Air Operating Permit
- FINAL -

Shell Puget Sound Refinery

Anacortes, Washington

November 5, 2014

northwest Clean Air agency

Serving Island, Skagit & Whatcom Counties

PERMIT INFORMATION

Equilon Enterprises LLC dba Shell Oil Products US
Puget Sound Refinery
8505 South Texas Road, Anacortes, Washington

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ATTEST

This operating permit is issued in accordance with the provisions of the Washington Clean Air Act Chapter 70.94 Revised Code of Washington and the Clean Air Act 42 United States Code, Section 7401 *et seq*. Equilon Enterprises LLC dba Shell Oil Products US is authorized to operate subject to the terms and conditions of this operating permit.

Northwest Clean Air Agency Approval:

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Date: 11/5/14

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SECTION 1 EMISSION UNIT IDENTIFICATION

This section lists of the air pollution emission units and their physical characteristics for each process or product handling area. Emission units listed primarily represents regulated emission points. However, for consistency in tracking all potential emission sources in each process area the list may include some insignificant emission units (IEU).

OACs marked with an asterisk are listed in AOP Section 1 because they are applicable but are not listed in AOP Section 5 because they have no ongoing requirements.

1.1 ..... Vacuum Pipe Still
1.2 ..... Delayed Coking Unit (DCU)
1.3 ..... Fluid Catalytic Cracking Unit (FCCU)
1.4 ..... Catalytic Polymerization and Nonene Units
1.5 ..... Catalytic Reformer Units 1 and 2
1.6 ..... Alkylation Units 1 and 2 and Butadiene Hydrogenation Unit
1.7 ..... Hydrotreater Units 1, 2, and 3; Isomerization Unit; and Benzene Reduction Unit (BRU)
1.8 ..... Sulfur Recovery Units
1.9 ..... Utilities
1.10 ..... Receiving, Pumping and Shipping (RP&S)
1.11 ..... Flares and Flare Gas Recovery Unit
1.12 ..... Internal Combustion Engines
1.13 ..... Wastewater and Effluent Plant
1.14 ..... Storage Tanks/Vessels

1.1 Vacuum Pipe Still

Description (ID)	Constructed / Modified	Comments
Gas Oil Tower Heater (1A-F4)	1958	157 MMBtu/hr, gas fired, with O_2 trim, low NO_X burners (OAC 929b, CO 07, and 40 CFR 63 Subpart DDDDD)
Atmospheric Charge Heater (1A-F5)	1958	415 MMBtu/hr combined, common stack, gas fired, with O_2 trim, low NO_X burners (OAC 919a, CO 07, and 40 CFR 63 Subpart DDDDD)
Atmospheric Charge Heater (1A-F6)	1958	
Vacuum Charge Heater (1A-F8)	2000	98 MMBtu/hr, gas fired, with O_2 trim, low NO_X burner (OAC 684b, 40 CFR 60 Subpart J, and 40 CFR 63 Subpart DDDDD)
Desalter Waterwash Surge Drum Vent (1A-C46)		Controlled to flare (40 CFR 63 Subpart CC Group 1 MPV)

Description (ID)	Constructed / Modified	Comments
Heat Exchangers in HAP service	1958	20 heat exchangers (40 CFR 63 Subpart CC)
Components in VOC/HAP service	1958 mod 2000	~ 3,300 valves, 27 pumps, 2 compressors (40 CFR 60 Subpart GGG, 40 CFR 63 Subpart CC)
Process Drains	1958	(40 CFR 61 Subpart FF (BQ6))

1.2 Delayed Coking Unit (DCU)

Description (ID)	Constructed / Modified	Comments
Charge Heater (15F-100)	1983 mod 1998	124 MMBtu/hr, gas fired only, with O_2 trim, low NO_X burner (OAC 628d, 40 CFR 60 Subpart J, and 40 CFR 63 Subpart DDDDD)
Coke Loading (LR-7)	1983	Covered trucks and retractable loading arm (RO 14a)
Coker Fractionator Overhead Accumulator Vent (15-C4)	1983	Controlled to flare (40 CFR 63 Subpart CC Group 1 MPV)
Heat Exchangers in HAP service	1983	4 heat exchangers (40 CFR 63 Subpart CC)
Components in VOC/HAP Service	1983 mod 1998	~ 2,400 valves, 17 pumps, 2 compressors (40 CFR 60 Subpart GGG, 40 CFR 63 Subpart CC)
Process Drains	1998	(40 CFR 60 Subpart QQQ, 40 CFR 61 Subpart FF (BQ6))

1.3 Fluid Catalytic Cracking Unit (FCCU)

Description (ID)	Constructed / Modified	Comments
CO Boiler (COB-1)	1958 mod 1998	Combined maximum firing rates: 65 MMBtu/hr full combustion mode, 30.4 MMBtu/hr partial combustion mode, 264 MMBtu/hr supplemental gas firing rate (OAC 623f, CO 10, 40 CFR 60 Subpart J, 40 CFR 63 Subpart UUU) Control methods: low NO_X burners & FGR at FCCU Regenerator and WGS Stack tested for PM annually; CEMS for NO_X, SO_2, CO, and O_2
CO Boiler (COB-2)	1972 mod 1998	
Wet Gas Scrubber (WGS)	2006	Controls PM and SO_2
FCCU Fresh Catalyst Hopper	1985	Baghouse (operational 2012) (OAC 623f)
Intermediate Separator Bottoms Drum Vent (4B-C35)	1958	Controlled to flare (40 CFR 63 Subpart CC Group 1 MPV)
1st Stage Compressor In-Line Separator Vent (4B-C102)	1958	Controlled to flare (40 CFR 63 Subpart CC Group 1 MPV)
Heat Exchangers in HAP service	1958	14 heat exchangers (40 CFR 63 Subpart CC)
Components in VOC/HAP Service	1958 mod 1998	~ 3,200 valves, 24 pumps, 1 compressor (40 CFR 60 Subpart GGG, 40 CFR 63 Subpart CC)
Process Drains	1958	(40 CFR 60 Subpart QQQ, 40 CFR 61 Subpart FF (BQ6))

1.4 Catalytic Polymerization and Nonene Units

1.4.1 Catalytic Polymerization Unit

Description (ID)	Constructed / Modified	Comments
Flare Knockout Drum Vent (5J-C56)	1976	Controlled to flare (40 CFR 63 Subpart CC Group 1 MPV)
Flare Knockout Drum Vent (5J-C85)	1976	Controlled to flare (40 CFR 63 Subpart CC Group 1 MPV)
Heat Exchangers in HAP service	1976	11 heat exchangers (40 CFR 63 Subpart CC)
Components in VOC/HAP Service	1976 mod 1998	~ 3,500 valves, 27 pumps (40 CFR 60 Subpart GGG, NWCAA 580.8)
Process Drains	1976	(40 CFR 61 Subpart FF (BQ6))

1.4.2 Nonene Unit

Description (ID)	Constructed / Modified	Comments
Components in VOC/HAP Service	1991	~ 700 valves, 11 pumps (40 CFR 60 Subpart VV)
Process Drains	1991	(40 CFR 60 Subpart QQQ, 40 CFR 61 Subpart FF (BQ6))

1.5 Catalytic Reformer Units 1 and 2

1.5.1 Catalytic Reformer Unit 1

Description (ID)	Constructed / Modified	Comments
Charge Heater (6D-F2)	1987	103 MMBtu/hr combined, common stack, gas fired, without O_2 trim, low NO_X burners (OAC 321b, 40 CFR 60 Subpart J, 40 CFR 63 Subpart DDDDD)
Interheater 1 (6D-F3)	1987	
Interheater 2 (6D-F4)	1987	

Description (ID)	Constructed / Modified	Comments
Feed Surge Drum Vent (6D-C8)	1958	Controlled to flare (40 CFR 63 Subpart CC Group 1 MPV)
Catalyst Regeneration Drum Vent	1958	Controlled to flare (40 CFR 63 Subpart UUU)
Heat Exchangers in HAP service	1958	5 heat exchangers (40 CFR 63 Subpart CC)
Components in VOC/HAP Service	1958	~ 900 valves, 5 pumps (40 CFR 60 Subpart GGGa, 40 CFR 63 Subpart CC)
Process Drains	1958	(40 CFR 61 Subpart FF (BQ6))

1.5.2 Catalytic Reformer Unit 2

Description (ID)	Constructed / Modified	Comments
Charge Heater (10H-101)	1976	205 MMBtu/hr combined, common stack, gas fired, 10H-101/102 with O_2 trim, 10H-103 without O_2 trim, low NO_X burner on 10H-103 only (CO 07, 40 CFR 63 Subpart DDDDD)
Interheater #1 (10H-102)	1976	
Interheater #2 (10H-103)	1976	
Stabilizer Reboiler (10H-104)	1976	70 MMBtu/hr, gas fired, without O_2 trim (CO 07, 40 CFR 63 Subpart DDDDD)
Feed Surge Drum Vent (10F-104)	1976	Controlled to flare (40 CFR 63 Subpart CC Group 1 MPV)
Platformate Splitter Receiver Vent (10F-119)	1976	Controlled to flare (40 CFR 63 Subpart CC Group 1 MPV)
Catalyst Regeneration Drum Vent	1976	Controlled to flare (40 CFR 63 Subpart UUU)
Heat Exchangers in HAP service	1976	8 heat exchangers (40 CFR 63 Subpart CC)
Components in HAP/Benzene Service	1976	~ 2,200 valves, 21 pumps (40 CFR 63 Subpart CC)
Process Drains	1976	(40 CFR 61 Subpart FF (BQ6))

1.6 Alkylation Units 1 and 2 and Butadiene Hydrogenation Unit

1.6.1 Alkylation Unit 1

Description (ID)	Constructed / Modified	Comments
Heat Exchangers in HAP service	1958	10 heat exchangers (40 CFR 63 Subpart CC)
Components in VOC/HAP Service	1958 mod 2004	~ 2,400 valves, 22 pumps, 1 compressor (OAC 887a (enhanced LDAR), 40 CFR 60 Subpart GGG, 40 CFR 63 Subpart CC, NWCAA 580.8)
Process Drains	1958	(40 CFR 61 Subpart FF (BQ6))

1.6.2 Alkylation Unit 2

Description (ID)	Constructed / Modified	Comments
Acid Vapor Caustic Scrubber Vent (12F-115)	1976	Controlled to flare (40 CFR Subpart CC Group 1 MPV)
Heat Exchangers in HAP service	1976	15 heat exchangers (40 CFR 63 Subpart CC)
Components in VOC/HAP Service	1976	~ 3,000 valves, 28 pumps, 1 compressor (40 CFR 63 Subpart CC, NWCAA 580.8)
Process Drains	1976	(40 CFR 61 Subpart FF (BQ6))

1.6.3 Butadiene Hydrogenation Unit (BHU)

Description (ID)	Constructed / Modified	Comments
Components in VOC/HAP Service	2001	(OAC 772b (enhanced LDAR), 40 CFR 60 Subpart GGG, 40 CFR 63 Subpart CC)
Process Drains	2001	(40 CFR 61 Subpart FF (BQ6))

1.7 Hydrotreater Units 1, 2 and 3; Isomerization; and Benzene Reduction Unit (BRU)

1.7.1 Hydrotreater Unit 1

Description (ID)	Constructed / Modified	Comments
Charge Heater (7C-F4)	1991	240 MMBtu/hr combined, common stack, gas fired, without O_2 trim, low NOx burners (OAC 286b, 40 CFR 60 Subpart J, and 40 CFR 63 Subpart DDDDD)
Fractionator Reboiler (7C-F5)	1991	
Heat Exchangers in HAP service	1958	6 heat exchangers (40 CFR 63 Subpart CC)
Components in HAP Service	1958	~ 2,000 valves, 12 pumps (40 CFR 63 Subpart CC)
Process Drains	1958	(40 CFR 61 Subpart FF (BQ6))

1.7.2 Hydrotreater Unit 2

Description (ID)	Constructed / Modified	Comments
Charge Heater (11H-101)	1976	65 MMBtu/hr, gas fired, with O_2 trim (CO 07, 40 CFR 63 Subpart DDDDD)
H_2S Stripper Reboiler (11H-102)	1976 mod 1998	241 MMBtu/hr combined, gas fired, with O_2 trim, low NO_X burners, combined stack (OAC 630c, 40 CFR 60 Subpart J, 40 CFR 63 Subpart DDDDD)
Fractionator Reboiler (11H-103)	1976 mod 1998	
Fractionator Accumulator Vent (11F-209)	1976	Controlled to flare (40 CFR 63 Subpart CC Group 1 MPV)
Heat Exchangers in HAP service	1976	8 heat exchangers (40 CFR 63 Subpart CC)
Components in VOC/HAP Service	1976 mod 2004	~ 3,200 valves, 26 pumps (OAC 630c (enhanced LDAR), 40 CFR 60 Subpart GGG, 40 CFR 63 Subpart CC)
Process Drains	1976 mod 2004	(40 CFR 60 Subpart QQQ, 40 CFR 61 Subpart FF (BQ6))

1.7.3 Hydrotreater Unit 3

Description (ID)	Constructed / Modified	Comments
CDHDS Heater (60-F201)	2003	95 MMBtu/hr, gas fired, with O_2 trim, low NO_X burners (OAC 787e, 40 CFR 60 Subpart J, 40 CFR 63 Subpart DDDDD)
Heat Exchangers in HAP service	2003	1 heat exchanger (40 CFR 63 Subpart CC)
Components in VOC/HAP Service	2003	~ 2,900 valves, 28 pumps (OAC 787e (enhanced LDAR), 40 CFR 60 Subpart GGG, 40 CFR 63 Subpart CC)
Process Drains	2003	(40 CFR 60 Subpart QQQ, 40 CFR 61 Subpart FF (BQ6))

1.7.4 Isomerization Unit

Description (ID)	Constructed / Modified	Comments
Components in VOC/HAP Service	2006	~ 1,100 valves, 9 pumps (OAC 883b (enhanced LDAR), 40 CFR 60 Subpart GGG, 40 CFR 63 Subpart CC)
Process Drains	2006	(40 CFR 60 Subpart QQQ, 40 CFR 61 Subpart FF (BQ6))

1.7.5 Benzene Reduction Unit

Description (ID)	Constructed / Modified	Comments
Heat Exchangers in HAP service	2006	4 heat exchangers (40 CFR 63 Subpart CC)
Components in VOC/HAP Service	2009	~ 1,600 valves, 12 pumps (OAC 1045*, 40 CFR 60 Subpart GGGa, 40 CFR 63 Subpart CC)
Process Drains	2009	(OAC 1045*, 40 CFR 60 Subpart QQQ, 40 CFR 61 Subpart FF (BQ6))

1.8 Sulfur Recovery Unit

Description (ID)	Constructed / Modified	Comments
Primary SRU with incinerator stack (SRU3)	2000	320 long tons per day maximum sulfur production rate (SRU3 capacity of 150 LTD and SRU4 of 170 LTD) Units burn natural gas or refinery fuel gas (during natural gas curtailments) SO_2 CEMS on each incinerator stack (OAC 828a)
New SRU with incinerator stack (SRU4)	2004	
Components in VOC/HAP Service	2000/2004	~ 230 valves (40 CFR 60 Subpart GGG, 40 CFR 63 Subpart CC)
Process Drains	2000/2004	

1.9 Utilities

Description (ID)	Constructed / Modified	Comments
Erie City Boiler (31GF1)	1958	390 MMBtu/hr, gas or oil fired, with O_2 trim (CO 07, 40 CFR 63 Subpart DDDDD)
Fire Training Ground	1958	Fire suppression training area
Cooling Towers (2)	1958 & 1976	

Description (ID)	Constructed / Modified	Comments
GE Frame 6 Model MS6000 combined cycle combustion turbine with duct burner upstream of HRSG (CT-1)	1990	Natural gas with diesel backup, heat input capacity 450 MMBtu/hr. Duct burner: 163 MMBtu/hr on natural gas or refinery fuel gas (no oil combustion in duct burner). 40 MW nominal output per turbine. SCR & steam injection. (OAC 475h, 40 CFR 60 Subpart Db, 40 CFR 60 Subpart GG, 40 CFR 63 Subpart YYYY)
GE Frame 6 Model MS6000 combined cycle combustion turbine with duct burner upstream of HRSG (CT-2)	1990	Natural gas with diesel backup, heat input capacity 450 MMBtu/hr. Duct burner: 163 MMBtu/hr on natural gas or refinery fuel gas (no oil combustion in duct burner). 40 MW nominal output per turbine. SCR & steam injection. (OAC 475h, 40 CFR 60 Subpart Db, 40 CFR 60 Subpart GG, 40 CFR 63 Subpart YYYY)
GE Frame 6 Model MS6000 combined cycle combustion turbine with duct burner upstream of HRSG (CT-3)	1991	Natural gas with diesel backup, heat input capacity 450 MMBtu/hr. Duct burner: 163 MMBtu/hr on natural gas or refinery fuel gas (no oil combustion in duct burner). 40 MW nominal output per turbine. SCR & steam injection. (OAC 476g, 40 CFR 60 Subpart Db, 40 CFR 60 Subpart GG, 40 CFR 63 Subpart YYYY)
Cogen Cooling Tower (1)	1990	

1.10 Receiving, Pumping and Shipping (RP&S)

1.10.1 Gasoline / Diesel Truck Loading Terminal

Description (ID)	Constructed / Modified	Comments
Gasoline/Diesel Truck Load Rack (LR-1)	1958 mod 1993	Two Bays (40 CFR 60 Subpart XX, 40 CFR 63 Subpart CC, OAC 380c)
Vapor Combustion Device (23NF1)	1993	John Zink Z-TOF Thermal Oxidizing Unit, source tested biennially (40 CFR 60 Subpart XX, 40 CFR 60 Subpart J (AMP), 40 CFR 63 Subpart CC, OAC 380c)
Components in VOC/HAP Service	1993	~ 600 valves, 9 pumps (40 CFR 63 Subpart CC)
Process Drains	1958	(40 CFR 61 Subpart FF (BQ6))

1.10.2 Diesel Railcar Loading Rack

Description (ID)	Constructed / Modified	Comments
Diesel Railcar Loading Rack (LR-4)	2001	Submerged loading into dedicated distillate tanks (OAC 757a)
Components in VOC Service	2001	~ 900 valves, 4 pumps, 1 compressor
Process Drains in VOC Service	2001	(40 CFR 60 Subpart QQQ, 40 CFR 61 Subpart FF (BQ6))

1.10.3 Nonene Truck and Railcar Loading Rack

Description (ID)	Constructed / Modified	Comments
Nonene Truck and Railcar Loading (LR-5)	1991	Submerged fill (OAC 296a)
Components in VOC Service	1991	~ 300 valves, 6 pumps
Process Drains	1991	(40 CFR 60 Subpart QQQ, 40 CFR 61 Subpart FF (BQ6))

1.10.4 Ethanol Unloading and Storage

Description (ID)	Constructed / Modified	Comments
Ethanol Tank (Tank 85)	2009	25,000 barrel, IFR, two seals (OAC 1046, 40 CFR 60 Subpart Kb, 40 CFR 63 Subpart CC)
Components in VOC Service	2009	~ 200 valves, 6 pumps
Process Drains	2009	

1.10.5 Other Shipping and Receiving Areas

Description (ID)	Constructed / Modified	Comments
Marine Terminal	1958	Offshore facility (40 CFR 63 Subpart Y, 40 CFR 61 Subpart FF (BQ6))
Propane/Butane Railcar Load Rack (LR-2)	1958	~ 900 valves, 4 pumps, 1 compressor (NWCAA 580.8) Process Drains
LPG Truck and Railcar Loading Rack (LR-3)	1958	
Fixed Roof Tank 64: Product Additive Storage Tank	1958	7,600 gallons – Nalco 5300 stabilizer oil additive (40 CFR 63 Subpart EEEE)

1.11 Flares and Flare Gas Recovery Unit

Description (ID)	Constructed / Modified	Comments
North Flare (19N-F1)	1958 mod 2011	455 lb HC/hr, steam assisted tip, elevated (40 CFR 60 Subparts A & Ja; and 40 CFR 63 Subparts A & CC)
South Flare (19N-F2)	1958 mod 2011	455 lb HC/hr, steam assisted tip, elevated (40 CFR 60 Subparts A & Ja; and 40 CFR 63 Subparts A & CC)
East Flare (19N-F3)	1972 mod 2011	634 lb HC/hr, steam assisted tip, elevated, primary flare for refinery (40 CFR 60 Subparts A & Ja; and 40 CFR 63 Subparts A & CC)
Components in VOC/HAP Service	1958	~ 350 valves, 2 pumps (40 CFR 63 Subpart CC)
Process Drains	1958	(40 CFR 61 Subpart FF (BQ6))

Description (ID)	Constructed / Modified	Comments
Flare Gas Recovery Unit (FGR)	2006	Includes five flare gas liquid ring recovery compressors, two separators, one fuel gas recovery trim cooler, one fuel gas recovery amine absorber, and associated equipment (OAC 918b)
Components in VOC/HAP Service	2006	~ 400 valves, 5 compressors (OAC 918b (enhanced LDAR), 40 CFR 60 Subpart GGG, 40 CFR 63 Subpart CC)
Process Drains	2006	(40 CFR 60 Subpart QQQ, 40 CFR 61 Subpart FF (BQ6))

1.12 Internal Combustion Engines

Description (ID)	Constructed / Modified	Comments
Control Room #2 Generator (30LEG2)	1993	230 hp diesel-fired compression ignition emergency generator (40 CFR 63 Subpart ZZZZ)
BOHO Emergency Firewater Pump (33PGE3)	1972	227 hp diesel-fired compression ignition emergency firewater pump (40 CFR 63 Subpart ZZZZ)
BOHO Firewater Pump (33PGE14)	1987	227 hp diesel-fired compression ignition firewater pump (40 CFR 63 Subpart ZZZZ)
BOHO Firewater Pump (33PGE15)	1987	227 hp diesel-fired compression ignition firewater pump (40 CFR 63 Subpart ZZZZ)
Wharf Stand-by Generator (30LEG5)	2002	500 kW (755 hp) diesel-fired compression ignition emergency generator (OAC 797, 40 CFR 63 Subpart ZZZZ)
Main Control Room Emergency Generator (30LEG6)	2008	237 hp diesel-fired 2006 model year compression ignition emergency generator (40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ)
Radio Tower Emergency Generator (30LEG7)	2013	50 kW (80 hp) diesel-fired compression ignition generator (40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ)
EP Outfall Pump (9QG68)	2013	373 kW (500 hp) diesel-fired compression ignition water pump (40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ)
Engine Test Stand (5 engines)	1956 (3), 1963 (1), 1977 (1)	(40 CFR 63 Subpart PPPPP)

1.13 Wastewater and Effluent Plant

1.13.1 Effluent Plant and Sewer System (ETPPDF)

Description	Constructed / Modified	Comments
Effluent Plant and Sewer System		
API Separator	1958 mod 1993	Floating and fixed covers and carbon absorption (OAC 514a*, 40 CFR 61 Subpart FF)
DAF Units (Units 1&2)	1958 mod 1993	Fixed covers and carbon absorption (OAC 514a*, 40 CFR 61 Subpart FF)
DAF Unit (Unit 3)	1994	Fixed covers and carbon absorption (OAC 514a*, 40 CFR 60 Subpart QQQ, 40 CFR 61 Subpart FF)
Tank 74 Sump	1991	(40 CFR 61 Subpart FF)
First Stage Bioreactor (Tank 74)	1991 mod 2013	
Bioreactor	1996	
Clarifiers (2)	1996	
Sewer Lines and Covers	1958 mod 1993	Covers and carbon absorption (OAC 514a*, 40 CFR 61 Subpart FF)
Retention Pond	1958	
Final Storage Pond	1958	
Surge Sump	1993	(OAC 345a*, 40 CFR 61 Subpart FF)
Lift/Pump Station (2 Units)	1993	(OAC 345a*, 40 CFR 61 Subpart FF)
Sludge Digesters (2)	1958 mod 1996	
Bleach Addition System (tank and pump)	1958 mod 1996	

1.13.2 Storage Tanks Handling Wastewater

1.13.2.1 External Floating Roof Tanks

Tank #	Service	Constructed / Modified	Comments
TK-72	Wastewater Tank, Post API Surge	1991	3,500,000 gallons, EFR, two seals (OAC 345a*, NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC)
TK-73	Wastewater Tank, Post API Surge	1991	3,500,000 gallons, EFR, two seals (OAC 345a*, NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC)

1.13.2.2 Internal Floating Roof Tanks

Tank #	Service	Constructed / Modified	Comments
TK-60	Wastewater Tank, ballast water, slop oil	1958 mod 1991	1,124,000 gallons, IFR, two seals (OAC 341a, NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC)
TK-61	Wastewater Tank, DAF Skim	1958	141,000 gallons, IFR, two seals, internal heater (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC)
TK-62	Wastewater Tank, API Skim	1958 mod 1990	367,000 gallons, IFR, two seals, internal heater (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC)
TK-70	Wastewater Tank, emulsion breaker	1988	4,400 barrel, IFR, internal heater (OAC 241a, NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC)
TK-71	Wastewater Tank, API Skim	1990	504,000 gallons, IFR, two seals, internal heater (OAC 316a*, NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC)

1.13.2.3 Fixed Roof Tanks Equipped with Activated Carbon

Tank #	Service	Constructed / Modified	Comments
TK-76	EP Tank – OUT OF SERVICE	1991	42,000 gallons, fixed roof

1.14 Storage Tanks/Vessels

(excluding those subject to 40 CFR 61 Subpart FF for wastewater)

1.14.1 External Floating Roof Tanks

Tank #	Service	Constructed/ Modified	Comments
TK-1	Crude	1958	8,602,000 gallons, two seals, internal heater (NWCAA 560/580, 40 CFR 63 Subpart CC Group 1)
TK-2	Crude	1958	8,601,000 gallons, two seals, internal heater (NWCAA 560/580, 40 CFR 63 Subpart CC Group 1)
TK-3	Crude	1958	8,600,000 gallons, two seals, internal heater (NWCAA 560/580, 40 CFR 63 Subpart CC Group 1)
TK-4	Crude	1974	12,451,000 gallons, two seals, internal heater (NWCAA 560/580, 40 CFR 60 Subpart K, 40 CFR 63 Subpart CC Group 1)
TK-5	Crude	1974	12,429,000 gallons, two seals, internal heater (NWCAA 560/580, 40 CFR 60 Subpart K, 40 CFR 63 Subpart CC Group 1)
TK-6	Crude CHGO	1974	12,454,000 gallons, two seals, internal heater (NWCAA 560/580, 40 CFR 60 Subpart K, 40 CFR 63 Subpart CC Group 1)
TK-11	SR Naphtha (HTU Feed)	1958	4,327,000 gallons, two seals (NWCAA 560/580, 40 CFR 63 Subpart CC Group 1)
TK-15	CHGO	1958 mod 1990	7,295,000 gallons, two seals, internal heater (OAC 262a*, NWCAA 560/580, 40 CFR 63 Subpart CC Group 1)
TK-17	SR Naphtha (HTU Feed)	1958	4,283,000 gallons, two seals (NWCAA 560/580, 40 CFR 63 Subpart CC Group 1)
TK-19	Diesel/SR Naphtha	1973	7,014,000 gallons, two seals, internal heater (NWCAA 560/580, 40 CFR 60 Subpart K, and 40 CFR 63 Subpart CC Group 1)
TK-20	Sour Water	1983	1,680,000 gallons, one seal (no requirements)
TK-21	Alkylate – Cold DCH Bottoms	1958	3,233,000 gallons, two seals (NWCAA 560/580, 40 CFR 63 Subpart CC Group 1)

Tank #	Service	Constructed / Modified	Comments
TK-22	FC Lt Gasoline	1958	5,485,000 gallons, two seals (NWCAA 560/580, 40 CFR 63 Subpart CC Group 1)
TK-24	Coker Naphtha	1958	3,174,000 gallons, two seals (NWCAA 560/580, 40 CFR 63 Subpart CC Group 1)
TK-29	Coker Lt. Gas Oil/Light Naphtha	1958	4,288,000 gallons, two seals (NWCAA 560/580, 40 CFR 63 Subpart CC Group 1)
TK-34	AV Jet	1971	1,386,000 gallons, one seal (40 CFR 63 Subpart CC Group 2)
TK-38	Gasoline	1991	6,426,000 gallons, two seals (OAC 295a*, CO 08, NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 63 Subpart CC Group 1)
TK-43	Gasoline (gasoil)	1958	4,044,000 gallons, two seals (NWCAA 560/580, 40 CFR 63 Subpart CC Group 1)
TK-44	AV Jet	1958	3,192,000 gallons, one seal (40 CFR 63 Subpart CC Group 2)
TK-45	ULSD	1991	7,392,000 gallons, two seals (OAC 297a, 40 CFR 63 Subpart CC Group 2)
TK-50	Gasoline	1958	3,147,000 gallons, two seals (NWCAA 560/580, 40 CFR 63 Subpart CC Group 1)
TK-51	Gasoline	1958	3,147,000 gallons, two seals (NWCAA 560/580, 40 CFR 63 Subpart CC Group 1)
TK-52	Gasoline/Naphtha	1958	3,147,000 gallons, two seals (NWCAA 560/580, 40 CFR 63 Subpart CC Group 1)
TK-55	Gasoline	1958	3,150,000 gallons, two seals (NWCAA 560/580, 40 CFR 63 Subpart CC Group 1)
TK-58	Gasoline	1958	1,407,000 gallons, two seals (NWCAA 560/580, 40 CFR 63 Subpart CC Group 1)
TK-59	Avjet	1958	1,386,000 gallons, one seal (40 CFR 63 Subpart CC Group 2)
TK-80	Nonene	1990	126,000 gallons, two seals (OAC 296a, 40 CFR 63 Subpart CC Group 2)

Tank #	Service	Constructed / Modified	Comments
TK-81	Nonene	1990	126,000 gallons, two seals (OAC 296a, 40 CFR 63 Subpart CC Group 2)
TK-82	Nonene	1990	1,008,000 gallons, two seals (OAC 296a, 40 CFR 63 Subpart CC Group 2)

1.14.2 Internal Floating Roof Tanks

Tank #	Service	Constructed / Modified	Comments
TK-12	Heavy Recovered Oil	1958	252,000 gallons, one seal, internal heater (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 63 Subpart CC Group 1)
TK-13	Heavy Recovered Oil	1958	294,000 gallons, two seals, internal heater (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 63 Subpart CC Group 1)
TK-14	Light Recovered Oil	1958 mod 1978	3,780,000 gallons, one seal (NWCAA 560/580, 40 CFR 60 Subpart 60 Subpart Kb, 40 CFR 63 Subpart CC Group 1)
TK-23	HTU3 Feed	1958	1,611,000 gallons, one seal (NWCAA 560/580, 40 CFR 63 Subpart CC Group 1)
TK-28	Heavy FC naphtha	1958	3,141,000 gallons, one seal (NWCAA 560/580, 40 CFR 63 Subpart CC Group 1)
TK-30	Heavy Platformate, Alkylate, or LSR	1958 mod 1995	3,328,000 gallons, one seal (NWCAA 560/580, 40 CFR 63 Subpart CC Group 1)
TK-36	Lt Platformate/Alkylate	1973	3,302,000 gallons, one seal (NWCAA 560/580, 40 CFR 60 Subpart K, 40 CFR 63 Subpart CC Group 1)
TK-39	Gasoline	1992	6,426,000 gallons, two seals, geodesic cover (OAC 337a, NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 63 Subpart CC Group 1)
TK-53	Gasoline	1958	442,000 gallons, one foam log seal (NWCAA 560/580, 40 CFR 63 Subpart CC Group 1)

Tank #	Service	Constructed / Modified	Comments
TK-54	Gasoline	1958	441,000 gallons, one seal (NWCAA 560/580, 40 CFR 63 Subpart CC Group 1)
TK-15D-100A	DCU Slop Oil	1958 mod 1985	210,000 gallons, one seal (40 CFR 63 Subpart CC Group 2)
TK-15D-100B	DCU Slop Oil	1958 mod 1985	210,000 gallons, one seal (40 CFR 63 Subpart CC Group 2)
TK-15D-100C	DCU Slop Oil	1958 mod 1985	210,000 gallons, one seal (40 CFR 63 Subpart CC Group 2)

1.14.3 Fixed Roof Tanks

Tank #	Service	Constructed / Modified	Comments
TK-10	FCCU Charge	1958	7,434,000 gallons, internal heater (40 CFR 63 Subpart CC Group 2)
TK-16	FCCU Charge	1958	7,518,000 gallons, internal heater (40 CFR 63 Subpart CC Group 2)
TK-18	Sour Light Cycle Gas Oil	1980	7,392,000 gallons (40 CFR 60 Subpart Ka, 40 CFR 63 Subpart CC Group 2)
TK-25	Jet Distillate	1958	3,318,000 gallons (40 CFR 63 Subpart CC Group 2)
TK-26	Diesel	1958	5,922,000 gallons (40 CFR 63 Subpart CC Group 2)
TK-27	Lt. Crack Gas	1958	3,318,000 gallons (40 CFR 63 Subpart CC Group 2)
TK-31	Hv Cycle Gas	1958	1,134,000 gallons, internal heater (40 CFR 63 Subpart CC Group 2)
TK-32	HCGO	1958	1,764,000 gallons, internal heater (40 CFR 63 Subpart CC Group 2)
TK-33	Jet Distillate	1958	1,470,000 gallons (40 CFR 63 Subpart CC Group 2)
TK-35	Diesel	1958	5,922,000 gallons (40 CFR 63 Subpart CC Group 2)
TK-37	Coker Charge	1981	5,838,000 gallons (40 CFR 60 Subpart Ka, 40 CFR 63 Subpart CC Group 2)
TK-40	Bunker	1958	1,764,000 gallons, internal heater (40 CFR 63 Subpart CC Group 2)
TK-41	Bunker/CHGO	1958	3,318,000 gallons, internal heater (40 CFR 63 Subpart CC Group 2)
TK-42	Bunker/CHGO	1958	3,276,000 gallons, internal heater (40 CFR 63 Subpart CC Group 2)
TK-49	Diesel	1958	1,470,000 gallons (40 CFR 63 Subpart CC Group 2)
TK-56	Diesel	1958	1,764,000 gallons (40 CFR 63 Subpart CC Group 2)
TK-57	Diesel	1958	1,764,000 gallons (40 CFR 63 Subpart CC Group 2)
TK-204	Steam Condensate	1958	420,000 gallons (40 CFR 63 Subpart CC Group 2)

1.14.4 Pressurized Storage Vessels

Tank #	Service	Constructed / Modified	Comments
TK-100	Butane	1958	50,400 gallon sphere
TK-101	Olefin	1958	50,400 gallon sphere
TK-102	Butane	1958	50,400 gallon sphere
TK-103	Butane	1958	50,400 gallon sphere
TK-106	Propylene	1973	84,000 gallon bullet
TK-107	Butane	1973	50,400 gallon sphere
TK-108	LPG	1958	21,000 gallon sphere
TK-109	Butane	1973	50,400 gallon sphere
TK-110	LPG	1991	84,000 gallon bullet
TK-111	LPG	1991	84,000 gallon bullet
TK-112	LPG	1991	84,000 gallon bullet
TK-113	LPG	1991	84,000 gallon bullet
TK-114	LPG	1991	84,000 gallon bullet
TK-115	LPG	1991	84,000 gallon bullet
TK-ZIND4	Mercaptan	1991	2,940 gallon bullet

1.14.5 Miscellaneous Tank Farm

Description (ID)	Constructed / Modified	Comments
Components in HAP Service	1958	~ 3,400 valves, 45 pumps (40 CFR 63 Subpart CC)
Process Drains	1958	(40 CFR 61 Subpart FF (BQ6))

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. All terms and conditions of this permit are enforceable by the Environmental Protection Agency (EPA) Administrator (and its delegated authorities) and by citizens under the Federal Clean Air Act (FCAA), except for those terms and conditions designated in the permit as "State Only". A requirement designated "State Only" is enforceable only by the State or the NWCAA, and not by EPA or through citizen suits. 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. A permit term labeled "Directly Enforceable" is a legal requirement, and the permit shield in AOP Term 2.3.1 applies.

