total steam, - Duration of flaring event, and, - Length of time VE were observed or V_{tip} exceeded V_{max} during the event. Determine total number of events for which an RCA & CAA were required during each calendar year for each flare when: - VE > 5 min during 2 consecutive hours, and, $V_{tip} > V_{max}$ on a 15-minute block average. Report in the semiannual MACT report, for each flare, any violations of the emergency flaring work practice standards in 63.670(o)(7) for VE or V_{tip}.

Flares and Flare Gas Recovery			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.14.10 HAP	40 CFR 63 Subpart CC 63.670(o)(3)-(6) and (7)(i), (p) and (q), and 63.655(g)(11)(ii)-(iv) and (i)(9)(ii), (iii), (v), (vii), (viii), (ix)-(xii) (2/4/2020), and 63.671(a)-(d) (12/1/2015)	<u>Refinery MACT – Emergency Flaring RCA & CAA (> Flare Smokeless Design Capacity)</u> Conduct a root cause analysis (RCA) and corrective action analysis (CAA) for flaring events where vent gas flow rate exceeds flare smokeless design capacity, flow contains regulated material and either: • VE are present from the flare for more than 5 minutes during any two consecutive hours, or, • 15-minute block average flare tip velocity (V_{tip}) exceeds the maximum flare tip velocity (V_{max}). Complete the RCA and CAA 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 records of the results of each RCA & CAA for each flaring event where an RCA & CAA is required, including: • Date & duration of flaring event, • Statement noting whether event resulted from same root cause(s) identified in previous analysis, • Description of corrective action(s) completed within 45 days of event or explanation why corrective action is not necessary, and, • For corrective action(s) not already completed, schedule for implementation including proposed commencement & completion dates. Report in the semiannual MACT report for each flare, for each flaring event where an RCA and CAA is required: • Start & stop time, & date of flaring event, • Start & stop time when flow of vent gas exceeds smokeless capacity of the flare, • Length of time VE were observed or V_{tip} exceeded V_{max} from the flare during the event, • 15-minute block average cumulative flow flare vent gas, • Maximum 15-minute block average V_{tip} recorded during the event, and, • Results of RCA & CAA completed during reporting period, including corrective actions implemented, and if applicable, implementation schedule for planned corrective action to be implemented subsequent to reporting period.

Flares and Flare Gas Recovery			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.14.11 HAP	40 CFR 63 Subpart CC 63.670(e), (j)-(m), and 63.655(g)(11)(iii) and (i)(9)(iv), (v), (vii), (viii) (2/4/2020), and 63.671(a)-(e) (12/1/2015) and, Table 13 (11/19/2020)	<u>Refinery MACT – Flare Net Heating Value, Combustion Zone (NHV_{cz})</u> Maintain the net heating value of flare combustion zone gas (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. Use equations in 63.670(m) to calculate NHV_{cz} based on the net heating value of each component in the flare combustion zone in accordance with equations established in: 63.670(j) Flare Vent Gas Compositional Monitoring 63.670(k) Calculation Methods for Cumulative Flow Rates 63.670(l) Flare Vent Gas Net Heating Value, NHV_{vg}	Monitor and record vent gas compositions and flow rates for determining NHV_{cz} as 15-minute block averages. Maintain a record of each 15-minute block average when NHV_{cz} is not at least 270 Btu/scf 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 there is no flow of regulated gas. Conduct calibration checks and inspections per CPMS plan and record results. Report in the semiannual MACT report any 15-minute block averages where NHV_{cz} is not at least 270 Btu/scf and any periods that NHV_{cz} monitoring was not performed as required.
5.14.12 HAP	40 CFR 63 Subpart CC 63.670(b), (g), (p), and (q), 63.655(g)(6)(i)(B), (g)(11)(i), (i)(9)(i) and (viii) (2/4/2020), and 63.671(a) & (b) (12/1/2015)	<u>Refinery MACT - Flare Pilot Flame</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 consider separate deviations.	Continuously monitor the presence of the pilot flame(s) using a device including, but not limited to, a thermocouple, ultraviolet beam sensor, or infrared sensor, capable of detecting that the pilot flame(s) is present. Record the output of the monitoring device used to detect the presence of the pilot flame(s) 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.

Flares and Flare Gas Recovery			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.14.13 HAP	40 CFR 63 Subpart CC 63.671(b) (12/1/2015)	<u>CPMS Monitoring Plan</u> Develop and implement a continuous parameter monitoring system (CPMS) quality control program documented in a CPMS monitoring plan that covers each flare and each CPMS installed to comply with the applicable provisions of 63.670. The plan must include: • ID of flare & flare type, • ID of parameter to be monitored & expected range, including worst case & normal operation, • Description of monitoring equipment, • Description of data collection & reduction systems, and, • Routine quality control & assurance procedures that assess CPMS performance.	Maintain a copy of the CPMS monitoring plan readily available on-site at all times and submit a copy of the plan upon request. Update as necessary.
5.14.14 General	40 CFR 63 Subpart CC 63.655(e)-(h) (2/4/2020)	<u>Recordkeeping and Reporting for Flares</u> Conduct reporting and recordkeeping in accordance with the provisions of Refinery MACT.	Report exceedances/deviation on periodic reports. Record and report in a Periodic Report the information specified in paragraphs (g)(11)(i) through (iv).
Flare Gas Recovery and Associated Piping Systems - Equipment in VOC Service			
5.14.15 VOC	NWCAA 580.8 (12/13/1989) (State Only 3/13/1997) which references 40 CFR 60 Subpart VV (6/2/2008)	<u>NWCAA 580 for Equipment Leaks</u> Monitor components in VOC service for leaks, repair leaks in a timely manner, and report results semi-annually in accordance with 40 CFR 60 Subparts VV. Applicable components include pumps, valves, pressure relief devices, sampling systems, open-ended lines, flanges, and connectors. Affected facilities may include individual compressors.	Conduct a LDAR program in accordance with AOP Section 6.3.

Flares and Flare Gas Recovery			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.14.16 VOC	40 CFR 60 Subpart GGG 60.590-60.593 (6/2/2008) which references 40 CFR 60 Subpart VV (6/2/2008)	<u>NSPS for Equipment Leaks</u> Monitor components in VOC service for leaks, repair leaks in a timely manner, and report results semi-annually in accordance with 40 CFR 60 Subparts VV. Applicable components include pumps, valves, pressure relief devices, sampling systems, open-ended lines, flanges, and connectors. Affected facilities may include individual compressors.	Conduct a LDAR program in accordance with AOP Section 6.3.
Flare Gas Recovery and Associated Piping Systems – Equipment in HAP Service			
Note: 40 CFR 63 General Provisions included in Section 3 apply to these affected facilities.			
5.14.17 HAP	40 CFR 63 Subpart CC 63.648 (2/4/2020) which references 40 CFR 60 Subpart VV (6/2/2008)	<u>MACT for Equipment Leaks</u> Monitor components in HAP service for leaks, repair leaks in a timely manner, and report results semi-annually in accordance with 40 CFR 60 Subparts VV, except that pressure relief devices in organic HAP service must comply with the requirements in 63.648(j). If a flare is used as a control device, the flare shall meet the requirements of 63.670. Applicable components include pumps, valves, pressure relief devices, sampling systems, open-ended lines, flanges, and connectors. Affected facilities may include individual compressors.	Conduct a LDAR program in accordance with AOP Section 6.3.

5.15. Shipping, Pumping, and Receiving

Table 5-15 Chemical Treaters, Truck Loading Rack, Marine Terminal, LPG/Butane/Pentane Loading, Organic Liquids Distribution

Chemical Treaters			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
Chemical Treaters - Equipment in HAP Service			
Note: 40 CFR 63 General Provisions included in Section 3 apply to these affected facilities.			
5.15.1 HAP	40 CFR 63 Subpart CC 63.648 (2/4/2020) which references 40 CFR 60 Subpart VV (6/2/2008)	<u>MACT for Equipment Leaks</u> Monitor components in HAP service for leaks, repair leaks in a timely manner, and report results semi-annually in accordance with 40 CFR 60 Subparts VV, except that pressure relief devices in organic HAP service must comply with the requirements in 63.648(j). If a flare is used as a control device, the flare shall meet the requirements of 63.670. Applicable components include pumps, valves, pressure relief devices, sampling systems, open-ended lines, flanges, and connectors. Affected facilities may include individual compressors.	Conduct a LDAR program in accordance with AOP Section 6.3.
5.15.2 HAP	40 CFR 63 Subpart CC 63.648(j) and 63.655(g) (2/4/2020)	<u>Refinery MACT for Pressure Relief Devices</u> Except during a pressure release, operate, monitor, repair as necessary, and report results semiannually for each pressure relieve device (PRD) in organic HAP gas or vapor service in accordance with 40 CFR 63 Subpart CC. Conduct a root cause analysis (RCA) and corrective action analysis (CAA) as required after a pressure release to atmosphere.	Conduct MR&R in accordance with AOP Section 6.6.

Truck Loading Rack			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
Truck Loading Rack Vapor Combustor (33-151)			
Note: 40 CFR 60 and 63 General Provisions included in Section 3 apply to these affected facilities.			
5.15.3 VOC	OAC 527f, Condition 4 (3/16/2021) WAC 173-401-630(1) (3/5/2016)	Emissions to the atmosphere from the vapor collection and processing systems shall not exceed 10 milligrams of total organic compounds per liter of gasoline loaded. The vapor control system shall prevent the emission of at least 90% by weight of VOC.	Conduct source testing in accordance with 40 CFR 60 Appendix A Method 25 or other method approved in advance by the NWCAA, NWCAA 367 and NWCAA Appendix A. If no gasoline loading event occurs more than 18 months after the most recent test, no test is required. If a gasoline loading event occurs more than 18 months after the most recent test, conduct a new test within 180 days of the loading event. <i>Directly Enforceable</i> The source test shall be done in accordance with the requirements of Subpart R including testing for at least 6 hours during loading of at least 300,000 liters of gasoline. If this is not possible, the test may be continued the same day until 300,000 liters of gasoline is loaded, or the test may be resumed the next day with another complete 6-hour period. In the latter case, the 300,000-liter criterion need not be met. However, as much as possible, testing should be conducted during the 6-hour period in which the highest throughput normally occurs. 40 CFR 60 Appendix A, Method 25A or 25B may be used in lieu of Method 25.

Truck Loading Rack			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.15.4 VOC	40 CFR 63 Subpart CC 63.650 (12/1/2015) and 63.655(b) (2/4/2020) which references 40 CFR 63 Subpart R 63.421 (12/4/2020), 63.427(a) and (b), (12/19/2003), 63.428 (h)(1) and (k) (4/6/2006) Which references 40 CFR 60 Subpart XX 60.502(a), (d) (2/12/1999), 60.503, and 60.505(b) (12/19/2003)	Each affected facility shall be equipped with a vapor collection system designed to collect the total organic compounds vapors displaced from gasoline cargo tanks during product loading. The vapor control system shall prevent the emission of at least 90% by weight of VOC. Each vapor collection system shall be designed to prevent any total organic compounds vapors collected at one loading rack from passing to another loading rack. Operate the vapor processing system in a manner not to go below the operating parameter determined during performance testing, supplemented by engineering assessments and manufacturer's recommendations that demonstrate continuous compliance with the emission standard.	Install, calibrate, certify, operate, and maintain, according to the manufacturer's specifications, a continuous monitoring system (CMS) capable of measuring temperature and installed in the firebox or in the ductwork immediately downstream from the firebox in a position before any substantial heat exchange occurs. Monitor combustion chamber temperature of the vapor combustor to ensure an average temperature of not less than 1200°F during the loading cycle in order to maintain appropriate VOC destruction. Follow 40 CFR 60 Appendix A Method 21, and Method 25A or 25B as modified by 40 CFR 60.503 and 63.425. Keep an up-to-date, readily accessible record of the continuous monitoring data. This record shall indicate the time intervals during which loadings of gasoline cargo tanks have occurred or, alternatively, shall record the operating parameter data only during such loadings. The record shall indicate the date and time of day of each period of vapor combustion unit operation. Submit an excess emissions report to the NWCAA in accordance with 63.10(e)(3) when there is a failure to maintain vapor combustion unit temperature above 1200°F. The report shall include the monitoring data for the days the failure occurred, and a description and timing of the steps taken to repair or perform maintenance on the vapor collection and processing systems or the CMS. After subsequent performance tests on the vapor combustor, document the reasons for any change in the operating parameter value since the previous performance test. Record and report simultaneously with the notification of compliance status required under §63.9(h): All data and calculations, engineering assessments, and manufacturer's recommendations used in determining the operating parameter value under §63.425(b).

Truck Loading Rack			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.15.5 HAP	40 CFR 63 Subpart CC 63.650 (12/1/2015) which references 40 CFR 63 Subpart R 63.422(b) (12/19/2003) 63.425(a) through (c) (12/19/2003)	Emissions to the atmosphere from the vapor collection and processing systems shall not exceed 10 milligrams of total organic compounds per liter of gasoline loaded.	Conduct a performance test on the vapor processing and collection. Use the test methods and procedures in 40 CFR 60.503 of this chapter, except a reading of 500 ppm shall be used to determine the level of leaks to be repaired under 40 CFR 60.503(b), or Use alternative test methods and procedures in accordance with the alternative test method requirements in §63.7(f). The performance test requirements of 40 CFR 60.503(c) do not apply to flares defined in §63.421 and meeting the flare requirements in §63.11(b). The owner or operator shall demonstrate that the flare and associated vapor collection system is in compliance with the requirements in §63.11(b) and 40 CFR 60.503(a), (b), and (d), respectively. For each performance test, the owner or operator shall determine a monitored operating parameter value for the vapor processing system using the following procedure: During the performance test, continuously record the operating parameter under §63.427(a). Determine an operating parameter value based on the parameter data monitored during the performance test, supplemented by engineering assessments and the manufacturer's recommendations; and Provide for the Administrator's approval the rationale for the selected operating parameter value, and monitoring frequency and averaging time, including data and calculations used to develop the value and a description of why the value, monitoring frequency, and averaging time demonstrate continuous compliance with the emission standard in §63.422(b) or §60.112b(a)(3)(ii) of this chapter. For performance tests performed after the initial test, the owner or operator shall document the reasons for any change in the operating parameter value since the previous performance test.

Truck Loading Rack			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.15.6 VOC	NWCAA 580.424 (12/13/1989) (State Only 6/14/2001) WAC 173-491- 040(2)(c)(i) and (2)(c)(ii) (State Only 12/23/1997) WAC 173-401- 615(1)(b) & (c) (10/17/2002)	The vapor control system shall prevent the emission of at least 90 percent by weight of the VOC and shall limit the emission to no more than 35 milligrams VOC per liter of gasoline transferred.	<i>Directly Enforceable</i> Conduct MR&R in accordance with AOP Terms 5.15.3 and 5.15.4. Follow 40 CFR 60 Appendix A Method 21, and Method 25A or 25B as modified by 40 CFR 60.503 and 63.425.
5.15.7 SO ₂	40 CFR 60 Subpart J 60.104(a)(1), (6/24/2008) 60.105 (a)(4) and 60.105(e)(3)(ii) (12/1/2015)	<u>NSPS for Refinery Fuel Gas</u> H ₂ S in gases combusted in the Truck Loading Rack Vapor Combustor shall not exceed 162 ppmvd (230 mg/dscf), 3-hour rolling average. Purchased natural gas that is used as supplemental fuel in the Vapor Combustor is exempt from this requirement.	Retain records of fuel used for pilot gas. Retain records to assure that fuels loaded meet the sulfur specifications for that finished product. Report to EPA Region 10 and the NWCAA, any change in the type of fuels loaded, type of gaseous fuel used as a pilot fuel in the vapor combustor or any change in their sulfur specifications. In addition, report any failures to meet the sulfur specifications of products loaded or fuel used for the pilot. Reports shall be submitted within 30 days of the change or failure to meet sulfur specifications a product or fuel. Use 40 CFR 60 Appendix A Method 11 or 15.
Truck Loading Rack (33-150)			
Note: 40 CFR 60 and 63 General Provisions included in Section 3 apply to these affected facilities.			
5.15.8 General	OAC 527f, Condition 11 and 12 (3/16/2021)	Maximum loadout of gasoline through the terminal shall be limited to 26,000 barrels per day. Total loadout of diesels and jet fuel shall be limited to 76,000 barrels per day combined.	Maintain a record of the calendar day Truck Loading Rack loading rate of gasoline, diesel and jet fuels.

Truck Loading Rack			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.15.9 VOC	OAC 527f, Condition 5 (3/16/2021) NWCAA 580.425 (12/13/1989) (State Only 6/14/01) WAC 173-401- 615(1)(b) & (c) (10/17/2002)	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 a cargo tank is not in compliance or when the vapor recovery system is not in operation.
5.15.10 VOC	OAC 527f, Condition 1 (3/16/2021) NWCAA 580.421 (12/13/1989) (State Only 6/14/01) WAC 173-491- 040(2)(b)(i) (12/23/97-state only) WAC 173-401- 615(1)(b) & (c) (10/17/2002)	The loading terminal shall employ submerged loading or bottom loading and be equipped with a vapor control system.	<i>Directly Enforceable</i> Keep written operation and maintenance procedures onsite specifying that all product loading will be submerge loaded and that the vapor combustor shall be operating at all times when gasoline vapors are being routed to the device.
5.15.11 VOC	OAC 527f, Condition 2 (3/16/2021) NWCAA 580.422 (12/13/1989) (State Only 6/14/01) WAC 173-491- 040(2)(b)(iv) (12/23/97-state only) WAC 173-401- 615(1)(b) & (c) (10/17/2002)	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 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.

Truck Loading Rack			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.15.12 VOC	OAC 527f, Condition 8 (3/16/2021) WAC 173-401-630(1) (3/5/2016)	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.	Follow the measurement procedures specified in 40 CFR 60.503(d). <i>Directly Enforceable</i> Maintain a record of the results of each calibration.
5.15.13 VOC	OAC 527f, Condition 3 (3/16/2021) NWCAA 580.423 and 580.424 (12/13/1989) (State Only 6/14/01) WAC 173-491-040(2)(b)(ii) and (iii) (12/23/97-state only) WAC 173-401-615(1)(b) & (c) (10/17/2002)	Vapor return lines shall be connected such that all displaced vapors during loading are vented to the vapor recovery system.	<i>Directly Enforceable</i> Inspect and record condition during testing.
5.15.14 VOC	OAC 527f, Condition 7 (3/16/2021) WAC 173-491-040(6)(b)(iii)(A)(II), (III), (IV) and (B) (12/23/97-state only)	Operate the vapor recovery system such that: The gasoline vapor concentration is less than the lower explosive limit at a distance of 2.5 cm or greater from any potential leak source and liquid leaks must be less than 3 drops per minute and no more than 10 ml per disconnect (4 drops per minute per WAC 173-491-040). Repair and retest a vapor collection system that exceeds these limits within ten days (15 days per WAC 173-491-040).	Each calendar month, the vapor collection system, the vapor processing system, and each loading rack handling gasoline shall be inspected during the loading of gasoline cargo tanks for liquid or vapor leaks of volatile organic compounds. Each detection of a leak shall be recorded, and the source of the leak repaired within 15 calendar days after detection. Maintain a record of the results of monthly leak detection and repair inspections.