2.1 Compliance Requirements

2.1.1 Duty to Comply

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

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

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

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 WAC 173-400-230(2) (3/20/93), WAC 173-400-240 (3/22/91), NWCAA 131 (4/14/93), NWCAA 132 & 133 (10/13/94), and Section 113 of the FCAA

Any person who violates applicable regulations or aids and abets in a violation, as notified in accordance with this section, shall be subject to penalties.

2.1.2.2 State Only: NWCAA 131 (3/14/13), 132, & 133 (11/8/07)

Any person who violates applicable regulations or aids and abets in a violation, as notified in accordance with this section, shall be subject to penalties.

2.1.2.3 WAC 173-400-250 (9/20/93) and NWCAA 133.2 (10/13/94)
State Only: NWCAA 133.2 (11/8/07)

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

2.1.3 Need to Halt or Reduce Activity Not a Defense

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

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

2.1.4 Duty to Provide Information

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

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

2.1.5 Confidential Information

2.1.5.1 NWCAA 114.1 (4/14/93)

Whenever the permittee requests that records or information eligible for confidentiality status be made confidential by the Board of the NWCAA, the NWCAA shall maintain confidentiality of such information in accordance with NWCAA 114. The records or information shall be only for the confidential use of the Board, the Advisory Council, and the NWCAA staff, but may not be accessed if, in the opinion of the Board, there is a conflict of interest.

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

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

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

2.1.6 Inspection and Entry

WAC 173-400-105(3) (9/20/93), WAC 173-401-630(2) (11/4/93), NWCAA 110 & 111 (1/8/69)
State Only: WAC 173-400-105(3) (12/29/12)

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

NWCAA 110 (1/8/69)

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

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

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

2.1.8 Source Testing

2.1.8.1 WAC 173-400-105(4) (9/20/93)

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

2.1.8.2 State Only: WAC 173-400-105(4) (12/29/12)

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 July 1, 2012) 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 AOP Term 2.1.8.1.

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

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

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

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

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

2.1.9 Testing and Sampling

2.1.9.1 NWCAA 360.1 (2/14/73)

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

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

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

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

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

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

2.1.10 Ambient Air Monitoring

2.1.10.1 NWCAA 365.1 (2/8/89)

Any person operating an air contaminant source or an air operating permit source may, at any time, be required to monitor the ambient air 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.

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

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

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

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

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

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.

2.1.11 Continuous Emission Monitoring

2.1.11.1 NWCAA 365.1 (2/8/89)

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

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

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

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

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

A Quality Assurance (QA) manual and a station log book shall be kept for all stations. The station log book shall be used to record all ongoing activities associated with station operation.

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 ≤90% monthly data availability.

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

2.1.12 Instrument Calibration

2.1.12.1 NWCAA 366 (9/8/93)

Any person operating an ambient air or emission monitoring instrument may be required to calibrate said instrument as required by the Control Officer. All monitors must be accurate within the specified limits and tolerances when compared to an Agency maintained and calibrated instrument or standard, which measures the same pollutant.

All monitoring instruments must be operated, maintained and calibrated as specified in the "Guidelines for Industrial Monitoring Equipment and Data Handling" and/or specific operating and maintenance procedures issued or approved by the Control Officer.

The Agency may, at any time, require that any monitoring instrument be compared to the Agency's instrument or other standard approved by the Control Officer.

If a monitoring instrument is not within the acceptable specified limits and tolerances, all data collected by the instrument between the date of calibration and the previous date of calibration may be considered invalid and a Notice of Violation may be issued. If evidence shows when and where an instrument exceeded the specified limits and tolerances, the Control Officer may accept data collected prior to that date. No data will be accepted as valid until the user instrument is calibrated successfully.

An audit of a monitoring system may be conducted by the Agency, at any time, without prior notification.

All user instruments will be operated and calibrated on a scale range approved by the Control Officer. No data will be accepted from instruments on scale ranges other than those approved by the Control Officer. Provided that: data from instruments that have automatic range change devices may be accepted if the user can demonstrate that the values obtained are within the specified tolerances. All tolerances will be based on the scale designated by the Control Officer as the primary or base scale.

2.1.13 Credible Evidence

40 CFR 51.212(c) (2/24/97), 40 CFR 52.12 (2/24/97), and 40 CFR 52.33 (2/24/97)

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

2.2 Permit Terms

2.2.1 Permit Expiration and Renewal

WAC 173-401-610 (11/4/93) and WAC 173-401-710 (10/17/02)

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

2.2.2 Permit Actions

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

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

2.2.3 Emissions Trading

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

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

2.2.4 Emission Reduction Credits

State Only: WAC 173-400-131 (4/1/11), WAC 173-400-136 (12/29/12)

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

2.2.5 Severability

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

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

2.2.6 Permit Appeals

WAC 173-401-620(2)(i) (11/4/93), WAC 173-401-735 (5/3/97)

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

2.2.7 Permit Continuation

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

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

2.2.8 Reopening for Cause

WAC 173-401-730 (11/4/93)

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

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

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

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

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

2.2.9 Changes not Requiring Permit Revisions/Off-Permit Changes

WAC 173-401-722 (10/17/02), WAC 173-401-724 (11/4/93)

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 (11/4/93), WAC 173-401-725 (11/4/93)

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

2.2.11 Property Rights

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

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

2.2.12 Definitions

2.2.12.1 NWCAA 200 (10/13/94)

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.

2.2.12.2 State Only: NWCAA 200 (3/14/13)

In the new version of the NWCAA Regulation some of the definitions have been modified slightly to provide clarification and some have been revised to include an expanded definition of the term.

2.2.13 Compliance Schedule

WAC 173-401-630(3) (11/4/93), WAC 173-401-510(2)(h)(iii) (6/17/94)

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

2.2.14 Permit Fees

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

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

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

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

2.2.15 Transfer or Permanent Shutdown

2.2.15.1 NWCAA 325 (2/14/73)

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

2.2.15.2 State Only: NWCAA 325 (11/8/07)

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

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

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

2.3 Permit Shield

2.3.1 Shield Requirement

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

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

2.3.2 Inapplicable Requirements

WAC 173-401-640(2) (11/4/93)

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

2.3.3 Exclusions

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

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

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

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

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

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

2.3.4 Reasonably Available Control Technology

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

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

2.3.4.2 WAC 173-400-040 (9/20/93)

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) (4/1/11)

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

2.3.4.4 State Only: NWCAA 309 (3/14/13)

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

2.3.5 Emergencies

WAC 173-401-645 (11/4/93)

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

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

2.4 Recordkeeping and Reporting

2.4.1 Compliance Certification

2.4.1.1 WAC 173-401-630(5) (11/4/93)

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
Office of Air, Waste, and Toxics
Attn: Title V Permits
1200 Sixth Avenue, Suite 900, AWT-107
Seattle WA 98101

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

2.4.1.2 WAC 173-401-520 (11/4/93)

Any application form, report or compliance certification that is submitted pursuant to this permit shall contain certification by a responsible official of truth, accuracy, and completeness. This certification and any other certification required under this permit shall state that, based on

information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

2.4.1.3 WAC 173-401-615 (10/17/02) and -630 (11/4/93)
Directly enforceable under WAC 173-401-615(1)(b) & (c) (10/17/02)

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.

All semiannual monitoring certifications are due as follows:

- January 31 for reports from July through December
- July 31 for reports from January through June

2.4.1.4 WAC 173-401-530(2)(d) (10/17/02)

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

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

2.4.2.1 NWCAA 112 (2/14/73)

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

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

2.4.2.2 State Only: NWCAA 112 (11/12/99)

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 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) (10/17/02)

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

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

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

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

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

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

2.4.3.2 WAC 173-401-615 (10/17/02) and -630 (11/4/93)
Directly enforceable under WAC 173-401-615(1)(b) & (c) (10/17/02)

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 150 (9/8/93), WAC 173-400-105(1) (9/20/93)

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

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

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

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

2.4.4.2 State Only: WAC 173-400-105(1) (12/29/12)

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

2.4.4.3 State Only: NWCAA 150 (11/8/07)

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

2.4.5 Greenhouse Gas (GHG) Reporting

2.4.5.1 State Only: WAC 173-441-030(1), (2), (4), and (5) (1/1/11)

GHG reporting is mandatory for:

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

(ii) Any supplier that supplies applicable fuels that are reported to DOL as sold in Washington state of which the complete combustion or oxidation would result in total calendar year emissions of ten thousand metric tons or more of carbon dioxide 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 173-441-130 to calculate any voluntarily reported GHG emissions.

Once a facility or supplier is subject to the requirements of this chapter, the person must continue for each year thereafter to comply with all requirements of this chapter, including the requirement to submit annual GHG reports, even if the facility or supplier does not meet the applicability requirements in WAC 173-441-030(1) or (2) of this section in a future year, except as provided in WAC 173-441-030(5)(a)-(c).

2.4.5.2 State Only: WAC 173-441-050 (1/1/11)

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 facilities or suppliers, 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:

(i) March 31st of each calendar year for GHG emissions in the previous calendar year if the facility is required to report GHG emissions to the U.S. EPA per 40 CFR 98.

(ii) October 31st of each calendar year for GHG emissions in the previous calendar year if the facility is not required to report GHG emissions to the U.S. EPA per 40 C.F.R. Part 98.

For any facility or supplier 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 three years in a form that is suitable for expeditious inspection and review, including a GHG monitoring plan per WAC 173-441-050(6)(e).

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.

2.4.5.3 State Only: WAC 173-441-060 and -070 (1/1/11)

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

> "I am authorized to make this submission on behalf of the owners and operators of the facility or supplier, as applicable, for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information

submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.".

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

2.4.5.4 State Only: WAC 173-441-100 (1/1/11)

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

Greenhouse Gas Report, Air Quality Program
Department of Ecology
P.O. Box 47600
Olympia, WA 98504-7600

2.4.6 Reporting to Verify Emissions from Potential PSD Sources

State Only: WAC 173-400-720(4)(b)(iii) (12/29/12)

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

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

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

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

2.4.8 Report of Breakdown and Upset

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

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

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

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

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

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

2.4.8.2 State Only: NWCAA 340.1, 340.2 and 340.3 (11/8/07)

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

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

(ii) The 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:

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

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

2.4.9 Report of Shutdown or Startup

2.4.9.1 NWCAA 341 (9/8/93)

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

Prompt notification shall be made and in no event less than 24 hours before the scheduled shutdown or startup. The permittee shall submit a general schedule of steps to be taken to minimize the

release of air contaminants to the atmosphere including the reasons for and duration of the proposed shutdown or startup, the nature of the action to be taken, the date and time for the action and an estimate of the anticipated rate and concentration of emission.

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

2.4.9.2 State Only: NWCAA 341 (7/14/05)

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

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

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

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

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

2.5 Excess Emissions

2.5.1 Excess Emission

WAC 173-400-107 (9/20/93) (State Only - 4/1/11)

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

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

Excess emissions due to startup or shutdown conditions shall be considered unavoidable provided the source reports as required and adequately demonstrates that the excess emissions could not have been prevented through careful planning and design and if a bypass of control equipment

occurs, that such bypass is necessary to prevent loss of life, personal injury, or severe property damage.

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

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

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

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

(iii) The permittee took immediate and appropriate corrective action in a manner consistent with good air pollution control practice for minimizing emissions during the event, taking into account the total emissions impact of the corrective action, including slowing or shutting down the emission unit as necessary to minimize emissions, when the operator knew or should have known that an emission standard or permit condition was being exceeded.

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

State Only: NWCAA 340.4 (11/8/07) and 341.4 (7/14/05)

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

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

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

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

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

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

2.6 Duty to Supplement or Correct Information

WAC 173-401-500(6) (10/17/02)

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

2.7 Prohibitions

2.7.1 Concealment and Masking

2.7.1.1 WAC 173-400-040(7) (9/20/93) and State Only: WAC 173-400-040(8) (4/1/11)

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 540 (1/8/69)

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

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

2.7.2 Adjustment for Atmospheric Conditions

WAC 173-400-205 (3/22/91)

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

2.7.3 Outdoor Burning

2.7.3.1 WAC 173-425-036 (10/18/90) and WAC 173-425-045 (1/3/89), WAC 173-435-050(2) (01/3/89) Although SIP-Approved, WAC 173-425-036, –045, and -055 (referenced below) have been repealed.

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

2.7.3.2 State Only: WAC 173-425-040, 050, and 060 (4/13/00), NWCAA 502 (11/8/07)

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 570 (11/8/07)

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

2.7.4.2 40 CFR 61.145 (1/16/91), 61.148 (11/20/90) and 61.150 (9/18/03)

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

2.7.5 Stratospheric Ozone and Climate Protection

2.7.5.1 40 CFR 82 Subpart F (6/18/08)

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 70.94.970 (1991 c 199 §602)

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

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

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

NWCAA 124 (2/14/73)

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

2.7.7 Obstruction of Access

State Only: RCW 70.94.200, (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) (12/29/12)

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

2.7.9 Inaccurate Monitoring

State Only: WAC 173-400-105(8) (12/29/12)

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

2.7.10 Prevention of Accidental Release

40 CFR 68 (4/9/04)

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

2.7.11 Cutback Asphalt Paving

NWCAA 580.7 (4/14/93)

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

2.7.12 Creditable Stack Height and Dispersion Techniques

WAC 173-400-200 (3/22/91) (State Only - 2/10/05)

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

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

2.8.1 Minor New Source Review (NSR)

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

No person shall construct, install, establish, modify or alter an air contaminant source or an emission unit without filing a "Notice of Construction and Application for Approval" and receiving approval from the NWCAA in accordance with the cited regulations.

2.8.1.2 State Only: WAC 173-400-111, 113 (12/29/12), WAC 173-460-010 through -150 (6/20/09), NWCAA 300.1-300.12 (11/17/11), NWCAA 301 (11/17/11), 303 (11/12/98), and 324.2 (3/14/13)

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

A temporary source not exempt under NWCAA 300.4 or 300.5 shall be allowed to operate at a temporary location without filing a NWCAA Notice of Construction application or, for nonroad engines, obtaining a regulatory order from the NWCAA, provided that the temporary source meets the applicable requirements of NWCAA 301.2, including notification. Nonroad engines regulated by this section are limited to those that are portable or transportable but operate in a stationary manner.

2.8.2 General Order

State Only: WAC 173-400-560 (12/29/12) and NWCAA 300.14 (11/17/11)

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

2.8.3 Requirements to Comply

State Only: NWCAA 300.15 (11/17/11)

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

2.8.4 Prevention of Significant Deterioration (PSD)

State Only: WAC 173-400-700 (4/1/11), WAC 173-400-117, -710, -720, -730, -740, -750 (12/29/12)

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

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

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

State Only: NWCAA 300.13 (11/17/11)

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.

2.9 Greenhouse Gas Regulation

WAC 173-401-200 (19) & (35) (9/10/11)

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 unless, as of July 1, 2011, the GHG emissions are at a stationary source emitting or having the potential to emit 100,000 tpy CO_2 equivalent emissions.

The term "tpy (tons per year) CO_2 equivalent emissions" (CO_2e) shall represent an amount of GHGs emitted, and shall be computed by multiplying the mass amount of emissions (tpy), for each of the six greenhouse gases in the pollutant GHGs, by the gas's associated global warming potential published at Table A-1 to subpart A of 40 CFR part 98 - Global Warming Potentials, and summing the resultant value for each to compute a tpy CO_2e. For purposes of this subsection, prior to July 21, 2014, the mass of the greenhouse gas carbon dioxide shall not include carbon dioxide emissions resulting from the combustion or decomposition of nonfossilized and biodegradable organic material originating from plants, animals, or microorganisms (including products, by-products, residues and waste from agriculture, forestry and related industries as well as the nonfossilized and biodegradable organic fractions of industrial and municipal wastes, including gases and liquids recovered from the decomposition of nonfossilized and biodegradable organic material).

"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.

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.

3.1 40 CFR 60 - New Source Performance Standard Requirements

3.1.1 Address for Reports, Notifications, and Submittals

40 CFR 60.4(a) and (b) (4/25/75) (as amended by Delegation Letter dated 12/02/10 from Richard Albright, Director of the Office of Air, Waste, and Toxics, EPA Region 10 to Mark Asmundson, Director of NWCAA), NWCAA 104.2 (3/14/13)

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 South 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:

U.S. EPA, Region 10
Office of Air, Waste, and Toxics
1200 Sixth Avenue, Suite 900, AWT-107
Seattle WA 98101

3.1.2 Notification

40 CFR 60.7(a) (2/12/99) (as amended by Delegation Letter dated 12/02/10 from Richard Albright, Director of the Office of Air, Waste, and Toxics, EPA Region 10 to Mark Asmundson, Director of NWCAA), NWCAA 104.2 (3/14/13)

Furnish written notification to the Administrator of the following:

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

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

(iii) Notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies, unless that change is specifically exempted under an applicable subpart or in 40 CFR 60.14(e). This notice shall be postmarked 60 days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change.

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

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

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

3.1.3 Startup, Shutdown, and Malfunction Records

40 CFR 60.7(b) (2/12/99), NWCAA 104.2 (3/14/13)

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.

3.1.4 Excess Emission Records

3.1.4.1 40 CFR 60.7(c) and (d) (2/12/99) (as amended by Delegation Letter dated 12/02/10 from Richard Albright, Director of the Office of Air, Waste, and Toxics, EPA Region 10 to Mark Asmundson, Director of NWCAA), NWCAA 104.2 (3/14/13)

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

3.1.4.2 Excess Emissions Reports 40 CFR 60 Subpart Ja Affected Sources 40 CFR 60.108a(d) (9/12/12), NWCAA 104.2 (3/14/13)

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:

(1) The date that the exceedance occurred;

(2) An explanation of the exceedance;

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

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

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

(6) For any periods for which monitoring data are not available, any changes made in operation of the emission control system during the period of data unavailability which could affect the ability of the system to meet the applicable emission limit. Operations of the control system and affected facility during periods of data unavailability are to be compared with operation of the control system and affected facility before and following the period of data unavailability.

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

3.1.5 Maintenance of Records

40 CFR 60.7(f) (2/12/99), NWCAA 104.2 (3/14/13)

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) (9/13/10), NWCAA 104.2 (3/14/13)

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

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

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

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

(2) Safe sampling platform(s).

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

(4) 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.

3.1.7 Test Method Performance Audit

40 CFR 60.8(g) (9/13/10), NWCAA 104.2 (3/14/13)

Performance testing shall include a test method performance audit (PA) during the performance test. The PAs consist of blind audit samples supplied by an accredited audit sample provider and analyzed during the performance test in order to provide a measure of test data bias. Audit samples must be collected by the sampling system during the compliance test just as the compliance samples are collected. If multiple sampling systems or sampling trains are used during the compliance test for any of the test methods, the tester is only required to use one of the sampling systems per method to collect the audit sample. The audit sample must be analyzed by the same analyst using the same analytical reagents and analytical system and at the same time as the compliance samples. Retests are required when there is a failure to produce acceptable results for an audit sample. A blind audit sample is a sample whose value is known only to the sample provider and is not revealed to the tested facility until after they report the measured value of the audit sample. An accredited audit sample provider (AASP) is an organization that has been accredited to prepare audit samples by an independent, third party accrediting body.

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. No audit samples are required for the following test methods: Methods 3C of Appendix A–3 of Part 60, Methods 6C, 7E, 9, and 10 of Appendix A–4 of Part 60, Method 18 of Appendix A–6 of Part 60, Methods 20, 22, and 25A of Appendix A–7 of Part 60, and Methods 303, 318, 320, and 321 of Appendix A of Part 63. The compliance authority responsible for the compliance test may waive the requirement to include an audit sample if they believe that an audit sample is not necessary.

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, http://www.epa.gov/ttn/emc, 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.

3.1.8 Compliance with Opacity Standards

40 CFR 60.11(b) and (c) (10/17/00), NWCAA 104.2 (3/14/13)

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

3.1.9 Operation and Maintenance

40 CFR 60.11(d) (10/17/00), NWCAA 104.2 (3/14/13)

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

3.1.10 Credible Evidence

40 CFR 60.11(g) (10/17/00), NWCAA 104.2 (3/14/13)

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

3.1.11 Circumvention

40 CFR 60.12 (3/8/74), NWCAA 104.2 (3/14/13)

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 (6/13/07), NWCAA 104.2 (3/14/13)

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

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

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

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

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

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

3.1.13 Modification

40 CFR 60.14 (10/17/00), NWCAA 104.2 (3/14/13)

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 (4/8/87) and 60.116b(a) (10/15/03), NWCAA 104.2 (3/14/13)

Copies of all records required under Subpart Kb shall be kept for at least two years, except for records required to be kept under 60.116b(b), which must be kept for the life of the source.

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

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

40 CFR 60.692-1 (11/23/88), NWCAA 104.2 (3/14/13)

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

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

40 CFR 60.697(h) (10/17/00), NWCAA 104.2 (3/14/13)

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

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

40 CFR 60.697(i) (10/17/00), NWCAA 104.2 (3/14/13)

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

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

40 CFR 60.697(j) (10/17/00), NWCAA 104.2 (3/14/13)

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) and 60.4208(a), (b), (h), (i) (6/28/11), NWCAA 104.2 (3/14/13)

For owners and operators of stationary compression ignition (CI) internal combustion engines (ICE) that commenced construction after July 11, 2005 (i.e., Main Control Room Emergency Generator (30LEG6), Radio Tower Emergency Generator (30LEG7), EP Outfall Pump (9QG68)), it is prohibited to import stationary CI ICE with a displacement of less than 30 liters per cylinder that do not meet the following requirements by the specified dates:

- After December 31, 2008, owners and operators may not install stationary CI ICE (excluding fire pump engines) that do not meet the applicable requirements for 2007 model year engines.
- After December 31, 2009, owners and operators may not install stationary CI ICE with a maximum engine power of less than 19 kW (25 hp) (excluding fire pump engines) that do not meet the applicable requirements for 2008 model year engines.
- After December 31, 2014, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 19 kW (25 hp) and less than 56 kW (75 hp) that do not meet the applicable requirements for 2013 model year non-emergency engines.
- After December 31, 2013, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 56 kW (75 hp) and less than 130 kW (175 hp) that do not meet the applicable requirements for 2012 model year non-emergency engines.
- After December 31, 2012, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 130 kW (175 hp), including those above 560 kW (750 hp), that do not meet the applicable requirements for 2011 model year non-emergency engines.
- After December 31, 2016, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 560 kW (750 hp) that do not meet the applicable requirements for 2015 model year non-emergency engines.
- After December 31, 2018, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power greater than or equal to 600 kW (804 hp) and less than 2,000 kW (2,680 hp) and a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder that do not meet the applicable requirements for 2017 model year non-emergency engines.

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

3.2 Part 61 – National Emission Standard for Hazardous Air Pollutant Requirements

3.2.1 Address for Reports, Notifications and Submittals

40 CFR 61.04 (4/25/75) (as amended by Delegation Letter dated 11/29/10 from Richard Albright, Director of the Office of Air, Waste, and Toxics, EPA Region 10 to Mark Asmundson, Director of NWCAA), NWCAA 104.2 (3/14/13)

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:

Director, Office of Air, Waste, and Toxics
U.S. EPA Region 10
1200 Sixth Avenue
Seattle WA 98101

3.2.2 Requirements for Existing, Newly Constructed, and Reconstructed Sources

40 CFR Part 61.05(a) (11/7/85), 61.07 (11/7/85), and 61.10(a) and (c) (3/16/94), NWCAA 104.2 (3/14/13)

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:

(i) The precise nature of the proposed changes;

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

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

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

The name and address of the owner or operator;

(i) The location of the source;

(ii) The type of hazardous pollutants emitted by the stationary source;

(iii) 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.

(iv) 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.

(v) 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.

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

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

3.2.3 Prohibited Activities and Circumvention

40 CFR 61.05(b), (c) and (d) (11/7/85), NWCAA 104.2 (3/14/13)

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

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

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

3.2.4 Application for Approval of Construction or Modification

40 CFR 61.07 (11/7/85), NWCAA 104.2 (3/14/13)

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

3.2.5 Notification of Startup

40 CFR 61.09(a) (11/7/85), NWCAA 104.2 (3/14/13)

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

3.2.6 Operation and Maintenance

40 CFR 61.12(c) (2/24/97), NWCAA 104.2 (3/14/13)

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

3.2.7 Credible Evidence

40 CFR 61.12(e) (2/24/97), NWCAA 104.2 (3/14/13)

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 Recordkeeping Requirements

40 CFR 61.13(g) (9/13/10), and 61.356 (11/12/02), NWCAA 104.2 (3/14/13)

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.

3.2.9 Monitoring Requirements

40 CFR 61.14 (11/7/85), NWCAA 104.2 (3/14/13)

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.

3.2.10 Modification

40 CFR 61.15 (11/7/85), NWCAA 104.2 (3/14/13)

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.

3.2.11 Circumvention

40 CFR 61.19 (11/7/85), NWCAA 104.2 (3/14/13)

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

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

3.3.1 Prohibited Activities and Circumvention

40 CFR 63.4 (4/5/02), NWCAA 104.2 (3/14/13)

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

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

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

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

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

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

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

40 CFR Part 63.5(b)(1), (3), (4), (6) (4/5/02), NWCAA 104.2 (3/14/13)

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 NESHAPs Sources (except for Subpart DDDDD)

40 CFR 63.6(e)(1)(i),(ii), and (iii) (4/20/06), NWCAA 104.2 (3/14/13)

(i) 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 (including the startup, shutdown, and malfunction plan required in paragraph (e)(3) of this section), review of operation and maintenance records, and inspection of the source.

(ii) 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.

(iii) 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) (2/9/05); 63.1565(a)(3) & (c)(2) (4/11/02); 63.1566(a)(5) & (c)(2) (2/9/05); 63.1567(a)(3) & (c)(2) (2/9/05); 63.1568(a)(3) & (c)(2) (4/11/02); 63.1569(a)(3) & (c)(2) (4/11/02); 63.1574(f) (2/9/05); and 63.1576(e) (2/9/05), NWCAA 104.2 (3/14/13)

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:

- 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.
- Procedures that will be used to determine the coke burn-rate, the volumetric flow rate (if you use process date rather than direct measurement).
- 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.
- Monitoring schedule (i.e., when in the process monitoring will take place).
- 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.
- 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) (1/31/13), NWCAA 104.2 (3/14/13)

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

3.3.4.1 SSM Plans for Part 63 NESHAP Sources (except Subpart DDDDD) 40 CFR 63.6(e)(3) (4/20/06), NWCAA 104.2 (3/14/13)

(i) 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.

(ii) 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).

(iii) 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).

(iv) 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.

(v) 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.

(vi) 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:

A. Does not address a startup, shutdown, or malfunction event that has occurred;

B. 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;

C. Does not provide adequate procedures for correcting malfunctioning process and/or air pollution control and monitoring equipment as quickly as practicable; or

D. Includes an event that does not meet the definition of startup, shutdown, or malfunction listed in 40 CFR 63.2.

(vii) 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.

3.3.4.2 SSM Plans for 40 CFR Part 63 Subpart CC (Refinery MACT)-Affected Sources 40 CFR Part 63.6(e)(3) (4/20/06), Table 6 from Appendix to Subpart CC (6/30/10), NWCAA 104.2 (3/14/13)

The requirements for startup, shutdown and malfunction plans for Subpart CC-affected sources are the same as noted in AOP Term 3.3.4.1 with the following exceptions:

The startup, shutdown, or malfunction plan does not apply to Group 2 emission points that are not part of an emissions averaging group.

The reports specified in §63.6(e)(3)(iv) do not need to be reported within 2 and 7 days of commencing and completing the action, respectively, but must be included in the next periodic report.

3.3.4.3 SSM Plans for 40 CFR Part 63 Subpart UUU (Refinery MACT II)-Affected Sources
40 CFR Part 63.6(e)(3) (4/20/06), Table 44 from Appendix to Subpart UUU (4/20/06), NWCAA 104.2 (3/14/13)

The requirements for startup, shutdown and malfunction plans for Subpart UUU-affected sources are the same as noted in AOP Term 3.3.4.1 with the following exceptions:

Reports of actions not consistent with the plan are not required within 2 and 7 days of action but rather must be included in next periodic report.

The owner or operator is only required to keep the latest version of the SSM plan.

3.3.4.4 Affirmative Defense for Violation of Emission Standards During Malfunction for 40 CFR 63 Subpart DDDDD (Boiler MACT) Affected Sources
40 CFR 63.7501 (1/31/13), NWCAA 104.2 (3/14/13)

In response to an action to enforce the standards set forth in 63.7500, the refinery may assert an affirmative defense to a claim for civil penalties for violations of such standards that are caused by malfunction, as defined at § 63.2. Appropriate penalties may be assessed if you fail to meet your burden of proving all of the requirements in the affirmative defense. The affirmative defense shall not be available for claims for injunctive relief.

To establish the affirmative defense in any action to enforce such a standard, you must timely meet the reporting requirements, and must prove by a preponderance of evidence that:

- The violation was caused by a sudden, infrequent, and unavoidable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner; could not have been prevented through careful planning, proper design, or better operation and maintenance practices; did not stem from any activity or event that could have been foreseen and avoided, or planned for; and was not part of a recurring pattern indicative of inadequate design, operation, or maintenance.
- Repairs were made as expeditiously as possible when a violation occurred.
- The frequency, amount, and duration of the violation (including any bypass) were minimized to the maximum extent practicable.
- If the violation resulted from a bypass of control equipment or a process, then the bypass was unavoidable to prevent loss of life, personal injury, or severe property damage.
- All possible steps were taken to minimize the impact of the violation on ambient air quality, the environment, and human health.
- All emissions monitoring and control systems were kept in operation if at all possible, consistent with safety and good air pollution control practices.
- All of the actions in response to the violation were documented by properly signed, contemporaneous operating logs.
- At all times, the affected source was operated in a manner consistent with good practices for minimizing emissions.
- A written root cause analysis has been prepared, the purpose of which is to determine, correct, and eliminate the primary causes of the malfunction and the violation resulting from the malfunction event at issue. The analysis shall also specify, using best monitoring methods and engineering judgment, the amount of any emissions that were the result of the malfunction.

If the refinery chooses to assert an affirmative defense, submit a written report with all necessary supporting documentation, that it has met the requirements set forth in 63.7500. This affirmative

defense report shall be included in the first periodic compliance, deviation report or excess emission report otherwise required after the initial occurrence of the violation of the relevant standard (which may be the end of any applicable averaging period). If such compliance, deviation report or excess emission report is due less than 45 days after the initial occurrence of the violation, the affirmative defense report may be included in the second compliance, deviation report or excess emission report due after the initial occurrence of the violation of the relevant standard.

3.3.5 Compliance With Nonopacity Emission Standards

40 CFR 63.6(f)(1)(4/20/06), NWCAA 104.2 (3/14/13)

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

3.3.6 Compliance With Opacity and Visible Emission Standards

40 CFR 63.6(h)(1) (4/20/06), NWCAA 104.2 (3/14/13)

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

3.3.7 Extension of Compliance for Early Reductions and Other Reductions

40 CFR 63.6(i) (4/20/06) and 63.9(c) (5/30/03), NWCAA 104.2 (3/14/13)

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 NESHAPs Sources
40 CFR 63.7(b) and 63.9(e) (5/30/03), NWCAA 104.2 (3/14/13)

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 UUU (Refinery MACT II) Affected Sources
40 CFR 63.1574(a)(2) (2/9/05), NWCAA 104.2 (3/14/13)

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

40 CFR 63.7 (9/13/10), 63.9(e) (5/30/03), NWCAA 104.2 (3/14/13)

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.

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.

3.3.10 Operation and Maintenance of Continuous Monitoring Systems (CMS)

40 CFR 63.8(c)(1),(2),(3),(4) and (6) (4/20/06), NWCAA 104.2 (3/14/13)

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

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

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

(iii) The owner or operator of an affected source must develop a written startup, shutdown, and malfunction plan for CMS as specified in §63.6(e)(3).

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

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

(3) 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.

(4) 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.

(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.

(6) 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.

3.3.11 Continuous Monitoring Systems (CMS) Out of Control Periods

40 CFR 63.8(c)(7) and (8) (4/20/06), NWCAA 104.2 (3/14/13)

A CMS is out of control if—

(A) 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

(B) 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 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).

3.3.12 Continuous Monitoring Systems (CMS) Quality Control Program

40 CFR 63.8(d) & (e) (4/20/06), 63.9(g)(1) (5/30/03), NWCAA 104.2 (3/14/13)

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—

(A) 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

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

The owner or operator of an affected source shall conduct a performance evaluation of a required CMS during any performance test required under §63.7 in accordance with the applicable performance specification as specified in the relevant standard. If a performance test is not required, or the requirement for a performance test has been waived under §63.7(h), the owner or operator of an affected source shall conduct the performance evaluation not later than 180 days after the appropriate compliance date for the affected source, as specified in §63.7(a), or as otherwise specified in the relevant standard.

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

3.3.13 Continuous Monitoring Systems (CMS) Data Reduction

40 CFR 63.8(g) (4/20/06), NWCAA 104.2 (3/14/13)

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 O_2 or ng/J of pollutant).

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

Monitoring data recorded during periods of unavoidable CMS breakdowns, out-of-control periods, repairs, maintenance periods, calibration checks, and zero (low-level) and high-level adjustments must not be included in any data average computed under this part. For the owner or operator complying with the requirements of §63.10(b)(2)(vii)(A) or (B), data averages must include any data recorded during periods of monitor breakdown or malfunction.

3.3.14 Address for Reports, Notifications and Submittals

40 CFR 63.9(a) (5/30/03), 63.10(a) (4/20/06), 63.12(c) (3/16/94), 63.13 (11/12/10), (as amended by Delegation Letter dated 11/29/10 from Richard Albright, Director of the Office of Air, Waste, and Toxics, EPA Region 10 to Mark Asmundson, Director of NWCAA), NWCAA 104.2 (3/14/13)

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:

Director
Office of Air, Waste, and Toxics
U.S. EPA Region 10
1200 Sixth Avenue
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. 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.

3.3.15 Notification

3.3.15.1 Notification Requirements for New or Reconstructed Part 63 NESHAP Sources 40 CFR Part 63.9(b)(4) (5/30/03), NWCAA 104.2 (3/14/13)

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 New or Reconstructed Part 63 Subpart UUU (Refinery MACT II) Affected Sources 40 CFR 63.1574(c) (2/9/05) , NWCAA 104.2 (3/14/13)

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.

3.3.15.3 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) (5/30/03), NWCAA 104.2 (3/14/13)

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

3.3.16 Recordkeeping

40 CFR 63.10(b)(1) and (3) (4/20/06), NWCAA 104.2 (3/14/13)

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

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

3.3.17 Startup, Shutdown, and Malfunction Recordkeeping and Reports

3.3.17.1 SSM Recordkeeping and Reports for Part 63 NESHAP Sources
40 CFR 63.10(b)(2) and (d)(5) (4/20/06), NWCAA 104.2 (3/14/13)

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

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

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

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

(iv) A) Actions taken during periods of startup or shutdown when the source exceeded applicable emission limitations in a relevant standard 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) (B) 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 subhourly measurements as required under paragraph (b)(2)(vii) of this section, the owner or operator shall retain the most recent consecutive three averaging periods of subhourly measurements and a file that contains a hard copy of the data acquisition system algorithm used to reduce the measured data into the reportable form of the standard.

(B) This paragraph applies to owners or operators required to install a CEMS where the measured data is manually reduced to obtain the reportable form of the standard, and where the calculated data averages do not exclude periods of CEMS breakdown or malfunction. In lieu of maintaining a file of all CEMS subhourly measurements as required under paragraph (b)(2)(vii) of this section, the owner or operator shall retain all subhourly measurements for the most recent reporting period. The subhourly measurements shall be retained for 120 days from the date of the most recent summary or excess emission report submitted to the Administrator.

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

(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;

(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 <u>SSM Reports for 40 CFR Part 63 Subpart CC (Refinery MACT)-Affected Sources 40 CFR 63.10(b)(2) and (d)(5) (4/20/06), 63.655(h)(1) (6/20/13) and Table 6 to 40 CFR 63 Subpart CC (6/30/10), NWCAA 104.2 (3/14/13)</u>

The requirements for startup, shutdown and malfunction reports for Subpart CC-affected sources are the same as noted in AOP Term 3.3.17.1 with the following exceptions:

(i) Under 63.10(b)(2) - Maintenance of Relevant Records, provisions listed under 63.10(b)(2)(iii), (vii), (xi), and (xiii) do not apply.

(ii) Under 63.10(d)(5) - Startup, Shutdown, and Malfunction Reports, provisions listed under 63.10(d)(5)(i) apply except that periodic SSM reports may be submitted at the same time as periodic reports specified in 63.655(g).

(iii) Provisions listed under 63.10(d)(5)(ii) apply except that actions taken during a startup, shutdown or malfunction that are not consistent with the SSM plan do not need to be reported within 2 and 7 days of commencing and completing the action, respectively, but must be included in the next periodic report.

3.3.17.3 SSM Reports for 40 CFR Part 63 Subpart UUU (Refinery MACT II)-Affected Sources
40 CFR 63.1575(h) and 63.1577 (4/11/02), NWCAA 104.2 (3/14/13)

The requirements for startup, shutdown and malfunction reports for Subpart UUU-affected sources are the same as noted in AOP Term 3.3.17.1 with the following exceptions:

(i) When actions taken to respond during startups, shutdowns and malfunctions are consistent with the SSM plan, it is not required to report these events in the semiannual compliance report and the reporting requirements in §§63.6(e)(3)(iii) and 63.10(d)(5) do not apply.

(ii) When actions taken to respond during startups, shutdowns and malfunctions are not consistent with the SSM plan, it is required to report these events and the response taken in the semiannual compliance report. In this case, the reporting timeframe requirements in §§63.6(e)(3)(iv) and 63.10(d)(5) do not apply (the events shall be reported in the next semiannual report instead of reporting verbally within 2 working days and in writing within 7 working days).

3.3.18 Deviation Reporting

Deviation Reporting Requirements for 40 CFR 63 Subpart UUU Affected Sources
40 CFR 63.1570(f) (4/20/06), 63.1575(a)-(g) (4/11/02), and Table 43 (2/9/05) , NWCAA 104.2 (3/14/13)

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 or the period from July 1 through December 31. The reports must be postmarked or delivered no later than July 31 or January 31, whichever date comes first after the end of the period.

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). Also include any requested change in the applicability of an emission standard.

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

When actions taken to respond are not consistent with the SSMP, the report must contain these events and the response taken.

3.3.19 Recordkeeping Requirements for Sources with Continuous Monitoring Systems

40 CFR 63.10(c) (4/20/06), NWCAA 104.2 (3/14/13)

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

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

(2)–(4) [Reserved]

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

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

(7) 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;

(8) 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;

(9) [Reserved]

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

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

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

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

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

(15) 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).

3.3.20 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) (6/20/13), NWCAA 104.2 (3/14/13)

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

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

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

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

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

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

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

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

40 CFR Part 63.642(e) (10/28/09), NWCAA 104.2 (3/14/13)

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

3.3.22 Notification of Compliance Status (NCS)

3.3.22.1 NCS for Part 63 NESHAPs Sources

40 CFR 63.9(h) (5/30/03), NWCAA 104.2 (3/14/13)

When the source triggers applicability prior to the applicable requirements are incorporated into the title V permit and 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:

- the methods that were used to determine compliance;
- 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;
- the methods that will be used for determining continuing compliance, including a description of monitoring and reporting requirements and test methods;
- 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;

- 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);
- 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
- 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.

3.3.22.2 NCS for 40 CFR 63 Subpart UUU (Refinery MACT II) Affected Sources 40 CFR 63.1574(a)(3), (d), and Table 42 (2/9/05) , NWCAA 104.2 (3/14/13)

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

If a performance test, performance evaluation, design evaluation, opacity observation, visible emission observation, or other initial compliance demonstration is required, a Notification of Compliance Status is required. This information can be submitted in an operating permit application, in an amendment to an operating permit application, in a separate submission, or in any combination. If the required information has been submitted previously, a separate Notification of Compliance Status is not required, just refer to earlier submissions instead of duplicating and resubmitting the previously submitted information.

For each initial compliance demonstration that does not include a performance test, the Notification of Compliance Status must be submitted no later than 30 calendar days following completion of the initial compliance demonstration.

For each initial compliance demonstration that includes a performance test, the Notification of Compliance Status, including the performance test results, must be submitted no later than 150 calendar days after the specified compliance date.

The initial Notification of Compliance Status shall include, as applicable, the information listed in 40 CFR 63 Subpart UUU Table 42.

3.3.22.3 NCS for 40 CFR 63 Subpart DDDDD (Boiler MACT) Affected Sources 40 CFR 63.7545(a), (e), (e)(1), and (e)(6) (5/30/03) , NWCAA 104.2 (3/14/13)

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

The NCS shall be submitted by close of business on the 60th day after January 31, 2016 (i.e., March 31, 2016). It shall include a signed certification that all the work practice standards have been met. Also, it should include a description of the affected units including identification of which subcategories the unit is in, the design heat input capacity of the unit, a description of the add-on controls used on the unit to comply with this subpart, description of the fuel(s) burned, and justification for the selection of fuel(s) burned during the compliance demonstration.

3.3.23 General Compliance Requirements for 40 CFR 63 Subpart ZZZZ

40 CFR 63.6605 (1/30/13), NWCAA 104.2 (3/14/13)

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

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

SECTION 4 GENERALLY APPLICABLE REQUIREMENTS

The cited requirements in the "Citation" column and incorporated herein by reference are applicable plant-wide at the source, including insignificant emission units. These requirements are federally enforceable unless identified as "State Only". A requirement designated "State Only" is enforceable only by the state or the NWCAA, and not by the EPA or through citizen suits. The "Description" column is a brief description of the applicable requirements for informational purposes only and is not enforceable. Periodic or continuous monitoring requirements (including testing) are specified in the "Monitoring, Recordkeeping and Reporting" column, which identifies monitoring, recordkeeping and reporting (MR&R) obligations the source must perform as required by WAC 173-401-605(1) and 615(1) and (2) or the underlying requirement. MR&R obligations do not apply to insignificant emission units.

The requirements in the MR&R column listed below the *"Directly Enforceable"* label are legally enforceable requirements added under the NWCAA's "gap-filling" authority (WAC 173-401-615(1)(b) & (c), (10/17/02)). Other requirements not labeled *"Directly Enforceable"* or above the *"Directly Enforceable"* label are brief descriptions of the regulatory requirements for information purposes, and are not enforceable. Unless the text of the MR&R column is specifically identified to be directly enforceable, the language of the cited regulation takes precedence over a paraphrased requirement.

The provisions of federally-approved NWCAA 365, 366 and the "Guidelines for Industrial Monitoring Equipment and Data Handling" have been replaced in this section by NWCAA 367 and Appendix A - "Ambient Monitoring, Emission Testing, and Continuous Emission and Opacity Monitoring". NWCAA 367 and Appendix A were adopted on July 14, 2005 with a provision that applicable sources would be allowed one year from the date of adoption to achieve compliance with Appendix A. The new regulations are "State Only" until incorporated into the State Implementation Plan. NWCAA 367 and Appendix A are not materially different from the previous rule and guideline, but have been updated to include current monitoring technology and methods.

Term	Citation	Description	Monitoring, Recordkeeping, & Reporting
4.1 General	WAC 173-401-615(3) (10/17/02) 40 CFR 60 Subpart A 60.19(c) (2/12/98) 40 CFR 61 Subpart A 61.10(g) (3/16/94) 40 CFR 63 Subpart A 63.10(a)(5) (4/20/06) NWCAA 104.2 (3/14/13)	Required Monitoring Reports Submit reports of any required monitoring to the NWCAA at least once every six months. All instances of deviations from permit requirements must be clearly identified in such reports.	*Directly Enforceable:* Unless specifically required otherwise by a permit term, monthly reports shall cover a calendar month, quarterly reports shall cover a calendar quarter, six-month reports shall cover January through June and July through December, and annual reports shall cover a calendar year. The reports shall be submitted within 30 days after the close of the period that the reports cover.
4.2 General	NWCAA 342 (9/8/93) NWCAA 342 (7/14/05 State Only)	Operation and Maintenance Sources are required to keep any process and/or air pollution control equipment in good operating condition and repair.	Operating instructions and maintenance schedules for process and/or control equipment must be available on site. *Directly Enforceable:* Monitor, keep records and report in accordance with the terms of this permit.

Term	Citation	Description	Monitoring, Recordkeeping, & Reporting
4.3 Nuisance	NWCAA 530 (3/09/00 State Only)	General Nuisance No person shall discharge from any source quantities of air contaminants, with the exception of odors, in sufficient amounts and of such characteristics and duration as is likely to be injurious or cause damage to human health, plant or animal life, or property; or which unreasonably interferes with enjoyment of life and property. An air contaminant is defined as "dust, fumes, mist, smoke, other particulate matter, vapor gas, odorous substance, or any combination thereof.	*Directly Enforceable:* 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) (9/20/93) WAC 173-400-040(6) (4/1/11 State Only)	Emission Detrimental to Persons or Property No person shall cause or allow the emission of any air contaminant from any source if it is detrimental to the health, safety, or welfare of any person, or causes damage to property or business.	
4.5 Odor	NWCAA 535 (3/09/00 State Only)	Odor Control Measures 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.	
4.6 Odor	WAC 173-400-040(5) (4/1/11 State Only)	Odors Source may not generate odors which may unreasonably interfere with property use and must use recognized good practice and procedures to reduce odors to reasonable minimum.	

Term	Citation	Description	Monitoring, Recordkeeping, & Reporting
4.7 PM	NWCAA 550 (4/14/93)	Preventing Particulate Matter from Becoming Airborne Best Available Control Technology (BACT) required to prevent the release of fugitive matter to the ambient air. Nuisance particulate fallout is prohibited.	*Directly Enforceable:* Follow MR&R under AOP Term 4.3.
4.8 PM	NWCAA 550.1-3 (7/14/05 State Only)	Preventing Particulate Matter from Becoming Airborne Reasonably Available Control Technology (BACT) required to prevent the release of fugitive matter to the ambient air. Nuisance particulate fallout is prohibited.	
4.9 PM	WAC 173-400-040(3) (4/1/11 State Only)	Fallout Source may not generate the emission of particulate matter to be deposited beyond the property line in sufficient quantity to interfere unreasonably with the use and enjoyment of the property upon which the material is deposited.	
4.10 PM	WAC 173-400-040(3)(a) (9/20/93) WAC 173-400-040(4)(a) (4/1/11 State Only)	Fugitive Emissions From an emissions unit engaging in materials handling, construction, demolition, or other operation which is a source of fugitive emissions, take reasonable precautions to prevent the release of air contaminants from the operation.	
4.11 PM	WAC 173-400-040(8)(a) (9/20/93) WAC 173-400-040(9)(a) (4/1/11 State Only)	Fugitive Dust Reasonable precautions to prevent release of fugitive dust required. Maintain and operate source to minimize emissions.	

Term	Citation	Description	Monitoring, Recordkeeping, & Reporting
4.12 Opacity	NWCAA 451.1 (10/13/94)	Emission of Air Contaminant - Visual Standard No person shall cause or permit the emission, for any period aggregating more than 3 minutes in any 1 hour, of an air contaminant from any source which, at the point at emission, or within a reasonable distance of the point of emission, exceeds 20% opacity except: When there is valid data to show that the opacity is in excess of 20% as a result of the presence of condensed water droplets, and that the concentration of the particulate matter, as shown by a source test approved by the Control Officer, is less than 0.10 (0.23 g/m^3) grain/dscf. Emissions from a catalytic cracking unit shall not exceed 40% opacity for more than an aggregate of 3 minutes in any one hour.	*Directly Enforceable:* Monitor visible emissions in accordance with AOP Term 6.1.
4.13 Opacity	NWCAA 451.1 (11/8/07 State Only)	Emission of Air Contaminant - Visual Standard No person shall cause or permit the emission, for any period aggregating more than 3 minutes in any 1 hour, of an air contaminant from any source which, at the point at emission, or within a reasonable distance of the point of emission, exceeds 20% opacity except: When there is valid data to show that the opacity is in excess of 20% as a result of the presence of condensed water droplets, and that the concentration of the particulate matter, as shown by a source test approved by the Control Officer, is less than 0.10 (0.23 g/m^3) grain/dscf.	
4.14 Opacity	WAC 173-400-040(1) (9/20/93) WAC 173-400-040(2) (4/1/11 State Only)	Visible Emissions No person shall cause or allow the emission for more than three minutes, in any one hour, of an air contaminant from any emissions unit which at the emission point, or within a reasonable distance of the emission point, exceeds twenty percent opacity except: When the owner or operator of a source supplies valid data to show that the presence of uncombined water is the only reason for the opacity to exceed twenty percent.	
4.15 PM	WAC 173-400-060 (3/22/91) WAC 173-400-060 (2/10/05 State Only)	Emission Standards for General Process Units Particulate emissions greater than 0.1 grain/dscf prohibited.	
4.16 PM	WAC 173-400-050(1) and (3) (3/22/91) WAC 173-400-050(1) and (3) (12/29/12 State Only)	Emission Standards for Combustion and Incineration Units Particulate emissions from combustion units greater than 0.1 grains/dscf corrected to 7% oxygen prohibited.	

Term	Citation	Description	Monitoring, Recordkeeping, & Reporting
4.17 SO_2	NWCAA 460 (8/9/78) NWCAA 460 (7/14/05 State Only)	<u>Weight/Heat Rate Standard – Emission of Sulfur Compounds</u> Sulfur compound emissions, as SO_2, shall not exceed 1.5 lb/MMBtu of heat input per hour, calendar month average of hourly values for the facility.	*Directly Enforceable:* Report the refinery calendar monthly average SO_2 lb/MMBtu in the monthly report.
4.18 SO_2	NWCAA 410 (4/14/93)	<u>Sulfur Oxide Standards</u> Unlawful for any person to cause or permit sulfur oxides to be emitted into the ambient air, calculated as sulfur dioxide, measured at an ambient air monitoring station to exceed: • 0.800 ppmv for any 5 minute average, not to be exceeded more than once per year • 0.400 ppmv for any hour average, not to be exceeded more than once per year • 0.250 ppmv for any one hour average, not to be exceeded more than twice in any 7 consecutive days • 0.100 ppmv for any one day (24 hours), not to be exceeded more than once per year • 0.020 ppmv for any one year (annual arithmetic mean)	*Directly Enforceable:* Maintain and operate an ambient air monitor in accordance with NWCAA 367 and NWCAA Appendix A.

Term	Citation	Description	Monitoring, Recordkeeping, & Reporting
4.19 SO_2	NWCAA 462 (10/14/87)	<u>Emission of Sulfur Compounds</u> Sulfur compounds emissions, calculated as SO_2, shall not exceed 1,000 ppmvd at 7% oxygen. This requirement is not violated if reasonable evidence is presented that concentrations will not exceed ambient standards and the permittee demonstrates that no practical method of reducing the concentration exists.	*Directly Enforceable:* Monitor and record the concentration of stack SO_2, or alternatively fuel gas H_2S, in accordance with the applicable permit terms listed in AOP Section 5.
4.20 SO_2	NWCAA 462 (3/13/97 State Only) WAC 173-400-040(7) (4/1/11 State Only)	<u>Emission of Sulfur Compounds</u> Sulfur compounds emissions, calculated as SO_2, shall not exceed 1,000 ppmvd at 7% oxygen averaged for a 60 consecutive minute period. This requirement is not violated if reasonable evidence is presented that concentrations will not exceed ambient standards and the permittee demonstrates that no practical method of reducing the concentration exists.	
4.21 SO_2	WAC 173-400-040(6) first paragraph only (9/20/93)	<u>Sulfur Dioxide</u> Sulfur dioxide emissions shall not exceed 1,000 ppmvd, corrected to 7% oxygen for combustion sources, based on the average of any 60 consecutive minute period.	

Term	Citation	Description	Monitoring, Recordkeeping, & Reporting
4.22 SO_2	NWCAA 520.11, 520.12, 520.13 and 520.15 (4/14/93)	Sulfur Compounds in Fuel Prohibited to burn, sell, or make available for sale for burning in fuel burning equipment within the jurisdiction of the NWCAA, fuel containing sulfur in excess of the following for a time period not to exceed 30 days in a 12-month period: • #1 distillate – 0.3 wt% • #2 distillate – 0.5 wt% • other fuel oils – 2.0 wt% • solid fuels – 2.0 wt%	*Directly Enforceable:* Retain fuel specifications and purchase records verifying that fuel sold or combusted in the NWCAA's jurisdiction has a sulfur content of no more than the allowable limits. Fuel testing for sulfur content shall be conducted in accordance with ASTM D-4294 (Industrial and Marine Fuel Oils) or ASTM D-2622 (Distillate Fuel Oil).
4.23 SO_2	NWCAA 520.11, 520.12, 520.13 and 520.15 (5/9/96 State Only)	Sulfur Compounds in Fuel Prohibited to burn, sell, or make available for sale for burning in fuel burning equipment within the jurisdiction of the NWCAA, fuel containing sulfur in excess of the following for a time period not to exceed 30 days in a 12-month period: • #1 distillate – 0.3 wt% • #2 distillate – 0.5 wt% • other fuel oils – 2.0 wt% • solid fuels – 2.0 wt% Ocean-going vessels are exempt.	
4.24 SO_2	OAC 828a Condition 6 (4/17/09)	The average monthly SO_2 emission rate for the entire refinery shall not exceed 2,100 lb/hr. This emission limit includes emissions from startup, shutdown, and malfunction of refinery process units.	*Directly Enforceable:* Report average monthly lb/hr SO_2 emitted from the entire refinery in the monthly emissions report.
4.25 VOC	NWCAA 580.24 (12/13/89) NWCAA 580.24 (2/8/96 State Only)	Process Turnarounds Process units shall be depressurized to less than 5 psig (gauge) before venting to the atmosphere. During depressurization, VOCs shall be routed through a closed vent system to a flare or other appropriate disposal device.	Keep records of each process unit turnaround listing the date the unit was shut down, the estimated vessel VOC concentration when the VOC was first emitted, and the estimated total quantity of VOC emitted. A specific record shall be kept for any turnaround during which a vessel containing VOC was vented to the atmosphere at a pressure at or above 5 psig. Report emissions from turnarounds in the annual emissions inventory pursuant to AOP Term 2.4.4.

Term	Citation	Description	Monitoring, Recordkeeping, & Reporting
4.26 VOC	NWCAA 580.25 (12/13/89) NWCAA 580.25 (2/8/96)	Equipment for the reduction, collection or disposal of VOC shall be maintained and operated in a manner commensurate with accepted industrial practices.	*Directly Enforceable:* Maintain appropriate records.
4.27 HAP	40 CFR 63 Subpart GGGGG 63.7881(c) (11/29/06), 63.7884(b) (11/29/06), and 63.7936 (10/8/03) NWCAA 104.2 (3/14/13)	Site remediation activities must follow only the recordkeeping requirements provided that either: • The total quantity of the listed HAP contained in the remediation material excavated, extracted, pumped, or otherwise removed during all of the site remediations conducted at the refinery must be less than 1 megagram (Mg) annually; or • The site remediation must be completed within 30 consecutive calendar days.	For the 1 Mg exemption: Prepare and maintain at the facility written documentation to support the determination that the total HAP quantity in the remediation materials for the year is less than 1 Mg. The documentation must include a description of the methodology and data used for determining the total HAP content of the remediation material. For the 30-day activity exemption: If the remediation material is shipped or otherwise transferred off-site, include in the applicable shipping documentation, in addition to any notifications and certifications required under §63.7936, a statement that the shipped material was generated by a site remediation activity subject to the conditions of this exemption. The statement must include the date on which you initiated the site remediation activity generating the shipped remediation materials and the date 30 calendar days following the initiation date. You must prepare and maintain at the facility written documentation describing the exempted site remediation, and listing the initiation and completion dates for the site remediation.

Term	Citation	Description	Monitoring, Recordkeeping, & Reporting
4.28 HAP	40 CFR 61 Subpart FF 61.340(a) (11/12/02) and 61.342(b) (10/17/00) 40 CFR 63 Subpart CC 63.647 (8/18/95) NWCAA 104.2 (3/14/13)	40 CFR 61 Subpart FF Benzene Waste Operations: Refinery MACT Wastewater Provisions: The facility shall implement 40 CFR 61 Subpart FF tracking, managing, and treating benzene-containing wastes as required in AOP Section 5.13. The general requirements of 40 CFR 61 Subpart A apply to the affected facilities (AOP Section 3.2).	See MR&R terms in AOP Section 5.13 applicable to subject waste streams and equipment. The following waste is exempt from 40 CFR 61 Subpart FF: (1) Waste in the form of gases or vapors that is emitted from process fluids: (2) Waste that is contained in a segregated storm water sewer system. Any gaseous stream from a waste management unit, treatment process, or wastewater treatment system routed to a fuel gas system, as defined in 40 CFR 61.341, is exempt from 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.

SECTION 5 SPECIFICALLY APPLICABLE REQUIREMENTS

The requirements in the "Citation" column and incorporated herein by reference are applicable to the emission units specified within each 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. The "Description" column is a brief description of the applicable requirements for informational purposes only and is not enforceable. Periodic or continuous monitoring requirements (including testing) are specified in the "Monitoring, Recordkeeping, & Reporting" column, which identifies monitoring, recordkeeping and reporting (MR&R) obligations the source must perform as required by WAC 173-401-605(1) and 615(1) and (2) or the underlying requirement. MR&R obligations do not apply to insignificant emission units.

The requirements in the MR&R column below the "*Directly Enforceable:*" label are legally enforceable requirements added under the NWCAA's "gap-filling" authority (WAC 173-401-615(1)(b) & (c) (10/17/02)). MR&R requirements noted as "*CAM Plan:*" are part of the Compliance Assurance Monitoring (CAM) Plan for the specified unit(s) as required by 40 CFR 64.6(c) (10/22/97). The CAM plans submitted by the facility per 40 CFR 64.4 are included in the Statement of Basis document accompanying this permit. Other requirements not labeled "*Directly Enforceable:*", "*CAM Plan:*", or above the "*Directly Enforceable:*" or "*CAM Plan:*" labels are brief descriptions of the regulatory requirements for informational purposes, and are not enforceable, unless identical to the cited requirement. Unless the text of the MR&R column is specifically identified to be directly enforceable or pursuant to CAM, the language of the cited regulation takes precedence over a paraphrased requirement.

The provisions of federally-approved NWCAA 365, 366 and the "Guidelines for Industrial Monitoring Equipment and Data Handling" have been replaced in this section by NWCAA 367 and NWCAA Appendix A – "Ambient Monitoring, Emission Testing, and Continuous Emission and Opacity Monitoring". NWCAA 367 and Appendix A were adopted on July 14, 2005. The new regulations are "State Only" until incorporated into the State Implementation Plan. NWCAA 367 and Appendix A are not materially different from the previous rule and guideline, but have been updated to include current monitoring technology and methods.

Many of the federal standards in the following tables refer to other standards, which, in turn, refer to yet other standards. For example, in AOP Term 5.2.9 the citation for 60.590-60.593 of 40 CFR 60 Subpart GGG refers to 60.482-60.487 of 40 CFR 60 Subpart VV. The symbol → is used in place of "which refers to."

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

5.1 Vacuum Pipe Still
5.2 Delayed Coking Unit
5.3 Fluid Catalytic Cracking Unit
5.4 Catalytic Polymerization and Nonene Units
5.5 Catalytic Reformer Units 1 and 2
5.6 Alkylation Units 1 and 2 and Butadiene Hydrogenation Unit
5.7 Hydrotreater Units 1, 2, and 3; Isomerization Unit; and Benzene Reduction Unit (BRU)
5.8 Sulfur Recovery Units
5.9 Utilities
5.10 Receiving, Pumping and Shipping (RP&S)
5.11 Flares and Flare Gas Recovery Unit
5.12 Internal Combustion Engines
5.13 Wastewater and Effluent Plant
5.14 Storage Tanks/Vessels

5.1 Vacuum Pipe Still (VPS)

Vacuum Pipe Still (VPS)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.1.1 VOC	NWCAA 580.221 and 580.25 (2/8/96)	Non-condensable VOC shall be piped to an appropriate firebox, incinerator, or to a closed refinery system. Equipment for the reduction, collection or disposal of VOC shall be maintained and operated in a manner commensurate with accepted industrial practices.	*Directly Enforceable:* Maintain written documentation that describes operation and maintenance activities associated with controlling VOC emissions in closed vent systems routed to flares or other appropriate control device. Keep records of associated maintenance activities.
5.1.2 VOC	NWCAA 580.222 and 580.25 (2/8/96)	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.	*Directly Enforceable:* Maintain written documentation that describes operation and maintenance activities associated with hot wells with contact condensers.
Gas Oil Heater (1A-F4)			
Note: 40 CFR 60 and 63 General Provisions included in AOP Section 3 apply to this affected facility			
5.1.3 NO_X	OAC 929b Conditions 1, 2, and 3 (4/12/13)	NO_X from VPS Heater 1A-F4 shall not exceed: • 0.06 lb/MMBtu (HHV) as a 12-month rolling average. • 41 tons in any 12-month rolling period	Compliance shall be determined using a NO_X continuous emission monitor (CEM). Operate the CEM in accordance with NWCAA 367 and NWCAA Appendix A, 40 CFR 60 Appendices B and F. On a calendar month basis, report the total NO_X emissions expressed in units of tons during the immediate preceding 12 months.
5.1.4 SO_2	CO 07 Condition V.A (04/10/13) → 40 CFR 60 Subpart J 60.104(a)(1) (6/24/08), 60.105(a)(4) & (e)(3)(ii) (6/24/08), and 60.106(e)(1) (9/12/12)	<u>NSPS Subpart J - Fuel Gas</u> Fuel gas is limited to 162 ppmvd H_2S based on a 3-hour rolling average.	Install and operate a continuous monitoring system for H_2S concentration on a dry basis in the refinery's main fuel mix drum in accordance with 40 CFR 60 Subparts A and J and 40 CFR 60 Appendices B and F.
5.1.5 HAP	40 CFR 63 Subpart DDDDD 63.7485 (1/31/13) NWCAA 104.2 (3/14/13)	<u>Boilers & Process Heaters</u> Comply with 40 CFR 63 Subpart DDDDD for boilers and process heaters at major sources of HAPs.	Comply with AOP Section 6.5

Vacuum Pipe Still (VPS)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Atmospheric Charge Heater (1A-F5) and Atmospheric Charge Heater (1A-F6)			
Note: 40 CFR 60 and 63 General Provisions included in AOP Section 3 apply to these affected facilities			
5.1.6 NO_X	OAC 919a, Conditions 1, 2, and 3 (4/12/13)	NO_X from VPS Heaters 1A-F5 and 1A-F6 shall not exceed: • 0.09 lb/MMBtu (HHV) as a 12-month rolling average. • 164 tons in any 12-month rolling period	Compliance shall be determined using a NO_X continuous emission monitor (CEM). Operate the CEM in accordance with NWCAA 367 and NWCAA Appendix A, 40 CFR 60 Appendices B and F. On a calendar month basis, report the total NO_X emissions expressed in units of tons during the immediate preceding 12 months.
5.1.7 SO_2	CO 07 Condition V.A (04/10/13) → 40 CFR 60 Subpart J 60.104(a)(1) (6/24/08), 60.105(a)(4) & (e)(3)(ii) (6/24/08), and 60.106(e)(1) (9/12/12)	<u>NSPS Subpart J - Fuel Gas</u> Fuel gas is limited to 162 ppmvd H_2S based on a 3-hour rolling average.	Install and operate a continuous monitoring system for H_2S concentration on a dry basis in the refinery's main fuel mix drum in accordance with 40 CFR 60 Subparts A and J and 40 CFR 60 Appendices B and F.
5.1.8 HAP	40 CFR 63 Subpart DDDDD 63.7485 (1/31/13) NWCAA 104.2 (3/14/13)	<u>Boilers & Process Heaters</u> Comply with 40 CFR 63 Subpart DDDDD for boilers and process heaters at major sources of HAPs.	Comply with AOP Section 6.5
Vacuum Charge Heater (1A-F8)			
Note: 40 CFR 60 and 63 General Provisions included in AOP Section 3 apply to this affected facility			
5.1.9 General	OAC 684b Condition 5 (5/3/10)	<u>Operation & Maintenance Manual</u>	An operation and maintenance manual that identifies acceptable operation and maintenance procedures that will ensure compliance with applicable air pollution rules and regulations shall be maintained on site and made available to NWCAA personnel upon request.

Vacuum Pipe Still (VPS)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.1.10 NO_X	OAC 684b Conditions 1 and 7 (5/3/10)	NO_X emissions shall not exceed 0.05 lb/MMBtu.	Conduct an initial source test within 180 days of the issuance of OAC 684b and conduct subsequent source tests once every five years, between 3 months before and after the anniversary month of the initial source test. Compliance with the lb/MMBtu limit shall be determined using 40 CFR 60 Appendix A Methods 7E and 19. The Method 19 analysis shall be performed using fuel gas composition data from the day of the test. For the tons per 12-month period limit in Condition 4, compliance shall be determined using the emission factor from the most recent stack test. Testing shall be performed at representative operating conditions. Development and submittal of the source test plan and test report along with the testing itself shall be in accordance with NWCAA 367 and Appendix A. Report monthly NO_X mass emissions in the monthly report.
5.1.11 NO_X	OAC 684b Conditions 4 and 7 (5/3/10)	NO_X emissions shall not exceed 21 tons per any 12-month rolling period.	
5.1.12 SO_2	40 CFR 60 Subpart J 60.104(a)(1) (6/24/08), 60.105(a)(4) & (e)(3)(ii) (6/24/08), and 60.106(e)(1) (9/12/12) NWCAA 104.2 (3/14/13)	<u>NSPS Subpart J - Fuel Gas</u> Fuel gas is limited to 162 ppmvd H_2S based on a 3-hour rolling average.	Install and operate a continuous monitoring system for H_2S concentration on a dry basis in the refinery's main fuel mix drum in accordance with 40 CFR 60 Subparts A and J and 40 CFR 60 Appendices B and F. A quality assurance manual for the hydrogen sulfide monitor shall be maintained on site and made available to NWCAA personnel upon request. The quality assurance procedures shall conform to 40 CFR 60 Appendix F and NWCAA Appendix A.
5.1.13 SO_2	OAC 684b Conditions 2 and 6 (5/3/10)	Fuel limited to pipeline grade natural gas or refinery fuel gas with an H_2S concentration of less than 50 ppmd based on a 24-hour rolling average. Compliance shall be determined by EPA Method 11, 40 CFR 60 Appendix A.	
5.1.14 Opacity	OAC 684b Condition 3 (5/3/10)	Opacity shall not exceed 10% for more than 3 minutes in any one hour period as measured by Department of Ecology 9A.	*Directly Enforceable:* Monitor visible emissions in accordance with AOP Term 6.1.
5.1.15 HAP	40 CFR 63 Subpart DDDDD 63.7485 (1/31/13) NWCAA 104.2 (3/14/13)	<u>Boilers & Process Heaters</u> Comply with 40 CFR 63 Subpart DDDDD for boilers and process heaters at major sources of HAPs.	Comply with AOP Section 6.5

Vacuum Pipe Still (VPS)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Desalter Waterwash Surge Drum Vent (1A-C46)			
Note: 40 CFR 63 General Provisions included in AOP Section 3 apply to this affected facility			
5.1.16 HAP	40 CFR 63 Subpart CC 63.643(a) (8/18/95) → 40 CFR 63 Subpart A 63.11(b) (12/22/08) NWCAA 104.2 (3/14/13)	Refinery MACT 1 – Group 1 Miscellaneous Process Vents Control HAP emissions from applicable vents by using a flare that meets the requirements of 63.11(b).	Comply with AOP Terms 5.11.1 through 5.11.7.
Heat Exchangers in HAP service			
Note: 40 CFR 63 General Provisions included in AOP Section 3 apply to these affected facilities			
5.1.17 HAP	40 CFR 63 Subpart CC 63.654 (6/20/13) NWCAA 104.2 (3/14/13)	Refinery MACT 1 – Heat Exchangers Comply with 40 CFR 63 Subpart CC for heat exchangers in HAP service.	Comply with AOP Section 6.6.
Fugitive Components in VOC/HAP service			
Note: 40 CFR 60 and 63 General Provisions included in AOP Section 3 apply to this affected facility			
5.1.18 VOC	40 CFR 60 Subpart GGG 60.590-60.593 (6/2/08, 11/16/07) → 40 CFR 60 Subpart VV 60.482-60.487 (11/16/07, 12/14/00) NWCAA 104.2 (3/14/13)	NSPS Equipment Leaks Comply with 40 CFR 60 Subpart GGG for equipment leaks in VOC service, except for equipment leaks regulated under 40 CFR 63 Subpart CC (i.e., 63.640(p)).	Conduct an Equipment Leak (LDAR) program as specified in AOP Section 6.2.
5.1.19 HAP	40 CFR 63 Subpart CC 63.648(a) and (b) (8/18/98) → 40 CFR 60 Subpart VV 60.480-60.489 (6/2/08, 11/16/07, 12/14/00, 5/30/84, 10/17/00) NWCAA 104.2 (3/14/13)	Refinery MACT Equipment Leaks Comply with 40 CFR 63 Subpart CC for equipment leaks in HAP service.	

5.2 Delayed Coking Unit

Delayed Coking Unit			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Charge Heater (15F-100)			
Note: 40 CFR 60 and 63 General Provisions included in AOP Section 3 apply to this affected facility			
5.2.1 NO_X	OAC 628d Conditions 2, 3, and 4 (4/10/13)	NO_X emissions shall not exceed: • 50 ppmvd at 5 percent O_2 on a one-hour average • 0.07 lb/MMBtu on a one-hour average • 39.5 tons per any 12-month period	Conduct an initial source test within 180 days of the issuance of OAC 628c and conduct subsequent source tests once every five years, between 3 months before and after the anniversary month of the initial source test. Regarding the ppm limit, compliance shall be determined using 40 CFR 60 Appendix A Method 7E. For the lb/MMBtu limit, compliance shall be determined using 40 CFR 60 Appendix A Methods 7E and 19. The Method 19 analysis to determine the F-factor shall be performed using fuel gas composition data from the day of the test. For the tons per 12-month period limit, compliance shall be determined using the emission factor from the most recent stack test. Testing shall be performed at representative operating conditions. Development and submittal of the source test plan and test report along with the testing itself shall be in accordance with NWCAA Appendix A or as approved in writing in advance by the NWCAA. On a calendar month basis, report the total NO_X emissions expressed in units of tons during the immediate preceding 12 months.
5.2.2 SO_2	40 CFR 60 Subpart J 60.104(a)(1) (6/24/08), 60.105(a)(4) & (e)(3)(ii) (6/24/08), and 60.106(e)(1) (9/12/12) NWCAA 104.2 (3/14/13)	<u>NSPS Subpart J - Fuel Gas</u> Fuel gas is limited to 162 ppmvd H_2S based on a 3-hour rolling average.	Install and operate a continuous monitoring system for H_2S concentration on a dry basis in the refinery's main fuel mix drum in accordance with 40 CFR 60 Subparts A and J and 40 CFR 60 Appendices B and F.
5.2.3 Opacity	OAC 628d Condition 1 (4/10/13)	Opacity shall not exceed 10% for more than 3 minutes in any one hour period as measured by Washington State Department of Ecology Method 9A.	*Directly Enforceable:* Monitor visible emissions in accordance with AOP Term 6.1.