Truck Loading Rack			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.15.15 VOC	OAC 527f, Condition 6 (3/16/2021) NWCAA 580.426 (12/13/1989) (State Only 6/14/01) WAC 173-401-615(1)(b) & (c) (10/17/2002)	All loading arms shall be designed, maintained and operated to prevent overfill, fugitive liquid or vapor leaks, and excess gasoline drainage during disconnect.	<i>Directly Enforceable</i> Inspect and record condition during biennial testing.
5.15.16 VOC	WAC 173-491-040(6)(b)(iii)(A)(1) & (b)(iii)(B) (12/23/1997-state only) WAC 173-401-615(1)(b) & (c) (10/17/2002)	Transport tank pressure shall not exceed a pressure of eighteen inches of water or a vacuum of six inches of water. Repair and retest a vapor collection system that exceeds this limit within fifteen days.	<i>Directly Enforceable</i> Inspect and record condition during biennial testing.
5.15.17 VOC	WAC 173-491-040(2)(c)(iii) (12/23/1997-state only)	The backpressure in the vapor collection system shall not exceed the transport tank's pressure relief settings.	

Truck Loading Rack			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.15.18 VOC/ HAP	NWCAA 580.102 and 580.103 (12/13/1989) (State Only 11/12/1999) WAC 173-491-040(6)(b)(i) and WAC 173-491-040(6)(d) (12/23/1997-state only) WAC 173-491-030(4) (10/7/2007-State only) WAC 173-401-615(1)(b) & (c) (10/17/2002)	Gasoline transport tanks have to be leak tested annually. Ensure that gasoline is loaded only into cargo tanks that pass annual leak checks performed in accordance with 40 CFR 60 Appendix A Method 27 and the criteria of NWCAA 580.103.	<i>Directly Enforceable</i> Maintain copies of a valid leak-tightness test certification for each cargo tank loaded. Maintain annual throughput records for the loading terminal.
5.15.19 VOC	OAC 527f, Condition 9 (3/16/2021) WAC 173-401-615(1)(b) & (c) (10/17/2002)	Maintain a record of all replacements and additions of components performed on the vapor processing system.	<i>Directly Enforceable</i> Keep records of replacements and additions to components on the existing vapor processing system onsite and available for inspection.
5.15.20 VOC	OAC 527f, Condition 10 (3/16/2021) WAC 173-401-615(1)(b) & (c) (10/17/2002)	Emissions from the Truck Loading Rack shall be included in the annual emission inventory report submitted to the NWCAA.	<i>Directly Enforceable</i> Report emissions from Truck Loading Rack in annual emissions report.

Truck Loading Rack			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.15.21 HAP	40 CFR 63 Subpart CC 63.650 (12/1/2015) which references 63.425(e) through (i) (12/19/2003) 63.428(b) and (k) (4/6/2006)	Comply with the annual certification, leak detection test, and nitrogen pressure decay test, and continuous performance pressure decay test requirements for gasoline cargo tanks.	Comply with the test methods and procedures in 63.425(e) through (h), or as an alternative to 63.425(e), comply with the requirements in 63.425(i). Keep records of all certifications and tests required by this AOP Term. As an alternative to keeping records at the terminal of each gasoline cargo tank test result, an owner or operator may comply with the following requirements: An electronic copy of each record is instantly available at the terminal. The copy of each record is an exact duplicate image of the original paper record with certifying signatures. The permitting authority is notified in writing that each terminal using this alternative is in compliance. Or, For facilities that utilize a terminal automation system to prevent gasoline cargo tanks that do not have valid cargo tank vapor tightness documentation from loading (e.g., via a card lock-out system), a copy of the documentation is made available (e.g., via facsimile) for inspection by permitting authority representatives during the course of a site visit, or within a mutually agreeable time frame. The copy of each record is an exact duplicate image of the original paper record with certifying signatures. The permitting authority is notified in writing that each terminal using this alternative is in compliance.

Truck Loading Rack			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.15.22 HAP	40 CFR 63 Subpart CC 63.650 (12/1/2015) which references 63.422 (e) (12/19/2003) Which references 60.502(h) through (j) (2/12/1999) Which references 60.503(d) (12/19/2003)	Comply with the following: The vapor collection and liquid loading equipment shall be designed and operated to prevent gauge pressure in the delivery tank from exceeding 4,500 pascals (450 mm of water) during product loading. This level is not to be exceeded when measured by the procedures specified in §60.503(d). No pressure-vacuum vent in the bulk gasoline terminal's vapor collection system shall begin to open at a system pressure less than 4,500 pascals (450 mm of water). OR The owner or operator shall design and operate the vapor processing system, vapor collection system, and liquid loading equipment to prevent gauge pressure in the railcar gasoline cargo tank from exceeding the applicable test limits in §63.425(e) and (i) during product loading. This level is not to be exceeded when measured by the procedures specified in 40 CFR 60.503(d) of this chapter. No pressure-vacuum vent in the bulk gasoline terminal's vapor processing system or vapor collection system may begin to open at a system pressure less than the applicable test limits in §63.425(e) or (i).	A pressure measurement device (liquid manometer, magnehelic gauge, or equivalent instrument), capable of measuring up to 500 mm of water gauge pressure with ± 2.5 mm of water precision, shall be calibrated and installed on the terminal's vapor collection system at a pressure tap located as close as possible to the connection with the gasoline tank truck. During the performance test, the pressure shall be recorded every 5 minutes while a gasoline cargo tank is being loaded; the highest instantaneous pressure that occurs during each loading shall also be recorded. Every loading position must be tested at least once during the performance test. Each calendar month, the vapor collection system, the vapor processing system, and each loading rack handling gasoline shall be inspected during the loading of gasoline cargo tanks for total organic compounds liquid or vapor leaks. For purposes of this paragraph, detection methods incorporating sight, sound, or smell are acceptable. Each detection of a leak shall be recorded, and the source of the leak repaired within 15 calendar days after it is detected.

5.15.23 HAP	40 CFR 63 Subpart CC 63.650 (12/1/2015) which references 63.422(a), (c) (12/19/2003), 63.428(g)(1), (h)(2), and (h)(3) (4/6/2006), Which references 60.502(e) through (g) (2/12/1999)	Loadings of liquid product into gasoline tank trucks shall be limited to vapor-tight gasoline cargo tanks. The owner or operator shall act to assure that loadings of gasoline cargo tanks at the affected facility are made only into tanks equipped with vapor collection equipment that is compatible with the terminal's vapor collection system. The owner or operator shall act to assure that the terminal's and the cargo tank's vapor collection systems are connected during each loading of a gasoline cargo tank at the affected facility. Examples of actions to accomplish this include training drivers in the hookup procedures and posting visible reminder signs at the affected loading racks.	Use the following procedures: The owner or operator shall obtain the vapor tightness documentation described in AOP Term 5.15.21 for each gasoline cargo tank which is to be loaded at the affected facility. The owner or operator shall require the tank identification number to be recorded as each gasoline cargo tank is loaded at the affected facility. The owner or operator shall cross-check each gasoline tank identification number with the file of tank vapor tightness documentation within 2 weeks after the corresponding tank is loaded, unless either of the following conditions is maintained: If less than an average of one gasoline cargo tank per month over the last 26 weeks is loaded without vapor tightness documentation, then the documentation cross-check shall be performed each quarter, or, If less than an average of one gasoline cargo tank per month over the last 52 weeks is loaded without vapor tightness documentation, then the documentation cross-check shall be performed semiannually. If either the quarterly or semiannual cross-check provided in paragraphs reveals that these conditions were not maintained, the source must return to biweekly monitoring until such time as these conditions are again met. The terminal owner or operator shall notify the owner or operator of each non-vapor-tight gasoline cargo tank loaded at the affected facility within 1 week of the documentation cross-check. The terminal owner or operator shall take steps assuring that the nonvapor-tight gasoline cargo tank will not be reloaded at the facility until vapor tightness documentation for that gasoline cargo tank is obtained which documents that: The tank truck or railcar gasoline cargo tank meets the test requirements in §63.425(e), or the railcar gasoline cargo tank meets applicable test requirements in §63.425(i). For each gasoline cargo tank failing the test in §63.425(f) or (g) at the facility, the cargo tank either: Before repair work is performed on the cargo tank, meets the test requirements in §63.425(g) or (h), or After repair work is performed on the cargo tank before or during the tests in §63.425(g) or (h), subsequently passes the annual certification test described in §63.425(e). Alternate procedures to those described in this AOP Term for limiting gasoline cargo tank loadings may be used upon application to, and approval by, the Administrator.
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Truck Loading Rack			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
	See AOP Term 5.15.23 above.	See AOP Term 5.15.23 above.	Include in a semiannual report to the Administrator each loading of a gasoline cargo tank for which vapor tightness documentation had not been previously obtained by the facility. Submit an excess emissions report to the Administrator in accordance with §63.10(e)(3), whether or not a CMS is installed at the facility. The following occurrences are excess emissions events under this subpart, and the following information shall be included in the excess emissions report, as applicable: Each instance of a nonvapor-tight gasoline cargo tank loading at the facility in which the owner or operator failed to take steps to assure that such cargo tank would not be reloaded at the facility before vapor tightness documentation for that cargo tank was obtained. Each reloading of a nonvapor-tight gasoline cargo tank at the facility before vapor tightness documentation for that cargo tank is obtained by the facility in accordance with §63.422(c)(2).
5.15.24 VOC	WAC 173-491-040(6)(a) (State Only 12/23/1997) WAC 173-401-615(1)(b) & (c) (10/17/2002)	During the months of May, June, July, August, and September any failure of a vapor collection system to comply with WAC 173-491-040 requires the discontinuation of gasoline transfer operations for the failed part of the system.	<i>Directly Enforceable</i> Record any periods during these months when the vapor collection system failed, and actions taken.
5.15.25 VOC	WAC 173-491-040(6)(e) (State Only 12/23/1997) WAC 173-401-615(1)(b) & (c) (10/17/2002)	Take reasonable measures to prevent the spilling, discarding into 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.

Truck Loading Rack			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
Truck Loading Rack – Equipment in HAP Service			
Note: 40 CFR 63 General Provisions included in Section 3 apply to these affected facilities.			
5.15.26 HAP	40 CFR 63 Subpart CC 63.648 (2/4/2020) which references 40 CFR 60 Subpart VV (6/2/2008)	<u>MACT for Equipment Leaks</u> Monitor components in HAP service for leaks, repair leaks in a timely manner, and report results semi-annually in accordance with 40 CFR 60 Subparts VV, except that pressure relief devices in organic HAP service must comply with the requirements in 63.648(j). If a flare is used as a control device, the flare shall meet the requirements of 63.670. Applicable components include pumps, valves, pressure relief devices, sampling systems, open-ended lines, flanges, and connectors. Affected facilities may include individual compressors.	Conduct a LDAR program in accordance with AOP Section 6.3.
5.15.27 HAP	40 CFR 63 Subpart CC 63.648(j) and 63.655(g) (2/4/2020)	<u>Refinery MACT for Pressure Relief Devices</u> Except during a pressure release, operate, monitor, repair as necessary, and report results semiannually for each pressure relieve device (PRD) in organic HAP gas or vapor service in accordance with 40 CFR 63 Subpart CC. Conduct a root cause analysis (RCA) and corrective action analysis (CAA) as required after a pressure release to atmosphere.	Conduct MR&R in accordance with AOP Section 6.6.

Truck Loading Rack			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
Truck Loading Rack – Equipment in VOC Service			
Note: 40 CFR 60 General Provisions included in Section 3 apply to these affected facilities.			
5.15.28	40 CFR 60 Subpart GGG 60.590-60.593 (6/2/08) which references 40 CFR 60 Subpart VV (6/2/08) NWCAA 580.846 (12/13/89)	<u>NSPS for Equipment Leaks</u> Monitor components in VOC service for leaks, repair leaks in a timely manner, and report results semi-annually in accordance with 40 CFR 60 Subparts VV. Applicable components include pumps, valves, pressure relief devices, sampling systems, open-ended lines, flanges, and connectors. Affected facilities may include individual compressors.	Conduct a LDAR program in accordance with AOP Section 6.3. In addition, visually inspect any relief valve within 24-hours after it has vented to atmosphere.

Marine Terminal			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
Entire Marine Terminal (35-160:162)			
Note: 40 CFR 60 and 63 General Provisions included in Section 3 apply to these affected facilities.			
5.15.29 VOC/ HAP	40 CFR 63 Subpart Y 63.562(b)(1)(i) and (c)(2)(i), 63.563(a)(1) (4/21/2011), 63.564(b)(3) (9/19/1995), 63.567(f) and (g) (11/19/2020), 40 CFR 63 Subpart CC 63.651(a) (12/1/2015)	<u>Vapor Collection System of the Terminal</u> Collected vapors shall not pass through another loading berth or bypass valve to the atmosphere. Bypass valves shall be closed during loading by car-seal or other mechanism such as a flow indicator to ensure adequate closure. Repairs shall be made to valves, car-seals, or closure mechanisms no later than 15 days after a change in the position of the valve or a break in the car-seal or closure mechanism is detected or no later than prior to the next marine tank vessel loading operation, whichever is later.	Visually inspect bypass valves during each vessel loading and at least once per month to ensure that they are closed. Maintain a detailed engineering report that describes the vapor collection system and the location of each bypass valve that has the potential to vent collected vapors to the atmosphere without control. Maintain a record of the date and time that each bypass valve is opened or closed.

Marine Terminal			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.15.30 VOC/ HAP	OAC 716b, Conditions 1 and 2 (7/9/2012) 40 CFR 63 Subpart Y 63.562(a), (b)(1)(ii) and (c)(2)(ii), 63.563(a)(2) (4/21/2011), 63.564(c) (9/19/1995), 63.565(b) (2/27/2014), 40 CFR 63 Subpart CC 63.651(a) (12/1/2015) WAC 173-401-615(1)(b) & (c) (10/17/2002)	<u>Ship-to-Shore Compatibility</u> Each vessel's vapor collection equipment shall be compatible with onshore equipment and the vessel shall be connected to the onshore vapor collection system during loading.	<i>Directly Enforceable</i> Continuously monitor the operating pressure of the vessel during loading.
5.15.31 VOC/ HAP	OAC 716b, Condition 3 (7/9/2012) 40 CFR 63 Subpart Y 63.562(b)(1)(iii) and (c)(2)(iii), 63.563(a)(4) (4/21/2011), 63.565(c)(1) (2/27/2014), 63.567(h) and (i) (11/19/2020) 40 CFR 63 Subpart CC 63.651(a) (12/1/2015) WAC 173-401-615(1)(b) & (c) (10/17/2002)	<u>Vapor Tightness of Marine Vessels</u> Load only vessels that are vapor-tight and tested using methods specified in 63.565(c)(1).	<i>Directly Enforceable</i> Maintain a permanent record documenting that each vessel loaded was tested and determined to be vapor-tight no more than 12 months prior to loading. The documentation shall include the test title, vessel name, number and owner, test date and location, tester name and signature.

Marine Terminal			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.15.32 VOC/ HAP	OAC 716b, Condition 4 (7/9/2012) WAC 173-401-615(1)(b) & (c) (10/17/2002)	<u>Vapor Combustor Control Efficiency</u> The combustion device shall during all loading control VOC emissions by at least 98% by weight.	<i>Directly Enforceable for OAC 716b</i> Continuously monitor and maintain a baseline exhaust temperature of the vapor combustor $\geq 1350^{\circ}\text{F}$ average for each continuous 3-hour block during which loading operations occur. Record the temperature at least once every 15 minutes and compute the hourly average temperature and 3-hour block average temperature. The temperature monitor shall be accurate within $\pm 10^{\circ}\text{F}$, or within 1% of the baseline temperature, whichever is less stringent. Verify the accuracy of the temperature monitor at least once each calendar year with a reference temperature monitor (traceable NIST standards or an independent temperature measurement device dedicated for this purpose). During this accuracy test, the probe of the reference device shall be at the same location as that of the temperature monitor being tested. Maintain a record of the results of each performance test used to determine the baseline temperature of the vapor combustor. 40 CFR 60 Appendix A, Method 25A or 25B may be used in lieu of Method 25.
5.15.33 VOC/ HAP	40 CFR 63 Subpart Y 63.562(c)(3) and (4), 63.563(b)(4) (4/21/2011), 63.564(a), 63.564(e)(2) and (4) (9/19/1995), 63.565(d) and (f) (2/27/2014) 40 CFR 63 Subpart CC 63.651(a) (12/1/2015) WAC 173-401-615(1)(b) & (c) (10/17/2002)	<u>Vapor Combustor Control Efficiency</u> The combustion device shall: • During all loading control VOC emissions by at least 98% by weight, and, • During gasoline loading VOC emissions shall not exceed 1,000 ppmv VOC. Determine the baseline temperature required to meet these emission limits during performance testing using EPA Method 25.	
5.15.34 VOC/ HAP	OAC 716b, Condition 5 (7/9/2012) 40 CFR 63 Subpart Y 63.562(c)(6)(4/21/2011) 40 CFR 63 Subpart CC 63.651(a) (12/1/2015)	<u>Maintenance Allowance</u> Loading of light refinery product may be performed without emission control for a period not to exceed 14 days in any consecutive 12-month period to allow for maintenance on the vapor control equipment. A day is defined as any portion of a calendar day in which loading of light refinery products is performed without emission control due to maintenance of the vapor collection or control equipment.	Maintain a record of all maintenance performed on the air pollution control equipment at the marine terminal.