Delayed Coking Unit			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.2.4 HAP	40 CFR 63 Subpart DDDDD 63.7485 (1/31/13) NWCAA 104.2 (3/14/13)	<u>Boilers & Process Heaters</u> Comply with 40 CFR 63 Subpart DDDDD for boilers and process heaters at major sources of HAPs.	Comply with AOP Section 6.5
Coke Loading (LR-7)			
5.2.5 PM	RO 14a, Condition 1 (4/12/13)	Cover the haul trucks during the transport of petroleum coke to the Port of Anacortes and on the return trip to the refinery.	*Directly Enforceable:* Maintain a written operating procedures document that is consistent with good air pollution control practices.
5.2.6 PM	RO 14a, Condition 2 (4/12/13)	Lower the loading chute during loading to minimize the petroleum coke that is ejected from the truck trailer during loading.	
Coker Fractionator Overhead Accumulator Vent (15-C4)			
Note: 40 CFR 63 General Provisions included in AOP Section 3 apply to this affected facility			
5.2.7 HAP	40 CFR 63 Subpart CC 63.643(a) (8/18/95) → 40 CFR 63 Subpart A 63.11(b) (12/22/08) NWCAA 104.2 (3/14/13)	<u>Refinery MACT 1 – Group 1 Miscellaneous Process Vents</u> Control HAP emissions from applicable vents by using a flare that meets the requirements of 63.11(b).	Comply with AOP Terms 5.11.1 through 5.11.7.
Heat Exchangers in HAP service			
Note: 40 CFR 63 General Provisions included in AOP Section 3 apply to these affected facilities			
5.2.8 HAP	40 CFR 63 Subpart CC 63.654 (6/20/13) NWCAA 104.2 (3/14/13)	<u>Refinery MACT 1– Heat Exchangers</u> Comply with 40 CFR 63 Subpart CC for heat exchangers in HAP service.	Comply with AOP Section 6.6.

Delayed Coking Unit			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Fugitive Components in VOC/HAP service			
Note: 40 CFR 60 and 63 General Provisions included in AOP Section 3 apply to this affected facility			
5.2.9 VOC	40 CFR 60 Subpart GGG 60.590-60.593 (6/2/08, 11/16/07) → 40 CFR 60 Subpart VV 60.482-60.487 (11/16/07, 12/14/00) NWCAA 104.2 (3/14/13)	<u>NSPS Equipment Leaks</u> Comply with 40 CFR 60 Subpart GGG for equipment leaks in VOC service, except for equipment leaks regulated under 40 CFR 63 Subpart CC (i.e., 63.640(p)).	Conduct an Equipment Leak (LDAR) program as specified in AOP Section 6.2.
5.2.10 HAP	40 CFR 63 Subpart CC 63.648(a) and (b) (8/18/98) → 40 CFR 60 Subpart VV 60.480-60.489 (6/2/08, 11/16/07, 12/14/00, 5/30/84, 10/17/00) NWCAA 104.2 (3/14/13)	<u>Refinery MACT Equipment Leaks</u> Comply with 40 CFR 63 Subpart CC for equipment leaks in HAP service.	
Process Drains in VOC/HAP Service			
Note: 40 CFR 60 General Provisions included in AOP Section 3 apply to these affected facilities			
5.2.11 VOC	40 CFR 60 Subpart QQQ 60.690 (11/23/88) NWCAA 104.2 (3/14/13)	<u>Individual Drain Systems</u> Comply with 40 CFR 60 Subpart QQQ for individual drain systems (see AOP Section 6.4), except for wastewater streams regulated under 40 CFR 63 Subpart CC (i.e., 63.640(o)).	Comply with AOP Section 6.4.

5.3 Fluid Catalytic Cracking Unit

Fluid Catalytic Cracking Unit			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
CO Boiler 1 (COB-1), CO Boiler 2 (COB-2) and FCCU Regenerator to a wet gas scrubber (WGS)			
Note: 40 CFR 60 and 63 General Provisions included in AOP Section 3 apply to this affected facility			
5.3.1 NO_X	CO 10 Conditions V.B and C (2/12/14)	NO_X concentrations from the WGS stack shall not exceed any of the following final limits while the FCCU is operating, which shall take effect on the earlier of December 31, 2014, or upon completion of the FCCU turnaround currently planned for 2014: • 185.4 ppmvd corrected to 0% oxygen on a 24-hour rolling average, not including periods of startup, shutdown and malfunction; hours when the FCCU is not operating shall be skipped in calculating averages. • 142.2 ppmvd corrected to 0% oxygen on a 365-day rolling average, including periods of startup, shutdown and malfunction; days when the FCCU is not operating shall be skipped in calculating averages.	Compliance shall be determined using a NO_X continuous emission monitor (CEM) and an O_2 monitor. Install, certify, calibrate, maintain, and operate the CEMS in accordance with the requirements of 40 CFR 60.11, 60.13, and Part 60 Appendices A, B, and F.

Fluid Catalytic Cracking Unit			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.3.2 NO_X	OAC 623f Conditions 5, 8, and 10 (1/30/14)	Total emissions of NO_X from the Vertical Riser Project from the WGS stack shall not exceed 1,380 tons during any 12-calendar-month period.	To demonstrate compliance, install, certify, calibrate, maintain, and operate a continuous emission monitoring system (CEMS) for NO_X and oxygen in the WGS stack. The monitors shall meet the appropriate requirements of 40 CFR 60.11, 60.13, Part 60 Appendices A, B and F, and NWCAA 367 and NWCAA Appendix A. Exclude NO_X emissions from combustion of fuel gas in the CO boilers over established firing rates for full and partial combustion modes in the FCCU generator. Full combustion mode is defined as excess oxygen greater than zero percent and carbon monoxide less than one percent in the regenerator flue gas. The twelve month rolling NO_X values shall be summed from daily NO_X emission averages calculated using the following method: NO_X from the Vertical Riser Project = A Tons NO_X - B Tons NO_X Where: A = Tons of NO_X from CO Boiler stacks calculated from CEM data. B = (C MMBtu) x (0.07 lb NO_X/MMBtu) × (ton/2000 lb) C = the portion of fuel gas combusted above 65 MMBtu/hour limit for full combustion mode or 30.4 MMBtu/hour for partial combustion mode. Monthly, report the cumulative total NO_X emitted resulting from the Vertical Riser Project in tons for the past 12 calendar months.

Fluid Catalytic Cracking Unit			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.3.3 CO	40 CFR 60 Subpart J 60.103(a) (10/2/90) and 60.105(a)(2) & 60.105(e)(2) (6/24/08) 40 CFR Subpart UUU 63.1565(a)(1) (4/11/02), Table 8 Line 1 (2/9/05), (2) (4/11/02), & Table 9 Line 1 (2/9/05); (c)(1) (4/11/02), Table 13 Line 1 (2/9/05), & Table 14 Line 1 (2/9/05); 63.1572(a) (2/9/05), Table 40 Line 2 (2/9/05), & (d) (2/9/05); and 63.1576(d), (g), (h), & (i) (2/9/05) NWCAA 104.2 (3/14/13)	<u>FCCU Catalyst Regenerators – CO</u> <u>Catalytic Cracking Unit – Organic HAP Emissions</u> CO from the WGS stack must not exceed 500 ppmvd on a 1-hour average.	To demonstrate compliance, install, operate, and maintain a continuous monitoring system to measure and record the hourly average concentration by volume (dry basis) of CO emissions from the wet gas scrubber. The CEMS shall be operated in accordance with 40 CFR 60 Appendix B Performance Specification 4 using a span value of 1,000 ppm and 40 CFR 60 Appendix F Procedure 1 except that relative accuracy audits are required annually instead of quarterly. Except for monitoring malfunctions, associated repairs, and required QA/QC activities, conduct all monitoring in continuous operation at all times the source is operating. Monthly, report the cumulative total in tons emitted for the past 12 calendar months for CO from the WGS stack.
5.3.4 CO	OAC 623f Conditions 6, 8, and 10 (1/30/14)	CO emissions from the WGS stack shall not exceed 95 tons during any twelve consecutive month period.	
5.3.5 SO_2	OAC 623f Conditions 7, 8, and 10 (1/30/14)	PSR shall install, maintain, and operate a WGS to control SO_2 emissions from the CO Boilers and FCCU. SO_2 emissions from the WGS shall not exceed any of the following: • 25 ppmvd corrected to 0% O_2 on a 365-day rolling average basis • 50 ppmvd corrected to 0% O_2 on a 7-day rolling average basis • 1,000 ppmvd corrected to 7% O_2 on a 60-minute rolling average basis • 214 tons during any twelve consecutive month period	To demonstrate compliance, install, certify, calibrate, maintain, and operate a continuous emission monitoring system (CEMS) for SO_2 and oxygen in the WGS stack. The monitors shall meet the appropriate requirements of 40 CFR 60.11, 60.13, Part 60 Appendices A, B and F, and NWCAA 367 and NWCAA Appendix A. The NWCAA hereby approves the use of a "dual range" SO_2 CEM with a "low" range of 0-100 ppmvd corrected to 0% O_2 and a "high" range with a maximum not less than 1,200 ppmvd corrected to 7% O_2. Monthly, report the cumulative total in tons emitted for the past 12 calendar months for SO_2 from the WGS stack.

Fluid Catalytic Cracking Unit			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.3.6 SO_2	CO 10 Condition V.D (2/12/14) → 40 CFR 60 Subpart J 60.104(b)(1), (c) & (d) (6/24/08); 60.105(a)(9), (10), (11), (12), & (13) (6/24/08); 60.106(f), (g), (h) (9/12/12); 60.107(b)(1) & (c) (6/24/08); and 60.108 (6/24/08)	NSPS Subpart J – FCCU SO_2 Maintain sulfur dioxide emissions to the atmosphere less than or equal to 50 ppmvd at 0% O_2. Compliance is determined daily on a 7-day rolling average basis. Data for a minimum of 18 hours per day in at least 22 out of 30 rolling successive calendar days shall be obtained.	Install and operate a continuous emission monitoring system (CEMS) for the measurement of SO_2 and O_2 in the gases discharged into the atmosphere from the wet gas scrubber in accordance with 40 CFR 60 Subparts A and J and 40 CFR 60 Appendices B and F.
5.3.7 SO_2	CO 10 Conditions V.A and C (2/12/14)	Sulfur dioxide (SO_2) emissions from the FCCU/CO Boilers shall not exceed 25 ppmvd at 0% oxygen on a 365-day rolling average basis and 50 ppmvd at 7% oxygen on a 7-day rolling average.	Compliance shall be determined using an SO_2 continuous emission monitor (CEM) and an O_2 monitor. Install, certify, calibrate, maintain, and operate the CEMS in accordance with the requirements of 40 CFR 60.11, 60.13, and Part 60 Appendices A, B, and F.
5.3.8 SO_2	40 CFR 60 Subpart J 60.104(a)(1) (6/24/08), 60.105(a)(4) & (e)(3)(ii) (6/24/08), and 60.106(e)(1) (9/12/12) OAC 623f Condition 9 (1/30/14) NWCAA 104.2 (3/14/13)	NSPS Subpart J – Fuel Gas in the CO Boilers Fuel gas is limited to 162 ppmvd H_2S based on a 3-hour rolling average.	To demonstrate compliance, install and operate a continuous monitoring system for H_2S concentration on a dry basis in the refinery's main fuel mix drum in accordance with 40 CFR 60 Subparts A and J and 40 CFR 60 Appendices B and F.

Fluid Catalytic Cracking Unit			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.3.9 Opacity	WAC 173-400-070(5)(a)(i) (9/10/93) WAC 173-400-070(5)(a)(i) (12/29/12 State Only)	Emissions from a catalytic cracking unit shall not exceed 40% opacity for more than an aggregate of 3 minutes in any one hour.	Pursuant to the EPA-approved Alternative Monitoring Plan approved on August 3, 2005 and revised on December 28, 2007, monitoring the liquid flow rate and gas flow rate for the WGS and calculation of the liquid-to-gas ratio as outlined in Table 2 and 3 of 40 CFR 63 Subpart UUU is approved as an alternative to installing and operating an in-stack continuous opacity monitoring system for the purposes of 40 CFR 60 Subpart J and 40 CFR 63 Subpart UUU. Demonstration of proper scrubber operation, and thereby efficient PM removal, will be determined based on the liquid-to-gas ratio (L/G) calculated as follows: $L/G = Q_{liq} / Q_{gas}$ Where: Q_{liq} is the liquid flow rate in gallons per minute (gpm) Q_{gas} is the gas flow rate in thousand standard cubic feet per hour (mscfh) -or other similar flow rate units of measure- The WGS liquid flow rate (Q_{liq}) will be determined using a continuous online liquid flow meter. The gas flow rate (Q_{gas}), or WGS inlet flow, will be determined using a flow calculation. The calculation will use the appropriate process meters installed on the FCCU and CO boiler systems to calculate gas flow. The calculation will be verified by stack testing using EPA test methods of 40 CFR 60 Appendix A. Any necessary offset determined from source testing will be incorporated into the equation. A computer alarm shall be set up to alarm operations personnel of a low L/G. The L/G will be continuously monitored and a 3-hour rolling average calculated. If the L/G reads below the established minimum, on a 3-hour rolling average basis, an opacity deviation will be assumed and reported, if the readings are valid (i.e., not caused by parameter monitoring instrument failure or other false reading).
5.3.10 Opacity	40 CFR 60 Subpart J 60.102(a)(2), and 60.105(a)(1) & (e)(1) (6/24/08) 40 CFR 63 Subpart UUU 63.1564(a)(1), Table 1 Line 1, (2), Table 2 Line 1, (c)(1), Table 6 Line 1, & Table 7 Line 1; 63.1572; and 63.1576(d), (g), (h), & (i) (2/9/05) NWCAA 104.2 (3/14/13)	<u>FCCU Catalyst Regenerators – Particulate Matter</u> <u>Catalytic Cracking Unit – Metal HAP Emissions</u> Opacity shall not exceed 30% except for one 6-minute average opacity reading in any 1-hour period	
5.3.11 Opacity	OAC 623f Condition 4 (1/30/14)	<u>Opacity</u> Opacity shall not exceed 20% for more than 6 minutes in any hour.	

Fluid Catalytic Cracking Unit			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.3.12 PM	OAC 623f Conditions 1, 2, 3, and 10 (1/30/14) 40 CFR 64.3(b); 64.6(c); 64.7(c), (d), & (e); and 64.9(a) & (b) (10/22/97) (CAM) WAC 173-401-615(4) (10/17/02)	Install, maintain, and operate a WGS to control particulate emissions from the CO Boilers and FCCU. PSR shall comply with each of the following: • Fine particulate (PM_{10}) emissions from the WGS shall not exceed 0.02 grain per dry standard cubic foot corrected to 7% O_2. • PM_{10} mass emissions from the WGS shall not exceed 202 tons during any 12 consecutive month period.	Annual source tests shall be completed to determine the status of compliance with the grains per dry standard cubic foot limit using 40 CFR 60 Appendix A Method 5. All measured particulate matter is to be counted as PM_{10} unless otherwise demonstrated and approved by the NWCAA. Unless otherwise allowed by the NWCAA, PSR shall conduct annual source tests no sooner than 10 months after the previous tests and no later than 13 months after the previous tests. Testing shall occur at an FCCU feed rate of greater than 55,000 barrels per day unless otherwise approved in advance by the NWCAA. During each test, PSR shall record and report the FCCU feed rate, the crude type being processed in the FCCU, and the coke burn off rate. Development and submittal of the source test plan and test report along with the testing itself shall be in accordance with NWCAA 367 and NWCAA Appendix A. PSR shall continuously assess the total exhaust flow rate from the WGS in dry standard cubic feet per minute corrected to 7% oxygen. Using these continuous values and the emission rate (grains per dry standard cubic foot corrected to 7% oxygen) determined during the most recent source test, PSR shall continuously determine compliance status with respect to the tons per 12 consecutive month period limit. Monthly, report the cumulative total in tons emitted for the past 12 calendar months for PM_{10} from the WGS stack. *CAM Plan:* Monitor liquid flow rate and gas flow rate at the WGS in accordance with the MR&R for AOP Term 5.3.9. The flow meters shall be maintained in accordance with manufacturer's specifications. Data availability shall be greater than 90% during the reporting period. An exceedance of the OAC grain loading limit is when the 3-hour rolling average L/G ratio drops below 0.93 gpm/mscfh and shall be reported in accordance with AOP Term 2.4.8. Monitoring performance data shall be reported in accordance with AOP Term 2.1.11.
5.3.13 PM	NWCAA 455.13 (5/11/95) 40 CFR 64.3(b); 64.6(c); 64.7(c), (d), & (e); and 64.9(a) & (b) (10/22/97) (CAM) WAC 173-401-615(4) (10/17/02)	Particulate matter emissions shall not exceed 0.20 grains/dscf corrected to 7% O_2.	
5.3.14 PM	WAC 173-400-070(5)(a)(ii) (9/10/93) WAC 173-400-070(5)(a)(ii) (12/29/12 State Only) 40 CFR 64.3(b); 64.6(c); 64.7(c), (d), & (e); and 64.9(a) & (b) (10/22/97) (CAM) WAC 173-401-615(4) (10/17/02)	<u>Particulate Emission Standard</u>: Particulate matter emissions shall not exceed 0.20 grains/dscf of exhaust gas.	

Fluid Catalytic Cracking Unit			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.3.15 PM	40 CFR 60 Subpart J 60.102(a)(1) (6/24/08), 60.105(c) (6/24/08), and 60.106(b) (9/12/12) 40 CFR 63 Subpart UUU 63.1564(a)(1), Table 1 Line 1, (2), Table 2 Line 1, (b)(4)(i), (c)(1), Table 6 Line 1, & Table 7 Line 1; 63.1572(c); 63.1573(a)(2); and 63.1576(d), (g), (h), & (i) (2/9/05) NWCAA 104.2 (3/14/13)	<u>FCCU Catalyst Regenerators – Particulate Matter</u> <u>Catalytic Cracking Unit – Metal HAP Emissions</u> PM emissions must not exceed 1.0 pounds/1,000 pounds of coke burn-off in the catalyst regenerator.	Average coke burn-off rate (thousands of kilograms per hour) and hours of operation shall be recorded daily. The daily average coke burn-off rate shall be calculated using 40 CFR 60.106(b) and Equations 1 and 2 in 40 CFR 63.1564. Install and operate a meter to measure and record the hourly average volumetric air flow rate to the catalytic cracking unit regenerator. Install and operate a continuous gas analyzer to measure and record the concentration of CO, CO_2, and O_2 of the catalytic cracking regenerator exhaust prior to the addition of air or other gas streams, upstream of the CO Boilers. Calculate and record the hourly average catalyst regenerator exhaust gas flow rate using Equation 2 in 63.1573(a)(2). Install, operate, and maintain the flow meter and gas analyzer in a manner consistent with the manufacturer's specifications or other written procedures that provide adequate assurance that the equipment will monitor adequately. The flow meter must have valid data from at least 75 percent of the hours during which the process operated. Records must be kept of each inspection, calibration, and validation check.
FCCU Fresh Catalyst Hopper Baghouse			
5.3.16 PM	OAC 623f Condition 11 (1/30/14)	All particulate emissions from loading catalyst into the FCCU fresh catalyst hopper shall be collected and routed through the filter system of a baghouse mounted on the catalyst transfer truck trailer. The baghouse shall operate at all times during catalyst loading.	None

Fluid Catalytic Cracking Unit			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.3.17 PM	OAC 623f Conditions 12, 13, and 14 (1/30/14)	A pressure gauge shall be installed on the return line from the hopper to the baghouse inlet. The acceptable pressure range as established by the manufacturer or through engineering judgment shall be written on or near the gauge.	Within 15 minutes after beginning catalyst loading, the pressure gauge reading shall be checked and recorded to ensure that the baghouse is operating within the established range. If the unit is not operating within the acceptable pressure range, the equipment shall be shut down immediately and operation shall not resume until the problem has been identified and corrected. A log (written or electronic) of the catalyst transfer dates with beginning and end times, pressure gauge readings, and which truck trailer baghouse was utilized shall be maintained at the facility. The log shall be readily available for inspection by NWCAA staff.
5.3.18 PM	OAC 623f Condition 16 (1/30/14)	Visible emissions from the baghouse exhaust shall not exceed five percent (5%) opacity for more than 3 minutes in any consecutive sixty-minute period as determined by Department of Ecology Method 9A.	
5.3.19 PM	OAC 623f Condition 15 (1/30/14)	Baghouse maintenance records shall be made available for inspection within 24 hours after request.	None
Intermediate Separator Bottoms Drum Vent (4B-C35) and 1st Stage Compressor In-Line Separator Vent (4B-C102)			
Note: 40 CFR 63 General Provisions included in AOP Section 3 apply to these affected facilities			
5.3.20 HAP	40 CFR 63 Subpart CC 63.643(a) (8/18/95) → 40 CFR 63 Subpart A 63.11(b) (12/22/08) NWCAA 104.2 (3/14/13)	<u>Refinery MACT 1 – Group 1 Miscellaneous Process Vents</u> Control HAP emissions from applicable vents by using a flare that meets the requirements of 63.11(b).	Comply with AOP Terms 5.11.1 through 5.11.7.
Heat Exchangers in HAP service			
Note: 40 CFR 63 General Provisions included in AOP Section 3 apply to these affected facilities			
5.3.21 HAP	40 CFR 63 Subpart CC 63.654 (6/20/13) NWCAA 104.2 (3/14/13)	<u>Refinery MACT 1– Heat Exchangers</u> Comply with 40 CFR 63 Subpart CC for heat exchangers in HAP service.	Comply with AOP Section 6.6.

Fluid Catalytic Cracking Unit			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Fugitive Components in VOC/HAP service			
Note: 40 CFR 60 and 63 General Provisions included in AOP Section 3 apply to this affected facility			
5.3.22 VOC	40 CFR 60 Subpart GGG 60.590-60.593 (6/2/08, 11/16/07) → 40 CFR 60 Subpart VV 60.482-60.487 (11/16/07, 12/14/00) NWCAA 104.2 (3/14/13)	<u>NSPS Equipment Leaks</u> Comply with 40 CFR 60 Subpart GGG for equipment leaks in VOC service, except for equipment leaks regulated under 40 CFR 63 Subpart CC (i.e., 63.640(p)).	Conduct an Equipment Leak (LDAR) program as specified in AOP Section 6.2.
5.3.23 HAP	40 CFR 63 Subpart CC 63.648(a) and (b) (8/18/98) → 40 CFR 60 Subpart VV 60.480-60.489 (6/2/08, 11/16/07, 12/14/00, 5/30/84, 10/17/00) NWCAA 104.2 (3/14/13)	<u>Refinery MACT Equipment Leaks</u> Comply with 40 CFR 63 Subpart CC for equipment leaks in HAP service.	
Process Drains in VOC/HAP service			
Note: 40 CFR 60 General Provisions included in AOP Section 3 apply to these affected facilities			
5.3.24 VOC	40 CFR 60 Subpart QQQ 60.690 (11/23/88) NWCAA 104.2 (3/14/13)	<u>Individual Drain Systems</u> Comply with 40 CFR 60 Subpart QQQ for individual drain systems (see AOP Section 6.4), except for wastewater streams regulated under 40 CFR 63 Subpart CC (i.e., 63.640(o)).	Comply with AOP Section 6.4.

5.4 Catalytic Polymerization and Nonene Units

5.4.1 Catalytic Polymerization Unit

Catalytic Polymerization Unit (CPU)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Flare Knockout Drum Vent (5J-C56) and Flare Knockout Drum Vent (5J-C85)			
Note: 40 CFR 63 General Provisions included in AOP Section 3 apply to these affected facilities			
5.4.1 HAP	40 CFR 63 Subpart CC 63.643(a) (8/18/95) → 40 CFR 63 Subpart A 63.11(b) (12/22/08) NWCAA 104.2 (3/14/13)	Refinery MACT 1 – Group 1 Miscellaneous Process Vents Control HAP emissions from applicable vents by using a flare that meets the requirements of 63.11(b).	Comply with AOP Terms 5.11.1 through 5.11.7.
Heat Exchangers in HAP service			
Note: 40 CFR 63 General Provisions included in AOP Section 3 apply to these affected facilities			
5.4.2 HAP	40 CFR 63 Subpart CC 63.654 (6/20/13) NWCAA 104.2 (3/14/13)	Refinery MACT 1– Heat Exchangers Comply with 40 CFR 63 Subpart CC for heat exchangers in HAP service.	Comply with AOP Section 6.6.
Fugitive Components VOC service			
Note: 40 CFR 60 General Provisions included in AOP Section 3 apply to this affected facility			
5.4.3 VOC	40 CFR 60 Subpart GGG 60.590-60.593 (6/2/08, 11/16/07) → 40 CFR 60 Subpart VV 60.482-60.487 (11/16/07, 12/14/00) NWCAA 104.2 (3/14/13)	NSPS Equipment Leaks Comply with 40 CFR 60 Subpart GGG for equipment leaks in VOC service.	Conduct an Equipment Leak (LDAR) program as specified in AOP Section 6.2. In addition, visually inspect any relief valve within 24 hours after it has vented to atmosphere.
5.4.4 VOC	NWCAA 580.8 (12/13/89) (3/13/97 State Only) → 40 CFR 60 Subpart VV 60.480-60.489 (6/2/08, 11/16/07, 12/14/00, 5/30/84, 10/17/00)	NWCAA 580.8 Equipment Leaks Monitor components in VOC service for fugitive leaks, repair leaks in a timely manner and report results in accordance with 40 CFR 60 Subpart VV.	

5.4.2 Nonene Unit

Nonene Unit			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Fugitive Components in VOC service			
Note: 40 CFR 60 General Provisions included in AOP Section 3 apply to this affected facility			
5.4.5 VOC	40 CFR 60 Subpart VV 60.480(a) and (b) (6/2/08) NWCAA 104.2 (3/14/13)	SOCMI Equipment Leaks Monitor components in VOC service for fugitive leaks, repair leaks in a timely manner, and report monitoring results semiannually in accordance with 40 CFR 60 Subpart VV.	Conduct an Equipment Leak (LDAR) program as specified in AOP Section 6.2.
Process Drains in VOC service			
Note: 40 CFR 60 General Provisions included in AOP Section 3 apply to this affected facility			
5.4.6 VOC	40 CFR 60 Subpart QQQ 60.690 (11/23/88) NWCAA 104.2 (3/14/13)	Individual Drain Systems Comply with 40 CFR 60 Subpart QQQ for individual drain systems (see AOP Section 6.4), except for wastewater streams regulated under 40 CFR 63 Subpart CC (i.e., 63.640(o)).	Comply with AOP Section 6.4.

5.5 Catalytic Reformer Units 1 and 2

5.5.1 Catalytic Reformer Unit 1

Catalytic Reformer Unit 1			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Charge Heater (6D-F2), Interheater #1 (6D-F3) and Interheater #2 (6D-F4)			
Note: 40 CFR 60 and 63 General Provisions included in AOP Section 3 apply to these affected facilities			
5.5.1 General	OAC 321b Condition 6 (10/10/12)	Notification of Heater Startup	If the CRU1 heaters are restarted, provide a written notice of the restart date within 15 days after startup.

Catalytic Reformer Unit 1			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.5.2 NO_X	OAC 321b Conditions 2, 3, and 4 (10/10/12)	NO_X emissions from the combined heater stack shall not exceed 39.9 tons for any consecutive 12-month period.	To demonstrate compliance, conduct periodic source testing in accordance with 40 CFR 60 Appendix A Methods 1, 2, 4, and 7E, and NWCAA Section 367 and NWCAA Appendix A. If the heaters will continue operating, the initial source test shall be conducted within 12 months after the issuance of OAC 321b. If the heaters are shutdown within 12 months after issuance of OAC 321b, the initial source test shall be conducted within 12 months after restart. Subsequent source tests shall be once every five years from the previous test. Testing shall be performed at representative operating conditions. Submit in the monthly report a summary of nitrogen oxides emissions based upon firing rates and the most recent source emission testing.
5.5.3 SO_2	40 CFR 60 Subpart J 60.104(a)(1) (6/24/08); 60.105(a)(3) & (e)(3)(i) (6/24/08); and 106(e)(2) (9/12/12) NWCAA 104.2 (3/14/13)	<u>NSPS Subpart J – Stack SO_2</u> Stack SO_2 emissions shall not exceed 20 ppmvd at 0% O_2 on a 3-hr rolling average.	Follow MR&R for AOP Term 5.7.2.
5.5.4 Opacity	OAC 321b Condition 1 (10/10/12)	Visible emissions from the combined heater stack shall not exceed 10% opacity for more than 3 aggregated minutes in any hour period.	*Directly Enforceable:* Monitor visible emissions in accordance with AOP Term 6.1.
5.5.5 HAP	40 CFR 63 Subpart DDDDD 63.7485 (1/31/13) NWCAA 104.2 (3/14/13)	<u>Boilers & Process Heaters</u> Comply with 40 CFR 63 Subpart DDDDD for boilers and process heaters at major sources of HAPs.	Comply with AOP Section 6.5

Catalytic Reformer Unit 1			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Feed Surge Drum Vent (6D-C8)			
Note: 40 CFR 63 General Provisions included in AOP Section 3 apply to this affected facility			
5.5.6 HAP	40 CFR 63 Subpart CC 63.643(a) (8/18/95) → 40 CFR 63 Subpart A 63.11(b) (12/22/08) NWCAA 104.2 (3/14/13)	Refinery MACT 1 – Group 1 Miscellaneous Process Vents Control HAP emissions from applicable vents by using a flare that meets the requirements of 63.11(b).	Comply with AOP Terms 5.11.1 through 5.11.7.
Catalyst Regeneration Drum Vent			
Note: 40 CFR 63 General Provisions included in AOP Section 3 apply to this affected facility			
5.5.7 HAP	40 CFR 63 Subpart UUU 63.1566(a)(1)(i), Table 15 Line 1, (2), Table 16 Line 1, (4), and (c)(1), Table 20 Line 1, & Table 21 Line 1; 63.1572(c); and 63.1576(d), (g), (h), & (i) (2/9/05) → 40 CFR 63 Subpart A 63.11(b) (12/22/08) NWCAA 104.2 (3/14/13)	Catalyst Regeneration – Organic HAP During catalyst depressuring and purging operations, except when reactor vent pressure is 5 psig or less: Vent emissions to a flare that meets the requirements under 63.11(b). The flare pilot light must be present at all times and the flare must be operating at all times that emissions may be vented to it. Visible emissions from a flare must not exceed a total of 5 minutes during any 2-hour operating period.	Install and operate a flare with a monitoring device such as a thermocouple, an ultraviolet beam sensor, or infrared sensor to continuously detect the presence of the flare pilot flame in a manner consistent with the manufacturer's specifications or other written procedures that provide adequate assurance that the equipment will monitor accurately. Collect and record flare monitoring data to demonstrate that the pilot light was continuous present during each 1-hour period. The monitoring system must have valid data from at least 75 percent of the hours during which the process operated. Records must be kept of each inspection, calibration, and validation check. Comply with AOP Terms 5.11.1 through 5.11.7.

Catalytic Reformer Unit 1			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.5.8 HAP	40 CFR 63 Subpart UUU 63.1567(a)(1)(ii), Table 22 Line 1, (2), Table 23 Line 2, (b)(4)(iii), (c)(1), Table 27 Line 1, & Table 28 Line 2; 63.1572(c) & Table 41; 63.1576(d), (g), (h), & (i) (2/9/05) NWCAA 104.2 (3/14/13)	Catalyst Regeneration – Inorganic HAP During the coke burn-off and catalyst rejuvenation operations: Reduce uncontrolled emissions of hydrogen chloride (HCl) to a concentration of 30 ppmv (dry basis), corrected to 3 percent oxygen. Also, the daily average HCl concentration in the catalyst regenerator exhaust gas must not exceed 27 ppmv as measured by the colorimetric tube sampling system.	Measure and record the HCl concentration at least 4 times during a regeneration cycle (equally spaced in time) or every 4 hours, whichever is more frequent, using a colorimetric tube sampling system. Calculate the daily average HCl concentration as the arithmetic average of all samples collected in each 24-hour period from the start of the coke burn-off cycle or for the entire duration of the coke burn-off cycle if the coke burn-off cycle is less than 24 hours. Use a colorimetric tube sampling system with a printed numerical scale in ppmv, a standard measurement range of 1 to 30 ppmv, and a standard deviation for measured values of no more than ±15 percent. System must include a gas detection pump and hot air probe if needed for the measurement range.
Heat Exchangers in HAP service			
Note: 40 CFR 63 General Provisions included in AOP Section 3 apply to these affected facilities			
5.5.9 HAP	40 CFR 63 Subpart CC 63.654 (6/20/13) NWCAA 104.2 (3/14/13)	Refinery MACT 1 – Heat Exchangers Comply with 40 CFR 63 Subpart CC for heat exchangers in HAP service.	Comply with AOP Section 6.6.
Fugitive Components in VOC/HAP service			
Note: 40 CFR 60 and 63 General Provisions included in AOP Section 3 apply to this affected facility			
5.5.10 VOC	40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a-60.487a (11/16/07) NWCAA 104.2 (3/14/13)	NSPS Equipment Leaks Comply with 40 CFR 60 Subpart GGGa for equipment leaks in VOC service. Compressors in hydrogen service are exempt from this monitoring.	Conduct an Equipment Leak (LDAR) program as specified in AOP Section 6.3.

Catalytic Reformer Unit 1			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.5.11 HAP	40 CFR 63 Subpart CC 63.640(p)(2) (6/20/13) → 40 CFR 60 Subpart GGGa 50.590a-60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a-60.487a (11/16/07) NWCAA 104.2 (3/14/13)	Refinery MACT Equipment Leaks Comply with 40 CFR 63 Subpart CC for equipment leaks in HAP service, except for equipment leaks regulated under 40 CFR 60 Subpart GGGa (i.e., 63.640(p)). Compressors in hydrogen service are exempt from this monitoring.	

5.5.2 Catalytic Reformer Unit 2

Catalytic Reformer Unit 2			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Charge Heater (10H-101), Interheater #1 (10H-102) and Interheater #2 (10H-103)			
Note: 40 CFR 60 and 63 General Provisions included in AOP Section 3 apply to these affected facilities			
5.5.12 SO_2	CO 07 Condition V.A (04/10/13) → 40 CFR 60 Subpart J 60.104(a)(1) (6/24/08), 60.105(a)(4) & (e)(3)(ii) (6/24/08), and 60.106(e)(1) (9/12/12)	NSPS Subpart J - Fuel Gas Fuel gas is limited to 162 ppmvd H_2S based on a 3-hour rolling average.	Install and operate a continuous monitoring system for H_2S concentration on a dry basis in the refinery's main fuel mix drum in accordance with 40 CFR 60 Subparts A and J and 40 CFR 60 Appendices B and F.
5.5.13 HAP	40 CFR 63 Subpart DDDDD 63.7485 (1/31/13) NWCAA 104.2 (3/14/13)	Boilers & Process Heaters Comply with 40 CFR 63 Subpart DDDDD for boilers and process heaters at major sources of HAPs.	Comply with AOP Section 6.5

Catalytic Reformer Unit 2			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Stabilizer Reboiler (10H-104)			
Note: 40 CFR 60 and 63 General Provisions included in AOP Section 3 apply to this affected facility			
5.5.14 SO_2	CO 07 Condition V.A (04/10/13) → 40 CFR 60 Subpart J 60.104(a)(1) (6/24/08), 60.105(a)(4) & (e)(3)(ii) (6/24/08), and 60.106(e)(1) (9/12/12)	NSPS Subpart J - Fuel Gas Fuel gas is limited to 162 ppmvd H_2S based on a 3-hour rolling average.	Install and operate a continuous monitoring system for H_2S concentration on a dry basis in the refinery's main fuel mix drum in accordance with 40 CFR 60 Subparts A and J and 40 CFR 60 Appendices B and F.
5.5.15 HAP	40 CFR 63 Subpart DDDDD 63.7485 (1/31/13) NWCAA 104.2 (3/14/13)	Boilers & Process Heaters Comply with 40 CFR 63 Subpart DDDDD for boilers and process heaters at major sources of HAPs.	Comply with AOP Section 6.5
Feed Surge Drum Vent (10F-104) and Platformate Splitter Receiver Vent (10F-119)			
Note: 40 CFR 63 General Provisions included in AOP Section 3 apply to these affected facilities			
5.5.16 HAP	40 CFR 63 Subpart CC 63.643(a) (8/18/95) → 40 CFR 63 Subpart A 63.11(b) (12/22/08) NWCAA 104.2 (3/14/13)	Refinery MACT 1 – Group 1 Miscellaneous Process Vents Control HAP emissions from applicable vents by using a flare that meets the requirements of 63.11(b).	Comply with AOP Terms 5.11.1 through 5.11.7.

Catalytic Reformer Unit 2			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Catalyst Regeneration Drum Vent			
Note: 40 CFR 63 General Provisions included in AOP Section 3 apply to this affected facility			
5.5.17 HAP	40 CFR 63 Subpart UUU 63.1566(a)(1)(i), Table 15 Line 1, (2), Table 16 Line 1, (4), and (c)(1), Table 20 Line 1, & Table 21 Line 1; 63.1572(c); and 63.1576(d), (g), (h), & (i) (2/9/05) → 40 CFR 63 Subpart A 63.11(b) (12/22/08) NWCAA 104.2 (3/14/13)	Catalyst Regeneration – Organic HAP During catalyst depressuring and purging operations, except when reactor vent pressure is 5 psig or less: Vent emissions to a flare that meets the requirements under 63.11(b). The flare pilot light must be present at all times and the flare must be operating at all times that emissions may be vented to it. Visible emissions from a flare must not exceed a total of 5 minutes during any 2-hour operating period.	Install and operate a flare with a monitoring device such as a thermocouple, an ultraviolet beam sensor, or infrared sensor to continuously detect the presence of the flare pilot flame in a manner consistent with the manufacturer's specifications or other written procedures that provide adequate assurance that the equipment will monitor accurately. Collect and record flare monitoring data to demonstrate that the pilot light was continuous present during each 1-hour period. The monitoring system must have valid data from at least 75 percent of the hours during which the process operated. Records must be kept of each inspection, calibration, and validation check. Comply with AOP Terms 5.11.1 through 5.11.7.
5.5.18 HAP	40 CFR 63 Subpart UUU 63.1567(a)(1)(ii), Table 22 Line 1, (2), Table 23 Line 2, (b)(4)(iii), (c)(1), Table 27 Line 1, & Table 28 Line 2; 63.1572(c) & Table 41; and 40 CFR 63.1576(d), (g), (h), & (i) (2/9/05) NWCAA 104.2 (3/14/13)	Catalyst Regeneration – Inorganic HAP During the coke burn-off and catalyst rejuvenation operations: Reduce uncontrolled emissions of hydrogen chloride (HCl) to a concentration of 30 ppmv (dry basis), corrected to 3 percent oxygen. Also, the daily average HCl concentration in the catalyst regenerator exhaust gas must not exceed 27 ppmv as measured by the colorimetric tube sampling system.	Measure and record the HCl concentration at least 4 times during a regeneration cycle (equally spaced in time) or every 4 hours, whichever is more frequent, using a colorimetric tube sampling system. Calculate the daily average HCl concentration as the arithmetic average of all samples collected in each 24-hour period from the start of the coke burn-off cycle or for the entire duration of the coke burn-off cycle if the coke burn-off cycle is less than 24 hours. Use a colorimetric tube sampling system with a printed numerical scale in ppmv, a standard measurement range of 1 to 30 ppmv, and a standard deviation for measured values of no more than ±15 percent. System must include a gas detection pump and hot air probe if needed for the measurement range.

Catalytic Reformer Unit 2			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Heat Exchangers in HAP service			
Note: 40 CFR 63 General Provisions included in AOP Section 3 apply to these affected facilities			
5.5.19 HAP	40 CFR 63 Subpart CC 63.654 (6/20/13) NWCAA 104.2 (3/14/13)	Refinery MACT 1 – Heat Exchangers Comply with 40 CFR 63 Subpart CC for heat exchangers in HAP service.	Comply with AOP Section 6.6.
Fugitive Components in HAP/Benzene service			
Note: 40 CFR 63 General Provisions included in AOP Section 3 apply to this affected facility			
5.5.20 HAP	40 CFR 63 Subpart CC 63.648(a) and (b) (8/18/98) → 40 CFR 60 Subpart VV 60.480-60.489 (6/2/08, 11/16/07, 12/14/00, 5/30/84, 10/17/00) NWCAA 104.2 (3/14/13)	Refinery MACT Equipment Leaks Comply with 40 CFR 63 Subpart CC for equipment leaks in HAP service. Compressors in hydrogen service are exempt from this monitoring.	Conduct an Equipment Leak (LDAR) program as specified in AOP Section 6.2.

5.6 Alkylation Units 1 and 2 and Butadiene Hydrogenation Unit

5.6.1 Alkylation Unit 1

Alkylation Unit 1			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Heat Exchangers in HAP service			
Note: 40 CFR 63 General Provisions included in AOP Section 3 apply to these affected facilities			
5.6.1 HAP	40 CFR 63 Subpart CC 63.654 (6/20/13) NWCAA 104.2 (3/14/13)	Refinery MACT 1 – Heat Exchangers Comply with 40 CFR 63 Subpart CC for heat exchangers in HAP service.	Comply with AOP Section 6.6.

Alkylation Unit 1			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Fugitive Components in VOC/HAP service			
Note: 40 CFR 60 and 63 General Provisions included in AOP Section 3 apply to this affected facility			
5.6.2 VOC	40 CFR 60 Subpart GGG 60.590-60.593 (6/2/08, 11/16/07) → 40 CFR 60 Subpart VV 60.482-60.487 (11/16/07, 12/14/00) NWCAA 104.2 (3/14/13)	<u>NSPS Equipment Leaks</u> Comply with 40 CFR 60 Subpart GGG for equipment leaks in VOC service, except for equipment leaks regulated under 40 CFR 63 Subpart CC (i.e., 63.640(p)).	Conduct an Equipment Leak (LDAR) program as specified in AOP Section 6.2. In addition, visually inspect any relief valve within 24 hours after it has vented to atmosphere.
5.6.3 HAP	40 CFR 63 Subpart CC 63.648(a) and (b) (8/18/98) → 40 CFR 60 Subpart VV 60.480-60.489 (6/2/08, 11/16/07, 12/14/00, 5/30/84, 10/17/00) NWCAA 104.2 (3/14/13)	<u>Refinery MACT Equipment Leaks</u> Comply with 40 CFR 63 Subpart CC for equipment leaks in HAP service.	
5.6.4 VOC	NWCAA 580.8 (12/13/89) → 40 CFR 60 Subpart VV 60.480-60.489 (6/2/08, 11/16/07, 12/14/00, 5/30/84, 10/17/00)	<u>NWCAA 580.8 Equipment Leaks</u> Monitor components in VOC service for fugitive leaks, repair leaks in a timely manner and report results in accordance with 40 CFR 60 Subpart VV.	

Alkylation Unit 1			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.6.5 VOC/HAP	OAC 887a Conditions 1 and 2 (1/30/14)	<u>BACT for Equipment Leaks</u> Comply with 40 CFR 60 Subpart GGG and 40 CFR 63 Subpart CC, enhanced as follows. The following leak definitions shall be utilized for valves and pumps that have the potential to leak volatile organic compounds (VOC) or hazardous air pollutants (HAPs), unless otherwise required to use a lower leak definition: • 500 ppm for valves • 2,000 ppm for pumps	Conduct an Equipment Leak (LDAR) program as specified in AOP Section 6.2, except that if PSR elects to use the sustainable skip period monitoring program, the following skip rules will apply: (A) PSR may move to less frequent monitoring using the following criteria: If Alky1 has less than 2% leaking valves for 2 consecutive months, PSR may monitor each valve once every quarter, beginning with the next quarter. After 2 consecutive quarters with the percent of leaking valves less than or equal to 1%, PSR may elect to monitor each valve once every 2 quarters. After 3 consecutive semi-annual periods with the percent of leaking valves less than or equal to 0.5%, PSR may elect to monitor each valve once every 4 quarters. (B) PSR shall return to more frequent monitoring using the following criteria: If Alky1 is on a quarterly, semi-annual or annual monitoring schedule and has a leak percentage greater than or equal to 2% in any single detection period, monitor each valve no less than every month, but can again elect to advance to less frequent monitoring. If Alky1 is on a semi-annual or annual monitoring schedule and has a leak percentage greater than or equal to 1%, but less than 2% in any single detection period, monitor each valve no less than quarterly, but can again elect to advance to less frequent monitoring. If Alky1 is on an annual monitoring schedule and has a leak percentage greater than or equal to 0.5% but less than 1% in any single detection period, monitor each valve no less than semi-annually, but can again elect to advance to less frequent monitoring.

5.6.2 Alkylation Unit 2

Alkylation Unit 2			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Acid Caustic Scrubber Vent (12F-115)			
Note: 40 CFR 63 General Provisions included in AOP Section 3 apply to this affected facility			
5.6.6 HAP	40 CFR 63 Subpart CC 63.643(a) (8/18/95) → 40 CFR 63 Subpart A 63.11(b) (12/22/08) NWCAA 104.2 (3/14/13)	Refinery MACT 1 – Group 1 Miscellaneous Process Vents Control HAP emissions from applicable vents by using a flare that meets the requirements of 63.11(b).	Comply with AOP Terms 5.11.1 through 5.11.7.
Heat Exchangers in HAP service			
Note: 40 CFR 63 General Provisions included in AOP Section 3 apply to these affected facilities			
5.6.7 HAP	40 CFR 63 Subpart CC 63.654 (6/20/13) NWCAA 104.2 (3/14/13)	Refinery MACT 1 – Heat Exchangers Comply with 40 CFR 63 Subpart CC for heat exchangers in HAP service.	Comply with AOP Section 6.6.
Fugitive Components in VOC/HAP service			
Note: 40 CFR 63 General Provisions included in AOP Section 3 apply to this affected facility			
5.6.8 HAP	40 CFR 63 Subpart CC 63.648(a) and (b) (8/18/98) → 40 CFR 60 Subpart VV 60.480-60.489 (6/2/08, 11/16/07, 12/14/00, 5/30/84, 10/17/00) NWCAA 104.2 (3/14/13)	Refinery MACT Equipment Leaks Comply with 40 CFR 63 Subpart CC for equipment leaks in HAP service.	Conduct an Equipment Leak (LDAR) program as specified in AOP Section 6.2. In addition, visually inspect any relief valve within 24 hours after it has vented to atmosphere.
5.6.9 VOC	NWCAA 580.8 (12/13/89) → 40 CFR 60 Subpart VV 60.480-60.489 (6/2/08, 11/16/07, 12/14/00, 5/30/84, 10/17/00)	NWCAA 580.8 Equipment Leaks Monitor components in VOC service for fugitive leaks, repair leaks in a timely manner and report results in accordance with 40 CFR 60 Subpart VV.	

5.6.3 Butadiene Hydrogenation Unit

Butadiene Hydrogenation Unit			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Fugitive Components in VOC/HAP service			
Note: 40 CFR 60 and 63 General Provisions included in AOP Section 3 apply to this affected facility			
5.6.10 VOC	40 CFR 60 Subpart GGG 60.590-60.593 (6/2/08, 11/16/07) → 40 CFR 60 Subpart VV 60.482-60.487 (11/16/07, 12/14/00) NWCAA 104.2 (3/14/13)	NSPS Equipment Leaks Comply with 40 CFR 60 Subpart GGG for equipment leaks in VOC service, except for equipment leaks regulated under 40 CFR 63 Subpart CC (i.e., 63.640(p)).	Conduct an Equipment Leak (LDAR) program as specified in AOP Section 6.2.
5.6.11 HAP	40 CFR 63 Subpart CC 63.648(a) and (b) (8/18/98) → 40 CFR 60 Subpart VV 60.480-60.489 (6/2/08, 11/16/07, 12/14/00, 5/30/84, 10/17/00) NWCAA 104.2 (3/14/13)	Refinery MACT Equipment Leaks Comply with 40 CFR 63 Subpart CC for equipment leaks in HAP service.	

Butadiene Hydrogenation Unit			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.6.12 VOC/HAP	OAC 772b Conditions 1 and 2 (3/20/09)	<u>BACT for Equipment Leaks</u> Comply with 40 CFR 60 Subpart GGG and 40 CFR 63 Subpart CC, enhanced as follows. The following leak definitions shall be utilized for valves and pumps that have the potential to leak VOC or HAPs at the BHU: • 500 ppm for valves • 2,000 ppm for pumps	Conduct an Equipment Leak (LDAR) program as specified in AOP Section 6.2, except that PSR shall use the following skip period monitoring program in lieu of that in 40 CFR 60 Subpart GGG and 40 CFR 63 Subpart CC: i. PSR may move to less frequent monitoring using the following criteria: If the BHU has less than 2% leaking valves for 2 consecutive months, PSR may monitor each valve once every quarter, beginning with the next quarter. After 2 consecutive quarters with the percent of leaking valves less than or equal to 1%, PSR may elect to monitor each valve once every 2 quarters. After 3 consecutive semi-annual periods with the percent of leaking valves less than or equal to 0.5%, PSR may elect to monitor each valve once every 4 quarters. ii. PSR shall return to more frequent monitoring using the following criteria: If the BHU is on a quarterly, semi-annual or annual monitoring schedule and has a leak percentage greater than or equal to 2% in any single detection period, monitor each valve no less than every month, but can again elect to advance to less frequent monitoring. If the BHU is on a semi-annual or annual monitoring schedule and has a leak percentage greater than or equal to 1%, but less than 2% in any single detection period, monitor each valve no less than quarterly, but can again elect to advance to less frequent monitoring. If the BHU is on an annual monitoring schedule and has a leak percentage greater than or equal to 0.5% but less than 1% in any single detection period, monitor each valve no less than semi-annually, but can again elect to advance to less frequent monitoring.

5.7 Hydrotreater Units 1, 2 and 3; Isomerization Unit; and Benzene Reduction Unit (BRU)

5.7.1 Hydrotreater Unit 1

Hydrotreater Unit 1			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Charge Heater (7C-F4) and Fractionator Reboiler (7C-F5)			
Note: 40 CFR 60 and 63 General Provisions included in AOP Section 3 apply to this affected facility			
5.7.1 NO_X	OAC 286b Conditions 1 and 2 (4/10/13)	NO_X emissions shall be limited to 0.07 lb NO_X/MMBtu on a one-hour average.	Ongoing compliance shall be demonstrated by conducting an initial source test within 180 days of the issuance of OAC 286b and conducting subsequent source tests once every five years, between 3 months before and after the anniversary month of the initial source test as required in this Order term. For the lb/MMBtu limit, compliance shall be determined using 40 CFR 60 Appendix A Methods 7E and 19. The Method 19 analysis to determine the F-factor shall be performed using fuel gas composition data from the day of the test. Testing shall be performed at representative operating conditions. Development and submittal of the source test plan and test report along with the testing itself shall be in accordance with NWCAA Appendix A or as approved in writing in advance by the NWCAA.
5.7.2 SO_2	40 CFR 60 Subpart J 60.104(a)(1) (6/24/08); 60.105(a)(3) & (e)(3)(i) (6/24/08); and 106(e)(2) (9/12/12) NWCAA 104.2 (3/14/13)	<u>NSPS Subpart J – Stack SO_2</u> Stack SO_2 emissions shall not exceed 20 ppmvd at 0% O_2 on a 3-hr rolling average.	Install and operate a continuous monitoring system for SO_2 and O_2 by volume on a dry basis on the 7C-F4/F5 stack in accordance with 40 CFR 60 Subparts A and J and 40 CFR 60 Appendices B and F.
5.7.3 HAP	40 CFR 63 Subpart DDDDD 63.7485 (1/31/13) NWCAA 104.2 (3/14/13)	<u>Boilers & Process Heaters</u> Comply with 40 CFR 63 Subpart DDDDD for boilers and process heaters at major sources of HAPs.	Comply with AOP Section 6.5

Hydrotreater Unit 1			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Heat Exchangers in HAP service			
Note: 40 CFR 63 General Provisions included in AOP Section 3 apply to these affected facilities			
5.7.4 HAP	40 CFR 63 Subpart CC 63.654 (6/20/13) NWCAA 104.2 (3/14/13)	Refinery MACT 1 – Heat Exchangers Comply with 40 CFR 63 Subpart CC for heat exchangers in HAP service.	Comply with AOP Section 6.6.
Fugitive Components in HAP service			
Note: 40 CFR 63 General Provisions included in AOP Section 3 apply to this affected facility			
5.7.5 HAP	40 CFR 63 Subpart CC 63.648(a) and (b) (8/18/98) → 40 CFR 60 Subpart VV 60.480-60.489 (6/2/08, 11/16/07, 12/14/00, 5/30/84, 10/17/00) NWCAA 104.2 (3/14/13)	Refinery MACT Equipment Leaks Comply with 40 CFR 63 Subpart CC for equipment leaks in HAP service. Compressors in hydrogen service are exempt from this monitoring.	Conduct an Equipment Leak (LDAR) program as specified in AOP Section 6.2.

5.7.2 Hydrotreater Unit 2

Hydrotreater Unit 2			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Charge Heater (11H-101)			
Note: 40 CFR 60 and 63 General Provisions included in AOP Section 3 apply to this affected facility			
5.7.6 SO_2	CO 07 Condition V.A (04/10/13) → 40 CFR 60 Subpart J 60.104(a)(1) (6/24/08), 60.105(a)(4) & (e)(3)(ii) (6/24/08), and 60.106(e)(1) (9/12/12)	NSPS Subpart J - Fuel Gas Fuel gas is limited to 162 ppmvd H_2S based on a 3-hour rolling average.	Install and operate a continuous monitoring system for H_2S concentration on a dry basis in the HTU2 fuel gas drum in accordance with 40 CFR 60 Subparts A and J and 40 CFR 60 Appendices B and F.

Hydrotreater Unit 2			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.7.7 HAP	40 CFR 63 Subpart DDDDD 63.7485 (1/31/13) NWCAA 104.2 (3/14/13)	Boilers & Process Heaters Comply with 40 CFR 63 Subpart DDDDD for boilers and process heaters at major sources of HAPs.	Comply with AOP Section 6.5
Stripper Reboiler Heater (11H-102) and Fractionator Reboiler Heater (11H-103)			
Note: 40 CFR 60 and 63 General Provisions included in AOP Section 3 apply to these affected facilities			
5.7.8 NO_X	OAC 630c Conditions 2 and 3 (1/30/14)	NO_X emissions from the stack shall not exceed 0.06 lb NO_X/MMBtu.	Ongoing compliance shall be demonstrated by conducting an initial source test within 180 days of the issuance of OAC 630c and conducting subsequent source tests once every five years, between 3 months before and after the anniversary month of the initial source test as required in this Order unless otherwise approved in writing in advance by the NWCAA. For the lb/MMBtu limit, compliance shall be determined using 40 CFR 60 Appendix A Methods 7E and 19 unless otherwise approved in writing in advance by the NWCAA. The Method 19 analysis to determine the F-factor shall be performed using fuel gas composition data from the day of the test. Testing shall be performed at representative operating conditions. Development and submittal of the source test plan and test report along with the testing itself shall be in accordance with NWCAA 367 and NWCAA Appendix A or as approved in writing in advance by the NWCAA.
5.7.9 SO_2	40 CFR 60 Subpart J 60.104(a)(1) (6/24/08), 60.105(a)(4) & (e)(3)(ii) (6/24/08), and 60.106(e)(1) (9/12/12) NWCAA 104.2 (3/14/13)	NSPS Subpart J - Fuel Gas Fuel gas is limited to 162 ppmvd H_2S based on a 3-hour rolling average.	Install and operate a continuous monitoring system for H_2S concentration on a dry basis in the HTU2 fuel gas drum in accordance with 40 CFR 60 Subparts A and J and 40 CFR 60 Appendices B and F.
5.7.10 Opacity	OAC 630c Condition 1 (1/30/14)	Visible emissions from the stack shall not exceed ten (10) percent opacity for more than 3 minutes in any one hour period as measured by Washington State Department of Ecology Method 9A.	*Directly Enforceable:* Monitor visible emissions in accordance with AOP Term 6.1.

Hydrotreater Unit 2			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.7.11 HAP	40 CFR 63 Subpart DDDDD 63.7485 (1/31/13) NWCAA 104.2 (3/14/13)	Boilers & Process Heaters Comply with 40 CFR 63 Subpart DDDDD for boilers and process heaters at major sources of HAPs.	Comply with AOP Section 6.5
Fractionator Accumulator Vent (11F-209)			
Note: 40 CFR 63 General Provisions included in AOP Section 3 apply to this affected facility			
5.7.12 HAP	40 CFR 63 Subpart CC 63.643(a) (8/18/95) → 40 CFR 63 Subpart A 63.11(b) (12/22/08) NWCAA 104.2 (3/14/13)	Refinery MACT 1 – Group 1 Miscellaneous Process Vents Control HAP emissions from applicable vents by using a flare that meets the requirements of 63.11(b).	Comply with AOP Terms 5.11.1 through 5.11.7.
Heat Exchangers in HAP service			
Note: 40 CFR 63 General Provisions included in AOP Section 3 apply to these affected facilities			
5.7.13 HAP	40 CFR 63 Subpart CC 63.654 (6/20/13) NWCAA 104.2 (3/14/13)	Refinery MACT 1 – Heat Exchangers Comply with 40 CFR 63 Subpart CC for heat exchangers in HAP service.	Comply with AOP Section 6.6.

Hydrotreater Unit 2			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Fugitive Components in VOC/HAP/Benzene service			
Note: 40 CFR 60 and 63 General Provisions included in AOP Section 3 apply to this affected facility			
5.7.14 VOC	40 CFR 60 Subpart GGG 60.590-60.593 (6/2/08, 11/16/07) → 40 CFR 60 Subpart VV 60.482-60.487 (11/16/07, 12/14/00) NWCAA 104.2 (3/14/13)	<u>NSPS Equipment Leaks</u> Comply with 40 CFR 60 Subpart GGG for equipment leaks in VOC service, except for equipment leaks regulated under 40 CFR 63 Subpart CC (i.e., 63.640(p)). Compressors in hydrogen service are exempt from this monitoring.	Conduct an Equipment Leak (LDAR) program as specified in AOP Section 6.2.
5.7.15 HAP	40 CFR 63 Subpart CC 63.648(a) and (b) (8/18/98) → 40 CFR 60 Subpart VV 60.480-60.489 (6/2/08, 11/16/07, 12/14/00, 5/30/84, 10/17/00) NWCAA 104.2 (3/14/13)	<u>Refinery MACT Equipment Leaks</u> Comply with 40 CFR 63 Subpart CC for equipment leaks in HAP service. Compressors in hydrogen service are exempt from this monitoring.	

Hydrotreater Unit 2			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.7.16 VOC/HAP	OAC 630c Conditions 4 and 5 (1/30/14)	<u>BACT for Equipment Leaks</u> Comply with 40 CFR 60 Subpart GGG and 40 CFR 63 Subpart CC, enhanced as follows. The following leak definitions shall be utilized for valves and pumps that have the potential to leak volatile organic compounds (VOC) or hazardous air pollutants (HAPs), unless otherwise required to use a lower leak definition: • 500 ppm for valves • 2,000 ppm for pumps	Conduct an Equipment Leak (LDAR) program as specified in AOP Section 6.2, except that if PSR elects to use the sustainable skip period monitoring program, the following skip rules will apply: (A) PSR may move to less frequent monitoring using the following criteria: If HTU2 has less than 2% leaking valves for 2 consecutive months, PSR may monitor each valve once every quarter, beginning with the next quarter. After 2 consecutive quarters with the percent of leaking valves less than or equal to 1%, PSR may elect to monitor each valve once every 2 quarters. After 3 consecutive semi-annual periods with the percent of leaking valves less than or equal to 0.5%, PSR may elect to monitor each valve once every 4 quarters. (B) PSR shall return to more frequent monitoring using the following criteria: If HTU2 is on a quarterly, semi-annual or annual monitoring schedule and has a leak percentage greater than or equal to 2% in any single detection period, monitor each valve no less than every month, but can again elect to advance to less frequent monitoring. If HTU2 is on a semi-annual or annual monitoring schedule and has a leak percentage greater than or equal to 1%, but less than 2% in any single detection period, monitor each valve no less than quarterly, but can again elect to advance to less frequent monitoring. If HTU2 is on an annual monitoring schedule and has a leak percentage greater than or equal to 0.5% but less than 1% in any single detection period, monitor each valve no less than semi-annually, but can again elect to advance to less frequent monitoring.

Hydrotreater Unit 2			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Process Drains in VOC Service			
Note: 40 CFR 60 General Provisions included in AOP Section 3 apply to these affected facilities			
5.7.17 VOC	40 CFR 60 Subpart QQQ 60.690 (11/23/88) NWCAA 104.2 (3/14/13)	Individual Drain Systems Comply with 40 CFR 60 Subpart QQQ for individual drain systems (see AOP Section 6.4), except for wastewater streams regulated under 40 CFR 63 Subpart CC (i.e., 63.640(o)).	Comply with AOP Section 6.4.

5.7.3 Hydrotreater Unit 3

Hydrotreater Unit 3			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
CDHDS Heater (60-F201)			
Note: 40 CFR 60 and 63 General Provisions included in AOP Section 3 apply to this affected facility			
5.7.18	OAC 787e Conditions 1 and 4 (4/17/09)	The CDHDS heater firing rate shall not exceed either of the following: • 95 MMBtu/hr as a 12-month rolling average • 124.4 MMBtu/hr as an hourly average PSR shall combust only one or a combination of the following four fuels in the CDHDS heater: pipeline grade natural gas, refinery fuel gas, low Btu inside battery limits (ISBL) fuel and/or high Btu ISBL fuel.	Conduct annual source tests to demonstrate compliance. After 2 annual tests indicate compliance, the testing frequency will be reduced to once every 5 years. Ongoing periodic testing shall be completed in accordance with EPA Reference Method 19. A test plan shall be submitted to the NWCAA at least 20 days prior to testing. Results of the test shall be submitted to the NWCAA within 60 days following completion of testing. *Directly Enforceable:* Keep records of fuel use.
5.7.19 NO_X	OAC 787e Condition 4 (4/17/09)	NO_X emissions from heater shall not exceed 0.035 lb/MMBtu heat input based on 3-hour rolling average.	Conduct annual source tests to demonstrate compliance. After 2 annual tests indicate compliance, the testing frequency will be reduced to once every 5 years. Ongoing periodic testing shall be completed in accordance with EPA Reference Method 19. A test plan shall be submitted to the NWCAA at least 20 days prior to testing. Results of the test shall be submitted to the NWCAA within 60 days following completion of testing.

Hydrotreater Unit 3			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.7.20 SO_2	OAC 787e Condition 3 (4/17/09)	Fuel gas is limited to: • 162 ppmdv H_2S based on a 3-hour rolling average • 50 ppmvd H_2S based on a 24-hour rolling average	Install and operate a continuous monitoring system for H_2S concentration on a dry basis in the HTU3 fuel gas drum in accordance with 40 CFR 60 Subparts A and J and 40 CFR 60 Appendices B and F.
5.7.21 SO_2	40 CFR 60 Subpart J 60.104(a)(1) (6/24/08), 60.105(a)(4) & (e)(3)(ii) (6/24/08), and 60.106(e)(1) (9/12/12) NWCAA 104.2 (3/14/13)	NSPS Subpart J - Fuel Gas Fuel gas is limited to 162 ppmvd H_2S based on a 3-hour rolling average.	
5.7.22 Opacity	OAC 787e Condition 2 (4/17/09)	Visible emissions from the CDHDS heater stack shall not exceed 5% for more than 6 minutes in any one hour.	*Directly Enforceable:* Monitor visible emissions in accordance with AOP Term 6.1.
5.7.23 HAP	40 CFR 63 Subpart DDDDD 63.7485 (1/31/13) NWCAA 104.2 (3/14/13)	Boilers & Process Heaters Comply with 40 CFR 63 Subpart DDDDD for boilers and process heaters at major sources of HAPs.	Comply with AOP Section 6.5
Heat Exchangers in HAP service			
Note: 40 CFR 63 General Provisions included in AOP Section 3 apply to these affected facilities			
5.7.24 HAP	40 CFR 63 Subpart CC 63.654 (6/20/13) NWCAA 104.2 (3/14/13)	Refinery MACT 1 – Heat Exchangers Comply with 40 CFR 63 Subpart CC for heat exchangers in HAP service.	Comply with AOP Section 6.6.

Hydrotreater Unit 3			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Fugitive Components in VOC/HAP service			
Note: 40 CFR 60 and 63 General Provisions included in AOP Section 3 apply to this affected facility			
5.7.25 VOC	40 CFR 60 Subpart GGG 60.590-60.593 (6/2/08, 11/16/07) → 40 CFR 60 Subpart VV 60.482-60.487 (11/16/07, 12/14/00) NWCAA 104.2 (3/14/13)	<u>NSPS Equipment Leaks</u> Comply with 40 CFR 60 Subpart GGG for equipment leaks in VOC service, except for equipment leaks regulated under 40 CFR 63 Subpart CC (i.e., 63.640(p)). Compressors in hydrogen service are exempt from this monitoring.	Conduct an Equipment Leak (LDAR) program as specified in AOP Section 6.2.
5.7.26 HAP	40 CFR 63 Subpart CC 63.648(a) and (b) (8/18/98) → 40 CFR 60 Subpart VV 60.480-60.489 (6/2/08, 11/16/07, 12/14/00, 5/30/84, 10/17/00) NWCAA 104.2 (3/14/13)	<u>Refinery MACT Equipment Leaks</u> Comply with 40 CFR 63 Subpart CC for equipment leaks in HAP service. Compressors in hydrogen service are exempt from this monitoring.	

Hydrotreater Unit 3			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.7.27 VOC/HAP	OAC 787e Conditions 5 and 6 (4/17/09)	<u>BACT for Equipment Leaks</u> Comply with 40 CFR 60 Subpart GGG and 40 CFR 63 Subpart CC, enhanced as follows. The following leak definitions shall be utilized for valves and pumps that have the potential to leak VOC or HAPs at the HTU3: • 500 ppm for valves • 2,000 ppm for pumps	Conduct an Equipment Leak (LDAR) program as specified in AOP Section 6.2, except that PSR shall use the following skip period monitoring program in lieu of that in 40 CFR 60 Subpart GGG and 40 CFR 63 Subpart CC: i. PSR may move to less frequent monitoring using the following criteria: If the HTU3 has less than 2% leaking valves for 2 consecutive months, PSR may monitor each valve once every quarter, beginning with the next quarter. After 2 consecutive quarters with the percent of leaking valves less than or equal to 1%, PSR may elect to monitor each valve once every 2 quarters. After 3 consecutive semi-annual periods with the percent of leaking valves less than or equal to 0.5%, PSR may elect to monitor each valve once every 4 quarters. ii. PSR shall return to more frequent monitoring using the following criteria: If the HTU3 is on a quarterly, semi-annual or annual monitoring schedule and has a leak percentage greater than or equal to 2% in any single detection period, monitor each valve no less than every month, but can again elect to advance to less frequent monitoring. If the HTU3 is on a semi-annual or annual monitoring schedule and has a leak percentage greater than or equal to 1%, but less than 2% in any single detection period, monitor each valve no less than quarterly, but can again elect to advance to less frequent monitoring. If the HTU3 is on an annual monitoring schedule and has a leak percentage greater than or equal to 0.5% but less than 1% in any single detection period, monitor each valve no less than semi-annually, but can again elect to advance to less frequent monitoring.

Hydrotreater Unit 3			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Process Drains in VOC Service			
Note: 40 CFR 60 General Provisions included in AOP Section 3 apply to these affected facilities			
5.7.28 VOC	40 CFR 60 Subpart QQQ 60.690 (11/23/88) NWCAA 104.2 (3/14/13)	Individual Drain Systems Comply with 40 CFR 60 Subpart QQQ for individual drain systems (see AOP Section 6.4), except for wastewater streams regulated under 40 CFR 63 Subpart CC (i.e., 63.640(o)).	Comply with AOP Section 6.4.

5.7.4 Isomerization Unit

Isomerization Unit			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Fugitive Components in VOC/HAP service			
Note: 40 CFR 60 and 63 General Provisions included in AOP Section 3 apply to this affected facility			
5.7.29 VOC	40 CFR 60 Subpart GGG 60.590-60.593 (6/2/08, 11/16/07) → 40 CFR 60 Subpart VV 60.482-60.487 (11/16/07, 12/14/00) NWCAA 104.2 (3/14/13)	NSPS Equipment Leaks Comply with 40 CFR 60 Subpart GGG for equipment leaks in VOC service, except for equipment leaks regulated under 40 CFR 63 Subpart CC (i.e., 63.640(p)).	Conduct an Equipment Leak (LDAR) program as specified in AOP Section 6.2.
5.7.30 HAP	40 CFR 63 Subpart CC 63.648(a) and (b) (8/18/98) → 40 CFR 60 Subpart VV 60.480-60.489 (6/2/08, 11/16/07, 12/14/00, 5/30/84, 10/17/00) NWCAA 104.2 (3/14/13)	Refinery MACT Equipment Leaks Comply with 40 CFR 63 Subpart CC for equipment leaks in HAP service.	

Isomerization Unit			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.7.31 VOC/HAP	OAC 883b Conditions 1 and 2 (1/30/14)	<u>BACT for Equipment Leaks</u> Comply with 40 CFR 60 Subpart GGG and 40 CFR 63 Subpart CC, enhanced as follows. The following leak definitions shall be utilized for valves and pumps that have the potential to leak volatile organic compounds (VOC) or hazardous air pollutants (HAPs), unless otherwise required to use a lower leak definition: • 500 ppm for valves • 2,000 ppm for pumps	Conduct an Equipment Leak (LDAR) program as specified in AOP Section 6.2, except that if PSR elects to use the sustainable skip period monitoring program, the following skip rules will apply: (A) PSR may move to less frequent monitoring using the following criteria: If the Isom has less than 2% leaking valves for 2 consecutive months, PSR may monitor each valve once every quarter, beginning with the next quarter. After 2 consecutive quarters with the percent of leaking valves less than or equal to 1%, PSR may elect to monitor each valve once every 2 quarters. After 3 consecutive semi-annual periods with the percent of leaking valves less than or equal to 0.5%, PSR may elect to monitor each valve once every 4 quarters. (B) PSR shall return to more frequent monitoring using the following criteria: If the Isom is on a quarterly, semi-annual or annual monitoring schedule and has a leak percentage greater than or equal to 2% in any single detection period, monitor each valve no less than every month, but can again elect to advance to less frequent monitoring. If the Isom is on a semi-annual or annual monitoring schedule and has a leak percentage greater than or equal to 1%, but less than 2% in any single detection period, monitor each valve no less than quarterly, but can again elect to advance to less frequent monitoring. If the Isom is on an annual monitoring schedule and has a leak percentage greater than or equal to 0.5% but less than 1% in any single detection period, monitor each valve no less than semi-annually, but can again elect to advance to less frequent monitoring.

Isomerization Unit			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Process Drains			
Note: 40 CFR 60 General Provisions included in AOP Section 3 apply to these affected facilities			
5.7.32 VOC	40 CFR 60 Subpart QQQ 60.690 (11/23/88) NWCAA 104.2 (3/14/13)	Individual Drain Systems Comply with 40 CFR 60 Subpart QQQ for individual drain systems (see AOP Section 6.4), except for wastewater streams regulated under 40 CFR 63 Subpart CC (i.e., 63.640(o)).	Comply with AOP Section 6.4.

5.7.5 Benzene Reduction Unit

Benzene Reduction Unit			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Heat Exchangers in HAP service			
Note: 40 CFR 63 General Provisions included in AOP Section 3 apply to these affected facilities			
5.7.33 HAP	40 CFR 63 Subpart CC 63.654 (6/20/13) NWCAA 104.2 (3/14/13)	Refinery MACT 1 – Heat Exchangers Comply with 40 CFR 63 Subpart CC for heat exchangers in HAP service.	Comply with AOP Section 6.6.