Marine Terminal			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.15.35 VOC/ HAP	40 CFR 63 Subpart Y 63.562(e), 63.563(b)(3) (4/21/2011) 40 CFR 63 Subpart CC 63.651(a) (12/1/2015)	<u>Operation & Maintenance Plan</u> If any operating parameters are discovered to be outside the acceptable range of the O & M plan, an inspection of the equipment shall be conducted within 24 hours to correct the variance. Corrective action shall be taken as soon as practicable for any maintenance problem identified during the inspection.	Maintain a written O & M plan that includes monitoring methods, inspection schedules, and a continuous monitoring system quality control program. If the O & M plan is revised all previous versions of the plan shall be maintained. Maintain records of maintenance and inspection activities, and any variances that occur in the program.
5.15.36 VOC/ HAP	40 CFR 63 Subpart Y 63.563(c) (4/21/2011) and 63.567(k) (11/19/2020) 40 CFR 63 Subpart CC 63.651 (12/1/2015)	<u>Equipment Leaks</u> Conduct an inspection and instrument survey for leaks on the vapor collection and control device, including ductwork, piping and connections, using EPA Method 21 at least once each calendar year. When a leak is detected, a first effort to repair the vapor collection system and control device shall be made within 15 days or prior to the next marine tank vessel loading operation, whichever is later.	Leaking component shall be tagged until repaired. A record shall be maintained of the date each leak was identified, how it was identified, where it was located, the date the leak was repaired and the name and signature of the person conducting the leak detection and repair work. Follow 40 CFR 60 Appendix A Method 21.
5.15.37 VOC/ HAP	40 CFR 63 Subpart Y 63.560(d) and 63.567(c) (11/19/2020) 40 CFR 63 Subpart CC 63.651 (12/1/2015)	<u>Exempt Commodities</u> 40 CFR 63 Subpart Y does not apply to emissions resulting from loading commodities with a vapor pressure less than 1.5 psia at standard conditions (20°C).	Maintain a record of the periods during which commodities are loaded having a vapor pressure less than 1.5 psia.
5.15.38 General	OAC 716b, Condition 6 (7/9/2012)	Record total of refinery products loaded at each berthing dock.	Maintain records of product loaded on site.
5.15.39 General	OAC 716b, Condition 7 (7/9/2012)	At all times including periods of startup and malfunction, owners or operators shall operate the terminal in a manner consistent with safety and good air pollution control practices for minimizing emissions.	Standard operating procedures for the Marine Terminal shall be made available to the NWCAA upon request.

Marine Terminal			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.15.40 HAP	40 CFR 63 Subpart Y 63.560 (a)(4) (11/19/2020), 63.561, 63.562(e) (4/21/2011)	Existing sources with aggregate actual HAP emissions from marine tank vessel loading operations at all loading berths as follows: Less than 9.1 Mg (10 tons) of each individual HAP calculated annually after September 20, 1999, and less than 22.7 Mg (25 tons) of all HAP combined calculated annually after September 20, 1999, as determined by emission estimation in §63.565(l) of this subpart must meet the submerged fill standards of 46 CFR 153.282.	Maintain a written O & M plan that includes monitoring methods, inspection schedules, and a continuous monitoring system quality control program. If the O & M plan is revised all previous versions of the plan shall be maintained. Maintain records of maintenance and inspection activities, and any variances that occur in the program.
Marine Terminal – Equipment in VOC Service			
Note: <u>No</u> other 40 CFR 60 or 63 General Provisions included in Section 3 apply to these affected facilities.			
5.15.41 VOC	NWCAA 580.8 (12/13/1989) (State Only 3/13/1997)	<u>RACT for Equipment Leaks</u> Monitor components in VOC service for leaks, repair leaks in a timely manner, and report results semi-annually in accordance with 40 CFR 60 Subparts VV. Applicable components include pumps, valves, pressure relief devices, sampling systems, open-ended lines, flanges, and connectors. Affected facilities may include individual compressors.	Conduct a LDAR program in accordance with AOP Section 6.3. In addition, visually inspect any relief valve within 24-hours after it has vented to atmosphere.

LPG/Butane/Pentane Loading			
Permit Term	Citation	Description	Monitoring/Recordkeeping/Reporting
LPG/Butane/Pentane Loading - Components in VOC Service			
Note: 40 CFR 60 General Provisions included in Section 3 apply to these affected facilities.			
5.15.42 VOC	40 CFR 60 Subpart GGG 60.590-60.593 (6/2/2008) Which references 40 CFR 60 Subpart VV (6/2/2008) NWCAA 580.846 (12/13/1989)	<u>NWCAA 580 and NSPS for Equipment Leaks</u> Monitor components in VOC service for leaks, repair leaks in a timely manner, and report results semi-annually in accordance with 40 CFR 60 Subparts VV. Applicable components include pumps, valves, pressure relief devices, sampling systems, open-ended lines, flanges, and connectors. Affected facilities may include individual compressors.	Conduct a LDAR program in accordance with AOP Section 6.3. In addition, visually inspect any relief valve within 24 hours after it has vented to atmosphere.
5.15.43 VOC	OAC 298a Condition 1 (4/30/2012) WAC 173-401-615(1)(b) & (c) (10/17/2002)	The butane loading rack shall employ vapor balancing and during butane loading operations, vapors shall be collected and recovered or incinerated.	<i>Directly Enforceable</i> Report any periods during which vapors are not controlled during butane loading as a deviation in the monthly report.

Organic Liquids Distribution			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
Organic Liquids Distribution, Small Tanks and Racks			
Note: 40 CFR 63 General Provisions included in Section 3 apply to these affected facilities.			
5.15.44 HAP	40 CFR 63 Subpart EEEE 63.2343(a) (7/7/2020)	<u>MACT for Organic Liquids Distribution (Non-Gasoline)</u> Emission sources not requiring control: - Storage tanks with capacity less than 5,000 gallons, and, - Transfer unloading racks only.	Maintain records of: - Vessel capacity, and, - Keep record of transfer rack operations.

Organic Liquids Distribution			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.15.45 HAP	40 CFR 63 Subpart EEEE 63.2343(b)(1) & (2) 63.2343(c)(3), 63.2390(d) (7/7/2020)	<u>MACT for Organic Liquids Distribution (Non-Gasoline)</u> Emission sources not requiring control: Transfer racks at existing facilities meeting the requirements of Table 2 to this subpart, items 7 through 10.	Keep available a current record of the total actual annual facility-level organic liquid loading volume, as defined in 63.2406, through transfer racks to document the applicability, or lack thereof, of the emission limitations in Table 2 to this subpart, items 7 through 10. If an affected facility subject to the control requirements is added, submit subsequent initial notification and semiannual compliance reports containing the information specified in 63.2386(c)(1), (2), (3), and (10)(i), and as applicable in (d)(3) and (4).
5.15.46 HAP	40 CFR 63 Subpart EEEE 63.2386(e) (7/7/2020)	<u>MACT for Organic Liquids Distribution (Non-Gasoline)</u> Report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 71.6(a)(3)(iii)(A).	If an affected facility subject to the control requirements is added, report Subpart EEEE deviations in the semiannual reports.
5.15.47 HAP	40 CFR 61 Subpart BB 61.300(b) & (d), and 61.305(i) (12/14/2000)	<u>NESHAP for Benzene Transfer Operations</u> Recordkeeping and reporting for facilities with annual benzene loading below 1.3 million liters (343,424 gallons) and/or the material loaded is less than 70% by weight benzene.	Maintain records of: - The weight percent of the benzene loaded, - The type of vessel loaded (i.e., tank truck, railcar, or marine vessel), and, - The annual amount of benzene loaded into each type of vessel.

Crude Rail Car Unloading Facility			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
Crude Rail Car Unloading Facility - Components in HAP Service			
Note: 40 CFR 60, 61. and 63 General Provisions included in Section 3 apply to these affected facilities.			
5.15.48 Benzene	OAC 1142, Conditions 1 and 2 (1/22/2013)	<u>Benzene Limit:</u> Benzene content shall not exceed 1.8% by weight.	Maintain records of: - Type of material and its origin, - Benzene content (weight percent), - Volume of the shipment (barrels), and, - Time period and dates shipment was unloaded.
5.15.49 General	OAC 1142, Conditions 3, 4 and 5 (1/22/2013)	Railcar unloading shall be conducted using a combination of vapor balancing and direct vacuum breaker methods that prevent emissions to the atmosphere from vapor lines between the railcar vent and the crude oil sump from exceeding 500 ppm VOC as determined using 40 CFR 60 Appendix A (EPA) Method 21.	At least once every 12 months, visually inspect all equipment used for vapor balancing to ensure proper operation. Monitor potential leaks identified by visual inspection using EPA Method 21. Repair any leaks that exceed 500 ppm VOC, or remove associated equipment from service, prior to unloading next shipment. Maintain records of monitoring, leak repairs, and equipment disconnections.
5.15.50 General	OAC 1142, Condition 6 (1/22/2013)	All vents from oily wastewater system shall be connected to closed-vent system and control device designed and operated in accordance with 40 CFR 61.349.	Comply with AOP Term 5.17.11.
5.15.51 VOC	OAC 1142, Condition 7 (1/22/2013)	Monitor process equipment for leaks, repair leaks in a timely manner, and report results semi-annually as per 40 CFR 60 Subpart GGGa and its reference requirements of CFR 60 Subpart VVa.	Conduct a LDAR program in accordance with AOP Section 6.4.

Crude Rail Car Unloading Facility			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.15.52 HAP	40 CFR 63 Subpart CC 63.648 (2/4/2020) which references 40 CFR 60 Subpart VV (6/2/2008) NWCAA 580.86 (12/13/1989)	<u>MACT and RACT for Equipment Leaks</u> Monitor components in HAP service for leaks, repair leaks in a timely manner, and report results semi-annually in accordance with 40 CFR 60 Subparts VV, except that pressure relief devices in organic HAP service must comply with the requirements in 63.648(j). If a flare is used as a control device, the flare shall meet the requirements of 63.670. Applicable components include pumps, valves, pressure relief devices, sampling systems, open-ended lines, flanges, and connectors. Affected facilities may include individual compressors.	Conduct a LDAR program in accordance with AOP Section 6.3. In addition, visually inspect any relief valve within 24 hours after it has vented to atmosphere.
5.15.53 HAP	40 CFR 63 Subpart CC 63.648(j) and 63.655(g) (2/4/2020)	<u>Refinery MACT for Pressure Relief Devices</u> Except during a pressure release, operate, monitor, repair as necessary, and report results semiannually for each pressure relieve device (PRD) in organic HAP gas or vapor service in accordance with 40 CFR 63 Subpart CC. Conduct a root cause analysis (RCA) and corrective action analysis (CAA) as required after a pressure release to atmosphere.	Conduct MR&R in accordance with AOP Section 6.6.

5.16. Non-Hazardous Waste Landfarm

Table 5-16 Non-Hazardous Waste Landfarm

Non-Hazardous Waste Landfarm			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
Entire Non-Hazardous Waste Landfarm			
Note: 40 CFR 60 and 63 General Provisions included in Section 3 apply to these affected facilities.			
5.16.1 VOC	OAC 382a, Condition 1 (5/15/2012)	Emissions from the landfarm shall be reported on an annual basis as part of the NWCAA emissions inventory.	Report annually, emissions from the non-hazardous waste landfarm.

5.17. Oily Wastewater Collection, Storage and Treatment

This presents the MR&Rs for process drains that discharge to the refinery's oily water wastewater system, ancillary downstream sewer lines and junction boxes and treatment at the oil-water separators. It also includes MR&R for wastewater containers and tankage, including internal floating roof (IFR) Tanks 320, 321, 322 and 323. Under 40 CFR 63 Subpart CC, oily wastewater emissions are controlled and monitored under 40 CFR 61 Subpart FF National Emission Standard for Benzene Waste Operations.

Table 5-17 Oily Wastewater Collection, Storage and Treatment

Oily Wastewater, Collection, Storage and Treatment			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
Entire Oily Wastewater, Collection, Storage and Treatment Facilities			
Note: 40 CFR 61 and 63 General Provisions included in Section 3 apply to these affected facilities.			
5.17.1 General	OAC 348a, Condition 1 (5/3/2012)	Include benzene and VOC emissions emitted from oily wastewater collection, storage, and treatment systems in annual emission inventory reports.	Report annually, the quantity of benzene and VOC emissions from oily wastewater collection, storage, and treatment systems.

Oily Wastewater, Collection, Storage and Treatment			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.17.2 HAP	40 CFR 63 Subpart CC 63.647 (12/1/2015) and 63.655(a) (2/4/2020) which references 40 CFR 61 Subpart FF 61.346 (1/7/1993), 61.355(h) (10/17/2000), 61.356(g) & (h) (11/12/2002) and, 61.357(d)(6) (10/17/2000) WAC 173-401-630(1) (3/5/2016)	<u>Drain Systems</u> Install, operate, and maintain on each applicable drain system, junction box or opening, a cover and closed-vent system that routes all organic vapors vented from the drain system to a control device. Non-exempt drain systems shall be equipped with a water seal, cap or plug so that emissions are not vented to the atmosphere. Downstream sewer lines and junction boxes shall be covered and sealed so that emissions are not vented to the atmosphere, except that junction boxes may vent to atmosphere with an appropriate length vent-pipe and flow meter. If a flare is used as a control device, the flare shall meet the requirements of 40 CFR 63.670.	Visually inspect quarterly to ensure that no cracks or gaps occur, and that access hatches and other openings are closed and gasketed properly. When a broken seal, gasket or other problem is identified, or when detectable emissions are measured, a first attempt at repair shall be made as soon as practicable, but not later than 15 calendar days after identification. Maintain records of the location, date, and corrective action taken for each problem identified during visual inspections that could result in emissions to the atmosphere. For each non-detectable emission test, record the date of test, equipment monitored, results of monitoring, description of problems found, and the date and description of corrective action taken. Submit quarterly certifications that all required inspections have been completed accordance with 40 CFR 61 Subpart FF. Follow 40 CFR 60 Appendix A Method 21 <i>Directly Enforceable</i> Each active service drain shall be inspected monthly for indication of low water levels or other conditions that would reduce the effectiveness of the water seal control. Whenever low water levels are identified water shall be added or first efforts to repair shall be made as soon as practicable but no later than 24 hours after detection. Each inactive service drain shall be inspected weekly for indication of low water levels or other conditions that would reduce the effectiveness of the water seal controls or problems that could result in emissions to the atmosphere.

Oily Wastewater, Collection, Storage and Treatment			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.17.3 HAP	40 CFR 63 Subpart CC 63.647 (12/1/2015) and 63.655(a) (2/4/2020) which references 40 CFR 61 Subpart FF 61.349(a)(1)(iii), 61.355(h) (10/17/2000), 61.356 (11/12/2002) and 61.357 (10/17/2000)	<u>Applicable Gauging and Sampling Devices</u> Closed vent system gauging and sampling devices shall be gas-tight except when gauging or sampling is taking place.	Design to be gas tight. Maintain records of all gauging and sampling device locations and identifications. Submit a quarterly certification that all inspections have been carried out in accordance with 40 CFR 61 Subpart FF. Follow 40 CFR 60 Appendix A Method 21.

Oily Wastewater, Collection, Storage and Treatment			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.17.4 HAP	40 CFR 63 Subpart CC 63.647 (12/1/2015) and 63.655(a) (2/4/2020) which references 40 CFR 61 Subpart FF 61.346(a)(1) (1/7/1993), 61.355(h) (10/17/2000) 61.356 (11/12/2002) and 61.357 (10/17/2000)	<u>Covers and Openings – System operated at a pressure greater than atmospheric</u> Applicable covers and openings (e.g., access hatches, sampling ports) shall be designed to operate with no detectable emissions of less than 500 ppmv above background. Each opening shall be maintained in a closed, seal position (e.g., covered and gasketed) at all times waste is in the drain system except when necessary for inspection, waste sampling or removal, or for equipment inspection, maintenance, or repair.	Annual testing using 40 CFR 60 Appendix A Method 21. The detection equipment shall meet the performance criteria of EPA Method 21 and calibrated before each use on each day of its use by the procedures described in 40 CFR 60 Appendix A Method 21. Calibration gases shall be: • Zero air, • A mixture of methane or n-hexane and air at a concentration of approximately 10,000 ppm methane or n-hexane. The following monitoring procedures shall be employed: • Background levels determined using 40 CFR 60 Appendix A Method 21, • Probe to traverse around the potential leak interfaces as close as possible per 40 CFR 60 Appendix A Method 21, and, • The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared to the 500 ppmv compliance limit. Records for visual inspections shall include date of inspection, waste management unit and control equipment, location and type of problem, and description and date of corrective action. Records for each non-detectable emission test shall include date of test, background level maximum concentration measured for each measured leak interface, waste management unit and control, description of problem, and description and date of corrective action. Submit a quarterly certification that all inspections have been carried out in accordance with 40 CFR 61 Subpart FF.

Oily Wastewater, Collection, Storage and Treatment			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.17.5 HAP	40 CFR 63 Subpart CC 63.647(a) and (c) (12/1/2015) which references 40 CFR 61 Subpart FF 61.346(a)(3), (b)(5) (1/7/1993), 61.350 (3/7/1990), 61.356 (11/12/2002) and 61.357 (10/17/2000)	<u>Repair and Delay of Repair</u> The first efforts at repair of applicable equipment and components shall be made as soon as practicable, but not later than 15 calendar days after identification. Delay of repair of applicable equipment and components is allowed if the repair requires a complete or partial facility or unit shutdown. If a delay of repair occurs, repair shall be completed before the end of the next facility or unit shutdown.	Maintain records of visual inspections that include: the date of inspection, waste management unit and control equipment inspected, location and type of problems identified, and the date and description of corrective action taken. Maintain a record of equipment put on a delay of repair schedule and the anticipated date of repair.
5.17.6 HAP	40 CFR Subpart CC 63.647 (12/1/2015) which references 40 CFR 61 Subpart FF 61.342(c), 61.355(k) and 61.357(d) (10/17/2000) 40 CFR 61 Subpart FF Directly	<u>Total Annual Benzene (TAB) Report</u> Calculate the benzene quantity in each waste stream at the refinery. Determine which waste streams are exempt from emission control under the criteria set forth in Subpart FF. BP utilizes the 2.0 Mg benzene per year allowance for exempted stream under 61.342(c)(3)(B).	Submit an annual report to the NWCAA that includes a table identifying each benzene waste stream at the refinery, those waste streams chosen for exemption and the cumulative TAB quantity from those exempted streams.
5.17.7 HAP	40 CFR 63 Subpart CC 63.655(a) (2/4/2020) which references 40 CFR 61 Subpart FF 61.356(e) & (i) (11/12/2002) 40 CFR 61 Subpart FF Directly	<u>Management and Treatment Records</u> Keep records documenting that the benzene waste stream is being managed and treated in accordance with its design and operating specifications	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 records of the design analysis, test procedures used, unit startups and shutdowns and any periods when a unit is not operating as designed.

Oily Wastewater, Collection, Storage and Treatment			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.17.8 HAP	40 CFR Part 61 Subpart FF 61.348 (a)(5), (b)(2)(i) & (ii)(B), (c), and (g) 61.354(b)(2), 61.355(c)(3) (10/17/2000) 61.356(a) (11/12/2002), 40 CFR Part 63 Subpart CC 63.647 (12/1/2015) 63.655(a) (2/4/2020)	<u>Aggregated Process Wastewater Treatment</u> : The benzene content of each waste stream entering the enhanced biodegradation unit must be less than 10 ppmw on a flow-weighted annual average basis as determined by the procedures specified in 61.355(c).	Monitor each wastewater treatment system to ensure the unit is properly operated and maintained by the appropriate monitoring procedure as follows: For each enhanced biodegradation unit that is the first exempt waste management unit in a treatment train, measure the benzene concentration of each waste stream entering the unit at least once per month by collecting and analyzing one or more samples using the procedures specified in 61.355(c)(3). Maintain records for not less than 2 years from date of generation.