Benzene Reduction Unit			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Fugitive Components in VOC/HAP service			
Note: 40 CFR 60 and 63 General Provisions included in AOP Section 3 apply to this affected facility			
5.7.34 VOC	40 CFR 60 Subpart GGGa 60.590a-60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a-60.487a (11/16/07) NWCAA 104.2 (3/14/13)	<u>NSPS Equipment Leaks</u> Comply with 40 CFR 60 Subpart GGGa for equipment leaks in VOC service.	Conduct an Equipment Leak (LDAR) program as specified in AOP Section 6.3.
5.7.35 HAP	40 CFR 63 Subpart CC 63.640(p)(2) (6/20/13) → 40 CFR 60 Subpart GGGa 50.590a-60.593a (6/2/08, 11/16/07) → 40 CFR 60 Subpart VVa 60.482a-60.487a (11/16/07) NWCAA 104.2 (3/14/13)	<u>Refinery MACT Equipment Leaks</u> Comply with 40 CFR 63 Subpart CC for equipment leaks in HAP service, except for equipment leaks regulated under 40 CFR 60 Subpart GGGa (i.e., 63.640(p)).	
Process Drains			
Note: 40 CFR 60 General Provisions included in AOP Section 3 apply to these affected facilities			
5.7.36 VOC	40 CFR 60 Subpart QQQ 60.690 (11/23/88) NWCAA 104.2 (3/14/13)	<u>Individual Drain Systems</u> Comply with 40 CFR 60 Subpart QQQ for individual drain systems (see AOP Section 6.4), except for wastewater streams regulated under 40 CFR 63 Subpart CC (i.e., 63.640(o)).	Comply with AOP Section 6.4.

5.8 Sulfur Recovery Units

Sulfur Recovery Units			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Note: 40 CFR 60 and 63 General Provisions included in AOP Section 3 apply to these affected facilities			
5.8.1 General	OAC 828a Condition 7 (4/17/09)	Operation and Maintenance Manual	Develop and maintain an operation manual for the SRU that identifies good air pollution control practices including, but not limited to, an air pollution compliance monitoring plan and a plantwide SO_2 emissions abatement plan to be implemented during SRU upset conditions. The manual shall be kept on-site and available for inspection.
5.8.2 General	OAC 828a Condition 8 (4/17/09)	QA Manual for monitoring	The refinery QA Manual shall be updated to reflect any new monitoring equipment and procedures implemented as a result of this project. The QA Manual shall be kept on-site and available for inspection by NWCAA.
5.8.3 General	OAC 828a Condition 9 (4/17/09)	Recordkeeping	Raw data, calculation results, test results, and monitoring data shall be kept on-site and available for inspection by the NWCAA for a period of not less than five years from date of generation.
5.8.4 SO_2	OAC 828a Condition 4 (4/17/09)	Cumulative SO_2 emissions from the SRU shall not exceed 53 tons on a 12-month rolling basis.	The 12-month rolling tons of sulfur dioxide emissions and the monthly average daily elemental sulfur production rate shall be submitted on monthly emission reports.
5.8.5 SO_2	40 CFR 60 Subpart J 60.104(a)(1) (6/24/08), 60.105(a)(4) & (e)(3)(ii) (6/24/08), and 60.106(e)(1) (9/12/12) NWCAA 104.2 (3/14/13)	<u>NSPS Subpart J - Fuel Gas</u> Fuel gas is limited to 162 ppmvd H_2S based on a 3-hour rolling average.	Install and operate a continuous monitoring system for H_2S concentration on a dry basis in the refinery's main fuel mix drum in accordance with 40 CFR 60 Subparts A and J and 40 CFR 60 Appendices B and F.
5.8.6 SO_2	OAC 828a Condition 1 (4/17/09)	Except during natural gas curtailments, supplemental fuel combusted at the SRU shall be limited to pipeline natural gas. All refinery fuel gas combusted during natural gas curtailments shall have a H_2S content of less than 162 ppmvd based on a 3-hour rolling average.	

Sulfur Recovery Units			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.8.7 SO_2	OAC 828a Condition 3 (4/17/09) 40 CFR 60 Subpart J 60.104(a)(2)(i), 60.105(a)(5) & (e)(4)(i); and 60.107(d), (f), & (g) (6/24/08) 40 CFR 63 Subpart UUU 63.1568(a)(1) (4/11/02), Table 29 Line 1a (2/9/05), (2) (4/11/02), Table 30 Line 1(2/9/05), (c)(1) (4/11/02), Table 34 Line 1a (2/9/05), & Table 35 Line 1 (2/9/05); 63.1572(a), Table 40 Line 4, & (d) (2/9/05); and 63.1576(d), (g), (h), & (i) (2/9/05) NWCAA 104.2 (3/14/13)	<u>Sulfur Recovery Units – SO_2</u> <u>Sulfur Recovery Units – HAP Emissions</u> SO_2 from each incinerator stack shall not exceed 250 ppmvd at 0% excess air based on 12-hour rolling average.	Install, operate, and maintain a continuous monitoring system to measure SO_2 emissions and O_2 for correcting the data for excess air from each exhaust stack. Collect hourly average SO_2 (dry basis) and percent excess air data; determine and record each 12-hour rolling average concentration of SO_2. The SO_2 CEMS and O_2 monitor shall be operated in accordance with 40 CFR 60 Appendix B Performance Specification 2 using a span value of 500 ppm SO_2 and 25% O_2. The monitoring system shall be certified using 40 CFR 60 Appendix A Methods 6 or 6C and 3A or 3B, and 40 CFR 60 Appendix F Procedure 1 except that relative accuracy audits are required annually instead of quarterly. The CEMS shall be operated in accordance with 40 CFR 60 Subparts A & J, Appendix F, and NWCAA 367 and NWCAA Appendix A. Except for monitoring malfunctions, associated repairs, and required QA/QC activities, conduct all monitoring in continuous operation at all times the source is operating. For any periods for which sulfur dioxide or oxides emissions data are not available, submit a signed statement indicating if any changes were made in operation of the emission control system during the period of data unavailability. Reports shall be submitted semiannually, postmarked by the 30th day following the end of each six-month period. The reports shall be submitted with a signed statement certifying the accuracy and completeness of the information contained in the report.
5.8.8 SO_2	OAC 828a Condition 5 (4/17/09)	Whenever technically feasible, emissions from the elemental sulfur pit shall be controlled through a closed vent system to the front end of SRU4. Otherwise, such as turndown, maintenance and repair activities, emissions from the elemental sulfur pit may be routed through a closed vent system directly to the SRU4 incinerator.	Keep records of all periods that emissions from the sulfur pit are not routed to the front end of SRU4.

Sulfur Recovery Units			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.8.9 Opacity	OAC 828a Condition 2 (4/17/09)	Visible emissions from each incinerator stack shall not exceed 10% for more than 3 minutes in any hour.	*Directly Enforceable:* Monitor visible emissions in accordance with AOP Term 6.1.
Fugitive Components in VOC/HAP service			
Note: 40 CFR 60 and 63 General Provisions included in AOP Section 3 apply to this affected facility			
5.8.10 VOC	40 CFR 60 Subpart GGG 60.590-60.593 (6/2/08, 11/16/07) → 40 CFR 60 Subpart VV 60.482-60.487 (11/16/07, 12/14/00) NWCAA 104.2 (3/14/13)	NSPS Equipment Leaks Comply with 40 CFR 60 Subpart GGG for equipment leaks in VOC service, except for equipment leaks regulated under 40 CFR 63 Subpart CC (i.e., 63.640(p)).	Conduct an Equipment Leak (LDAR) program as specified in AOP Section 6.2.
5.8.11 HAP	40 CFR 63 Subpart CC 63.648(a) and (b) (8/18/98) → 40 CFR 60 Subpart VV 60.480-60.489 (6/2/08, 11/16/07, 12/14/00, 5/30/84, 10/17/00) NWCAA 104.2 (3/14/13)	Refinery MACT Equipment Leaks Comply with 40 CFR 63 Subpart CC for equipment leaks in HAP service.	

5.9 Utilities

5.9.1 Erie City Boiler

Erie City Boiler (31GF1)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Note: 40 CFR 60 and 63 General Provisions included in AOP Section 3 apply to this affected facility			
5.9.1 SO_2	CO 07 Condition V.A (04/10/13) → 40 CFR 60 Subpart J 60.104(a)(1) (6/24/08), 60.105(a)(4)	NSPS Subpart J - Fuel Gas Fuel gas is limited to 162 ppmvd H_2S based on a 3-hour rolling average.	Install and operate a continuous monitoring system for H_2S concentration on a dry basis in the refinery's main fuel mix drum in accordance with 40 CFR 60 Subparts A and J and 40 CFR 60 Appendices B and F.

Erie City Boiler (31GF1)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
	& (e)(3)(ii) (6/24/08), and 60.106(e)(1) (9/12/12)		
5.9.2 HAP	40 CFR 63 Subpart DDDDD 63.7485 (1/31/13) NWCAA 104.2 (3/14/13)	Boilers & Process Heaters Comply with 40 CFR 63 Subpart DDDDD for boilers and process heaters at major sources of HAPs.	Comply with AOP Section 6.5

5.9.2 Combustion Turbines

Combustion Turbine Units			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Combustion Turbine Units 1, 2, & 3			
Note: 40 CFR 60 General Provisions included in AOP Section 3 apply to these affected facilities			
5.9.3 General	40 CFR 60 Subpart GG 60.332(f) (7/8/04) and 60.334(j)(3) (2/24/06) NWCAA 104.2 (3/14/13)	Ice Fog Gas turbines using water injection for control of NO_X emissions are exempt from NO_X emission limits when ice fog is deemed a traffic hazard by the owner or operator of the gas turbine.	Each period during which ice fog due to the turbine water injection is deemed a traffic hazard by PSR shall be reported in writing to the NWCAA quarterly. For each period the ambient conditions existed during the period, the date and time the air pollution control system was deactivated and then reactivated shall be reported. All quarterly reports shall be postmarked by the 30th day following the end of each calendar quarter.

Combustion Turbine Units			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Combustion Turbine Units 1 & 2			
5.9.4 General	OAC 475h Condition (3) (4/12/12)	Monthly Reports Report the following information to the NWCAA each calendar month: • Total gallons burned for avjet and low sulfur distillate fuel • Number of hours that butane and propane were fired • Standard cubic feet/hour to the turbine and duct burner for each gaseous fuel • Btu per hour contribution to the turbine and the duct burner • Number of days duct burner used • Mass emission rates in lbs/hour calendar month average for SO_2, NO_X, NH_3 and CO for each stack • The highest concentration in units of the standard for CO, NO_X, NH_3, and SO_2	All monthly reports shall be submitted to the NWCAA within thirty days after the end of the calendar month.

Combustion Turbine Units			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.9.5 NO_X	OAC 475h Conditions (1)(a) and (2) (4/12/12)	Nitrogen Oxides NO_X emissions from the turbine stacks shall not exceed the following: • When firing all fuel combinations except 100% natural gas, avjet or low sulfur distillate fuel: 13 ppmvd corrected to 15% O_2 for each stack on a calendar day average • When firing 100% natural gas: 9 ppmvd corrected to 15% O_2 for each stack on a calendar day average • When firing avjet or low sulfur distillate fuel: 15 ppmvd corrected to 15% O_2 for each stack on a calendar day average • When firing all fuel combinations: 45 lb/hr for each stack on a calendar month average • When firing all fuel combinations: 132 tons/12-month rolling period from each stack All pollutant emission limits shall not apply during startup and shutdown periods. Startups and shutdowns shall be done in accordance with good air pollution control practices.	Install and operate CEMS on each stack for the measurement of NO_X and O_2. Each monitor shall be certified in accordance with 40 CFR 60 Appendix B and operated in accordance with 40 CFR 60 Appendix F, NWCAA 367, and NWCAA Appendix A.
5.9.6 NO_X	40 CFR 60 Subpart Db 60.44b(a)(4)(i), (h), & (i); and 60.46b(f)(2) (2/16/12) NWCAA 104.2 (3/14/13)	NSPS Subpart Db – Nitrogen Oxides NO_X from the duct burner shall not exceed 0.20 lb/MMBtu (as NO_2) heat input, 30-day rolling average. This limit applies at all times including periods of startup, shutdown, or malfunction.	Follow MR&R under AOP Term 5.9.5.
5.9.7 NO_X	40 CFR Subpart GG 60.332(a)(1) (7/8/04) and 60.334(b) & (j)(1)(iii) (2/24/06) NWCAA 104.2 (3/14/13)	NSPS NO_X Standard NO_X emissions shall not exceed 96 ppmvd corrected to 15% O_2, 4-hour average, while firing gaseous fuels.	Install and operate a CEMS for the measurement of NO_X and O_2. The CEMS shall be operated in accordance with 40 CFR 60 Subpart GG. Report excess emissions for all periods of unit operation including startup, shutdown, and malfunction.

Combustion Turbine Units			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.9.8 Ammonia	OAC 475h Conditions (1)(e) and (2) (4/12/12)	Ammonia Ammonia emissions from the turbine stacks shall not exceed the following: • 10 ppmvd corrected to 15% O_2 from each stack on a calendar day average • 8.5 lb/hr from each stack on a calendar month average • 37 tons/12-month rolling period from each stack All pollutant emission limits shall not apply during startup and shutdown periods. Startups and shutdowns shall be done in accordance with good air pollution control practices.	Install and operate CEMS or comparable system on each stack for the measurement of NH_3 and O_2. Each monitor shall be certified in accordance with 40 CFR 60 Appendix B and operated in accordance with 40 CFR 60 Appendix F, NWCAA 367, and NWCAA Appendix A. *Directly Enforceable:* Annual Relative Accuracy Test Audits (RATAs) for the ammonia CEMS shall follow procedures outlined in 40 CFR 60 Appendix B, Performance Specification 2 with the following additional option: For emissions less than 5 ppm (as measured by the reference method), the Relative Accuracy may also be determined as the absolute average difference between the RM and CEMS plus the 2.5 percent confidence coefficient: RA = (|d|+CC) < 2 ppm
5.9.9 CO	OAC 475h Conditions (1)(b) and (2) (4/12/12)	Carbon Monoxide CO emissions from the turbine stacks shall not exceed the following: • 37 ppmvd corrected to 15% O_2 for each stack on an hourly average except for startup periods not to exceed three hours • 55 lb/hr for each stack on a calendar month average • 96 lb/hr from both stacks on a calendar month average • 304 tons/12-month rolling period from both stacks combined All pollutant emission limits shall not apply during startup and shutdown periods. Startups and shutdowns shall be done in accordance with good air pollution control practices.	Install and operate CEMS on each stack for the measurement of CO and O_2. Each monitor shall be certified in accordance with 40 CFR 60 Appendix B and operated in accordance with 40 CFR 60 Appendix F, NWCAA 367, and NWCAA Appendix A.

Combustion Turbine Units			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.9.10 SO_2	OAC 475h Conditions (1)(c) and (2) (4/12/12)	Sulfur Dioxide SO_2 emissions from the turbine stacks shall not exceed the following: • When firing all fuel combinations: 18 ppmvd corrected to 15% O_2 for each stack on a 3-hour rolling average • When firing gaseous fuel combinations: 5.2 lb/hr for each stack on a calendar month average • When firing avjet or low sulfur distillate fuel: 25.4 lb/hr from each stack on a calendar month average • When firing all fuel combinations: 38 tons/12-month rolling period from both stacks combined Distillate fuels (including avjet) shall not exceed a sulfur content of 0.05% by weight calculated as a calendar month average. All pollutant emission limits shall not apply during startup and shutdown periods. Startups and shutdowns shall be done in accordance with good air pollution control practices.	Install and operate CEMS on each stack for the measurement of SO_2 and O_2. Each monitor shall be certified in accordance with 40 CFR 60 Appendix B and operated in accordance with 40 CFR 60 Appendix F, NWCAA 367, and NWCAA Appendix A.
5.9.11 SO_2	40 CFR 60 Subpart J 60.104(a)(1) (6/24/08); 60.105(a)(3) & (e)(3)(i) (6/24/08); and 106(e)(2) (9/12/12) 40 CFR 60 Subpart Db 60.40b(c) (2/16/12) NWCAA 104.2 (3/14/13)	NSPS J SO_2 Standard When burning refinery fuel gas, SO_2 emissions shall not exceed 20 ppmvd at 0% O_2 (which converts to 5.6 ppmvd at 15% O_2) on a 3-hr rolling average.	
5.9.12 SO_2	40 CFR 60 Subpart GG 60.333(a) (7/8/04) NWCAA 104.2 (3/14/13)	NSPS GG SO_2 Standard SO_2 emissions shall not exceed 0.015% by volume (150 ppmv) at 15% oxygen on a dry basis.	EPA Region 10 approved an alternate monitoring plan in a letter dated October 19, 1992 that allowed determining compliance by measuring SO_2 in the turbine exhaust stack using an SO_2 CEMS. Follow MR&R under AOP Term 5.9.10.

Combustion Turbine Units			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.9.13 Opacity	OAC 475h Condition (1)(d) (4/12/12)	Opacity Opacity emissions from the turbine stacks shall not exceed five percent (5%) for more than six minutes in any one hour period as determined by EPA Method 9.	*Directly Enforceable:* Monitor visible emissions in accordance with AOP Term 6.1. When the turbines burn liquid fuels, visually observe stacks on a daily basis to qualitatively assess whether emissions are visible. Qualitative assessments are not required on days when oil burning is conducted solely for the purpose of testing or maintenance and does not exceed four hours per calendar month for each turbine. If visible emissions are observed, emissions shall be reduced to zero as soon as practicable. If emissions cannot be reduced to zero, PSR may monitor by EPA Method 9 no later than 24 hours after detection and daily thereafter until opacity is shown to be less than 5%. Otherwise visible emissions shall be considered in excess of the opacity standard. 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. Record that an observation was performed, with date, time, background conditions, and identification of the observer. Keep records of all observations available for inspection. Compliance with 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.

Combustion Turbine Units			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Combustion Turbine Unit 3			
5.9.14 General	OAC 476g Condition (4) (4/12/12)	Monthly Reports Report the following information to the NWCAA each calendar month: • Total gallons burned for avjet and low sulfur distillate fuel • Total standard cubic feet burned in the turbine and the duct burner for each gaseous fuel • Btu per hour contribution to the turbine and the duct burner • Mass emission rates in lbs/hr calendar month average for SO_2, NO_X, NH_3 and CO • The highest concentration in units of the standard for CO, NO_X, NH_3, and SO_2 • Twelve-month rolling average emissions of PM_{10} in tons. PM_{10} emissions shall be calculated based on the results of the most recent source test.	All monthly reports shall be submitted to the NWCAA within thirty days after the end of the calendar month.

Combustion Turbine Units			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.9.15 NO_X	OAC 476g Conditions (1)(a) and (2) (4/12/12)	Nitrogen Oxides NO_X emissions from the turbine stack shall not exceed the following: When burning all gaseous fuel combinations except 100% natural gas, avjet or low sulfur distillate fuel and combinations of butanes and propanes: • 9 ppmvd corrected to 15% O_2 on a calendar day average • 28 lb/hr on a calendar month average • 74 tons/12-month rolling period When firing 100% natural gas: • 7 ppmvd corrected to 15% O_2 on a calendar day average • 18 lb/hr on a calendar month average • 74 tons/12-month rolling period When firing butane and propane mixes: • 11 ppmvd corrected to 15% O_2 on a calendar day average • 30 lb/hr on a calendar month average • 74 tons/12-month rolling period When firing avjet or low sulfur distillate fuel: • 25 ppmvd @ 15% O_2 calendar day average • 87 lb/hr calendar month average • 74 tons/12-month rolling period All pollutant emission limits shall not apply during startup and shutdown periods. Startups and shutdowns shall be done in accordance with good air pollution control practices.	Install and operate a CEMS for the measurement of NO_X and O_2. Each monitor shall be certified in accordance with 40 CFR 60 Appendix B and operated in accordance with 40 CFR 60 Appendix F, NWCAA 367, and NWCAA Appendix A.
5.9.16 NO_X	40 CFR 60 Subpart Db 60.44b(a)(4)(i), (h), & (i); and 60.46b(f)(2) (2/16/12) NWCAA 104.2 (3/14/13)	NSPS Subpart Db – Nitrogen Oxides NO_X from the duct burner shall not exceed 0.20 lb/MMBtu (as NO_2) heat input, 30-day rolling average. This limit applies at all times including periods of startup, shutdown, or malfunction.	Follow MR&R under AOP Term 5.9.15.

Combustion Turbine Units			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.9.17 NO_X	40 CFR Subpart GG 60.332(a)(1) (7/8/04) and 60.334(b) & (j)(1)(iii) (2/24/06) NWCAA 104.2 (3/14/13)	<u>NSPS NO_X Standard</u> NO_X emissions shall not exceed 96 ppmvd corrected to 15% O_2, 4-hour average, while firing gaseous fuels.	Install and operate a CEMS for the measurement of NO_X and O_2. The CEMS shall be operated in accordance with 40 CFR 60 Subpart GG. Report excess emissions for all periods of unit operation including startup, shutdown, and malfunction.
5.9.18 Ammonia	OAC 476g Conditions (1)(f) and (2) (4/12/12)	<u>Ammonia</u> Ammonia emissions from the turbine stack shall not exceed the following: • 10 ppmvd corrected to 15% O_2 on a calendar day average • 8.5 lb/hr on a calendar month average • 37 tons/12-month rolling period All pollutant emission limits shall not apply during startup and shutdown periods. Startups and shutdowns shall be done in accordance with good air pollution control practices.	Install and operate a CEMS or comparable system for the measurement of NH_3 and O_2. Each monitor shall be certified in accordance with 40 CFR 60 Appendix B and operated in accordance with 40 CFR 60 Appendix F, NWCAA 367, and NWCAA Appendix A. *Directly Enforceable:* Annual Relative Accuracy Test Audits (RATAs) for the ammonia CEMS shall follow procedures outlined in 40 CFR 60 Appendix B, Performance Specification 2 with the following additional option: For emissions less than 5 ppm (as measured by the reference method), the Relative Accuracy may also be determined as the absolute average difference between the RM and CEMS plus the 2.5 percent confidence coefficient: $RA = (\|d\|+CC) < 2$ ppm
5.9.19 CO	OAC 476g Conditions (1)(b) and (2) (4/12/12)	<u>Carbon Monoxide</u> CO emissions from the turbine stack shall not exceed the following: • 22 ppmvd corrected to 15% O_2 on a one hour average • 22 lb/hr on a calendar month average • 95 tons/12-month rolling period All pollutant emission limits shall not apply during startup and shutdown periods. Startups and shutdowns shall be done in accordance with good air pollution control practices.	Install and operate a CEMS for the measurement of CO and O_2. Each monitor shall be certified in accordance with 40 CFR 60 Appendix B and operated in accordance with 40 CFR 60 Appendix F, NWCAA 367, and NWCAA Appendix A.

Combustion Turbine Units			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.9.20 SO_2	OAC 476g Conditions (1)(c) and (2) (4/12/12)	Sulfur Dioxide SO_2 emissions from the turbine stack shall not exceed the following: • When firing all fuel combinations: 18 ppmvd corrected to 15% O_2 on a 3-hour rolling average • When firing all gaseous fuel combinations: 4.7 lb/hr on a calendar month average • When firing avjet or low sulfur distillate fuel: 25.4 lb/hr on a calendar month average • When firing all fuel combinations: 55 tons/12-month rolling period Distillate fuels (including avjet) shall not exceed 0.05% sulfur by weight calculated as a calendar month average. All pollutant emission limits shall not apply during startup and shutdown periods. Startups and shutdowns shall be done in accordance with good air pollution control practices.	Install and operate a CEMS for the measurement of SO_2 and O_2. Each monitor shall be certified in accordance with 40 CFR 60 Appendix B and operated in accordance with 40 CFR 60 Appendix F, NWCAA 367, and NWCAA Appendix A.
5.9.21 SO_2	40 CFR 60 Subpart J 60.104(a)(1) (6/24/08); 60.105(a)(3) & (e)(3)(i) (6/24/08); and 106(e)(2) (9/12/12) 40 CFR 60 Subpart Db 60.40b(c) (2/16/12) NWCAA 104.2 (3/14/13)	NSPS J SO_2 Standard When burning refinery fuel gas, SO_2 emissions shall not exceed 20 ppmvd at 0% O_2 (which converts to 5.6 ppmvd at 15% O_2) on a 3-hr rolling average.	
5.9.22 SO_2	40 CFR 60 Subpart GG 60.333(a) (7/8/04), 60.334(h)(1), (i), & (j)(2), and 60.335(b)(10) (2/24/06) NWCAA 104.2 (3/14/13)	NSPS GG SO_2 Standard SO_2 emissions shall not exceed 0.015% by volume (150 ppmv) at 15% oxygen on a dry basis.	EPA Region 10 approved an alternate monitoring plan in a letter dated October 19, 1992 that allowed determining compliance by measuring SO_2 in the turbine exhaust stack using an SO_2 CEMS. Follow MR&R under AOP Term 5.9.20.

Combustion Turbine Units			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.9.23 PM	OAC 476g Conditions (1)(d) and (3) (4/12/12)	Particulate Matter (PM_{10}) PM_{10} emissions from the turbine stack shall not exceed the following: • 17 lb/hr • 18 tons/12-month rolling period	Conduct a source test for PM_{10} emissions within 60 days after exceeding 2,376,000 gallons distillate fuel (including avjet) fired in a consecutive 12-month period. All PM_{10} testing shall be conducted while the turbine is fired on No. 2 distillate and with the turbine and duct burner firing at 90% maximum capacity or greater. Stack testing for PM_{10} shall be conducted in accordance with 40 CFR 60 Appendix A Method 5, NWCAA Section 367, and NWCAA Appendix A.
5.9.24 Opacity	OAC 476g Condition (1)(e) (4/12/12)	Opacity Opacity emissions from the turbine stack shall not exceed five percent (5%) for more than six minutes in any one hour period as determined by EPA Method 9.	*Directly Enforceable:* Monitor visible emissions in accordance with AOP Term 6.1. When the turbine burns liquid fuel, visually observe stack on a daily basis to qualitatively assess whether emissions are visible. Qualitative assessments are not required on days when oil burning is conducted solely for the purpose of testing or maintenance and does not exceed four hours per calendar month. If visible emissions are observed, emissions shall be reduced to zero as soon as practicable. If emissions cannot be reduced to zero, PSR may monitor by EPA Method 9 no later than 24 hours after detection and daily thereafter until opacity is shown to be less than 5%. Otherwise visible emissions shall be considered in excess of the opacity standard. 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. Record that an observation was performed, with date, time, background conditions, and identification of the observer. Keep records of all observations available for inspection. Compliance with 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.

5.10 Receiving, Pumping and Shipping

5.10.1 Gasoline/Diesel Truck Loading Terminal

Gasoline/Diesel Truck Loading Terminal			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Gasoline/Diesel Loading Rack (LR-1) and Vapor Combustion Device (23NF1)			
Note: 40 CFR 60 and 63 General Provisions included in AOP Section 3 apply to this affected facility			
5.10.1 General	WAC 173-491-040(6)(e) (12/23/97 State Only)	Take reasonable measures to prevent the spilling, discarding in sewers, storing in open containers, or handling of gasoline in a manner that will result in evaporation to the ambient air.	*Directly Enforceable* Operate in a manner consistent with good air pollution control practices for minimizing emissions.
5.10.2 General	OAC 380c Conditions 2 and 3 (4/10/13)	PSR shall inspect the truck rack vapor combustion unit louvers semi-annually for proper operation and mechanical integrity and document the results of the inspection. The truck rack vapor combustion unit louvers referenced in these requirements include both the louvers that control the excess air and those that control operating temperature.	Any necessary maintenance, repairs, or modifications on the louvers shall be made and documented as soon as practicable to ensure proper louver operation, no later than within 21 days of discovery. PSR is not relieved of complying with any applicable emission standards or operating requirements during this period.

Gasoline / Diesel Truck Loading Terminal			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.10.3 SO_2	40 CFR 60 Subpart J 60.104(a)(1); and 60.105(a)(3) & (e)(3) (6/24/08) NWCAA 104.2 (3/14/13)	NSPS Subpart J - Fuel Gas Fuel gas is limited to 162 ppmvd H_2S based on a 3-hour rolling average.	Pursuant to the EPA-approved Alternative Monitoring Plan approved under 60.13(i) on December 4, 2001, the fuel gas stream combusted at the load rack is inherently low in sulfur and, as such, monitoring the sulfur content of the fuels loaded at the loading rack is approved as an alternative to installing and operating a continuous monitoring system to measure either H_2S or SO_2 for the purposes of 40 CFR 60 Subpart J. Monitor all fuels loaded at the load rack to assure that they meet the specific sulfur product specification for that finished product. Keep a record of all fuel and gas sampling performed including the date and location of sampling. Maintain records for a period of five (5) years after the generation of such documentation. Within 30 days of the change, report any change in the type of fuels or change in the specific sulfur product specification of the fuels loaded at the load rack if the specific sulfur product specification has a higher sulfur content than specified in the November 7, 2001, request. Within 30 days of the change or failure to meet the specific sulfur product specification, PSR shall report any change in the gases used as pilot fuel for the load rack combustion unit or the failure of the gases used as pilot fuel for the load rack combustion unit to meet the specific sulfur product specification.
5.10.4 Opacity	OAC 380c Condition 1 (4/10/13)	Visible emissions as measured by EPA Method 9 shall not exceed ten percent opacity from the vapor combustion unit stack.	*Directly Enforceable:* Monitor visible emissions in accordance with AOP Term 6.1.
5.10.5 VOC	NWCAA 580.421 (12/13/89) NWCAA 580.421 (6/14/01 State Only) WAC 173-491-040(2)(b)(i) (12/23/97 State Only)	The loading terminal must employ submerged or bottom loading for all transport tanks and be equipped with a vapor control system.	*Directly Enforceable:* Operate a functioning interlock system that prevents loading when the load lines or vapor lines are not properly attached to the truck.

Gasoline / Diesel Truck Loading Terminal			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.10.6 HAP/VOC	40 CFR 63 Subpart CC 63.650(a) (10/28/09) → 40 CFR 63 Subpart R 63.422(a) (12/19/03) → 40 CFR 60 Subpart XX 60.502(a) and (d) (2/12/99) 40 CFR 60 Subpart XX 60.500-60.506 (8/18/83, 12/19/03, 2/12/99) NWCAA 104.2 (3/14/13)	Equip with a vapor collection system designed to collect the total organic compounds vapors displaced from tank trucks during product loading and designed to prevent any total organic compounds vapors collected at one loading rack from passing to another loading rack.	None
5.10.7 VOC	NWCAA 580.423 (12/13/89) NWCAA 580.423 (6/14/01 State Only) WAC 173-491-040(2)(b)(ii) and (iii) (12/23/97 State Only)	Vapor return lines shall be connected such that all displaced volatile organic compounds are vented to the vapor recovery system.	*Directly Enforceable:* Operate a functioning interlock system that prevents loading when the load lines or vapor lines are not properly attached to the truck.
5.10.8 VOC	WAC 173-491-040(6)(a) (12/23/97 State Only)	During the months of May, June, July, August, and September, any failure of a vapor collection system to comply with WAC 173-491-040 requires the discontinuation of gasoline transfer operations for the failed part of the system.	*Directly Enforceable* Record any periods during these months when the vapor collection system failed and actions taken.
5.10.9 VOC	NWCAA 580.425 (12/13/89) NWCAA 580.425 (6/14/01 State Only)	The vapor control system shall be equipped with an appropriate alarm system to alert personnel when the system is not in compliance with 580.424.	*Directly Enforceable* Operate a functioning interlock system that prevents loading when a cargo tank is not in compliance or when the vapor combustion unit is not operating properly.

Gasoline / Diesel Truck Loading Terminal			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.10.10 VOC	NWCAA 580.422 (12/13/89) NWCAA 580.422 (6/14/01 State Only) WAC 173-491-040(2)(b)(iv) (12/23/97 State Only)	All loading and vapor lines shall be equipped with vapor-tight fittings which close automatically upon disconnect. The point of closure shall be on the tank side of any hose or immediate connecting line.	*Directly Enforceable* Keep design specifications and written procedures on-site specifying that all product loading and vapor control lines shall be equipped with vapor-tight fittings that close automatically and that the lines are designed to prevent leaks.
5.10.11 VOC	NWCAA 580.426 (12/13/89) NWCAA 580.426 (6/14/01 State Only)	All loading arms shall be designed, maintained and operated to prevent overfill, fugitive liquid or vapor leaks, and excess gasoline drainage during disconnect.	
5.10.12 VOC	NWCAA 580.104 (12/13/89) NWCAA 580.103 (11/12/99 State Only) WAC 173-491-040(6)(b)(iii)(A)(II), (III), (IV), & (B), -040(6)(b)(iv), and -040(6)(c) (12/23/97 State Only)	System must be operated such that gasoline vapor concentration is below the lower explosive limit (expressed as propane) at all points a distance of 1 inch or greater from any potential leak source; and liquid leaks must be less than 3 drops per minute (4 drops per minute per WAC 173-491-040) and no more than 10 mL per disconnect. Repair and retest a vapor collection system that exceeds these limits in accordance with 40 CFR 63.422(c) (15 days per WAC 173-491-040).	The source shall demonstrate compliance at its own expense upon request. All tests shall be made by, or under the direction of, a person qualified to perform the tests and approved by the NWCAA. Testing to determine compliance shall use procedures approved by the NWCAA. Monitoring to confirm continuing leak tight conditions shall use procedures approved by the NWCAA. The NWCAA may, at any time, monitor a gasoline transport tank and vapor collection system during loading or unloading operations to confirm continuing compliance.

Gasoline / Diesel Truck Loading Terminal			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.10.13 HAP/VOC	40 CFR 63 Subpart CC 63.650(a) (10/28/09) & 63.655(b) (6/20/13) → 40 CFR 63 Subpart R 63.422(b), 63.425(b) & (c), 63.427(a)(3) & (b) (12/19/03); and 63.428(c) & (h)(1) (4/6/06) 40 CFR 60 Subpart XX 60.500-60.506 (8/18/83, 12/19/03, 2/12/99) NWCAA 104.2 (3/14/13)	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.	Install, certify, operate, and maintain, according to manufacturer's specifications, a continuous monitoring system (CMS) capable of measuring temperature in the firebox or in the ductwork immediately downstream from the firebox in a position before any substantial heat exchange occurs. Operate the vapor combustion unit in a manner not to go below a temperature of 85°F on a 5-minute block average while gasoline vapors are processed. Temperature in the vapor combustion unit shall be continuously monitored whenever gasoline vapors are processed. 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 85°F on a 5-minute block average. 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.