Oily Wastewater, Collection, Storage and Treatment			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
API Oil Water Separator – Fixed Roof			
<i>Note: 40 CFR 61 and 63 General Provisions included in Section 3 apply to these affected facilities.</i>			
5.17.9 HAP	40 CFR 63 Subpart CC 63.647 (12/1/2015), and 63.655(a) (2/4/2020) which references 40 CFR 61 Subpart FF 61.347 (1/7/1993), 61.350 (3/7/1990), 61.355(h) (10/17/2000), 61.356(d),(g) & (h) (11/12/2002) and 61.357(d)(6) & (d)(8) (10/17/2000) 40 CFR 61 Subpart FF Directly	<u>Oil Water Separators - Fixed Roof</u> With the exception of bays equipped with floating roof covers, each oil water separator system shall be covered, and vapors routed to a control device. The system shall operate with no detectable emissions equal to or greater than 500 ppm above background. Each opening is to remain closed or sealed except during waste sampling or removal, or for equipment inspection, maintenance, or repair. Except where repair requires a unit shutdown, a first attempt at repair shall be made as soon as practicable, but not later than 15 calendar days after identifying a problem with a seal or gasket or when a leak is detected. When repair is delayed for a shutdown, repair shall be made before the end of the next unit shutdown. If a flare is used as a control device, the flare shall meet the requirements of 40 CFR 63.670.	Perform quarterly visual inspections of each cover seal, access hatch, and all other openings to ensure there are no cracks or gaps and that openings are properly closed and gasketed. If defects are found, first efforts at repair shall be made as soon as practicable but not later than 15 calendar days after discovery unless repair requires a unit shutdown. Submit quarterly reports to the NWCAA certifying that required inspections have been completed. Annually, monitor for leaks using 40 CFR 60 Appendix A Method 21. Instrument calibration gases shall be zero air (<10 ppm HC) and approximately 10,000 ppm methane or n-hexane. Submit an annual report that includes results of inspections and leak tests which indicates a 500 ppm leak above background or where or a problem such as a broken seal, gap, or other problem occurred. The report shall include a description of action taken to correct each problem and the date the action was completed. Maintain records of all leak testing and inspections performed. 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 a benzene emissions release.

Oily Wastewater, Collection, Storage and Treatment			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
API Oil Water Separator Effluent Sump - Floating Roof			
<i>Note: 40 CFR 60, 61 and 63 General Provisions included in Section 3 apply to these affected facilities.</i>			
5.17.10 HAP	40 CFR 63 Subpart CC 63.647 (12/1/2015) which references 40 CFR 61 Subpart FF 61.350, 61.352 (1/7/1993) 61.356(I) (11/12/2002) and 61.357(g) (10/17/2000) which references 40 CFR 60 Subpart QQQ 60.693-2(a), 60.692-6 and 60.696(d) (8/18/1995)	<u>Oil Water Separators - Floating Roof</u> The floating roof shall have primary and secondary seals. Primary seal gaps shall not to exceed 1.5 inches at any one point or 3.2 square inches per foot of total gap area. Secondary seal gaps shall not exceed 0.5 inches at any one point or 0.32 square inches per foot of total gap area. Access doors and other openings shall be properly gasketed and sealed when not in use. Emergency roof drain fabric shall cover 90% of the drain area. Defects in gaps or seals shall be repaired within 30 days of discovery (Delay of repair of facilities subject to 40 CFR Subpart FF 61.350 are allowed if the facilities cannot be repaired without a complete or partial shutdown of the facility. Repairs must be made before the end of the next facility shutdown.)	Measure the secondary seal gaps annually. Measure the primary seal gaps at least once every five years. Gaps shall be measured while the roof is floating off its legs and at a design operating level using various sized probes at all points where a 1/8" diameter probe passes freely between the roof seal and separator wall. Gap areas shall be calculated by adding the gap surface area of each gap location for the primary seal and the secondary seal individually and dividing the sum for each seal by the nominal perimeter of the separator basin. Conduct quarterly visual inspections of access doors, emergency roof drains and other openings. Defects in gaps, hatch covers, gaskets, seals or other openings shall be repaired within 30 days of discovery unless repair requires a complete or partial refinery or process unit shutdown. If a delay of repair is utilized, repair shall be made before the end of the next refinery or process unit shutdown. Maintain records of visual inspections and gap testing that include the date of inspection and/or gap measurement and the result. If repairs are made, the records shall include the date of the repair and repair method used. Submit quarterly reports that identify all seal gap measurements that are found to exceed the prescribed limits.

Oily Wastewater, Collection, Storage and Treatment			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
Closed Vent Systems			
<i>Note: 40 CFR 61 and 63 General Provisions included in Section 3 apply to these affected facilities.</i>			
5.17.11 HAP	40 CFR 63 Subpart CC 63.647 (12/1/2015), and 63.655(a) (2/4/2020) which references 40 CFR 61 Subpart FF 61.349 (10/17/2000), 61.350 (3/7/1990), 61.354(f), 61.355(h) (10/17/2000), 61.356(f)(1), (g), & (h) (11/12/2002) and 61.357(d)(6) & (d)(8) (10/17/2000) 40 CFR 61 Subpart FF Directly	<u>Closed Vent Systems</u> Design the system to operate with no detectable emissions. If a bypass vent is used it shall be closed and secured during normal operations and inspected monthly. Inspect quarterly and monitor for leaks annually. First attempt at repair shall be made as soon as practicable but in no case later than 5 days after detection. Repair shall be completed within 15 days, unless a delay of repair is required by a unit shutdown.	Visually inspect quarterly, or monthly, if bypass vents are used. Instrument monitor for leaks annually using 40 CFR 60 Appendix A Method 21 and a leak definition of 500 ppm above background. Instrument calibration gases shall be zero air (<10 ppm HC) and approximately 10,000 ppm methane or n-hexane. Keep records on the location and date of defects found during inspections and/or leaks found during instrument monitoring. Records shall include the date and description of corrective action taken. Maintain for the life of the equipment, certification that the system was designed for operations at the highest estimated load rates. Submit quarterly certifications that required inspections were completed. Submit annual reports summarizing the results of visual inspections and instrument monitoring.

Oily Wastewater, Collection, Storage and Treatment			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
Carbon Adsorption Control Devices			
<i>Note: 40 CFR 61 and 63 General Provisions included in Section 3 apply to these affected facilities.</i>			
5.17.12 HAP	40 CFR 63 Subpart CC 63.647 (12/1/2015), and 63.655(a) (2/4/2020) which references 40 CFR 61 Subpart FF 61.349(a)(2)(ii), (c)(1) & (h), 61.354(d) (10/17/2000) and 61.356(a), (f)(2) & (j) (11/12/2002) 40 CFR 61 Subpart FF Directly	<u>Carbon Adsorption Control Devices</u> Carbon adsorption system shall control organic emissions with at least 95% by weight efficiency or control benzene emissions with at least 98% by weight efficiency. Operate the control device at all times except during maintenance or repair of the waste management unit. Maintain a design analysis for the control device and define a carbon replacement interval based on the total carbon working capacity of the control device and source operating schedule.	Monitor the organic compound concentration level in the exhaust either on a daily basis or at intervals no greater than 20% of the design carbon replacement interval, whichever is greater. Replace the carbon with fresh carbon when breakthrough (concentration of 500 ppmv above background) is indicated. Conduct quarterly visual inspections of the closed vent system and control device and make a first attempt at repair as soon practicable but in no case later than 5 calendar days after detection. Complete repair no later than 15 days after emissions are detected or a visual defect is observed. A delay of repair can be utilized if the repair requires a unit shutdown, however, repair must be completed by the end of the next unit shutdown. Maintain documentation that includes: - Dates of startup and shutdown of the closed-vent system and control device, - A description of the operating parameter to be monitored to ensure that the control device will be operated in conformance with the standards and the design specifications, and an explanation of the criteria used for selection of that parameter, and, - 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 had changed. Maintain records of dates and times when the system is inspected and monitored and when carbon beds are replaced. Submit quarterly certification to the NWCAA that the required inspections have been carried out.

Oily Wastewater, Collection, Storage and Treatment			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
Containers (including Vacuum Trucks)			
<i>Note: 40 CFR 61 General Provisions included in Section 3 apply to these affected facilities.</i>			
5.17.13 HAP	40 CFR 61 Subpart FF 61.345(a), (b), & (c) (12/4/2003), 61.350 (3/7/1990), 61.355(h) (10/17/2000), 61.356(g) & (h) (11/12/2002) and 61.357(d)(6) & (d)(8) (10/17/2000)	<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 during waste loading, removal, inspection, or sampling. Splash loading is not allowed. 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 requires 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/turnaround.	Quarterly, visually inspect each cover and all openings to ensure that they are closed and gasketed properly. Submit quarterly certification that required inspections were carried out consistent with 61.357(d)(6). Annually, using 40 CFR 60 Appendix A Method 21 monitor using an Organic Vapor Analyzer. Calibration gases shall be zero air (less than 10 ppm of hydrocarbon in air); and a mixture of methane or n-hexane and air at a concentration of approximately 10,000 ppm methane or n-hexane. Maintain records for each test of no detectable emissions. Annually, submit a report summarizing all inspections during which detectable emissions were measured or a problem detected (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. This is not a requirement if the benzene quantity in the containers is added to the 2 Mg exempted amount.

Oily Wastewater, Collection, Storage and Treatment			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
Internal Floating Roof Tanks 320, 321, 322, 323 (Subject to NWCAA 560, 580, 40 CFR 63 Subpart CC and 40 CFR 61 Subpart FF)			
Note: 40 CFR 61 and 63 General Provisions included in Section 3 apply to these affected facilities.			
5.17.14 VOC	40 CFR 63 Subpart CC 63.647 (12/1/2015) which references 40 CFR 61 Subpart FF 61.351 (9/10/1990) 40 CFR 61 Subpart FF Directly WAC 173-401-615(1)(b) & (c) (10/17/2002)	<u>Alternative Standards for Tanks</u> 40 CFR 61.351 allows as an alternative that tanks meet the internal floating roof requirements of 40 CFR 60 Subpart Kb 60.112b(a)(1).	<i>Directly Enforceable</i> Follow the monitoring, recordkeeping and reporting requirements of Permit Terms 5.17.17, and 5.17.19 through 5.17.25.

Oily Wastewater, Collection, Storage and Treatment			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.17.15 VOC	NWCAA 560 (4/14/1993) WAC 173-401-615(1)(b) & (c) (10/17/2002)	<u>Storage of Organic Liquids 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 the monitoring, recordkeeping and reporting requirements of Permit Terms 5.17.17, and 5.17.19 through 5.17.25.
5.17.16 VOC	NWCAA 580.32 (12/13/1989) (State Only 11/12/1998) WAC 173-401-615(1)(b) & (c) (10/17/2002)	<u>High Vapor Pressure Volatile Organic Compound Storage Tanks</u> The storage tank shall meet the internal floating roof equipment specifications and maintenance requirements of 40 CFR 60 Subpart Kb.	

Oily Wastewater, Collection, Storage and Treatment			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.17.17 HAP	40 CFR 63 Subpart CC 63.647 (12/1/2015) and 63.655(a) & (g) (2/4/2020) which references 40 CFR 61 Subpart FF 61.351 (9/10/1990) and 61.356(k) (11/12/2002), which references 40 CFR 60 Subpart Kb 60.112b(a)(1)(i) and (ii) (10/8/1997), and 60.115b(a)(2) – (4) (1/19/2021)	<u>Internal Floating Roof Operation</u> The internal floating roof shall rest or float 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 (iii) when the vessel is completely emptied before being subsequently refilled. When the floating roof is resting on the leg supports, filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible. If the internal floating roof is not resting on the surface, or there is liquid accumulated on the roof, or the seal is detached, or there are holes or tears in the seal fabric, repair the items or empty and remove the storage vessel from service within 45 days. If a failure detected during inspections cannot be repaired within 45 days and the vessel cannot be emptied within 45 days, a 30-day extension may be requested. Such a request must document that alternate storage capacity is unavailable and specify a schedule that will assure that the control equipment will be repaired, or the vessel will be emptied as soon as possible.	Annually, conduct a visual inspection of the internal floating roof and seal system through manholes and roof hatches. The inspection shall document any conditions where: - The floating roof is not resting on the VOL surface, - There is liquid other than water accumulated on the floating roof, or, - A seal is detached or there are holes or tears in the seal fabric. Keep a record of each inspection that includes the tank number, date and any defects discovered. Defects shall be repaired within 45 days of discovery, or the tank taken out of service. A delay of repair extension may be utilized for up to 30 days with appropriate documentation justifying the delay. Submit in the Periodic Report the date and description of any defects found, and corrective action taken. The report shall include any decision to use a delay of repair extension and documentation that alternate storage capacity was unavailable that repair was completed as soon as possible. The periodic report shall be submitted no later than 60 days after the end of each 6-month period when any compliance exceptions occur.
5.17.18 VOC	NWCAA 580.33 & 580.34 (12/13/1989) (State Only 11/12/1998) WAC 173-401-615(1)(b) & (c) (10/17/2002)	<u>Openings and Seal Condition</u> All openings not related to safety are to be sealed with suitable closures. 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 the monitoring, recordkeeping, and reporting requirements of Permit Term 5.17.19.

Oily Wastewater, Collection, Storage and Treatment			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.17.19 HAP	40 CFR 63 Subpart CC 63.647 (12/1/2015) and 63.655(a) (2/4/2020) which references 40 CFR 61 Subpart FF 61.351 (9/10/1990) and 61.356(k) (11/12/2002) which references 40 CFR 60 Subpart Kb 60.112b(a)(1)(i) (10/8/1997), 60.113b(a)(4) & (5) (8/11/1989), 60.115b(a)(2) (1/19/2021)	<u>Internal Inspection - Openings and Seals</u> If, during the inspection after degassing, the internal floating roof has defects, the primary seal or seal fabric has holes, tears, or other openings, the gaskets no longer close off the liquid surfaces from the atmosphere, or the slotted membrane has more than 10% open area, repair as necessary so that none of these conditions exist before refilling the storage vessel with VOL.	Visually inspect the internal floating roof, the primary seal, the gaskets, the slotted membranes and sleeve seals (if any) each time the storage vessel is emptied and degassed, and at least every ten years. Notify the NWCAA in writing at least 30 days prior to refilling. If the inspection is unplanned, the notification may be made verbally at least 7 days prior to refilling followed immediately by written notification. Keep records of each inspection identifying the storage vessel, the inspection date, and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings). If the inspection after degassing finds holes or tears in the seal or seal fabric, or defects in the internal floating roof, or other control equipment defects, a report shall be furnished to the NWCAA on periodic reports. The report shall identify the storage vessel and the reason it did not meet the specifications, and list each repair made.
5.17.20 HAP	40 CFR 63 Subpart CC 63.647(12/1/2015) which references 40 CFR 61 Subpart FF 61.351 (9/10/1990) which references 40 CFR 60 Subpart Kb 60.112b(a)(1)(iv) (10/8/1997)	<u>Covers or Lids Over Openings</u> Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use.	Each time the vessel is emptied and degassed, and at least once every 10 years, conduct an internal inspection of the vessel. If inspection shows that the floating roof has defects including, but not limited to, improper gasketing or unsealed openings, repair the defects prior to refilling. Notify the NWCAA in writing at least 30 days prior to refilling. If the inspection is unplanned, the notification may be made verbally at least 7 days prior to refilling followed immediately by written notification.

Oily Wastewater, Collection, Storage and Treatment			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.17.21 HAP	40 CFR 63 Subpart CC 63.647 (12/1/2015) which references 40 CFR 61 Subpart FF 61.351 (9/10/1990) which references 40 CFR 60 Subpart Kb 60.112b(a)(1)(v) (10/8/1997)	<u>Automatic Bleeder Vents</u> Equip with a gasket and close 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.	Conduct MR&R in accordance with AOP Term 5.17.20.
5.17.22 HAP	40 CFR 63 Subpart CC 63.647 (12/1/2015) which references 40 CFR 61 Subpart FF 61.351 (9/10/1990) which references 40 CFR 60 Subpart Kb 60.112b(a)(1)(vi) (10/8/1997)	<u>Rim Space Vents</u> Equip with a gasket and set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting.	
5.17.23 HAP	40 CFR 63 Subpart CC 63.647 (12/1/2015) which references 40 CFR 61 Subpart FF 61.351 (9/10/1990) which references 40 CFR 60 Subpart Kb 60.112b(a)(1)(vii) (10/8/1997)	<u>Sampling Well</u> Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The sample well shall have a slit fabric cover that covers at least 90 percent of the opening.	

Oily Wastewater, Collection, Storage and Treatment			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.17.24 HAP	40 CFR 63 Subpart CC 63.647 (12/1/2015) which references 40 CFR 61 Subpart FF 61.351 (9/10/1990) which references 40 CFR 60 Subpart Kb 60.112b(a)(1)(viii) (10/8/1997)	<u>Column Supporting Fixed Roof</u> Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover.	Conduct MR&R in accordance with AOP Term 5.17.20.
5.17.25 HAP	40 CFR 63 Subpart CC 63.647 (12/1/2015) which references 40 CFR 61 Subpart FF 61.351 (9/10/1990) which references 40 CFR 60 Subpart Kb 60.112b(a)(1)(ix) (10/8/1997)	<u>Gasketed Sliding Cover</u> Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover.	

5.18. **Petroleum Storage Tanks/Vessels**

Internal Floating Roof (IFR) Storage Tanks/Vessels complying with 63.660

Tanks 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 14, 17, 18, 21, 22, 25, 26, 27, 31, 41, 42, 43, 44, 45, 46, 47, and 48

40 CFR 63 Subpart CC (complying with 63.660) Group 1, NWCAA 560 and 580 Applicable

Additional OAC requirements for Tanks 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 and 14 (OAC 562d)

Tanks 24, 40, 49, 50, 71, 72, 73, and 74

40 CFR 60 Subpart Kb, NWCAA 560 and 580

Additional OAC requirements for Tanks 40 (OAC 897a), 49 (OAC 620b), 72, 73, and 74 (OAC 527f)

Tanks 11, 12, 13, 15, 16, 19, 20, 23, 29, and 33

40 CFR 63 Subpart CC Group 2

Fixed Roof Storage Tanks (no IFR)

Tanks 28, 30, 32, 34, 37, 38, and 70

40 CFR 63 Subpart CC Group 2 Applicable

Miscellaneous Tankfarm Requirements

MACT Equipment leaks (40 CFR 63 Subpart CC)

Table 5-18 Petroleum Storage Tanks/Vessels

Internal Floating Roof Tanks 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 14, 17, 18, 21, 22, 25, 26, 27, 31, 41, 42, 43, 44, 45, 46, 47 & 48 40 CFR 63 Subpart CC Group 1, NWCAA 560 and 580 Applicable With additional OAC requirements for Tanks 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 and 14 (OAC 562d)			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
Note: 40 CFR 63 General Provisions included in Section 3 apply to these affected facilities.			
5.18.1 VOC	NWCAA Section 560 (4/14/1993) WAC 173-401-615(1)(b) & (c) (10/17/2002)	<u>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 the monitoring, recordkeeping, and reporting requirements of Permit Terms 5.18.4 and 5.18.5.
5.18.2 VOC	NWCAA 580.32 (12/13/1989) WAC 173-401-615(1)(b) & (c) (10/17/2002)	<u>High Vapor Pressure Volatile Organic Compound Storage Tanks</u> The storage tank shall meet the internal floating roof equipment specifications and maintenance requirements of 40 CFR 60 Subpart Kb or similar control.	
5.18.3 VOC	NWCAA 580.33 and 580.34 (12/13/1989) WAC 173-401-615(1)(b) & (c) (10/17/2002)	<u>Openings and Seal Condition</u> All openings not related to safety are to be sealed with suitable closures. All seals are to be maintained in good operating condition and the seal fabric shall contain no visible holes, tears, or other openings.	