Gasoline / Diesel Truck Loading Terminal			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.10.14 VOC	NWCAA 580.424 (6/14/01 State Only)	The vapor control system shall prevent the emission of at least 90 percent by weight of the volatile organic compounds and shall limit the emission of volatile organic compounds to no more than 10 milligrams per liter of gasoline transferred.	Compliance shall be demonstrated biennially by conducting emission testing according to EPA Method 25 or another method approved by the Control Officer. Thirty days advance notification is required. *Directly Enforceable:* Perform biennial testing in accordance with 40 CFR 63.425(a) & (b) (12/19/03), 40 CFR 60.503 (12/19/03), and AOP Term 2.1.8. As is stated in 40 CFR 63.425(a)(1)(i), a reading of 500 ppm shall be used to determine the level of leaks to be repaired under 60.503(b). Comply with MR&R under AOP Term 5.10.13.
5.10.15 VOC	NWCAA 580.424 (12/13/89)	The vapor control system shall prevent the emission of at least 90 percent by weight of the volatile organic compounds and shall limit the emission of volatile organic compounds to no more than 35 milligrams per liter of gasoline transferred.	
5.10.16 VOC	WAC 173-491-040(2)(c)(i) and (ii) (12/23/97 State Only)	The vapor control system shall not allow organic vapors emitted to the ambient air to exceed 35 milligrams per liter (322 milligrams per gallon) of gasoline loaded. The vapor control system shall be equipped with a device to monitor the system while the vapor control system is in operation.	
5.10.17 VOC	WAC 173-491-040(6)(b)(iii)(A)(I) and (B) (12/23/97 State Only)	Transport tank pressure shall not exceed a pressure of 18 inches of water or a vacuum of 6 inches of water. Repair and retest a vapor collection system that exceeds this limit within 15 days.	
5.10.18 VOC	WAC 173-491-040(2)(c)(iii) (12/23/97 State Only)	The backpressure in the vapor collection system shall not exceed the transport tank's pressure relief settings.	
5.10.19 HAP/VOC	40 CFR 63 Subpart CC 63.650(a) (10/28/09) → 40 CFR 63 Subpart R 63.422(a) (12/19/03) → 40 CFR 60 Subpart XX 60.502(h) & (i) (2/12/99) → 60.503(d) (12/19/03) 40 CFR 60 Subpart XX 60.500-60.506 (8/18/83, 12/19/03, 2/12/99) NWCAA 104.2 (3/14/13)	Equipment shall be operated to prevent gauge pressure in the delivery tank from exceeding 4,500 pascals (450 mm of water) during product loading. 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 (450 mm of water).	None

Gasoline / Diesel Truck Loading Terminal			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.10.20 HAP/VOC	40 CFR 63 Subpart CC 63.650(a) (10/28/09) → 40 CFR 63 Subpart R 63.422(a) (12/19/03) → 40 CFR 60 Subpart XX 60.502(e) (as modified by 63.422(c)), (f) & (g) (2/12/99) 40 CFR 63 Subpart CC 63.650(a) (10/28/09) & 63.655(b) (6/20/13) → 40 CFR 63 Subpart R 63.425(e), (f), (g) & (h) (12/19/03), 63.428(b), (g)(1), (h)(2), and (h)(3) (4/6/06) 40 CFR 60 Subpart XX 60.500-60.506 (8/18/83, 12/19/03, 2/12/99) NWCAA 104.2 (3/14/13)	Loading of liquid product into gasoline tank trucks shall be limited to vapor-tight gasoline tank trucks. Loading of gasoline tank trucks shall be made only into tanks equipped with vapor collection equipment that is compatible with the terminal's vapor collection system. The terminal's and the tank truck's vapor collection systems shall be connected during each loading of a gasoline tank truck at the affected facility.	Obtain the vapor tightness documentation described in 60.505(b) for each gasoline tank truck loaded at the affected facility. Record the tank identification number as each gasoline tank truck is loaded at the facility. Cross-check each tank identification number with the file of tank vapor tightness documentation within 2 weeks after the corresponding tank is loaded. If less than an average of one gasoline tank truck per month over the last 26 weeks is loaded without vapor tightness documentation, the documentation cross-check shall be performed each quarter. If less than an average of one gasoline tank truck per month over the last 52 weeks is loaded without vapor tightness documentation, the documentation cross-check shall be performed semiannually. Return to biweekly crosschecks if these conditions are not maintained. Notify the owner or operator of each non-vapor-tight gasoline tank truck loaded at the affected facility within 1 week of the cross-check. Ensure that the nonvapor-tight gasoline cargo tank will not be reloaded until vapor tightness documentation is obtained that documents the cargo tank meets the appropriate testing requirements. Gasoline cargo tank testing shall be performed in accordance with 63.425(e), (f), (g) and (h). Maintain records of cargo tank annual certification and continuous performance testing. The records shall include the name of test; the tank owner's name and address; tank identification number; test location and date; tester name and signature; witnessing inspector, if any: name, signature, and affiliation; nature of repair work and when performed in relation to vapor tightness testing; and test results. Include in a semiannual report to the NWCAA each loading of a cargo tank for which vapor tightness documentation had not been previously obtained by the facility. Submit an excess emissions report to the NWCAA in accordance with 63.10(e)(3), when a nonvapor-tight gasoline cargo tank is loaded and there was a failure to take steps to assure that the cargo tank would not be reloaded before vapor tightness documentation was obtained. Also report each reloading of a nonvapor-tight gasoline cargo tank before vapor tightness documentation for is obtained in accordance with 63.422(c)(2).

Gasoline / Diesel Truck Loading Terminal			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.10.21 VOC	NWCAA 580.102, 103, and 105 (12/13/89) NWCAA 580.102 (11/12/99 State Only) WAC 173-491-040(6)(b)(i), (b)(ii), and (d) (12/23/97 State Only)	Gasoline transport tanks have to be vapor-tightness tested annually. Ensure that gasoline is loaded only into cargo tanks that pass annual vapor-tightness checks performed in accordance with 40 CFR 63.425(e).	*Directly Enforceable:* Follow MR&R under AOP Term 5.10.20.
Fugitive Components in VOC/HAP service			
Note: 40 CFR 63 General Provisions included in AOP Section 3 apply to this affected facility			
5.10.22 HAP	40 CFR 63 Subpart CC 63.648(a) and (b) (8/18/98) → 40 CFR 60 Subpart VV 60.480-60.489 (6/2/08, 11/16/07, 12/14/00, 5/30/84, 10/17/00) NWCAA 104.2 (3/14/13)	Refinery MACT Equipment Leaks Comply with 40 CFR 63 Subpart CC for equipment leaks in HAP service.	Conduct an Equipment Leak (LDAR) program as specified in AOP Section 6.2.

5.10.2 Diesel Railcar Loading Rack

Diesel Railcar Loading Rack			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Loading Rack (LR-4)			
5.10.23	OAC 757a Condition 1 (3/20/09)	Products loaded shall be heavy liquids (distillates) as defined in the heavy liquid service definition of 40 CFR 60.481.	*Directly Enforceable:* Maintain records demonstrating that the liquid loaded meets the heavy liquid service definition.
5.10.24	OAC 757a Condition 2 (3/20/09)	Product loading shall employ submerged loading as defined in NWCAA Section 580.	None

Diesel Railcar Loading Rack			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.10.25	OAC 757a Condition 3 (3/20/09)	Written procedures shall be in place and observed ensuring that only tanks in dedicated distillate service are loaded.	None
Process Drains in VOC Service			
Note: 40 CFR 60 General Provisions included in AOP Section 3 apply to these affected facilities			
5.10.26 VOC	40 CFR 60 Subpart QQQ 60.690 (11/23/88) NWCAA 104.2 (3/14/13)	Individual Drain Systems Comply with 40 CFR 60 Subpart QQQ for individual drain systems (see AOP Section 6.4), except for wastewater streams regulated under 40 CFR 63 Subpart CC (i.e., 63.640(o)).	Comply with AOP Section 6.4.

5.10.3 Nonene Truck and Railcar Loading Rack (LR-5)

Nonene Truck and Railcar Loading Rack (LR-5)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Loading Rack (LR-5)			
5.10.27 VOC	OAC 296a Condition 1 (4/12/13)	Railcars shall be filled through a submerged fill line.	None
Process Drains in VOC Service			
Note: 40 CFR 60 General Provisions included in AOP Section 3 apply to these affected facilities			
5.10.28 VOC	40 CFR 60 Subpart QQQ 60.690 (11/23/88) NWCAA 104.2 (3/14/13)	Individual Drain Systems Comply with 40 CFR 60 Subpart QQQ for individual drain systems (see AOP Section 6.4), except for wastewater streams regulated under 40 CFR 63 Subpart CC (i.e., 63.640(o)).	Comply with AOP Section 6.4.

5.10.4 Ethanol Unloading and Storage

Ethanol Unloading and Storage			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Ethanol Tank (Tank 85)			
Note: 40 CFR 60 and 63 General Provisions included in AOP Section 3 apply to this affected facility			
5.10.29 VOC	40 CFR 60 Subpart Kb 60.112b(a)(1)(ii) (10/8/97), 60.113b(a)(2), (3), and (5) (8/11/89), 60.115b(a)(2), (3), and (4) (4/8/87) NWCAA 104.2 (3/14/13)	<u>Internal Floating Roof Operation</u> Each internal floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof: a foam- or liquid-filled liquid-mounted seal, two seals mounted one above the other so that each forms a continuous closure between the wall of the storage vessel and the edge of the internal floating roof, or a mechanical shoe seal.	For single seal roof tanks: • Annually, conduct a visual inspection of the internal floating roof and seal system through manholes and roof hatches. • Visually inspect the internal floating roof, the seal(s), gaskets, slotted membranes, and sleeve seals (if any) at least once every 10 years. For double seal roof tanks, either: • Visually inspect the internal floating roof, the seal(s), gaskets, slotted membranes, and sleeve seals (if any) at least once every 5 years. • Annually, conduct a visual inspection of the internal floating roof and seal system through manholes and roof hatches and visually inspect the internal floating roof, the seal(s), gaskets, slotted membranes, and sleeve seals (if any). Notify the NWCAA in writing 30 calendar days prior to filling or refilling the tank. Keep records of each inspection, including the inspection date, vessel identification, observed condition of the control equipment (seals, internal floating roof, and fittings). If defects are found, submit an inspection report to the NWCAA within 30 days of the inspection identifying the vessel, the nature of the defects, and the date the storage vessel was emptied or the nature of and date the repair was made.

Ethanol Unloading and Storage			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.10.30 VOC	40 CFR 60 Subpart Kb 60.112b(a)(1)(i) (10/8/97) NWCAA 104.2 (3/14/13)	Internal Floating Roof on Surface The internal floating roof shall rest or float on the liquid surface at all times (i.e., off the roof leg supports), except during initial fill and during those intervals when the storage vessel is completely emptied or subsequently emptied and refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible.	*Directly Enforceable:* Keep records of periods when the floating roof is resting on the leg supports.
5.10.31 VOC	40 CFR 60 Subpart Kb 60.113b(a)(2) (8/11/89), and 60.115b(a)(3) (4/8/87) NWCAA 104.2 (3/14/13)	Internal Floating Roof Defect Repairs Repair internal floating roof defects (e.g., roof not resting on surface of liquid, liquid accumulated on floating roof, seal is detached, holes and tears in seal fabric) no later than 45 calendar days after identification, or empty and remove the storage vessel from service no later than 45 calendar days after identification. If a failure is detected that cannot be repaired within 45 calendar days and if the vessel cannot be emptied within 45 calendar days, a 30-day extension may be requested in the inspection report.	The inspection report shall identify the storage vessel, the nature of the defects, and the date the storage vessel was emptied or the nature of and date the repair was made. Such a request for an extension must document that alternative storage capacity is unavailable and specify a schedule of actions that will be taken that will assure that the control equipment will be repaired or the vessel be emptied as soon as possible.
5.10.32 VOC	40 CFR 60 Subpart Kb 60.113b(a)(4) & (5) (8/11/89) NWCAA 104.2 (3/14/13)	Internal Floating Roof Visual Inspection After Degassing Visually inspect the internal floating roof, the primary seal, the secondary seal (if one is in service), gaskets, slotted membranes and sleeve seals (if any) each time the storage vessel is emptied and degassed. If inspection shows the internal floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, or the gaskets no longer close off the liquid surfaces from the atmosphere, or the slotted membrane has more than 10 percent open area, repair the items as necessary so that none of these conditions specified in this paragraph exist before filling or refilling the storage vessel with VOL.	Notify the NWCAA in writing at least 30 days prior to the filling or refilling of each storage vessel. If the inspection is unplanned and was not foreseen 30 days prior to refilling, notify the NWCAA at least 7 days prior to refilling. Notification may be made by telephone, followed by written documentation.

Ethanol Unloading and Storage			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.10.33 VOC	40 CFR 60 Subpart Kb 60.116b (10/15/03) NWCAA 104.2 (3/14/13)	Storage Tank Records Keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. Maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period.	Maintain records at the facility with dimensions and capacities. For storage vessels with design capacity greater than 151 m^3 storing a liquid with a maximum true vapor pressure that is normally less than 5.2 kPa or with a design capacity greater than or equal to 75 m^3 but less than 151 m^3 storing a liquid with a maximum true vapor pressure that is normally less than 27.6 kPa shall notify the NWCAA within 30 days when the maximum true vapor pressure of the liquid exceeds the respective true maximum true vapor pressure values for each volume range.
5.10.34 VOC	40 CFR 60 Subpart Kb 60.112b(a)(1)(iii) & (iv) (10/8/97) NWCAA 104.2 (3/14/13)	Roof Openings Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and rim space vents is to provide a projection below the liquid surface. Except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains, each opening in the roof is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use.	Follow MR&R under AOP Term 5.10.29.
5.10.35 VOC	40 CFR 60 Subpart Kb 60.112b(a)(1)(vii), (viii) & (ix) (10/8/97) NWCAA 104.2 (3/14/13)	Roof Penetrations Each penetration of the roof for the purpose of sampling shall be a sample well. The sample well shall have a slit fabric cover that covers at least 90 percent of the opening. Each penetration of the roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or gasketed sliding cover. Each penetration of the roof that allows for passage of a ladder shall have a gasketed sliding cover.	Follow MR&R under AOP Term 5.10.29.

Ethanol Unloading and Storage			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.10.36 VOC	40 CFR 60 Subpart Kb 60.112b(a)(1)(v) (10/8/97) NWCAA 104.2 (3/14/13)	Automatic Bleeder Vents Automatic bleeder vents shall be equipped with a gasket and are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports.	Follow MR&R under AOP Term 5.10.29.
5.10.37 VOC	40 CFR 60 Subpart Kb 60.112b(a)(1)(vi) (10/8/97) NWCAA 104.2 (3/14/13)	Rim Space Vents Rim space vents shall be equipped with a gasket and are to be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting.	Follow MR&R under AOP Term 5.10.29.
5.10.38 HAP	40 CFR 63 Subpart CC 63.655(i)(1) (6/20/13) → 40 CFR 63 Subpart G 40 CFR 63.123(a) (12/23/04) NWCAA 104.2 (3/14/13)	Dimensions and Capacities Keep readily accessible records showing the dimensions and capacities of each Group 2 storage vessel.	Maintain records at the facility with dimensions and capacities. Retain as long as storage vessel is subject to Group 2 status and is in operation.
5.10.39 VOC/HAP	OAC 1046 Condition 1 (7/22/09)	Equip the storage tank with an internal floating roof with both a primary and secondary seal.	Records documenting the roof type and seals shall be maintained while the storage tank is in ethanol service.

5.10.5 Marine Terminal

Marine Terminal			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Note: 40 CFR 63 General Provisions included in AOP Section 3 apply to this affected facility			
5.10.40 HAP	40 CFR 63 Subpart Y 63.560(d)(6) (4/21/11) NWCAA 104.2 (3/14/13)	Existing offshore loading terminals must meet the submerged fill standards of 46 CFR 153.282: The discharge point of a cargo tank filling line must be no higher above the bottom of the cargo tank or sump than 10 cm (approx. 4 in.) or the radius of the filling line, whichever is greater.	None

5.10.6 Propane/Butane Railcar Load Rack (LR-2) & LPG Truck and Railcar Loading Rack (LR-3)

Propane/Butane Railcar Load Rack (LR-2) & LPG Truck and Railcar Loading Rack (LR-3)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Fugitive Components in VOC service			
5.10.41 VOC	NWCAA 580.8 (3/13/97 State Only) → 40 CFR 60 Subpart VV 60.480-60.489 (6/2/08, 11/16/07, 12/14/00, 5/30/84, 10/17/00)	NWCAA 580.8 Equipment Leaks Monitor components in VOC service for fugitive leaks, repair leaks in a timely manner and report results in accordance with 40 CFR 60 Subpart VV.	Conduct an Equipment Leak (LDAR) program as specified in AOP Section 6.2. In addition, visually inspect any relief valve within 24 hours after it has vented to atmosphere.

5.10.7 Fixed Roof Tank 64

Fixed Roof Tank 64 (40 CFR 63 Subpart EEEE)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Note: 40 CFR 63 General Provisions included in AOP Section 3 apply to this affected facility			
5.10.42 HAP	40 CFR 63 Subpart EEEE 63.2343(b)(3) (4/23/08) NWCAA 104.2 (3/14/13)	Keep documentation of the annual average true vapor pressure of the total listed organic HAP in the stored organic liquid that verifies the storage tank is not required to be controlled.	The documentation must be kept up-to-date and must be in a form suitable and readily available for expeditious inspection and review.

5.11 Flares and Flare Gas Recovery Unit

East Flare (19N-F3), North Flare (19N-F2) and South Flare (19N-F1)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Note: 40 CFR 60 and 63 General Provisions included in AOP Section 3 apply to these affected facilities			
5.11.1 VOC/HAP	As referenced: 40 CFR 63 Subpart A 63.11(b)(1) (12/22/08) 40 CFR 60 Subpart A 60.18(d) (12/22/08) 40 CFR 60 Subpart VV 60.482-10(e) (12/14/00) 40 CFR 60 Subpart VVa 60.482-10a(e) (11/16/07) NWCAA 104.2 (3/14/13)	Flares shall be monitored to ensure they are operated and maintained in conformance with their designs.	Comply with AOP Terms 5.11.2 through 5.11.7.
5.11.2 VOC/HAP	As referenced: 40 CFR 63 Subpart A 63.11(b)(4) (12/22/08) 40 CFR 60 Subpart A 60.18(c)(1) & (f)(1) (12/22/08) NWCAA 104.2 (3/14/13)	<u>Visible Emissions</u> Flares shall be designed for and operated with no visible emissions, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.	None

East Flare (19N-F3), North Flare (19N-F2) and South Flare (19N-F1)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.11.3 VOC/HAP	As referenced: 40 CFR 63 Subpart A 63.11(b)(3) (12/22/08) 40 CFR 60 Subpart A 60.18(e) (12/22/08) 40 CFR 60 Subpart VV 60.482-10(m) (12/14/00); and 60.485(g)(2) (11/16/07) 40 CFR 60 Subpart VVa 60.482-10a(m) (11/16/07); and 60.485a(g)(2) (11/16/07) NWCAA 104.2 (3/14/13)	Flares shall be operated at all times when emissions may be vented to them.	Thermocouples, or any other equivalent device, to detect the presence of a flame (such as a John Zink IR Remote Pilot Eye), shall continuously monitor each flare for the presence of a flame and the data recorded electronically in no less than 15-minute averages. Maintain hourly records of whether the monitor was continuously operating and whether a pilot flame was continuously present. Record and report the presence of a flame at the pilot light over the period of compliance determination - per Notification of Compliance report described in 40 CFR 63 Subpart CC 63.655 Record the times and durations of all periods when all pilot flames for a flare are absent or the all monitors are is not operating.
5.11.4 VOC/HAP	As referenced: 40 CFR 63 Subpart A 63.11(b)(5) (12/22/08) 40 CFR 60 Subpart A 60.18(c)(2) & (f)(2) (12/22/08) NWCAA 104.2 (3/14/13)	Flares shall be operated with a flame present at all times.	
5.11.5 HAP	40 CFR 63 Subpart CC 63.644(a)(2) & (e) (10/28/09); 63.655(g)(6) (6/20/13); and Table 10 (6/30/10) NWCAA 104.2 (3/14/13)	Where a flare is used as a control device for miscellaneous process vents, a device (including but not limited to a thermocouple, an ultraviolet beam sensor, or an infrared sensor) capable of continuously detecting the presence of a pilot flame is required.	

East Flare (19N-F3), North Flare (19N-F2) and South Flare (19N-F1)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.11.6 VOC/HAP	As referenced: 40 CFR 63 Subpart A 63.11(b)(6) (12/22/08) 40 CFR 60 Subpart A 60.18(c)(3)(ii) & (f)(3) (12/22/08) 40 CFR 60 Subpart VV 60.485(g)(4) (11/16/07) 40 CFR 60 Subpart VVa 60.485a(g)(4) (11/16/07) NWCAA 104.2 (3/14/13)	<u>Heating Value</u> The net heating value of the gas being combusted shall be 11.2 MJ/scm (300 Btu/scf) or greater for steam- or air-assisted flares. The net heating value shall be calculated by the applicable equation.	*Directly Enforceable* Maintain records of determinations. Update determinations as necessary to reflect changes in operating conditions. Inspect the flare mass flow meters annually per manufacturer's recommendation. Keep records of all inspections.
5.11.7 VOC/HAP	As referenced: 40 CFR 63 Subpart A 63.11(b)(7)(iii) (12/22/08) 40 CFR 60 Subpart A 60.18(c)(4)(iii) & (f)(5) (12/22/08) 40 CFR 60 Subpart VV 60.485(g)(3) (11/16/07) 40 CFR 60 Subpart VVa 60.485a(g)(3) (11/16/07) NWCAA 104.2 (3/14/13)	<u>Flare Exit Velocity</u> The exit velocity of the flares shall not exceed the lesser of Vmax, as determined in the method specified in 63.11(b)(7)(iii), but less than 122 m/sec (400 ft/sec) are allowed.	

East Flare (19N-F3), North Flare (19N-F2) and South Flare (19N-F1)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.11.8 VOC	40 CFR 60 Subpart Ja 60.103a(f) & (h); and 60.107a(a)(2) & (i)(2) (9/12/12) NWCAA 104.2 (3/14/13)	<u>H_2S limit for Flares</u> The H_2S 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 flare as a result of relief valve leakage or other emergency malfunctions is exempt from this limit.	Install and operate a continuous monitoring system for H_2S concentration on a by volume dry basis in the fuel gases before being burned in any flare in accordance with 40 CFR 60 Subparts A and Ja and 40 CFR 60 Appendices B and F. Pursuant to the EPA-approved Alternative Monitoring Plan approved on March 22, 2011 and revised on August 21, 2012 and January 10, 2014: The H_2S CMS shall be located on the flare gas header line downstream of the seal pot of the East Flare. The H_2S CMS data shall also be reported as representative of any gases being combusted at the North and South Flare when those flares are in use. The H_2S CMS measurement shall be representative of each flare that is operating, at that time. During periods when the East Flare is out of service, PSR must use engineering judgment, including using flare mass flow meters, operating data that indicates the source gases combusted, or determination of the H_2S concentration by using other monitoring data including periodic sampling, to determine and report periods of excess emissions. PSR shall determine and report these periods of excess emissions as all rolling 3-hour periods during which the average concentration of sulfur in the gases combusted in the North and/or South flares, as determined by these methods, exceeds the standard.

East Flare (19N-F3), North Flare (19N-F2) and South Flare (19N-F1)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.11.9 VOC	40 CFR 60 Subpart Ja 60.103a(a) & (b); and 60.108a(c)(1) (9/12/12) NWCAA 104.2 (3/14/13)	Flare Management Plan Develop and implement a written flare management plan which includes a flare minimization assessment, an evaluation of the baseline flow to the flare, procedures to minimize or eliminate flaring during startup and shutdown, procedures to reduce flaring during fuel gas imbalance, and procedures to minimize outages of the flare gas recovery system. Revise the plan periodically to account for changes in flare operation. Compliance shall be achieved by no later than November 11, 2015.	Submit flare management plan to the NWCAA and EPA by the compliance date. 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.
5.11.10 SO_2	40 CFR 60 Subpart Ja 60.103a(c)(1), (d), (e), & (f); 60.107a(e)(1) & (f)(1); and 60.108a(c)(6) (9/12/12) NWCAA 104.2 (3/14/13)	Root Cause Analysis Conduct a root cause analysis and a corrective action analysis for any of the following flaring events: • greater than 500,000 scfd above baseline flaring in any 24-hour period • for events resulting in greater than 500 lb SO_2 in any 24-hour period The analyses must be completed as soon as possible but no later than 45 days after the discharge. Implement the corrective action within 45 days of the discharge or as soon as practicable thereafter. Compliance shall be achieved by no later than November 11, 2015.	Install and operate a continuous monitoring system for TRS concentration in gas discharged to any flare in accordance with 40 CFR 60 Subparts A and Ja and 40 CFR 60 Appendices B and F. Install and operate a continuous parameter monitoring system to measure and record the flow rate of gas discharged to any flare in accordance with manufacturer's specifications and 40 CFR 60 Subpart Ja. If the flow monitor is not equipped with a redundant flow sensor, at least quarterly, perform a visual inspection of all components of the monitor for physical and operational integrity and all electrical connections for oxidation and galvanic corrosion. Recalibrate the flow monitor in accordance with the manufacturer's procedures and specifications biennially (every two years) or at the frequency specified by the manufacturer. Maintain the records of qualifying discharges as listed in 60.108a(c)(6) as applicable.

East Flare (19N-F3), North Flare (19N-F2) and South Flare (19N-F1)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Fugitive Components in HAP service			
Note: 40 CFR 63 General Provisions included in AOP Section 3 apply to this affected facility			
5.11.11 HAP	40 CFR 63 Subpart CC 63.648(a) and (b) (8/18/98) → 40 CFR 60 Subpart VV 60.480-60.489 (6/2/08, 11/16/07, 12/14/00, 5/30/84, 10/17/00) NWCAA 104.2 (3/14/13)	Refinery MACT Equipment Leaks Comply with 40 CFR 63 Subpart CC for equipment leaks in HAP service.	Conduct an Equipment Leak (LDAR) program as specified in AOP Section 6.2.

Flare Gas Recovery Unit			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.11.12 VOC/HAP	OAC 918b Condition 1 (1/30/14)	PSR shall install and operate a continuous emission monitor to determine and record the total sulfur content of any gas being flared. Purge natural gas need not be monitored, and engineering calculations may be used in lieu of the continuous monitor during periods of downtime of the East Flare.	PSR shall conduct quarterly accuracy assessments of the monitor using a method approved in advance by the NWCAA.
5.11.13 VOC/HAP	OAC 918b Condition 2 (1/30/14)	PSR shall install and operate mass flow meters with pressure and temperature compensation to continuously monitor and record the flow of flare gas to each flare.	*Directly Enforceable:* Inspect the flare mass flow meters annually per manufacturer's recommendation. Keep records of all inspections.

Flare Gas Recovery Unit			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.11.14 VOC/HAP	OAC 918b Conditions 3, 4, and 5 (1/30/14)	Flare gas produced at PSR shall be routed to and recovered by the flare gas recovery unit. Excess hydrogen produced by the CRU/HTU and ISOM units during process imbalances may bypass the flare gas recovery system and routed directly to the flare. This excess hydrogen sent to the flare shall not be considered the result of process upset or malfunction when determining compliance with applicable requirements.	Compliance shall be demonstrated by following written standard operating procedures that ensure flare gas is properly routed to the flare gas recovery unit except during a process upset or when maintenance is required. A record shall be kept of each process upset or maintenance activity when flare gas is not recovered. Records shall include the time, date, duration and description of each event and an estimate of the resulting SO_2 emissions that would have otherwise been recovered. Continuously monitor and record the flow of hydrogen from the HTU/CRU and ISOM units routed directly to the flare and the flow determination method. The flow of hydrogen shall be determined by using the flare mass flow meters or an engineering estimate, whichever method provides the most accurate estimate of flow.
Fugitive Components in VOC/HAP service			
Note: 40 CFR 60 and 63 General Provisions included in AOP Section 3 apply to this affected facility			
5.11.15 VOC	40 CFR 60 Subpart GGG 60.590-60.593 (6/2/08, 11/16/07) → 40 CFR 60 Subpart VV 60.482-60.487 (11/16/07, 12/14/00) NWCAA 104.2 (3/14/13)	<u>NSPS Equipment Leaks</u> Comply with 40 CFR 60 Subpart GGG for equipment leaks in VOC service, except for equipment leaks regulated under 40 CFR 63 Subpart CC (i.e., 63.640(p)).	Conduct an Equipment Leak (LDAR) program as specified in AOP Section 6.2.
5.11.16 HAP	40 CFR 63 Subpart CC 63.648(a) and (b) (8/18/98) → 40 CFR 60 Subpart VV 60.480-60.489 (6/2/08, 11/16/07, 12/14/00, 5/30/84, 10/17/00) NWCAA 104.2 (3/14/13)	<u>Refinery MACT Equipment Leaks</u> Comply with 40 CFR 63 Subpart CC for equipment leaks in HAP service.	

Flare Gas Recovery Unit			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.11.17 VOC/HAP	OAC 918b Conditions 6 and 7 (1/30/14)	<u>BACT for Equipment Leaks</u> Comply with 40 CFR 60 Subpart GGG and 40 CFR 63 Subpart CC, enhanced as follows. The following leak definitions shall be utilized for valves and pumps that have the potential to leak volatile organic compounds (VOC) or hazardous air pollutants (HAPs), unless otherwise required to use a lower leak definition: • 500 ppm for valves • 2,000 ppm for pumps	Conduct an Equipment Leak (LDAR) program as specified in AOP Section 6.2, except that if PSR elects to use the sustainable skip period monitoring program, the following skip rules will apply: (A) PSR may move to less frequent monitoring using the following criteria: If the FGR has less than 2% leaking valves for 2 consecutive months, PSR may monitor each valve once every quarter, beginning with the next quarter. After 2 consecutive quarters with the percent of leaking valves less than or equal to 1%, PSR may elect to monitor each valve once every 2 quarters. After 3 consecutive semi-annual periods with the percent of leaking valves less than or equal to 0.5%, PSR may elect to monitor each valve once every 4 quarters. (B)) PSR shall return to more frequent monitoring using the following criteria: If the FGR is on a quarterly, semi-annual or annual monitoring schedule and has a leak percentage greater than or equal to 2% in any single detection period, monitor each valve no less than every month, but can again elect to advance to less frequent monitoring. If the FGR is on a semi-annual or annual monitoring schedule and has a leak percentage greater than or equal to 1%, but less than 2% in any single detection period, monitor each valve no less than quarterly, but can again elect to advance to less frequent monitoring. If the FGR is on an annual monitoring schedule and has a leak percentage greater than or equal to 0.5% but less than 1% in any single detection period, monitor each valve no less than semi-annually, but can again elect to advance to less frequent monitoring.

Flare Gas Recovery Unit			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Process Drains in VOC Service			
Note: 40 CFR 60 General Provisions included in AOP Section 3 apply to these affected facilities			
5.11.18 VOC	40 CFR 60 Subpart QQQ 60.690 (11/23/88) NWCAA 104.2 (3/14/13)	Individual Drain Systems Comply with 40 CFR 60 Subpart QQQ for individual drain systems (see AOP Section 6.4), except for wastewater streams regulated under 40 CFR 63 Subpart CC (i.e., 63.640(o)).	Comply with AOP Section 6.4.

5.12 Internal Combustion Engines

5.12.1 Control Room #2 Generator (30LEG2), BOHO Emergency Firewater Pump (33PGE3), BOHO Firewater Pump (33PGE14), & BOHO Firewater Pump (33PGE15)

Control Room #2 Generator (30LEG2), BOHO Emergency Firewater Pump (33PGE3), BOHO Firewater Pump (33PGE14), & BOHO Firewater Pump (33PGE15)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Note: 40 CFR 63 General Provisions included in AOP Section 3 apply to these affected facilities			
5.12.1 HAP	40 CFR 63 Subpart ZZZZ 63.6602 (1/30/13) & Table 2c Line 1 (3/6/13); 63.6625(f) & (i) (1/30/13); 63.6640(b) (1/30/13); and 63.6650(f) (1/30/13) NWCAA 104.2 (3/14/13)	Change oil and filter every 500 hours of operation or annually, whichever comes first or utilize an oil analysis program in order to extend the specified oil change requirement. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the work practice requirements, or if performing the work practice on the required schedule would otherwise pose an unacceptable risk, the work practice can be delayed until the emergency is over or the unacceptable risk has abated. The work practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk has abated.	Install a non-resettable hour meter if one is not already installed. Report each instance in which each operating limitation was not met. These instances are deviations from the emission and operating limitations. These deviations must be reported according to the requirements in 40 CFR 63.6650(f) and AOP Term 2.4.7. Report any failure to perform the management practice on the schedule required and the Federal, State or local law under which the risk was deemed unacceptable. If an oil analysis program is utilized to extend the specified oil change requirement, the owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

Control Room #2 Generator (30LEG2), BOHO Emergency Firewater Pump (33PGE3), BOHO Firewater Pump (33PGE14), & BOHO Firewater Pump (33PGE15)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.12.2 HAP	40 CFR 63 Subpart ZZZZ 63.6625(e)(2) & (h); 63.6640(a) & Table 6 Line 9; and 63.6655(d) & (e) (1/30/13) NWCAA 104.2 (3/14/13)	Operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. Minimize the engine's time spent at idle and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes.	Keep records of operating and maintaining the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions. Or, if a maintenance plan was developed, keep records of the maintenance conducted on the stationary RICE in order to demonstrate that the stationary RICE and after-treatment control device (if any) were operated and maintained according to the maintenance plan.
5.12.3 HAP	40 CFR 63 Subpart ZZZZ 63.6625(f) and 63.6655(f) (1/30/13) NWCAA 104.2 (3/14/13)	Keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. Document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engines are used for demand response operation, the owner or operator must keep records of the notification of the emergency situation, and the time the engine was operated as part of demand response.	Install a non-resettable hour meter if one is not already installed.
5.12.4 HAP	40 CFR 63 Subpart ZZZZ 63.6595(c); 63.6640(e) & Table 8; 63.6645(a)(5); and 63.6650(f) (1/30/13) NWCAA 104.2 (3/14/13)	Comply with applicable requirements in 40 CFR 63 Subpart A as listed in 40 CFR 63 Subpart ZZZZ Table 8. Except notifications under 63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), 63.9(b) through (e), and (g) and (h) do not apply to these engines as existing stationary emergency RICE.	Report each instance in which the applicable requirements in 40 CFR 63 Subpart A as listed in 40 CFR 63 Subpart ZZZZ Table 8 are not met. Deviations must be reported according to the requirements in 40 CFR 63.6650(f) and AOP Term 2.4.7.

5.12.2 Wharf Stand-by Generator (30LEG5)

Wharf Stand-by Generator (30LEG5)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.12.5 Opacity	OAC 797 Condition 1 (2/27/02)	Visible emissions from the generator shall not exceed 5% opacity for more than 3 minutes in any 60-minute period as determined by Department of Ecology Method 9A.	*Directly Enforceable:* Operate and maintain in accordance with the manufacturer's specifications.
5.12.6	OAC 797 Condition 2 (2/27/02)	The generator shall not operate more than 500 hours per calendar year.	A record of operating hours shall be kept on-site for a minimum of five years and made available to the NWCAA upon request.
5.12.7 SO_2	OAC 797 Condition 3 (2/27/02)	Diesel fuel combusted in the generator shall not contain more than 0.05% by weight sulfur.	Fuel quality records shall be kept on-site for a minimum of five years and made available to the NWCAA upon request.

5.12.3 Main Control Room Emergency Generator (30LEG6) & Radio Tower Emergency Generator (30LEG7)

Main Control Room Emergency Generator (30LEG6) & Radio Tower Emergency Generator (30LEG7)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Note: 40 CFR 60 and 63 General Provisions included in AOP Section 3 apply to these affected facilities			
5.12.8 VOC/HAP	40 CFR 60 Subpart IIII 60.4205(b) (6/28/11) →60.4202(a)(2) (6/28/11) → 40 CFR 89.112(a) (7/13/05) & 89.113(a) (10/23/98); 60.4206 (6/28/11); and 60.4211(a), (c), & (g) (1/30/13) 40 CFR 63 Subpart ZZZZ 63.6590(c)(6) (1/30/13) NWCAA 104.2 (3/14/13)	Comply with the following Tier 3 emission standards for nonroad engines for model year 2006 and newer: • NMHC + NO_X: 4.0 g/kW-hr • CO: 3.5 g/kW-hr • PM: 0.20 g/kW-hr Operate and maintain the stationary CI ICE such that it achieves the emission standards over the entire life of the engine.	Operate and maintain according to the manufacturer's emission-related written instructions. Change only those emission-related settings that are permitted by the manufacturer. 40 CFR 60.4211(g) includes provisions for when the engine's emission-related settings are changed beyond what is allowed by the manufacturer.

Main Control Room Emergency Generator (30LEG6) & Radio Tower Emergency Generator (30LEG7)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.12.9 VOC/HAP	40 CFR 60 Subpart IIII 60.4207(b) (1/30/13) 40 CFR 63 Subpart ZZZZ 63.6590(c)(6) (1/30/13) NWCAA 104.2 (3/14/13)	Use diesel that meet the requirement of 40 CFR 80.510(b) for nonroad diesel fuel: • 15 ppm maximum sulfur content • Minimum cetane index of 40 or maximum aromatic content of 35 volume percent	None
5.12.10 VOC/HAP	40 CFR 60 Subpart IIII 60.4209(a) (6/28/11) 40 CFR 63 Subpart ZZZZ 63.6590(c)(6) (1/30/13) NWCAA 104.2 (3/14/13)	Keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. Record the time of operation and the reason the engine was in operation during that time.	Install a non-resettable hour meter.