Internal Floating Roof Tanks 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 14, 17, 18, 21, 22, 25, 26, 27, 31, 41, 42, 43, 44, 45, 46, 47 & 48 40 CFR 63 Subpart CC Group 1, NWCAA 560 and 580 Applicable With additional OAC requirements for Tanks 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 and 14 (OAC 562d)			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.18.4 HAP	40 CFR 63 Subpart CC 63.660 and 63.655(g)(2)(ii) (2/4/2020) Which references 40 CFR 63 Subpart WW 63.1062(a)(1) 63.1063(a)(1)(i), (c)(1), (c)(1)(i)(A), and (d)(2), 63.1065(b)(1) & (d), and 63.1066(b)(1), (2) and (4) (6/29/1999)	<u>Refinery MACT Floating Roof Control & Seal Design Requirements</u> Operate & maintain at least one of the following closure devices on IFR tanks: • A liquid-mounted seal, • A mechanical shoe seal, or • Two seals mounted one above the other; the lower seal may be vapor mounted.	Notify agency 30 days prior to conducting inspections. If the inspection is unplanned, notify within 7 days & follow-up with written explanation. Visually inspect through openings in fixed roof, the floating roof deck, deck fittings & upper rim seal. <u>For single seal IFR tanks:</u> Before initial filling of tank; thereafter, annually. <u>For double seal IFR tanks:</u> Before initial filing of tank; thereafter, annually, or every 5 years as part of the internal visual inspection required in MR&R under AOP Term 5.18.5. Inspection shall document failures where: • Stored liquid was seen on floating roof, • Holes or tears were visible in upper seal, • Floating roof deck, deck fittings or rim seal 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 practicable, • Openings were uncovered when not being accessed, • Automatic bleeder vents & rim space vents were open when not required to relieve excess pressure or vacuum, and, • Unslotted guide poles' caps were open when liquid-level gauging or sampling was not occurring. Keep records of each inspection, including date, tank ID, description of failures, 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. Submit inspection report for each tank where inspection revealed failures with the semiannual Refinery MACT. Include documentation for any repair or inspection extensions used.

5.18.5 HAP	40 CFR 63 Subpart CC 63.660 and 63.655(g)(2)(ii) (2/4/2020) Which references 40 CFR 63 Subpart WW 63.1063(a)(2) as modified by 63.660(b)(1) and (2), 63.1063(c)(1)(i)(B) and (ii), (d)(1), and (e), 63.1065(b) and (d), and 63.1066(b) (6/29/1999)	<u>Refinery MACT Deck Fitting 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 guide pole with a pole wiper & gasketed cap on top of guide pole, and slotted guide pole with a pole wiper & pole float or pole sleeve, or a flexible enclosure device & either a gasketed or welded cap on top of the guide pole. 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.	Notify agency 30 days prior to conducting internal visual inspections. If unplanned, notify within 7 days & follow-up with a written explanation. Visually inspect from within the tank under the fixed roof, the floating roof deck, deck fittings & rim seal. Inspections may be performed entirely from the topside of floating roof while the tank remains in service if there is visual access to all floating roof, deck components & seals, according to the following: <u>For single seal IFR tanks:</u> Every time tank is emptied & degassed, or every 10 years, whichever occurs first, <u>For double seal IFR tanks:</u> Every time tank is emptied & degassed, or every 5 years, whichever occurs first. This inspection is <u>in lieu of</u> performing annual visual inspections (required in MR&R under AOP Term 5.18.4) & 10-year internal tank inspection. Inspection shall document failures where: • Stored liquid was seen on floating roof, • Holes or tears were visible in upper seal, • Floating roof deck, deck fittings or rim seal 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 practicable, • Openings were uncovered when not being accessed, • Automatic bleeder vents & rim space vents were open when not required to relieve excess pressure or vacuum, and, • Unslotted guide poles' caps were open when liquid-level gauging or sampling was not occurring. Keep records of each inspection, including: date, tank ID, description of all failures, description & dates of repairs, & date tank removed from service. Repair all failures prior to refilling tank or within 45 days unless a repair extension is used. 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 documentation of repair extensions. Retain all records for 5 years. Submit an inspection report for each tank discovered to have failures & documentation of any repair extensions used with semiannual Refinery MACT report.
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Internal Floating Roof Tanks 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 14, 17, 18, 21, 22, 25, 26, 27, 31, 41, 42, 43, 44, 45, 46, 47 & 48
40 CFR 63 Subpart CC Group 1, NWCAA 560 and 580 Applicable
With additional OAC requirements for Tanks 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 and 14 (OAC 562d)

Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.18.6 HAP	40 CFR 63 Subpart CC 63.660 and 63.655(g)(3)(ii) (2/4/2020) Which references 40 CFR 63 Subpart WW 63.1063(b), (c)(1)(i) and (ii), (d)(1), and (e), 63.1065(b), (c) and (d), and 63.1066(b) (6/29/1999) WAC 173-401-615(1)(b) & (c) (10/17/2002)	<u>Refinery 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, and, • Keep automatic bleeder vents & rim space vents closed at all times, except when required to be open to relieve excess pressure or vacuum, and, • Keep unslotted guide pole cap closed at all times except when gauging liquid level or taking samples.	Comply with MR&R under AOP Term 5.18.5. <i>Directly Enforceable</i> Keep records of periods when the floating roof is resting on the leg supports.
5.18.7 HAP	40 CFR 63 Subpart CC 63.660 and 63.655(i)(1)(v) (2/4/2020) Which references 40 CFR 63 Subpart WW 63.1065(a) (6/29/1999)	<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.

Internal Floating Roof Tanks 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 14, 17, 18, 21, 22, 25, 26, 27, 31, 41, 42, 43, 44, 45, 46, 47 & 48 40 CFR 63 Subpart CC Group 1, NWCAA 560 and 580 Applicable With additional OAC requirements for Tanks 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 and 14 (OAC 562d)			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
Internal Floating Roof Tanks 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 and 14 - Additional OAC 562d Requirements -			
5.18.8 General	OAC 562d Condition 1 and 2 (7/9/2012) WAC 173-401- 615(1)(b) & (c) (10/17/2002)	Benzene concentrate from the light reformat splitter tower shall only be stored in Tanks 1 through 10, or Tank 14. Transfers of the benzene concentrate from the light reformat splitter tower between any of Tanks 1 through 10, or Tank 14 shall be conducted only to facilitate maintenance or inspection of one or more of the tanks.	<i>Directly Enforceable</i> Maintain a record of all transfers of benzene concentrated light reformat into and out of these storage tanks. This record shall include the tank number, and the date and volume of each transfer. If a transfer of benzene concentrated light reformat occurs between Tanks 1 through 10, or Tank 14, document if the transfer was required to facilitate maintenance or inspection of one of the tanks.

Internal Floating Roof Tanks 24, 40, 49, 50, 71, 72, 73 and 74 40 CFR 60 Subpart Kb, NWCAA 560 and 580 With additional OAC requirements for Tanks 40 (OAC 897a), 49 (OAC 620b), 72, 73, and 74 (OAC 527f)			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
Note: 40 CFR 60 General Provisions included in Section 3 apply to these affected facilities.			
5.18.9 VOC	40 CFR 60 Subpart Kb 60.112b(a)(1)(ii) (10/8/1997), 60.113b(a)(2) (8/11/1989) and 60.115b(a)(2)-(4) (1/19/2021) as modified by 40 CFR 63 Subpart CC 63.640(n)(8)(v) (2/4/2020)	<u>Seal Coverage – Annual Inspection</u> A seal system shall be in place that completely covers the annular space between the floating roof and the storage vessel wall, except for when necessary repairs are being made as provided in 40 CFR 60.113b(a)(2). There should be no holes, tears, or other openings in the seal, seal fabric, or the seal envelope.	Annually, conduct a visual inspection of the internal floating roof and seal system through manholes and roof hatches. The inspection shall document any conditions where: • The floating roof is not resting on the VOL surface, • There is liquid accumulated on the floating roof, or, • A seal is detached or there are holes or tears in the seal fabric. Keep a record of each inspection that includes the tank #, date and conditions observed (including any failures discovered). Failures shall be repaired within 45 days of discovery, or the tank taken out of service. A delay of repair extension may be utilized for up to 60 days with appropriate documentation justifying the delay. Submit in the Periodic Report the date and description of any failures found, and corrective action taken. The report shall include any decision to use a delay of repair extension and documentation that alternate storage capacity was unavailable that repair was completed as soon as possible.

Internal Floating Roof Tanks 24, 40, 49, 50, 71, 72, 73 and 74 40 CFR 60 Subpart Kb, NWCAA 560 and 580 With additional OAC requirements for Tanks 40 (OAC 897a), 49 (OAC 620b), 72, 73, and 74 (OAC 527f)			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.18.10 VOC	40 CFR 60 Subpart Kb 60.113b(a)(4) and (a)(5) (8/11/1989), and 60.115b(a)(2)-(4) (1/19/2021) as modified by 40 CFR 63 Subpart CC 63.640(n)(8)(v) (2/4/2020)	<u>Seal Coverage – Internal Inspection</u> The primary seal shall completely cover the annular space between the floating roof and the storage vessel wall. There should be no holes, tears, or other openings in the seal, seal fabric, or the seal envelope.	Each time the vessel is emptied and degassed, and at least once every 10 years, conduct an internal visual inspection of the vessel. If the inspection shows that the floating roof has failures including but not limited to, holes, tears or other openings in a seal or seal fabric, repair prior to refilling. Keep a record of each inspection that includes the tank number, date and conditions observed. Notify the NWCAA in writing at least 30 days prior to refilling. If the inspection is unplanned, the notification may be made verbally at least 7 days prior to refilling followed immediately by written notification. Submit in the Periodic Report the date and description of any failures found, and corrective action taken. The report shall include any decision to use a delay of repair extension and documentation that alternate storage capacity was unavailable that repair was completed as soon as possible.

Internal Floating Roof Tanks 24, 40, 49, 50, 71, 72, 73 and 74 40 CFR 60 Subpart Kb, NWCAA 560 and 580 With additional OAC requirements for Tanks 40 (OAC 897a), 49 (OAC 620b), 72, 73, and 74 (OAC 527f)			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.18.11 VOC	40 CFR 60 Subpart Kb 60.112b (a)(1)(ii)(B) through (a)(1)(ix) (10/8/1997), 60.113b(a)(4) & (5) (8/11/1989), 60.115b(a)(2)-(4) (1/19/2021) as modified by 40 CFR 63 Subpart CC 63.640(n)(8)(v) (2/4/2020)	<u>Roof Openings – Internal Inspection</u> Except for automatic bleeder vents and rim space vents, each opening in the non-contact roof shall have a projection below the liquid surface. Except for automatic bleeder vents, rim space vents, columns wells, ladder wells, sample wells, and stub drains, each opening in the roof shall 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 gaps) except when the device is in use. Equip guide poles in floating roof storage vessels with covers and/or controls (e.g., pole float system, pole sleeve system, internal sleeve system, or flexible enclosure system) as appropriate to comply with the “no visible gap” requirement. 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 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 time the vessel is emptied and degassed, and at least once every 10 years, conduct an internal visual inspection of the vessel. If inspection shows that the floating roof has failures including, but not limited to, improper gasketing or unsealed openings, repair prior to refilling. Keep a record of each inspection that includes the tank number, date and conditions observed. Notify the NWCAA in writing at least 30 days prior to refilling. If the inspection is unplanned, the notification may be made verbally at least 7 days prior to refilling followed immediately by written notification. Submit in the Periodic Report the date and description of any failures found, and corrective action taken. The report shall include any decision to use a delay of repair extension and documentation that alternate storage capacity was unavailable that repair was completed as soon as possible.
5.18.12 VOC/HAP	40 CFR 60 Subpart Kb 60.116b(c) and (e) (10/15/2003)	<u>Maximum True Vapor Pressure</u> 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.	Calculate the maximum true vapor pressure (MTVP) using known Reid Vapor Pressure and the maximum expected storage temperature based on the highest expected calendar-month average temperature of the stored product. Maintain records of the calculated MTVP for each tank.

Internal Floating Roof Tanks 24, 40, 49, 50, 71, 72, 73 and 74 40 CFR 60 Subpart Kb, NWCAA 560 and 580 With additional OAC requirements for Tanks 40 (OAC 897a), 49 (OAC 620b), 72, 73, and 74 (OAC 527f)			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.18.13 VOC	NWCAA 560 (4/14/1993) WAC 173-401-615(1)(b) & (c) (10/17/2002)	<u>Storage of Organic Liquids 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 the monitoring, recordkeeping, and reporting requirements of Permit Terms 5.18.9 through 5.18.11.
5.18.14 VOC	NWCAA 580.32 (12/13/1989) (State Only 11/12/1998) WAC 173-401-615(1)(b) & (c) (10/17/2002)	<u>High Vapor Pressure Volatile Organic Compound Storage Tanks</u> The storage tank shall meet the internal floating roof equipment specifications and maintenance requirements of 40 CFR 60 Subpart Kb.	
5.18.15 VOC	NWCAA 580.33 and 580.34 (12/13/1989) (State Only 11/12/1998) WAC 173-401-615(1)(b) & (c) (10/17/2002)	<u>Openings and Seal Condition</u> All openings not related to safety are to be sealed with suitable closures. All seals are to be maintained in good operating condition and the seal fabric shall contain no visible holes, tears, or other openings.	

Internal Floating Roof Tanks 24, 40, 49, 50, 71, 72, 73 and 74 40 CFR 60 Subpart Kb, NWCAA 560 and 580 With additional OAC requirements for Tanks 40 (OAC 897a), 49 (OAC 620b), 72, 73, and 74 (OAC 527f)			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
Internal Floating Roof Tank 40 - Additional OAC 897a Requirements -			
5.18.16 General	OAC 897a Condition 1 (7/9/2012)	Maintain a record of Tank 40 turnovers.	Maintain records for Tank 40 that include the number of turnovers per calendar year, and periods of time including dates that each type of liquid was stored.
Internal Floating Roof Tank 49 - Additional OAC 620b Requirements -			
5.18.17 General	OAC 620b Condition 1 (7/9/2012)	Maintain a record of Tank 49 turnovers.	Maintain records for Tank 49 that include the number of turnovers per calendar year, and periods of time including dates that each type of liquid was stored.
Internal Floating Roof Tanks 72, 73 and 74 - Additional OAC 527f Requirements -			
5.18.18 VOC	OAC 527f, Condition 13, 14 and 15 (3/16/2021)	The storage tanks shall be used to store only gasoline or diesel, and No more than two of the three tanks shall contain gasoline at any given time.	Maintain records for each tank that include tank dimensions, capacity, number of turnovers per calendar year, and periods of time including dates that each type of liquid was stored.

Internal Floating Roof Tanks 11, 12, 13, 15, 16, 19, 20, 23, 29, and 33 Fixed Roof Tanks: 28, 30, 32, 34, 37, 38, and 70 40 CFR 63 Subpart CC Group 2			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
Note: 40 CFR 63 General Provisions included in Section 3 apply to these affected facilities.			
5.18.19 VOC/HAP	40 CFR 63 Subpart CC 63.660 and 63.655(i)(1)(iv) (2/4/2020) Which references 40 CFR 63 Subpart WW 63.1065(a) (6/29/1999)	<u>Dimensions and Capacities</u> Keep readily accessible records of the dimensions, capacities, and an identification of the liquid stored in each Group 2 storage vessel. If a storage vessel is determined to be Group 2 because the weight percent total organic HAP of the stored liquid is less than or equal to 4% for existing sources or 2% for new sources, maintain a record of any data, assumptions, and procedures used to make this determination.	Maintain records at the facility with dimensions and capacities. Retain as long as tank is subject to Group 2 status and is in operation.

Tankfarm - Equipment in HAP Service			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
Note: 40 CFR 63 General Provisions included in Section 3 apply to these affected facilities.			
5.18.20 HAP	40 CFR 63 Subpart CC 63.648 (2/4/2020) which references 40 CFR 60 Subpart VV (6/2/2008)	<u>MACT for Equipment Leaks</u> Monitor components in HAP service for leaks, repair leaks in a timely manner, and report results semi-annually in accordance with 40 CFR 60 Subparts VV, except that pressure relief devices in organic HAP service must comply with the requirements in 63.648(j). If a flare is used as a control device, the flare shall meet the requirements of 63.670. Applicable components include pumps, valves, pressure relief devices, sampling systems, open-ended lines, flanges, and connectors. Affected facilities may include individual compressors.	Conduct a LDAR program in accordance with AOP Section 6.3.

5.19. Stationary Internal Combustion Engines

Table 5-19 Stationary Internal Combustion Engines

Emergency Use, Compression Ignition, Internal Combustion Engines, ≤ 500 hp, Constructed on or after June 12, 2005, Model Years 2007 and later.											
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting								
Two 157 hp Emergency Diesel Generators (91-GEN-P1E, 91-GEN-P2E) Two 175 hp Emergency Diesel Generator (40-1501-02D, 12-1564) Eleven 230 hp Emergency Diesel Generators (38-GEN-01, 91-GEN-P3E, 91-GEN-P4E, 91-GEN-P5E, 91-GEN-P6E, 91-GEN-P7E, 91-GEN-P8E, 91-GEN-P10E, 91-GEN-P21E, 91-GEN-P26E, 91-GEN-P30E) Two 470 hp Emergency Diesel Generators (91-GEN-MCR1E and 91-GEN-MCR2E)											
Note: 40 CFR 60 and 63 General Provisions included in Section 3 apply to these affected facilities.											
5.19.1 General	40 CFR 60 Subpart IIII 60.4200(a)(2)(i), 60.4205(b) (6/29/2021), 60.4207(b) (12/4/2020), and 60.4211(a) & (c) (6/29/2021) 40 CFR 63 Subpart ZZZZ 63.6590(c)(6) (1/30/2013)	Comply with the emission standards in 60.4202(a)(2), which refers to the Tier 3 new non-road CI engine standards of 40 CFR 1039, Appendix I, and 1039.105. <table><tr><th>Engine size - 2007 and later model years</th><th>Emission Limit (g/hp-hr)</th></tr><tr><td>37-75 kW (Tier 3)</td><td>4.7 NMHC+NOx 5.0 CO, 0.40 PM</td></tr><tr><td>75-130 kW (Tier 3)</td><td>4.0 NMHC+NOx 5.0 CO, 0.30 PM</td></tr><tr><td>130-560 kW (Tier 3)</td><td>4.0 NMHC+NOx, 3.5 CO, 0.20 PM</td></tr></table> Diesel fuel must meet the requirements of 40 CFR 1090.305 including a sulfur content not to exceed 15 ppmw. An engine subject to NSPS shall meet the requirements 40 CFR 63 Subpart ZZZZ by meeting the requirements of 40 CFR 60 Subpart IIII.	Engine size - 2007 and later model years	Emission Limit (g/hp-hr)	37-75 kW (Tier 3)	4.7 NMHC+NOx 5.0 CO, 0.40 PM	75-130 kW (Tier 3)	4.0 NMHC+NOx 5.0 CO, 0.30 PM	130-560 kW (Tier 3)	4.0 NMHC+NOx, 3.5 CO, 0.20 PM	Install, configure, operate, and maintain the engine according to the manufacturer's emission-related specifications and written instructions. In accordance with 60.4210(f), a permanent Emission Control Information label shall be attached to each engine that meets the labeling requirements of 40 CFR 1039.135(b) including but are not limited to; manufacture's name, engine manufactured month and year, EPA standardized family (tier) and power category. The label shall state; "Ultra Low Sulfur Fuel Only".
Engine size - 2007 and later model years	Emission Limit (g/hp-hr)										
37-75 kW (Tier 3)	4.7 NMHC+NOx 5.0 CO, 0.40 PM										
75-130 kW (Tier 3)	4.0 NMHC+NOx 5.0 CO, 0.30 PM										
130-560 kW (Tier 3)	4.0 NMHC+NOx, 3.5 CO, 0.20 PM										

Emergency Use, Compression Ignition, Internal Combustion Engines, ≤ 500 hp, Constructed on or after June 12, 2005, Model Years 2007 and later.			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.19.2 General	40 CFR 60 Subpart IIII 60.4211 (f) (6/29/2021), and 60.4214(b) (7/7/2016) 40 CFR 63 Subpart ZZZZ 63.6590(c)(6) (1/30/2013)	Maintenance checks and readiness testing is limited to 100 hours per year. The engine may operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. Any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, is prohibited.	Maintain a record of the operation of each engine in emergency and non-emergency service recorded through the non-resettable hour meter. The owner must record the time of operation of the engine and the reason the engine was in operation during that time.

Emergency Use, Compression Ignition, Internal Combustion Engines, > 500 hp, Constructed on or after December 19, 2002, Model Years 2007 and later.							
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting				
Two 1,356 hp Emergency Diesel Generators (40-2835 and 32-1507-02D)							
Note: 40 CFR 60 and 63 General Provisions included in Section 3 apply to the affected facility.							
5.19.3 General	40 CFR 60 Subpart IIII 60.4200(a)(2)(i), 60.4205(b) (6/29/2021), 60.4207(b) (12/4/2020), and 60.4211(a) & (c) (6/29/2021) 40 CFR 63 Subpart ZZZZ 63.6590(b)(1) (1/30/2013)	Comply with the emission standards in 60.4202(a)(2), which refers to the Tier 2 new non-road CI engine standards of 40 CFR 1039, Appendix I, and 1039.105. <table><tr><td>Engine size - 2007 and later model years</td><td>Emission Limit (g/hp-hr)</td></tr><tr><td>> 560 kW (Tier 2)</td><td>6.4 NMHC+NOx 3.5 CO, 0.20 PM</td></tr></table> Diesel fuel must meet the requirements of 40 CFR 1090.305 including a sulfur content not to exceed 15 ppmw. The source does not have to meet the requirements of 40 CFR 63 Subpart ZZZZ and Subpart A, except for initial notification.	Engine size - 2007 and later model years	Emission Limit (g/hp-hr)	> 560 kW (Tier 2)	6.4 NMHC+NOx 3.5 CO, 0.20 PM	Install, configure, operate, and maintain the engine according to the manufacturer's emission-related specifications and written instructions. In accordance with 60.4210(f), a permanent Emission Control Information label shall be attached to each engine that meets the labeling requirements of 40 CFR 1039.135(b) including but are not limited to; manufacture's name, engine manufactured month and year, EPA standardized family (tier) and power category. The label shall state; "Ultra Low Sulfur Fuel Only".
Engine size - 2007 and later model years	Emission Limit (g/hp-hr)						
> 560 kW (Tier 2)	6.4 NMHC+NOx 3.5 CO, 0.20 PM						

Emergency Use, Compression Ignition, Internal Combustion Engines, > 500 hp, Constructed on or after December 19, 2002, Model Years 2007 and later.			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
5.19.4 General	40 CFR 60 Subpart IIII 60.4211 (f) (6/29/2021), and 60.4214(b) (7/7/2016)	Maintenance checks and readiness testing is limited to 100 hours per year. The engine may operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. Any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, is prohibited.	Maintain a record of the operation of each engine in emergency and non-emergency service recorded through the non-resettable hour meter. The owner must record the time of operation of the engine and the reason the engine was in operation during that time.

SECTION 6 SPECIFICALLY APPLICABLE COMMON REQUIREMENTS

Section 6 of this AOP contains requirements that are common to various emission units at the source. Section 6.1 states the monitoring, recordkeeping and reporting requirements for visible emissions from emission units at the refinery. The requirements specified in Section 6.3 are applicable to the process unit components in VOC/HAP service as listed in Section 5 of the AOP. Section 6.4 is applicable to newly constructed process units. Section 6.5 lists the requirements for boilers and heaters subject to 40 CFR 63 Subpart DDDDD. Section 6.6 contains pressure relief device requirements for equipment subject to 40 CFR 63 Subpart CC.

The requirements specified in the "Citation" column, and incorporated herein by reference, are federally enforceable unless identified as "state only". "State only" requirements are not enforceable by EPA or citizens under the CAA. "State Only" WAC citations are enforceable by NWCAA because they are adopted by reference in NWCAA 104.1, as amended February 10, 2022. All of the federal regulations listed in Section 6 have been adopted by reference in NWCAA 104.2, as amended February 10, 2022.

The "Description" column is a brief description of the applicable requirements for informational purposes only and is not enforceable. Periodic or continuous monitoring requirements (including testing) are specified in the "Monitoring, Recordkeeping and Reporting" column, which identifies monitoring, recordkeeping and reporting (MR&R) obligations the source must perform as required by WAC 173-401-605(1) and 615(1) and (2) or the underlying requirement. MR&R obligations do not apply to insignificant emission units.

The requirements in the MR&R column labeled "Directly Enforceable" are legally enforceable requirements added under either the NWCAA's "gap-filling" authority (WAC 173-401-615(1)(b) & (c), (10/17/2002)), or the NWCAA's "sufficiency monitoring" authority (WAC 173-401-630(1), (3/5/2016)), as cited in each permit term. Other requirements not labeled "Directly Enforceable" are brief descriptions of the regulatory requirements for 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. **Opacity Monitoring Recordkeeping and Reporting**

Permit Term 6.1

Directly Enforceable per WAC 173-401-615(1)(b) & (c) (10/17/2002)

For combustion units burning gaseous fuels and process units, including the calciners, incinerators, tail gas units, and baghouses: 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. The permittee shall revert to monthly observations of individual stacks if any visible emissions are noted during the observation.

If visible emissions are observed, emissions shall be reduced 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. If Ecology Method 9A monitoring demonstrates that emissions are below the applicable opacity standard, no further action is required until the next monthly visual observation. If Ecology Method 9A monitoring demonstrates that emissions are above the applicable opacity standard, take action to reduce emissions below the standard and perform daily monitoring using Ecology Method 9A thereafter until opacity is shown to be less than the applicable opacity standard. Otherwise, visual emissions shall be considered in excess of the opacity standard.

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

Combustion units with specifically applicable permit terms in Section 5 for opacity and/or particulate matter should be monitored as per 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. Cumulative Particulate and SO₂ Limit

Table 6-2 Cumulative Particulate and SO₂ Limit

Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
6.2 PM & SO ₂	OAC 211c Conditions 1 and 2 (9/18/2012)	<u>Cumulative Particulate and SO₂ Limit</u> Particulate emissions shall not exceed 60 tons per calendar month, and sulfur dioxide emissions shall not exceed 2,354 pounds per hour, calendar month average, as a cumulative total from the following emission units. (a) Crude Heater (10-1401) (b) South Vacuum Heater (10-1451) (c) Naphtha HDS Charge Heater (11-1401) (d) Naphtha HDS Stripper Reboiler (11-1402) (e) #1 Reformer Heater (11-1403, 4, 5, 6) (f) #1 Diesel HDS Charge Heater (13-1401) (g) #1 Diesel HDS Stabilizer (13-1402) (h) #1 Hydrogen Plant North Reforming Furnace (14-1401-01) (i) #1 Hydrogen Plant South Reforming Furnace (14-1401-02) (j) Hydrocracker 1st Stage Reactor Heater, (R-1) (15-1401) (k) Hydrocracker 2nd Stage Reactor Heater (R-4) (15-1402) (l) Hydrocracker 1st Stage Fractionator Reboiler (15-1451) (m) Hydrocracker 2nd Stage Fractionator Reboiler (15-1452) (n) Sulfur Recovery Complex Incinerator (17-1481) (o) Low Pressure Flare (p) High Pressure Flare (q) #1 and #2 Calciners (Stack #1)	Maintain a monthly record of particulate (ton/calendar month) and sulfur dioxide (lb/hour, calendar month average) emissions. The record shall include emissions from each subject emission unit, the cumulative total for all subject emissions units, and the basis for estimating the emission rates. The monthly record shall be available for review by the NWCAA within 30 days after the close of the reported calendar month.

6.3. Leak Detection and Repair (LDAR) Program under 40 CFR 60 Subpart VV

Table 6-3 Leak Detection and Repair (LDAR) Program under 40 CFR 60 Subpart VV

Leak Detection and Repair (LDAR) Program under 40 CFR 60 Subpart VV			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
6.3.1 VOC	As referenced, 40 CFR 60 Subpart VV 60.482-2, 60.482-9(d), 60.485(b), 60.486(b), (c) & (e), 60.487(c) & (e) (11/16/2007) Also as modified by specifically applicable Permit Terms in Section 5 WAC 173-401-630(1) (3/5/2016)	<u>Pumps in Light Liquid Service without Dual Mechanical Seals</u> 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, <i>except</i> when the pump was monitored during the previous week and found to be less than the leak definition. Monitor equipment according to specifically applicable leak definition. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected <i>except</i> 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 in 40 CFR 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 shall include, when practicable, but not limited to, tightening the packing gland nuts and ensuring that the seal flush is operating at design pressure and temperature. Delay of repair will be allowed in accordance with term 6.3.8.	Weekly Conduct visual inspections of each pump for indications of liquids dripping from the pump seal. Monthly Conduct instrument monitoring using Method 21. The instrument shall be calibrated before use each day of use by Method 21. 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 10,000 ppm methane or n-hexane. When a leak is detected, record the information as required in 60.486. Report semi-annually items listed in 60.487(c). <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.

Leak Detection and Repair (LDAR) Program under 40 CFR 60 Subpart VV			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
6.3.2 VOC	As referenced, 40 CFR 60 Subpart VV 60.482-2(d), 60.485(c), 60.486(b), (c), (e), (h), 60.487(c) & (e) (11/16/2007) WAC 173-401-630(1) (3/5/2016)	<u>Pumps in Light Liquid Service with Dual Mechanical Seals and a Barrier Fluid System</u> Operate the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure, or route barrier fluid degassing reservoir vent to a process or fuel gas system or closed vent system to a control device, or purge the barrier fluid into a process stream with zero VOC emissions to the atmosphere, or equipped with a barrier fluid degassing reservoir that is routed to a process or fuel gas system or connected by a closed vent system to a control device. The barrier fluid system is 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 there are indications of liquids dripping from the pump seal, or 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 in 40 CFR 60.482-9. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.	Weekly Conduct visual inspections of each pump for indications of liquids dripping from the pump seal. If the sensor is not equipped with an audible alarm, check sensor daily. A leak is detected by the visual indication of liquids dripping as a leak or instrument monitoring using Method 21. The instrument shall be calibrated before use each day of use by Method 21. 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 10,000 ppm methane or n-hexane. When a leak is detected, record the information as required in 60.486. Report semi-annually items listed in 60.487(c). <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.

Leak Detection and Repair (LDAR) Program under 40 CFR 60 Subpart VV			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
6.3.3 VOC	As referenced, 40 CFR 60 Subpart VV 60.482-3, 60.485(b), 60.486(h), 60.487(c) & (e) (11/16/2007)	<u>Compressors Equipped with Seal System and Barrier Fluid</u> Operate the seal system with a barrier fluid at a pressure that is greater than the compressor stuffing box pressure 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. 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 or if recasting of the distance piece or replacement of the compressor are the only options available for repair. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.	If the sensor is not equipped with an audible alarm, check sensor daily and record. The design criterion that indicates failure of the seal system, barrier fluid or both must be recorded and kept readily accessible. An explanation of the design criterion and any changes to the criterion (and reasons for the changes) must be kept as well. When a leak is detected, record the information as required in 60.486. Report semi-annually items listed in 60.487(c). Follow 40 CFR 60 Appendix A Method 21.

Leak Detection and Repair (LDAR) Program under 40 CFR 60 Subpart VV			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
6.3.4 VOC	As referenced, 40 CFR 60 Subpart VV 60.482-4 (12/14/2000), 60.485 (c), 60.486(a), 60.487(c) & (e) (11/16/2007) WAC 173-401-630(1) (3/5/2016)	<u>Pressure Relief Devices in VOC Service</u> Except during pressure releases, each applicable pressure relief device in VOC 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 40 CFR 60.482-9. 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 in 40 CFR 60.482-9.	For pressure relief devices not routed to the fuel gas system or a closed vent system/control device, and without a rupture disk, if a release occurs, monitor the pressure relief device no later than 5 calendar days after the release. For pressure relief devices required to comply with this condition, record a list of equipment identification numbers in a log. Also record the date of each compliance test, the background level measured during the compliance test, and the maximum instrument reading. Submit a semi-annual report with the facts explaining each delay of repair as per 60.482-9, and the dates of process unit shutdowns which occurred within the semi-annual reporting period. Report the results of all performance tests in accordance with 40 CFR 60.8 of the General Provisions. The instrument shall be calibrated before use each day of use by Method 21. 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 10,000 ppm methane or n-hexane. Follow 40 CFR 60 Appendix A Method 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.

Leak Detection and Repair (LDAR) Program under 40 CFR 60 Subpart VV			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
6.3.5 VOC	As referenced, 40 CFR 60 Subpart VV 60.482-5 60.485(b) 60.486(e) (11/16/2007)	<u>Sampling Connection Systems</u> Each applicable sampling connection system shall be equipped with a closed-purged, 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. In situ sampling systems are included in the definition of miscellaneous process vents, and vents in organic HAP service shall meet the requirements of 40 CFR 63.643 and 63.644. Purged process fluid must be returned directly to the process line; or collected and recycled to a process; or, transported to a control device that complies with the requirements of 60.482-10, 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.	The permittee shall maintain a list of identification numbers for equipment subject to the requirements of this condition. Follow 40 CFR 60 Appendix A Method 21.

Leak Detection and Repair (LDAR) Program under 40 CFR 60 Subpart VV			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
6.3.6 VOC	As referenced, 40 CFR 60 Subpart VV 60.482-6 60.486(e) (11/16/2007)	<u>Open-ended Valves or Lines</u> Each applicable 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 or as provided in 60.482-6(a)(1). 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.	For all equipment subject to this permit term, record in a log in a readily accessible location a list of identification numbers for equipment subject to the requirements of this condition.

Leak Detection and Repair (LDAR) Program under 40 CFR 60 Subpart VV			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
6.3.7 VOC	As referenced, 40 CFR 60 Subpart VV 60.482-8 60.485(b) 60.486(b), (c) and (e) 60.487(c) (11/16/2007) WAC 173-401-630(1) (3/5/2016)	<u>Pumps and Valves in Heavy Liquid Service, Pressure Relief Devices in Light Liquid or Heavy Liquid Service, and Flanges and Other Connectors</u> If evidence of a potential leak is found by visual, audible, olfactory, or any other detection method, within 5 days, eliminate the visual, audible, olfactory, or other indication of potential leak or monitor the 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 in 60.482-9. The first attempt at repair shall be made no later than 5 calendar days after each detected leak. 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.	When a leak is detected, record the information required in 40 CFR 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 for equipment subject to this requirement. The instrument shall be calibrated before use each day of use by Method 21. 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 10,000 ppm methane or n-hexane. Report semiannually, the facts explaining each delay of repair as per 60.482-9, and the dates of process unit shutdowns which occurred within the semi-annual reporting period. <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.

Leak Detection and Repair (LDAR) Program under 40 CFR 60 Subpart VV			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
6.3.8 VOC	As referenced, 40 CFR 60 Subpart VV 60.482-9, 60.486 (c)(5) & (6), 60.487(c)(vii) (11/16/2007)	<u>Delay of Repair</u> Delay of repair of applicable 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: 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 affected, the purged material is collected and destroyed or recovered in a control device complying with 40 CFR 60.482-10. Delay of repair beyond a process unit shutdown will be allowed if valve assembly replacement is necessary, 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. When delay of repair is allowed for a leaking pump or valve that remains in service, the pump or valve may be considered to be repaired and no longer subject to delay of repair requirements if two consecutive monthly monitoring instrument readings are below the leak definition.	Record each equipment found leaking, "repair delayed" and reason for delay if greater than 15 days, signature of owner/operator or designate whose decision was that repair could not be affected without a shutdown, expected date of repair if greater than 15 days, dates of process unit shutdowns. Monitoring to verify repair must occur within 15 days after startup of the process unit. Report semiannually, the facts that explain each delay of repair and, where appropriate, why a process unit shutdown was technically infeasible.

Leak Detection and Repair (LDAR) Program under 40 CFR 60 Subpart VV			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
6.3.9 VOC	As referenced, 40 CFR 60 Subpart VV 60.482-7, 60.483-2, 60.485, 60.487(c), (d) and (e) (11/16/2007) As modified by specifically applicable OAC terms in Section 5 WAC 173-401-630(1) (3/5/2016)	<u>Standards for Valves in Gas and Light Liquid Service and Alternative Standards for Valves – Skip Period Leak Detection and Repair</u> Monitor valves according to the sustainable skip period program calculating leak rates on a unit-by-unit basis. Monitor equipment according to specifically applicable leak definition to determine leak rates on a unit-by-unit basis. A leak is defined as an instrument reading of 10,000 ppm or greater <i>except</i> for units subject to leak definitions of 500 or 1,000 ppm. Make a “first attempt” at repair for any valve within 5 days after each leak is detected. The first attempt at repair shall be made no later than 5 calendar days after each detected leak. 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. When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in 40 CFR 60.482-9. If a leak is detected, the valve shall be monitored monthly until a leak is not detected for 2 successive months.	Instrument monitor valves on a monthly schedule in accordance with 60.482-7. The facility may elect to follow a less frequent monitoring schedule using the criteria: At process units that have less than 2.0% leaking valves for 2 consecutive months, monitor each valve once every quarter, beginning with the next quarter. After 2 consecutive quarterly leak detection periods with the percent leaking less than or equal to 2.0%, monitor each valve once every 2 quarters. After 5 consecutive semi-annual leak detection periods with the percent of valves leaking is less than or equal to 2.0%, monitor each valve once every 4 quarters. Facility must return to a more frequent monitoring schedule if a process unit on a quarterly, semi-annual or annual schedule has a leak percentage greater than or equal to 2% in any single detection period, monitor valves every month to return to the skip period. The leak percentage shall be determined as noted in term 6.3.11. The instrument shall be calibrated before use each day of use by Method 21. 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 10,000 ppm methane or n-hexane. Submit a semi-annual report including the appropriate items in 60.487(c). Follow 40 CFR 60 Appendix A Method 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.

Leak Detection and Repair (LDAR) Program under 40 CFR 60 Subpart VV			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
6.3.10 VOC	As referenced, 40 CFR 60 Subpart VV 60.482-7(a) (11/16/2007) As modified by specifically applicable OAC terms in Section 5	<u>New gas/vapor service or light liquid service valves:</u> Valves that begin operation after the initial startup date for the process unit must be monitored: • For the first time within 30 days after the startup period to ensure proper installation, or • If the valves on the process unit are monitored in accordance with 60.483-2, count the new valve as leaking when calculating the percentage of valves leaking as described in 60.483-2(b)(5). If less than 2.0 percent of the valves are leaking for that process unit, the valve must be monitored for the first time during the next scheduled monitoring event for existing valves in the process unit or within 90 days, whichever comes first, <i>Except</i> for a valve that replaces a leaking valve or as provided in paragraphs (f), (g), and (h) of this section, 60.482-1(c), and 60.483-1 and 60.483-2.	Follow MR&R in accordance with AOP Term 6.3.9.

Leak Detection and Repair (LDAR) Program under 40 CFR 60 Subpart VV			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
6.3.11 VOC	As referenced, 40 CFR 60 Subpart VV 60.485(h) (11/16/2007) As modified by specifically applicable OAC terms in Section 5	<u>Calculation of percent leak rate:</u> Determine compliance with 60.483-2 as follows: The percent of valves leaking shall be determined using: $\%V_L = (V_L/V_T) * 100$ Where: $\%V_L$= Percent leaking valves V_L= Number of valves found leaking V_T= The sum of the total number of valves monitored	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. The number of valves leaking shall include valves for which repair has been delayed. 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 in accordance with 60.482-7(c)(1)(ii), the sum of valves found leaking during a monitoring period includes all subgroups. The total number of valves monitored does not include a valve monitored to verify repair.
6.3.12 VOC	As referenced, 40 CFR 60 Subpart VV 60.482-10 (a), (d), (e), & (m) (12/14/2000)	<u>Standards for closed vent systems and control devices</u> Flares used to comply with this subpart shall comply with the requirements of 60.18 for flares.	Follow Permit Terms 5.14.6 through 5.14.12 (flares).

Leak Detection and Repair (LDAR) Program under 40 CFR 60 Subpart VV			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
6.3.13 VOC	As referenced, 40 CFR 60 Subpart VV 60.482-10 (f)-(m) (12/14/2000) and 60.486 (d) & (e) (11/16/2007)	<u>Inspection of closed vent systems</u> Conduct annual visual inspections for visible, audible, or olfactory indications of leaks on hard-piping. Conduct annual instrument monitoring using Method 21 on ductwork using a leak definition of 500 ppm. Leaks shall be repaired as soon as practicable with the first attempt at repair no later than 5 days. Repairs shall be completed within 15 days, unless a delay of repair is utilized. Collection systems under a vacuum are exempt from monitoring. Equipment that is designated as difficult or unsafe to inspect must be 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.	Keep the following records: For visual inspections or monitoring events during which no leaks are detected, a record the inspection date, 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. Identification of all parts of the closed vent system that are designated as difficult or unsafe to inspect, an explanation, and the plan for inspecting that equipment. Follow 40 CFR 60 Appendix A Method 21.
6.3.14 VOC	As referenced, 40 CFR 60 Subpart VV 60.486 (b) & (c) (11/16/2007)	<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. Identification on equipment except valves may be removed after it has been repaired.	When each leak is determined, record 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.

Leak Detection and Repair (LDAR) Program under 40 CFR 60 Subpart VV			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
6.3.15 VOC	As referenced, 40 CFR 60 Subpart VV 60.486(e) (11/16/2007)	Maintain records for equipment subject to this subpart.	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.

Leak Detection and Repair (LDAR) Program under 40 CFR 60 Subpart VV			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
6.3.16 VOC	As referenced, 40 CFR 60 Subpart VV 60.485(d) and 60.486(j) (11/16/2007)	<u>Process Units Not in VOC Service</u> Each piece of equipment shall be tested unless the owner or operator demonstrates 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 E-260, E-68, E-69 (incorporated by reference in 40 CFR 60.7), or, (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. **Leak Detection and Repair (LDAR) Program under 40 CFR 60 Subpart VVa**

Table 6-4 Leak Detection and Repair (LDAR) Program under 40 CFR 60 Subpart VVa

Leak Detection and Repair (LDAR) Program under 40 CFR 60 Subpart VVa			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
6.4.1 VOC	As referenced: 40 CFR 60 Subpart VVa 60.482-2a(a), (b) & (c), 60.485a(b), 60.486a(a), (b), (c) & (e) and 60.487a(c) & (e) (11/16/2007)	<u>Pumps in Light Liquid Service without Dual Mechanical Seals</u> Monitor each pump monthly to detect leaks. A pump that begins operation in light liquid service after the initial startup date for the process unit must be monitored for the first time within 30 days after the end of its startup period, except for a pump that replaces a leaking pump. Visually inspect each calendar week. If an instrument reading of 2,000 ppm or greater is measured, a leak is detected. If there are indications of liquids dripping from the pump seal, follow either of these two procedures (this requirement does not apply to a pump that was monitored after a previous weekly inspection if the instrument reading was less than 2,000 ppm and the pump was not repaired since that monitoring event): (i) Monitor the pump within 5 days. If an instrument reading of 2,000 ppm or greater is measured, a leak is detected. (ii) Designate the visual indications of liquids dripping as a leak and repair the leak within 15 days of detection or by eliminating the visual indications of liquids dripping. When a leak is detected, it shall be repaired as soon as practicable, with a first attempt at repair within 5 days. The repair shall be complete within 15 days, except as provided in 60.482-9a. Leaking components shall be marked with a weatherproof tag identifying the component and leak date.	Monitor each pump monthly to detect leaks by the methods specified in 60.485a (b). Each calendar week visually inspect each pump for indications of liquids dripping from the pump seal. For each monitoring event, record: (i) Monitoring instrument identification, (ii) Operator identification, (iii) Equipment identification, (iv) Date of monitoring, and, (v) Instrument reading. When a leak is detected, record the information listed in 60.486a(c) in a log. For all equipment subject to this permit term, record in a log in a readily accessible location the information required in 60.486a(e). Submit semiannual reports that include the information specified in 60.487a.

6.4.2 VOC	As referenced: 40 CFR 60 Subpart VVa 60.482-2a(b), (c) & (d), 60.485a(b), 60.486a(a), (b), (c), (e), (h) and 60.487a(a), (b),(c) & (e) (11/16/2007)	<u>Pumps in Light Liquid Service, With Dual Mechanical Seals Including a Barrier Fluid System</u> Operate the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure, or equip the dual mechanical seal system with a barrier fluid degassing reservoir that is routed to a process or fuel gas system or connected by a closed vent system to a control device that complies with the requirements of 60.482-10a; or equip with a system that purges 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. When a leak is detected, a weatherproof and readily visible identification, marked with the equipment identification number, shall be attached. The identification may be removed after it has been repaired.	Weekly, visually inspect each pump for leaks. A. Monitor the pump within 5 days as specified in 60.485a(b) to determine if there is a leak of VOC in the barrier fluid. If an instrument reading of 2,000 ppm or greater is measured, a leak is detected. B. Designate the visual indications of liquids dripping as a leak. 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, based on the criterion that indicates failure, a leak is detected. When a leak is detected by monitoring as per procedure A, 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 (c)(2)(i) and (ii) of this section. If the sensor indicates a leak, the leak shall be repaired within 15 days of detection by eliminating the conditions that activated the sensor. A designated leak as per procedure B shall be repaired within 15 days of detection by eliminating visual indications of liquids dripping. When a leak is detected, record the information listed in 60.486a(c). For all equipment subject to this permit term, record in a log in a readily accessible location the information required in 60.486a(e). Submit semiannual reports with information specified in 60.487a.
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Leak Detection and Repair (LDAR) Program under 40 CFR 60 Subpart VVa			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
6.4.3 VOC	As referenced: 40 CFR 60 Subpart VVa 60.482-2a (e), 60.485a(b) & (c), 60.486a(a), (c) & (e) and 60.487a(a), (b),(c) & (e) (11/16/2007)	<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)(i) through (vi). Submit semiannual reports that include the information specified in 60.487a.

Leak Detection and Repair (LDAR) Program under 40 CFR 60 Subpart VVa			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
6.4.4 VOC	As referenced: 40 CFR 60 Subpart VVa 60.482-2a(c) & (g), 60.485a(b), 60.486a(a), (b), (c), (e) & (f) and 60.487a(a),(b),(c) & (e) (11/16/2007)	<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.

Leak Detection and Repair (LDAR) Program under 40 CFR 60 Subpart VVa			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
6.4.5 VOC	As referenced: 40 CFR 60 Subpart VVa 60.482-3a, 60.486a(a),(b), (c), (e) & (h) and 60.487a(a), (b),(c) & (e) (11/16/2007)	<u>Compressors</u> Equip each compressor with a seal system that includes a barrier fluid system and that prevents leakage of VOC to the atmosphere. Operate the seal system with a barrier fluid at a pressure that is greater than the compressor stuffing box pressure or equip with a barrier fluid system degassing reservoir routed to a process or fuel gas system or connected 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. 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. Note that "repair" includes re-monitoring, by definition. Leaking components shall be marked with a weatherproof tag identifying the component and leak date.	When a leak is detected, record the information listed in 60.486a (a) and (c) in a log and keep for two years in a readily accessible location. For all equipment subject to this permit term, record in a log in a readily accessible location the information required in 60.486a(e) For equipment designated for no detectable emissions, the design criterion must be recorded in a log and kept readily accessible. An explanation of the design criterion and any changes to the criterion (and reasons for the changes) must be kept as well. Submit semiannual reports that include the information specified in 60.487a.

Leak Detection and Repair (LDAR) Program under 40 CFR 60 Subpart VVa			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
6.4.6 VOC	As referenced: 40 CFR 60 Subpart VVa 60.482-4a, 60.485a(c) 60.486a(e) and 60.487a(a), (b),(c) & (e) (11/16/2007)	<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 60.482-9a. 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 these requirements. 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 in 60.482-9a.	Monitor to detect leaks by the methods specified in 60.485a (b). For pressure relief devices required to comply with this condition, record a list of equipment identification numbers in a log in a readily accessible location. Also record the date of each compliance test, the background level measured during the compliance test, and the maximum instrument reading. Also record the information for monitoring instrument calibrations required by 60.486a(e)(8)(i) through (vi) and record each release from a pressure relief device. Submit semiannual reports that include the information specified in 60.487a.

Leak Detection and Repair (LDAR) Program under 40 CFR 60 Subpart VVa			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
6.4.7 VOC	As referenced: 40 CFR 60 Subpart VVa 60.482-5a and 60.486(a) & (e) (11/16/2007)	<u>Sampling Connection Systems</u> Each sampling connection system shall be equipped with a closed-purged, 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. In situ sampling systems are included in the definition of miscellaneous process vents, and vents in organic HAP service shall meet the requirements of 40 CFR Subpart CC 63.643 and 63.644. Design and operate the system to either return the purged process fluid directly to the process line, or collect and recycle to a process, or collect, store, and transport all the purged process fluid to a control device that complies with the requirements of 60.482-10a.	The permittee shall record in a log kept in a readily accessible location a list of identification numbers for equipment subject to the requirements of this condition.

Leak Detection and Repair (LDAR) Program under 40 CFR 60 Subpart VVa			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
6.4.8 VOC	As referenced: 40 CFR 60 Subpart VVa 60.482-6a and 60.486(a) & (e) (11/16/2007)	<u>Open-ended Valves or Lines</u> Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve except open-ended valves or lines in an emergency shutdown system which are designed to open automatically in the event of a process upset, and, open-ended valves or lines containing materials which would auto catalytically polymerize or would present an explosion, serious overpressure, or other safety hazard if capped or equipped with a double block and bleed system. The cap, blind flange, plug or second valve shall seal 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.	The permittee shall record in a log kept in a readily accessible location a list of identification numbers for equipment subject to the requirements of this condition.

Leak Detection and Repair (LDAR) Program under 40 CFR 60 Subpart VVa			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
6.4.9 VOC	As referenced: 40 CFR 60 Subpart VVa 60.482-8a, 60.485a(b), 60.486a(a), (b), (c) & (e) and 60.487a(a), (b) & (c) (11/16/2007)	<u>Pumps, Valves, and Connectors 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, either monitor within 5 days by the method specified in 60.485a(b) or eliminate the visual, audible, olfactory, or other indication of potential leak within 5 calendar days of detection. 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 in 60.482-9a. The first attempt at repair shall be made no later than 5 calendar days after each detected leak. First attempts at repair include, but are not limited to, the best practices described under 60.482-2a(c)(2) and 60.482-7a(e). Note that "repair" includes re-monitoring, by definition. Leaking components shall be marked with a weatherproof tag identifying the component and leak date.	Monitor to detect leaks by the methods specified in 60.485a (b). When a leak is detected, record the information required in 60.486a(a) and (c). For all equipment subject to this permit term, record in a log in a readily accessible location a list of identification numbers for equipment subject to this requirement. Also record the information for monitoring instrument calibrations required by 60.486a(e)(8)(i) through (vi). Submit semiannual reports that include the information specified in 60.487a.

6.4.10 VOC	As referenced: 40 CFR 60 Subpart VVa 60.482-9a and 60.487a(c)(2)(xi) & (3) (11/16/2007)	<u>Delay of Repair</u> Delay of repair of equipment for which leaks have been detected will be allowed if repair within 15 days is technically infeasible without a process unit shutdown. Repair shall occur before the end of the next process unit shutdown. 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 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 complying with 60.482-10a. Delay of repair beyond a process unit shutdown will be allowed if valve assembly replacement is necessary, 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. When delay of repair is allowed for a leaking pump, valve, or connector that remains in service, the pump, valve, or connector may be considered to be repaired and no longer subject to delay of repair requirements if two consecutive monthly monitoring instrument readings are below the leak definition.	Report, in a semiannual report, the process unit identification and the facts that explain each delay of repair and, where appropriate, why a process unit shutdown was technically infeasible. Also report the dates of process unit shutdowns which occurred within the semiannual reporting period.
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Leak Detection and Repair (LDAR) Program under 40 CFR 60 Subpart VVa			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
6.4.11	As referenced: 40 CFR 60 Subpart VVa 60.485a(h) (11/16/2007) As modified by specifically applicable OAC terms in Section 5	<u>Calculation of percent leak rate:</u> Determine compliance with 60.483a-1a or 60.483a-2a as follows: The percent of valves leaking shall be determined using: $\%V_L = (V_L/V_T) * 100$ Where: $\%V_L$ = Percent leaking valves V_L = Number of valves found leaking V_T = The sum of the total number of valves monitored	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. The number of valves leaking shall include valves for which repair has been delayed. 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 in accordance with 60.482-7a(c)(1)(ii), the sum of valves found leaking during a monitoring period includes all subgroups. The total number of valves monitored does not include a valve monitored to verify repair.

Leak Detection and Repair (LDAR) Program under 40 CFR 60 Subpart VVa			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
6.4.12 VOC	As referenced: 40 CFR 60 Subpart VVa 60.482-7a(a)-(e), 60.485a(b), 60.486a(b),(c) & (e) and 60.487a(b), (c) & (e) (11/16/2007)	<u>Standards for Valves in Gas/Vapor Service and 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, monitor valves to detect leaks 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(i) through (vi). Submit semiannual reports that include the information specified in 60.487a.

Leak Detection and Repair (LDAR) Program under 40 CFR 60 Subpart VVa			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
6.4.13 VOC	As referenced, 40 CFR 60 Subpart VVa 60.482-7a, 60.483-2a, 60.485a, 60.487a(c), (d) and (e) (11/16/2007)	<u>Standards for Valves in Gas and Light Liquid Service and Alternative Standards for Valves – Skip Period Leak Detection and Repair</u> Monitor valves according to the sustainable skip period program calculating leak rates on a unit-by-unit basis. Monitor equipment according to specifically applicable leak definition to determine leak rates on a unit-by-unit basis. A leak is defined as an instrument reading of 10,000 ppm or greater <i>except</i> for units subject to leak definitions of 500 or 1,000 ppm. Make a “first attempt” at repair for any valve within 5 days after each leak is detected. The first attempt at repair shall be made no later than 5 calendar days after each detected leak. 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. When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in 40 CFR 60.482-9. If a leak is detected, the valve shall be monitored monthly until a leak is not detected for 2 successive months.	Instrument monitor valves on a monthly schedule in accordance with 60.482-7a. The facility may elect to follow a less frequent monitoring schedule using the criteria: At process units that have less than 2.0% leaking valves for 2 consecutive months, monitor each valve once every quarter, beginning with the next quarter. After 2 consecutive quarterly leak detection periods with the percent leaking less than or equal to 2.0%, monitor each valve once every 2 quarters. After 5 consecutive semi-annual leak detection periods with the percent of valves leaking is less than or equal to 2.0%, monitor each valve once every 4 quarters. Facility must return to a more frequent monitoring schedule if a process unit on a quarterly, semi-annual or annual schedule has a leak percentage greater than or equal to 2% in any single detection period, monitor valves every month to return to the skip period. The leak percentage shall be determined as noted in term 6.4.11. The instrument shall be calibrated before use each day of use by Method 21. 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 10,000 ppm methane or n-hexane <i>except</i> for units complying with a lower leak definition of shall calibrate using and a mixture of methane and air at a concentration of about the leak definition. Submit a semi-annual report including the appropriate items in 60.487(c). Follow 40 CFR 60 Appendix A Method 21.

Leak Detection and Repair (LDAR) Program under 40 CFR 60 Subpart VVa			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
6.4.14 VOC	As referenced: 40 CFR 60 Subpart VV 60.482-7a(f), 60.485a(b) & (c), 60.486a(a), (b), (c), & (e) and 60.487a(c) & (e) (11/16/2007)	<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(i) through (vi). Submit semiannual reports that include the information specified in 60.487a. Follow 40 CFR 60 Appendix A Method 21.

Leak Detection and Repair (LDAR) Program under 40 CFR 60 Subpart VVa			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
6.4.15 VOC	As referenced: 40 CFR 60 Subpart VVa 60.482-7a(g), 60.485a(b), 60.486a(a), (b), (c), (e) & (f) and 60.487a(b), (c) & (e) (11/16/2007)	<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(i) through (vi). 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.
6.4.16 VOC	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) (11/16/2007)	<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(i) through (vi). 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.

Leak Detection and Repair (LDAR) Program under 40 CFR 60 Subpart VVa			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
6.4.17 VOC	As referenced, 40 CFR 60 Subpart VVa 60.482-10a (f)-(m) and 60.486a (d) & (e) (11/16/2007)	<u>Inspection of Closed Vent Systems</u> Conduct annual visual inspections for visible, audible, or olfactory indications of leaks on hard-piping. Conduct annual instrument monitoring using Method 21 on ductwork using a leak definition of 500 ppm. Leaks shall be repaired as soon as practicable with the first attempt at repair no later than 5 days. Repairs shall be completed within 15 days, unless a delay of repair is utilized. Collection systems under a vacuum are exempt from monitoring. Equipment that is designated as difficult or unsafe to inspect must be 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.	Keep the following records: For visual inspections or monitoring events during which no leaks are detected, a record the inspection date, 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. Identification of all parts of the closed vent system that are designated as difficult or unsafe to inspect, an explanation, and the plan for inspecting that equipment. Follow 40 CFR 60 Appendix A Method 21.
6.4.18 VOC	As referenced: 40 CFR 60 Subpart VVa 60.485a(d) and 60.486a(a) & (j) (11/16/2007)	<u>Process Units Not in VOC Service</u> Each piece of equipment shall be tested unless the owner or operator demonstrates 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 E-260-73,91, or 96, E-168-67,77, or 92, E169-63,77, or 93 (incorporated by reference in 40 CFR 60.17), or, (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.

6.5. Boiler and Process Heater NESHAP

Table 6-5 40 CFR 63 Subpart DDDDD

40 CFR 63 Subpart DDDDD			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
6.5.1 HAP	40 CFR 63 Subpart DDDDD 63.7500(a & e) & Table 3 Item 1, 63.7505(a), 63.7515(d), 63.7540(a)(10 & 12), 63.7550(a), (b), (c)(1 & 5) & (h)(3) & Table 9, 63.7555(a) (11/20/2015)	<u>Tune-Ups for Heaters with Oxygen Trim</u> Conduct a tune-up on the Crude Heater and Supplemental Crude Heater no less than once every 61 months. Set the oxygen trim level on the heaters no lower than the oxygen concentration measured during the most recent tune-up. The periodic tune-up shall include the following: inspect the burner, clean and replace burner components as necessary, inspect the burner flame pattern and adjust as necessary, inspect and maintain the air-to-fuel ratio system to ensure it is calibrated and functioning properly by measuring CO concentrations in the exhaust with a portable analyzer before and after adjustments are made.	Submit a signed certification in the Notification of Compliance Status (NCS) in accordance with AOP Term 3.3.23.4 that indicates a tune-up was completed. Include a statement in the NCS, as applicable, "This facility complies with the initial tune-up according to the procedures in 63.7540(a)(10)(i) through (iv)." Include information discussed in 40 CFR 63.7545(e)(1). Submit a compliance report every five calendar years. If available, the compliance reports shall also be submitted electronically via CEDRI (www.epa.gov/cdx). The compliance report shall include, among other things, the date of the most recent tune-up and burner inspection; if applicable, a statement that no deviations occurred; and be certified by the Responsible Official.
6.5.2 HAP	40 CFR 63 Subpart DDDDD 63.7500(a), (e), Table 3 Line 3, 7505(a), 7510(e), 7515(d), 7530(d), 7540(a)(10), (a)(13) & (b), 7545(a), (e)(1) & (e)(8)(i), 7550(a), (b), Table 9, (c)(1), (c)(5)(i)-(iv), (xiv), & (xvii), (h)(3), 7555(a) (11/20/2015)	<u>Tune-Up – units without Continuous Oxygen Trim</u> Conduct a tune-up of the process heater annually. Tune-ups shall be conducted no more than 13 months after the previous tune-up. If unit is not operating on the required date for a tune-up, conduct tune-up within 30 calendar days of startup. Conduct tune-up and maintain as per 40 CFR 63.7540(a)(10)(i)-(vi).	Submit a signed certification in the Notification of Compliance Status (NCS) in accordance with AOP Term 3.3.23.4 that indicates a tune-up was completed. Include a statement in the NCS, as applicable, "This facility complies with the initial tune-up according to the procedures in 63.7540(a)(10)(i) through (iv)." Include information discussed in 40 CFR 63.7545(e)(1). Submit a compliance report every calendar year. If available, the compliance reports shall also be submitted electronically via CEDRI (www.epa.gov/cdx). The compliance report shall include, among other things, the date of the most recent tune-up and burner inspection; if applicable, a statement that no deviations occurred; and be certified by the Responsible Official.

40 CFR 63 Subpart DDDDD			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
6.5.3 HAP	40 CFR 63 Subpart DDDDD 63.7500(f), Table 3 Lines 5 and 6 (11/20/2015)	<u>Startup and Shutdown</u> Standards apply at all times the affected unit is operating except during periods of startup and shutdown during which time you must comply only with Lines 5 and 6 of Table 3 to this subpart.	Maintain records of the calendar date, time, occurrence and duration of each startup and shutdown. Maintain records of the type and amount of fuels used during each startup and shutdown.
6.5.4 HAP	40 CFR 63 Subpart DDDDD 63.7500(a)(3) (11/20/15)	<u>Boiler MACT – 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.	Certify compliance annually in accordance with AOP Term 2.4.1.

6.6. Refinery MACT for Pressure Relief Devices

Table 6-6 40 CFR 63 Subpart CC

40 CFR 63 Subpart CC for Pressure Relief Devices			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
6.6.1 HAP	40 CFR 63 Subpart CC 63.648(j)(1) & (2) and 63.655(g)(10)(i) & (ii) (2/4/2020)	<u>Refinery MACT for Pressure Relief Devices - Operating Requirements</u> Except during a pressure release, operate each pressure relieve device (PRD) in organic HAP gas or vapor service in with an instrument reading of less than 500 ppm above background.	Following a pressure release: • If the PRD does not consist of or include a rupture disk, conduct instrument monitoring using Method 21 of 40 CFR 60 Appendix A-7 no later than five calendar days after the PRD returns to organic HAP service, • If the PRD includes a rupture disk, either conduct instrument monitoring using Method 21 of 40 CFR 60 Appendix A-7 or install a replacement disk as soon as practicable after the pressure release, but no later than five calendar days, and, • 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 five 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 using Method 21 of 40 CFR 60 Appendix A-7 no later than five 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. Submit in the 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.

40 CFR 63 Subpart CC for Pressure Relief Devices			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
6.6.2 HAP	40 CFR 63 Subpart CC 63.648(j)(3)(ii) (2/4/2020)	<u>Refinery MACT for Pressure Relief Devices - 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, and - 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 three 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, and, - 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 three redundant prevention measures are used for each PRD.

40 CFR 63 Subpart CC for Pressure Relief Devices			
Permit Term	Citation	Description	Monitoring, Recordkeeping, and Reporting
6.6.3 HAP	40 CFR 63 Subpart CC 63.648(j)(3)(iii)-(v), (6) & (7) and 63.655(g)(10)(iv) (2/4/2020)	<u>Refinery MACT for Pressure Relief Devices – 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. 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 two or more PRD installed on the same equipment to release, and, • A single RCA & CAA for a single emergency event that causes two or more PRD to release, regardless of the equipment served, if the root cause is reasonably expected to be a force majeure event. Complete the RCA and CAA as soon as possible but no later than 45 days after the release 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 three-calendar year period for the same root cause for the same equipment, or, • A third release event not including force majeure events from a single PRD in a three-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, 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.

SECTION 7 INAPPLICABLE REQUIREMENTS

The regulations identified in this section do not apply to the Cherry Point Refinery as of the date of permit issuance.

Table 7-1 INAPPLICABLE REQUIREMENTS

Citation	Title	Basis
NWCAA Regulation		
NWCAA 320 – 321	General Requirements for Registration	The registration requirements do not apply to sources or emission units subject to Air Operating Permits
NWCAA 458	Incinerators – Wood Waste Burners	Facility does not have this source category.
NWCAA 465	Sulfuric Acid Plants	Facility does not have this source category.
NWCAA 466	Portland Cement Plants	Facility does not have this source category.
NWCAA 470	Fluorides – Forage	Facility does not have this source category.
NWCAA 480	Solid Fuel Burning Device	Facility does not have this source category.
NWCAA 504	Agricultural Burning	The facility does not perform this activity.
NWCAA 510	Incinerator Burning	Facility does not have this source category.
NWCAA 511	Refuse Burning – Time Restriction	Facility does not have this source category.
NWCAA 520.14	Gaseous Fuel Standards	Does not apply to sources that must comply with NWCAA 460.
NWCAA 580.5	Bulk Gasoline Plants	Facility does not have this source category.
NWCAA 580.6	Gasoline Stations	Throughput threshold not met.
NWCAA 580.9	High Vapor Pressure VOC Storage in External Floating Roof Tanks	Facility does not have this source category.
NWCAA 590	Perchloroethylene Dry Cleaners	Facility does not have this source category.
State of Washington Regulations		
WAC 173-400-050(2)	Incinerator	Facility does not have this source category.
WAC 173-400-100 through 104	Registration	The registration requirements do not apply to sources or emission units subject to Air Operating Permits.
WAC 173-400-105(6)	Change in Raw Materials or Fuels	This requirement does not apply to sources or emission units subject to Air Operating Permits.
Chapter 173-430 WAC	Agricultural Open Burning	Facility does not have this source category.
Chapter 173-434 WAC	Solid Waste Incineration	Facility does not have this source category.

Citation	Title	Basis
Federal Regulations		
Standard of Performance for New Stationary Sources (NSPS)		
40 CFR 60 Subpart D	Performance Standards for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After August 17, 1971	All boilers at the refinery are subject to 40 CFR 60 Subpart Db that includes an exempt from Subpart D under §60.40b(j).
40 CFR 60 Subpart Da	Performance Standards for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After September 18, 1978.	There are no electric utility steam generating units at the refinery.
40 CFR 60 Subpart Dc	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units	There are no 10-100 MMBtu/hour steam generating units at the refinery.
40 CFR 60 Subpart UU	Standards of Performance for Asphalt Processing and Asphalt Roofing Manufacture	There is no asphalt processing or handling equipment at the refinery.
40 CFR 60 Subpart GG	Standards of Performance for Stationary Gas Turbines	There are no combustion turbines at the refinery.
40 CFR 60 Subpart III	Standards of Performance for Volatile Organic Compound (VOC) Emissions From the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Processes	Refinery does not operate any SOCMI air oxidation unit processes that make a chemical listed in 40 CFR 60.617.
National Emission Standards for Hazardous Air Pollutants (NESHAPS)		
40 CFR 61 Subpart Y	National Emission Standards for Benzene Emissions from Benzene Storage Devices	The refinery does not have the ability to the produce benzene products listed as applicable under Subpart Y §61.270.
40 CFR 61 Subpart BB	National Emission Standards for Benzene Emissions from Benzene Storage Vessels	The refinery does not have this source category.
National Emission Standards for Hazardous Air Pollutants for Source Categories (a.k.a. MACT)		
40 CFR 63 Subpart F	National Emission Standards for Organic Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry	40 CFR 63 Subpart F §63.100(j) exempts petroleum refining process units.
40 CFR 63 Subpart G	National Emission Standards for Organic Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater	40 CFR 63 Subpart F §63.100(j) exempts petroleum refining process units.
40 CFR 63 Subpart H	National Emission Standards for Organic Hazardous Air Pollutants From Equipment Leaks	40 CFR 63 Subpart F §63.100(j) exempts petroleum refining process units.
40 CFR 63 Subpart I	National Emission Standards for Organic Hazardous Air Pollutants for Certain Processes Subject to the Negotiated Regulation for Equipment Leaks	The refinery is not subject to the Negotiated Regulations for Equipment Leaks.

Citation	Title	Basis
40 CFR 63 Subpart R	National Emission Standards for Gasoline Distribution Facilities	The gasoline terminal has a SIC code of 2911 and is located within a contiguous area and under common control with a refinery complying with Subpart CC, and as such is not directly subject to Subpart R standards per 40 CFR 63.420(i).
40 CFR 63 Subpart Q	National Emission Standards for Hazardous Air Pollutants for Industrial Process Cooling Towers	The refinery discontinued the use of chromium in their cooling towers in 1994.
40 CFR 63 Subpart OO	National Emissions Standards for Tanks	No other portion of the applicable sections of 40 CFR 63 references this section, as required.
40 CFR 63 Subpart QQ	National Emissions Standards for Surface Impoundments	No other portion of the applicable sections of 40 CFR 63 references this section, as required.
40 CFR 63 Subpart RR	National Emission Standards for Individual Drain Systems	No other portion of the applicable sections of 40 CFR 63 references this section, as required.
40 CFR 63 Subpart SS	National Emission Standards for Hazardous Air Pollutants for Closed Vent Systems, Control Devices, Recovery Devices, and Routing to a Fuel Gas System or a Process.	Refinery is not subject to any subpart that references the use of this subpart for air emission.
40 CFR 63 Subpart VV	National Emission Standards for Oil-water Separators and Organic-water Separators	No other portion of the applicable sections of 40 CFR 63 references this section, as required.
40 CFR 63 Subpart EEE	National Emission Standards for Hazardous Air Pollutants for Hazardous Waste Incinerators	Refinery does not own or operate Hazardous waste Incinerator, cement kiln, or aggregate kiln.
40 CFR 63 Subpart YYYY	National Emission Standards for Combustion Turbines	There are no combustion turbines at the refinery.

SECTION 8 DEFINITIONS AND ACRONYMS

Definitions are assumed to be those found in the underlying regulation. A short list of definitions has been included to address those not previously defined.

An "applicable requirement" is a provision, standard, condition or requirement in any of the listed regulations or statutes as it applies to an emission unit or facility at a stationary source.

An "emission unit" is any part or activity of a stationary source that emits or has the potential to emit any regulated air pollutant.

A "permit" means for the purposes of the Air Operating Permit program an air operating permit issued pursuant to Title 5 of the 1990 Federal Clean Air Act.

"Technology-Based Emission Standard" means a standard, the stringency of which is based on determinations of what is technologically feasible considering relevant factors.

"State" means for the purposes of the Air Operating Permit program the NWCAA or the Washington Department of Ecology.

The following is a list of Acronyms used in the Air Operating Permit and/or Statement of Basis:

AMP	Alternative Monitoring Plan
AOP	Air Operating Permit
API	American Petroleum Institute
ASTM	American Society for Testing and Materials
BACT	Best available control technology
BBL	Barrel (42 US gallons)
Btu	British thermal unit
BWON	Benzene Waste Operations NESHAP
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CEM	Continuous emission monitor
CEMS	Continuous emission monitoring system
CD	Consent Decree
CI	Compression ignition (internal combustion engine)
CFM	Cubic feet per minute
CO	Compliance Order
COM	Continuous opacity monitor
CFR	Code of Federal Regulations
CRU	Catalytic Reforming Unit
DCU	Delayed Coking Unit
EFR	External Floating Roof (tank)
EPA	Environmental Protection Agency
ERC	Emission reduction credit
ESP	Electrostatic precipitator
FCAA	Federal Clean Air Act
FGR	Flue Gas Recirculation or Flare Gas Recovery
HAP	Hazardous Air Pollutants
HC	Hydrocarbon
HHV	Higher Heating Value (heat content of fuel)
HON	Hazardous Organic NESHAP
H ₂ S	Hydrogen sulfide
H ₂ SO ₄	Sulfuric acid
hp	Horsepower, brake
ICE	Internal Combustion Engine
IFR	Internal Floating Roof (tank)
ISO	International Standards Organization
ISOM	Isomerization unit
kPa	Kilopascals (10 ³ pascals pressure)
LDAR	Leak detection and repair
LNB	Low-NO _x Burner
LEL	Lower explosive limit
LPG	Liquefied petroleum gas

LTPD	Long tons per day (imperial ton, 2,240 pounds)
MACT	Maximum Achievable Control Technology
MDEA	Methyl-diethanolamine
Mg	Megagrams (10 ⁶ grams mass)
MMBtu	Million British thermal units
MMSCFD	Million standard cubic feet per day
MSCFH	Thousand standard cubic feet per hour
MPV	Miscellaneous process vent
MR&R	Monitoring, recordkeeping, and reporting requirements
MTVP	Maximum true vapor pressure
MV	Maintenance vent
NIST	National Institute of Standards and Technology
NESHAP	National Emission Standards for Hazardous Air Pollutants
NOC	Notice of Construction
NO _x	Oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NSPS	New Source Performance Standard
NSR	New source review
NWCAA	Northwest Clean Air Agency
O ₂	Oxygen
OAC	Order of Approval to Construct
PM	Particulate matter
PM ₁₀	Particulate matter less than 10 microns in diameter
PM _{2.5}	Particulate matter less than 2.5 microns in diameter
ppmvd	Part per million by volume, dry
ppmw	Part per million by weight
psia	Pounds per square inch absolute
PTE	Potential to Emit (annual, unless otherwise noted)
PRD	Pressure relief device
QA/QC	Quality assurance/quality control
RCW	Revised Code of Washington
RICE	Reciprocation internal combustion engine
RO	Regulatory Order (issued by the NWCAA)
SCF (scf)	Standard cubic feet
SCFH	Standard cubic feet per hour
SCFM	Standard cubic feet per minute
SCR	Selective catalytic reduction
SEPA	State Environmental Policy Act
SIP	State Implementation Plan
SofB	Statement of Basis
SOCMI	Synthetic Organic Chemical Manufacturing Industry
SOP	Standard operating procedure
SRU	Sulfur Recovery Unit
SO ₂	Sulfur dioxide
TAB	Total annual benzene
TOC	Total organic content
TPY (tpy)	Tons per year
TRS	Total reduced sulfur
TVP	True vapor pressure
ULNB	Ultra-low NO _x burner (designed for ≤ 0.04 lb/MMBtu)
ULSD	Ultra low sulfur diesel
VE	Visible emissions
VP	Vapor pressure
VOC	Volatile organic compounds
VOL	Volatile organic liquid
WAC	Washington Administration Code
WDOE	Washington Department of Ecology (Ecology)