5.12.4 EP Outfall Pump (9QG68)

EP Outfall Pump (9QG68)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Note: 40 CFR 60 and 63 General Provisions included in AOP Section 3 apply to this affected facility			
5.12.11 VOC/HAP	40 CFR 60 Subpart IIII 60.4204(b) (6/28/11) → 60.4201(a) (6/28/11) → 40 CFR 1039.102(b) Table 6 & (e)(2) (11/8/10) and 1039.115(a) & (g) (6/8/10); 60.4206 (6/28/11); and 60.4211(a), (c), & (g) (1/30/13); and 60.4214(c) (1/30/13) 40 CFR 63 Subpart ZZZZ 63.6590(c)(7) (1/30/13) NWCAA 104.2 (3/14/13)	Comply with the following Interim Tier 4 emission standards: • NO_X: 2.0 g/kW-hr • NMHC: 0.19 g/kW-hr • CO: 3.5 g/kW-hr • PM: 0.02 g/kW-hr Operate and maintain the stationary CI ICE such that it achieves the emission standards over the entire life of the engine. Crankcase emissions shall be included in the engine emission limits.	Operate and maintain according to the manufacturer's emission-related written instructions. Change only those emission-related settings that are permitted by the manufacturer. 40 CFR 60.4211(g) includes provisions for when the engine's emission-related settings are changed beyond what is allowed by the manufacturer.

EP Outfall Pump (9QG68)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.12.12 VOC/HAP	40 CFR 60 Subpart IIII 60.4209(b) (6/28/11) 40 CFR 63 Subpart ZZZZ 63.6590(c)(7) (1/30/13) NWCAA 104.2 (3/14/13)	Install a backpressure monitor on the diesel particulate filter that alerts when the high backpressure limit of the engine is approached.	Keep records of any corrective action taken after the backpressure monitor has alerted.
5.12.13 VOC/HAP	40 CFR 60 Subpart IIII 60.4207(b) (1/30/13) 40 CFR 63 Subpart ZZZZ 63.6590(c)(7) (1/30/13) NWCAA 104.2 (3/14/13)	Use diesel that meet the requirement of 40 CFR 80.510(b) for nonroad diesel fuel: • 15 ppm maximum sulfur content • Minimum cetane index of 40 or maximum aromatic content of 35 volume percent	None

5.13 Wastewater and Effluent Plant

Effluent Plant and Sewer System

External Floating Roof Tanks

Tanks 72 and 73 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, and 40 CFR 63 Subpart CC)

Internal Floating Roof Tanks

Tank 60 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC, and OAC 341a)
Tanks 61, 62, and 71 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF and 40 CFR 63 Subpart CC)
Tank 70 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC, and OAC 241a)

5.13.1 Effluent Plant and Sewer System

Effluent Plant and Sewer System (ETPPDF)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Benzene Waste Management Practices			
Note: 40 CFR 61 and 63 General Provisions included in AOP Section 3 apply to this affected facility			
5.13.1 HAP	40 CFR 61 Subpart FF 61.342(e) (10/17/00), 61.355(a), (b), (c), & (k) (10/17/00), 61.356(b) (11/12/02), and 61.357(d)(5) (10/17/00) 40 CFR 63 Subpart CC 63.647 (8/18/95) → 40 CFR 61 Subpart FF 61.340-61.355 40 CFR 63 Subpart CC 63.655(a) (6/20/13) → 40 CFR 61 Subpart FF 61.356-61.357 NWCAA 104.2 (3/14/13)	<u>Total Annual Benzene Quantity:</u> For waste streams with a flow-weighted annual average water content of less than 10 percent, manage and treat the waste stream in accordance with 61.343 through 61.347 and remove or destroy the benzene contained in the waste using a treatment process, or wastewater treatment system that complies with 61.348. Waste streams (including remediation and process unit turnaround waste) with a flow-weighted annual average water content of 10 percent or greater and waste streams mixed with water or wastes at any time such that the resulting mixture has an annual water content greater than 10 percent are exempt from management and treatment as long as the total annual benzene quantity of these streams does not exceed 6.0 Mg/yr as determined in 61.355(k).	Conduct an annual analysis of the benzene waste stream and report to the NWCAA the Total Annual Benzene (TAB) and the quantity of waste stream that is exempt from management (BQ6). Managed streams shall include remediation and process unit turnaround wastes. Calculation of the benzene quantities shall follow the procedures of 61.355(k). The TAB annual reporting period shall be from January 1 to December 31. Submit the TAB report in accordance with AOP Term 4.1.

Effluent Plant and Sewer System (ETPPDF)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.13.2 HAP	40 CFR 61 Subpart FF 61.348(a) and (c) (10/17/00), 61.354(a)(1) (10/17/00), 61.355(c)(3) and (d) (10/17/00), 61.356(e) and (i) (11/12/02) 40 CFR 63 Subpart CC 63.647 (8/18/95) → 40 CFR 61 Subpart FF 61.340-61.355 40 CFR 63 Subpart CC 63.655(a) (6/20/13) → 40 CFR 61 Subpart FF 61.356-61.357 NWCAA 104.2 (3/14/13)	Treatment Processes Outlet Testing Design, install, operate and maintain a treatment process that removes benzene from the waste stream to a level less than 10 ppmw on a flow-weighted annual average basis.	Measure the benzene concentration of the waste stream exiting the treatment process (i.e., entering the First Stage Bioreactor (Tank 74)) at least once per month by collecting and analyzing one or more samples using the procedures specified in 61.355(c)(3). The test shall be conducted under conditions that exist when the treatment process is operating at the highest inlet waste stream flow rate and benzene content expected to occur. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a test. The owner or operator shall record all process information as is necessary to document the operating conditions during the test. Maintain documentation for the life of the unit that includes the information listed in 61.356(e) and (i), as appropriate.
5.13.3 HAP	40 CFR 61 Subpart FF 61.348(e) (10/17/00), 61.350 (3/7/90), 61.356(g) (11/12/02), 61.357(d)(6) & (8) (10/17/00) 40 CFR 63 Subpart CC 63.647 (8/18/95) → 40 CFR 61 Subpart FF 61.340-61.355 40 CFR 63 Subpart CC 63.655(a) (6/20/13) → 40 CFR 61 Subpart FF 61.356-61.357 NWCAA 104.2 (3/14/13)	Treatment Processes Openings If the treatment process or wastewater treatment unit has any openings (e.g., access doors, hatches, etc.), all such opening shall be sealed (e.g., gasketed, latched, etc.) and kept closed at all times when waste is being treated, except during inspection and maintenance. Except where repair is technically impossible without a unit shutdown, a first attempt at repair shall be made as soon as practicable, but not later than 15 calendar days after identifying a problem with a seal or gasket. When repair is delayed for a shutdown, repair shall be made before end of the next unit shutdown.	Perform quarterly visual inspections of each seal, access door, and all other openings to ensure there are no cracks or gaps occur and that openings are closed and gasketed properly. Maintain records of inspections performed and corrective action taken upon discovering a defect including descriptions of each defect and the date each was identified and corrected. Submit quarterly reports to the NWCAA certifying that required inspections have been completed. Submit an annual report that includes results of inspections where a defect was found. The report shall include a description of action taken to correct each problem and the date the action was complete.

Effluent Plant and Sewer System (ETPPDF)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
API Oil Water Separator and DAF Units 1, 2 and 3			
Note: 40 CFR 61 and 63 General Provisions included in AOP Section 3 apply to these affected facilities			
Note: 40 CFR 60 General Provisions included in AOP Section 3 apply to DAF 3			
5.13.4 HAP	40 CFR 61 Subpart FF 61.352(b) (3/7/90) → 61.347 (1/7/93), 61.350 (3/7/90), 61.355(h) (10/17/00), 61.356(d), (g) & (h) (11/12/02), and 61.357(d)(6) & (8) (10/17/00) 40 CFR 63 Subpart CC 63.647 (8/18/95) → 40 CFR 61 Subpart FF 61.340-61.355 40 CFR 63 Subpart CC 63.655(a) (6/20/13) → 40 CFR 61 Subpart FF 61.356-61.357 For DAF 3 Only: 40 CFR 60 Subpart QQQ NWCAA 104.2 (3/14/13)	<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. Design the cover and all openings to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background. Each opening is to remain closed or sealed except during waste sampling, inspection or maintenance. Except where repair is technically impossible without a unit shutdown, a first attempt at repair shall be made as soon as practicable, but not later than 15 calendar days after detection. When repair is delayed until a shutdown, repair shall be made before end of the next unit shutdown.	Perform quarterly visual inspections of each cover seal, access hatch, and all other openings to ensure that there are no cracks or gaps and that openings are properly closed and gasketed. Annually, monitor the cover and openings in accordance with 40 CFR 60 Appendix A Method 21 with a leak definition of 500 ppm above background. Maintain records of inspections performed and corrective action taken upon discovering a defect including descriptions of each defect and the date each was identified and corrected. Maintain records for each test of no detectable emissions. Maintain engineering design documentation for the life of the control equipment. Submit quarterly reports to the NWCAA certifying that required inspections have been completed. Submit an annual report that includes results of inspections and leak tests which indicates a 500 ppm leak above background or where or a defect was found. The report shall include a description of action taken to correct each problem and the date the action was complete.

Effluent Plant and Sewer System (ETPPDF)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.13.5 HAP	40 CFR 61 Subpart FF 61.352(a)(1) (3/7/90) → 40 CFR 60 Subpart QQQ 60.693-2(a)(1) & (3) (8/18/95), 60.692-6 (11/23/88), and 60.696(d) (11/23/88) 40 CFR 61 Subpart FF 61.356(l) (11/12/02) and 61.357(d)(6), (d)(8) & (g) (10/17/00) 40 CFR 63 Subpart CC 63.647 (8/18/95) → 40 CFR 61 Subpart FF 61.340-61.355 40 CFR 63 Subpart CC 63.655(a) (6/20/13) → 40 CFR 61 Subpart FF 61.356-61.357 For DAF 3 Only: 40 CFR 60 Subpart QQQ NWCAA 104.2 (3/14/13)	<u>Oil Water Separators - Floating Roof Seal Coverage</u> Each floating roof shall be equipped with a closure device between the wall of the separator and the roof edge. The closure device is to consist of two seals: a primary (either a liquid-mounted seal or a mechanical shoe seal) and a secondary seal. Primary seal gaps shall not exceed 1.5 inches at any point. Total primary seal gap area shall not exceed 3.2 square inches per foot. Secondary seal gaps shall not exceed 0.5 inches at any point. Total secondary seal gap area shall not exceed 0.32 square inches per foot. Except where repair is technically impossible without a unit shutdown, seal gaps and defects shall be repaired within 30 days after discovery. When repair is delayed until a shutdown, repair shall be made before end of the next unit shutdown. The roof shall be floating on the liquid (i.e., off roof supports) at all times except during abnormal conditions (i.e., low flow rate).	Measure the secondary seal gaps annually and measure the primary seal gaps at least once every five years. Measure around the entire separator perimeter in each place where a 0.32-cm diameter uniform probe passes freely between the seal and the separator wall. Measure the gap width and the perimetrical distance of each such location. The total surface area of each gap shall be determined by using probes of various widths to measure accurately the actual distance from the tank wall to the seal and multiplying each such width by its respective perimetrical distance. Add the gap surface area of each gap location for each seal individually and divide the sum by the nominal perimeter of the separator. Maintain records of the date, location, and corrective action for each visual inspection in which a defect was found, along with the results of any seal gap measurements. Submit quarterly reports to the NWCAA certifying that required inspections have been completed and that identify all seal gap measurements that are found to exceed the prescribed limits. Submit an annual report that includes results of inspections where a defect was found. The report shall include a description of action taken to correct each problem and the date the action was complete.

Effluent Plant and Sewer System (ETPPDF)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.13.6 HAP	40 CFR 61 Subpart FF 61.352(a)(1) (3/7/90) → 40 CFR 60 Subpart QQQ 60.693-2(a)(2), (4), (5) (8/18/95), and 60.692-6 (11/23/88) 40 CFR 61 Subpart FF 61.356(l) (11/12/02) and 61.357(d)(6) & (8) (10/17/00) 40 CFR 63 Subpart CC 63.647 (8/18/95) → 40 CFR 61 Subpart FF 61.340-61.355 40 CFR 63 Subpart CC 63.655(a) (6/20/13) → 40 CFR 61 Subpart FF 61.356-61.357 For DAF 3 Only: 40 CFR 60 Subpart QQQ NWCAA 104.2 (3/14/13)	<u>Oil Water Separators - Floating Roof Openings</u> Openings shall be equipped with a gasketed cover, seal, or lid, which shall be closed at all times, except during inspection and maintenance. Slotted membrane fabric cover shall cover 90% of the emergency roof drain area. Except where repair is technically impossible without a unit shutdown, gasket or seal defects on access doors or other opening shall be repaired as soon as practicable but no later than 30 days after identification. When repair is delayed until a shutdown, repair shall be made before end of the next unit shutdown.	Conduct semiannual visual inspections of access doors, emergency roof drains and other openings. Maintain records of the date, location, and corrective action for each visual inspection in which a defect was found. Maintain records of inspections performed and corrective action taken upon discovering a defect including descriptions of each defect and the date each was identified and corrected. Submit quarterly reports to the NWCAA certifying that required inspections have been completed. Submit an annual report that includes results of inspections where a defect was found. The report shall include a description of action taken to correct each problem and the date the action was complete.

Effluent Plant and Sewer System (ETPPDF)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Closed Vent Systems and Carbon Adsorption Control Devices (Sewer Junction Boxes, Fixed Roof Tanks, Fixed Roof Oil/Water Separator, Miscellaneous)			
Note: 40 CFR 61 and 63 General Provisions included in AOP Section 3 apply to these affected facilities			
5.13.7 HAP	40 CFR 61 Subpart FF 61.349(a)(1), (f), and (g) (10/17/00), 61.350 (3/7/90), 61.354(f)(1) (10/17/00), 61.355(h) (10/17/00), 61.356(f)(1), (g), & (h) (11/12/02), 61.357(d)(6) & (8) (10/17/00) 40 CFR 63 Subpart CC 63.647 (8/18/95) → 40 CFR 61 Subpart FF 61.340-61.355 40 CFR 63 Subpart CC 63.655(a) (6/20/13) → 40 CFR 61 Subpart FF 61.356-61.357 NWCAA 104.2 (3/14/13)	<u>Closed Vent Systems</u> Design the system to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background. All gauging and sampling devices shall be gas-tight except when gauging or sampling is taking place. Secure any bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. Except where repair is technically impossible without a unit shutdown, a first attempt at repair shall be made as soon as practicable, but not later than 5 calendar days after detection and repair shall be completed within 15 days. When repair is delayed until a shutdown, repair shall be made before end of the next unit shutdown.	Perform quarterly visual inspections including ductwork and piping and connections to the covers and control devices for evidence of visible defects such as holes in ductwork or piping and loose connections. Perform monthly visual inspections of the bypass line valves, if used. Annually, monitor in accordance with 40 CFR 60 Appendix A Method 21 with a leak definition of 500 ppm above background. Maintain a signed and dated statement certifying that the closed-vent system and control device is designed to operate at the documented performance level when the waste management unit is or would be operating at the highest load or capacity expected to occur. Also, periods when the closed-vent system and control device are not operated as designed including all periods and the duration when any valve car-seal or closure mechanism is broken or the bypass line valve position has changed. Maintain records of inspections performed and corrective action taken upon discovering a defect including descriptions of each defect and the date each was identified and corrected. Maintain records for each test of no detectable emissions. Maintain engineering design documentation for the life of the control equipment. Submit quarterly reports to the NWCAA certifying that required inspections have been completed. Submit an annual report that includes results of inspections and leak tests which indicates a 500 ppm leak above background or where or a defect was found. The report shall include a description of action taken to correct each problem and the date the action was complete.

Effluent Plant and Sewer System (ETPPDF)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.13.8 HAP	40 CFR 61 Subpart FF 61.349(a)(2)(ii), (b), (c)(1), (f), and (g) (10/17/00), 61.350 (3/7/90), 61.354(d) (10/17/00), 61.356(f)(2), (2)(i)(G), (h) & (j) (11/12/02), 61.357(d)(6) and (8) (10/17/00) 40 CFR 63 Subpart CC 63.647 (8/18/95) → 40 CFR 61 Subpart FF 61.340-61.355 40 CFR 63 Subpart CC 63.655(a) (6/20/13) → 40 CFR 61 Subpart FF 61.356-61.357 NWCAA 104.2 (3/14/13)	<u>Carbon Adsorption Control Devices</u> Carbon adsorption system shall control organic emissions with an efficiency of at least 95% by weight or control benzene emissions with an efficiency of at least 98% by weight. Operate the closed vent system and control device at all times except during maintenance or repair of the waste management unit. Except where repair is technically impossible without a unit shutdown, a first attempt at repair shall be made as soon as practicable, but not later than 5 calendar days after detection and repair shall be completed within 15 days. When repair is delayed until a shutdown, repair shall be made before end of the next unit shutdown.	Monitor in accordance with 40 CFR 60 Appendix A Method 21 the organic compound concentration level in the exhaust either on a daily basis or at intervals no greater than 20% of the design carbon replacement interval, whichever is greater. Replace the carbon with fresh carbon when breakthrough (concentration of 500 ppmv above background) is indicated. Perform quarterly visual inspections of the control vent system and control device for evidence of visible defects such as holes in ductwork or piping and loose connections. Maintain documentation that includes: • Records of dates and times when the system is inspected and monitored and when carbon beds are replaced. • 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. Maintain records for each test of no detectable emissions including date of test, background level, maximum concentration measured. If a leak is measured, record a description of the problem, the corrective action taken, and date corrective action was completed. Submit quarterly reports to the NWCAA certifying that required inspections have been completed. Submit an annual report that includes results of inspections and leak tests which indicates a 500 ppm leak above background or where or a defect was found. The report shall include a description of action taken to correct each problem and the date the action was complete.

Effluent Plant and Sewer System (ETPPDF)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.13.9 HAP	40 CFR 61 Subpart FF 61.346(b) (1/7/93), 61.350 (3/7/90), 61.356(d) & (g) (11/12/02), and 61.357(d)(6) & (8) (10/17/00) 40 CFR 63 Subpart CC 63.647 (8/18/95) → 40 CFR 61 Subpart FF 61.340-61.355 40 CFR 63 Subpart CC 63.655(a) (6/20/13) → 40 CFR 61 Subpart FF 61.356-61.357 NWCAA 104.2 (3/14/13)	<u>Individual Drain Systems</u> Each drain shall be equipped with water seal controls or a tightly sealed cap or plug. Each junction box shall be equipped with a cover and may have a vent pipe. Junction box covers shall have a tight seal and be kept in place at all times, except during inspection and maintenance. Except where repair is technically impossible without a unit shutdown, a first attempt at repair shall be made as soon as practicable, but not later than 15 calendar days after detection. When repair is delayed until a shutdown, repair shall be made before end of the next unit shutdown.	Perform quarterly visual inspections of each water seal, caps and plugs (if used), junction boxes, and unburied sewer lines to ensure there are no cracks, gaps or other seal problems associated with the drain system. Maintain records of inspections performed and corrective action taken upon discovering a defect including descriptions of each defect and the date each was identified and corrected. Submit quarterly reports to the NWCAA certifying that required inspections have been completed. Submit an annual report that includes results of inspections where a defect was found. The report shall include a description of action taken to correct each problem and the date the action was complete.

Effluent Plant and Sewer System (ETPPDF)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.13.10 HAP	40 CFR 61 Subpart FF 61.345 (12/4/03), 61.350 (3/7/90), 61.355(h) (10/17/00), 61.356(g) and (h) (11/12/02), and 61.357(d)(6) and (8) (10/17/00) NWCAA 104.2 (3/14/13)	Containers Install, operate, and maintain a cover on each container used to handle, transfer, or store waste. Design the cover and all openings to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background. Maintain each opening in a closed, sealed position (e.g. covered by a lid that is gasketed and latched) at all times when waste is in the container, except when loading, removing, sampling, or inspecting wastes. When waste is transferred by pumping, the fill pipe should be submerged. During loading, the cover shall remain in place and all openings shall be closed and sealed, except for those openings required for the submerged fill pipe, those openings required for venting to prevent physical damage or permanent deformation of the container or cover. Except where repair is technically impossible without a unit shutdown, a first attempt at repair shall be made as soon as practicable, but not later than 15 calendar days after detection. When repair is delayed until a shutdown, repair shall be made before end of the next unit shutdown.	Perform quarterly visual inspections of each cover and all openings to ensure that they are closed and gasketed properly. Annually, monitor the cover and openings in accordance with 40 CFR 60 Appendix A Method 21 with a leak definition of 500 ppm above background. Maintain records of inspections performed and corrective action taken upon discovering a defect including descriptions of each defect and the date each was identified and corrected. Maintain records for each test of no detectable emissions. Submit quarterly reports to the NWCAA certifying that required inspections have been completed. Submit an annual report that includes results of inspections and leak tests which indicates a 500 ppm leak above background or where or a defect was found. The report shall include a description of action taken to correct each problem and the date the action was complete.

5.13.2 Effluent Plant External Floating Roof Tanks (Tanks 72 and 73)

External Floating Roof Tanks 72 and 73 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, and 40 CFR 63 Subpart CC)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Note: 40 CFR 60, 61, and 63 General Provisions included in AOP Section 3 apply to these affected facilities			
5.13.11 VOC	NWCAA 560 (4/14/93)	<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.	*Directly Enforceable:* Follow MR&R under AOP Terms 5.13.12 through 5.13.24. Maintain records demonstrating that the stored organic liquid has a true vapor pressure less than 11.1 psi. Notify the NWCAA within 12 hours of discovering an exceedance of the 11.1 psi limit.

External Floating Roof Tanks 72 and 73 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, and 40 CFR 63 Subpart CC)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.13.12 VOC/HAP	40 CFR 60 Subpart Kb 60.112b(a)(2)(i) (10/8/97), 60.113b(b) (8/11/89), and 60.115b(b) (4/8/87) 40 CFR 61 Subpart FF 61.351(a)(2) (9/10/90), 61.356(k) (11/12/02), & 61.357(f) (10/17/00) → 60.112b(a)(2) (10/8/97) & 60.115b (4/8/87) 40 CFR 63 Subpart CC 63.647 (8/18/95) → 40 CFR 61 Subpart FF 61.340-61.355 40 CFR 63 Subpart CC 63.655(a) (6/20/13) → 40 CFR 61 Subpart FF 61.356-61.357 NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	<u>External Floating Roof Seal Coverage</u> An external floating roof means a pontoon-type or double-deck type cover that rests on the liquid surface in a vessel with no fixed roof. Each external floating roof shall be equipped with a closure device between the wall of the vessel the roof edge. The closure device shall consist of two seals: a primary (either a metallic shoe seal or a liquid-mounted seal) and a secondary seal. Both the primary and secondary seals shall completely cover the annular space between the external floating roof and the storage vessel wall, except for when necessary repairs are being made or the vessel is empty, as provided in 60.113b(b)(4). For the primary seal, the accumulated area of gaps shall not exceed 212 cm^2 per meter of tank diameter, and the width of any portion of any gap shall not exceed 3.81 cm. One end of the mechanical shoe should extend into the stored liquid and the other end should be at least 61 cm above the liquid surface. For the secondary seal, the accumulated area of gaps shall not exceed 21.2 cm^2 per meter of tank diameter and the width of any portion of any gap shall not exceed 1.27 cm. There should be no holes, tears, or other openings in the primary mechanical shoe, the primary or secondary seal fabric, or the seal envelope.	Measure gaps between the vessel wall and the primary seal within 60 days of initial fill and at least every 5 years thereafter. Gap measurement between the vessel wall and the secondary seal shall be performed within 60 days of initial fill and at least once per year thereafter. Seal gaps shall be measured at one or more floating roof levels when the roof is floating off the roof leg supports. Measure around the entire tank circumference in each place where a 0.32-cm diameter uniform probe passes freely between the seal and the vessel wall. Measure the circumferential distance of each such location. The total surface area of each gap shall be determined by using probes of various widths to measure accurately the actual distance from the tank wall to the seal and multiplying each such width by its respective circumferential distance. Add the gap surface area of each gap location for each seal individually and divide the sum by the nominal diameter of the tank. Notify the NWCAA 30 days in advance of any gap measurements. Keep records of each gap measurement including the date of measurement, the raw data, and the calculation of accumulated gap area. For the primary and secondary seal gap measurements, submit this data to the NWCAA within 60 days of taking the measurement. After each seal gap measurement that detects gaps exceeding the gap area allowance, submit an inspection report to the NWCAA within 30 days of the inspection identifying the vessel, the date of measurement, the raw data, the calculation of accumulated gap area, and date the vessel was emptied or repairs were made.

External Floating Roof Tanks 72 and 73 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, and 40 CFR 63 Subpart CC)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.13.13 VOC	NWCAA 580.33 (12/13/89)	Seal Condition All seals are to be maintained in good operating condition and the seal fabric shall contain no visible holes, tears, or other openings.	*Directly Enforceable:* Semiannually, visually inspect the secondary seal. If the secondary seal has holes, tears, or other openings in the seal or fabric, repair the items as necessary. Maintain records of the types of petroleum liquids stored, the maximum true vapor pressure of the liquid as stored, and the results of any inspections performed for a period of two years after the date on which the record was made. Note: Under WAC 173-401-615(2), records of required monitoring data and support information shall be retained for a period of five years from the date of the monitoring sample, measurement, report, or application.
5.13.14 VOC	NWCAA 580.93, 580.94 and 580.99 (12/13/89)	Volatile Organic Compound in External Floating Roof Tanks Store volatile organic compounds in vessels subject to this section that have been fitted with a rim-mounted secondary seal. All of these seals or closure devices shall meet the following requirements: There must be no visible holes, tears, or other openings in the seal or seal fabric; The seal shall be intact and uniformly in place around the circumference of the floating roof between the roof and the tank wall. For vapor-mounted primary seals, the accumulated area of gaps exceeding 0.32 cm (1.8 inch) in width between the secondary seal and the tank wall shall not exceed 21.2 cm^2 per meter of tank diameter (1.0 in^2 per foot of tank diameter)	Semiannually, visually inspect the secondary seal gap. Measure the secondary seal gap annually if the floating roof is equipped with a vapor-mounted primary seal. Notify the NWCAA not less than five working days prior to the measurement. Maintain records of the types of petroleum liquids stored, the maximum true vapor pressure of the liquid as stored, and the results of any inspections performed for a period of two years after the date on which the record was made. *Directly Enforceable:* Note: Under WAC 173-401-615(2), records of required monitoring data and support information shall be retained for a period of five years from the date of the monitoring sample, measurement, report, or application. If the secondary seal has holes, tears, or other openings in the seal or fabric, repair the items as necessary.

External Floating Roof Tanks 72 and 73 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, and 40 CFR 63 Subpart CC)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.13.15 VOC/HAP	40 CFR 60 Subpart Kb 60.112b(a)(2)(iii) (10/8/97) 40 CFR 61 Subpart FF 61.351(a)(2) (9/10/90) → 60.112b(a)(2)(iii) (10/8/97) 40 CFR 63 Subpart CC 63.647 (8/18/95) → 40 CFR 61 Subpart FF 61.340-61.355 40 CFR 63 Subpart CC 63.655(a) (6/20/13) → 40 CFR 61 Subpart FF 61.356-61.357 NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	<u>External Floating Roof on Surface</u> The roof shall be floating on the liquid at all times (i.e., off the roof leg supports) except during initial fill until the roof is lifted off leg supports and when the tank is completely emptied and subsequently refilled. The process of filling, emptying, or refilling when the roof is resting on the leg supports shall be continuous and shall be accomplished as rapidly as possible.	*Directly Enforceable:* Keep records of periods when the tank is resting on the leg supports.

External Floating Roof Tanks 72 and 73 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, and 40 CFR 63 Subpart CC)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.13.16 VOC/HAP	40 CFR 60 Subpart Kb 60.113b(b)(4) & (4)(iii) (8/11/89), and 60.115b(b)(4) (4/8/87) 40 CFR 61 Subpart FF 61.351(a)(2) (9/10/90) → 60.113b(b)(4) & (4)(iii) (8/11/89), and 60.115b(b)(4) (4/8/87) 40 CFR 63 Subpart CC 63.647 (8/18/95) → 40 CFR 61 Subpart FF 61.340-61.355 40 CFR 63 Subpart CC 63.655(a) (6/20/13) → 40 CFR 61 Subpart FF 61.356-61.357 NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	<u>External Floating Roof Gap Repairs</u> Repair conditions not meeting the gap allowances, or empty the storage vessel within 45 days of identification of failures found in any inspection. If a failure is detected that cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested in the inspection report.	Submit in the inspection report documentation of each seal gap measurement made in which the seal and seal gap requirements of this part are not met and repairs taken to correct the defect. Documentation of a decision to use an extension shall include a failure description, documentation that alternate storage capacity is unavailable, and an action schedule that will ensure that the control equipment will be repaired or the vessel will be emptied as soon as possible.

External Floating Roof Tanks 72 and 73 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, and 40 CFR 63 Subpart CC)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.13.17 VOC/HAP	40 CFR 60 Subpart Kb 60.113b(b)(6) (8/11/89) 40 CFR 61 Subpart FF 61.351(a)(2) (9/10/90) → 60.113b(b)(6) (8/11/89) 40 CFR 63 Subpart CC 63.647 (8/18/95) → 40 CFR 61 Subpart FF 61.340-61.355 40 CFR 63 Subpart CC 63.655(a) (6/20/13) → 40 CFR 61 Subpart FF 61.356-61.357 NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	<u>External Floating Roof Visual Inspection After Degassing</u> Visually inspect the external floating roof, the primary seal, the secondary seal, and fittings each time the vessel is emptied and degassed. If inspection shows that the external floating roof has defects; the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, repair the items as necessary so that none of the conditions specified in this paragraph exist before filling or refilling the storage vessel with VOL.	Notify the NWCAA in writing at least 30 days prior to the filling or refilling of each storage vessel. If the inspection is unplanned and was not foreseen 30 days prior to refilling, notify the NWCAA at least 7 days prior to refilling. Notification may be made by telephone, followed by written documentation.
5.13.18 VOC/HAP	40 CFR 60 Subpart Kb 60.116b (10/15/03) 40 CFR 61 Subpart FF 61.351(a)(2) (9/10/90) → 60.116b (10/15/03) 40 CFR 63 Subpart CC 63.647 (8/18/95) → 40 CFR 61 Subpart FF 61.340-61.355 40 CFR 63 Subpart CC 63.655(a) (6/20/13) → 40 CFR 61 Subpart FF 61.356-61.357 NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	<u>Storage Tank Records</u> Keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. Maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period.	Maintain records at the facility with dimensions and capacities. For storage vessels with design capacity greater than 151 m^3 storing a liquid with a maximum true vapor pressure that is normally less than 5.2 kPa or with a design capacity greater than or equal to 75 m^3 but less than 151 m^3 storing a liquid with a maximum true vapor pressure that is normally less than 27.6 kPa shall notify the NWCAA within 30 days when the maximum true vapor pressure of the liquid exceeds the respective true maximum true vapor pressure values for each volume range.

External Floating Roof Tanks 72 and 73 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, and 40 CFR 63 Subpart CC)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.13.19 VOC/HAP	40 CFR 60 Subpart Kb 60.112b(a)(2)(ii) (10/8/97) 40 CFR 61 Subpart FF 61.351(a)(2) (9/10/90) → 60.112b(a)(2)(ii) (10/8/97) 40 CFR 63 Subpart CC 63.647 (8/18/95) → 40 CFR 61 Subpart FF 61.340-61.355 40 CFR 63 Subpart CC 63.655(a) (6/20/13) → 40 CFR 61 Subpart FF 61.356-61.357 NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	<u>Roof Openings</u> Except for automatic bleeder vents, rim space vents, roof drains, and leg sleeves, each opening in the roof is to be equipped with a gasketed cover, seal, or lid that is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. Automatic bleeder vents are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports. Rim vents are to be set to open when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting. Automatic bleeder vents and rim space vents are to be gasketed. Each emergency roof drain is to be provided with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening.	*Directly Enforceable:* Visually inspect the vessel openings semiannually. If inspection shows that openings not related to safety are not sealed, close the opening. Document inspection results and any action taken to seal openings. Visually inspect the bleeder vents semiannually. If inspection shows that vents are not sealed and the roof is not being floated off or landed on the roof leg supports, seal them. Visually inspect the emergency roof drain's fabric covers annually. If inspection shows that the roof drain cover is damaged, fix or replace it.
5.13.20 VOC	NWCAA 580.95 (12/13/89)	<u>Openings</u> All openings in the external floating roof, except for automatic bleeder vents, rim space vents, and leg sleeves shall be equipped with covers, seals, or lids in the closed position except when the openings are in actual use; and equipped with projections into the tank which remain below the liquid surface at all times.	*Directly Enforceable:* Visually inspect the vessel openings semiannually. If inspection shows that openings not related to safety are not sealed, close the opening. Document inspection results and any action taken to seal openings.
5.13.21 VOC	NWCAA 580.34 (12/13/89)	<u>Openings</u> All openings not related to safety are to be sealed with suitable closures.	
5.13.22 VOC	NWCAA 580.96 (12/13/89)	<u>Automatic Bleeder Vents</u> Keep closed at all times except when the roof is floated off or landed on the roof leg supports.	

External Floating Roof Tanks 72 and 73 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, and 40 CFR 63 Subpart CC)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.13.23 VOC	NWCAA 580.97 (12/13/89)	Rim Vents Shall be set to open when the roof is being floated off the leg supports or at the manufacturer's recommended setting.	*Directly Enforceable:* Visually inspection annually for damage and pressure setting. If inspection shows that the rim space vent is damaged or the pressure setting is wrong, fix or replace it.
5.13.24 VOC	NWCAA 580.98 (12/13/89)	Emergency Roof Drains Provide emergency roof drains with slotted membrane fabric covers or equivalent, which cover at least 90 percent of the area of the opening.	*Directly Enforceable:* Visually inspect the emergency roof drain's fabric covers annually. If inspection shows that the roof drain cover is damaged, fix or replace it.

5.13.3 Effluent Plant Internal Floating Roof Tanks

5.13.3.1 Tank 60

Internal Floating Roof Tank 60 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC, and OAC 341a)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Note: 40 CFR 60, 61, and 63 General Provisions included in AOP Section 3 apply to this affected facility			
5.13.25 VOC	NWCAA 560 (4/14/93)	Storage of Organic Liquid with a True Vapor Pressure greater than 1.5 psia and less than 11.1 psia 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.	*Directly Enforceable:* Follow MR&R under AOP Terms 5.13.26 through 5.13.36. Maintain records demonstrating that the stored organic liquid has a true vapor pressure less than 11.1 psi. Notify the NWCAA within 12 hours of discovering an exceedance of the 11.1 psi limit.

Internal Floating Roof Tank 60 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC, and OAC 341a)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.13.26 VOC/HAP	40 CFR 60 Subpart Kb 60.112b(a)(1)(ii) (10/8/97), 60.113b(a)(2), (3), and (5) (8/11/89), 60.115b(a)(2), (3), and (4) (4/8/87) 40 CFR 61 Subpart FF 61.351(a)(1) (9/10/90), 61.356(k) (11/12/02), & 61.357(f) (10/17/00) → 60.112b(a)(1)(ii) (10/8/97), 60.113b(a)(2), (3), and (5) (8/11/89), 60.115b(a)(2), (3), and (4) (4/8/87) 40 CFR 63 Subpart CC 63.647 (8/18/95) → 40 CFR 61 Subpart FF 61.340-61.355 40 CFR 63 Subpart CC 63.655(a) (6/20/13) → 40 CFR 61 Subpart FF 61.356-61.357 NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	<u>Internal Floating Roof Operation</u> Each internal floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof: a foam- or liquid-filled liquid-mounted seal, two seals mounted one above the other so that each forms a continuous closure between the wall of the storage vessel and the edge of the internal floating roof, or a mechanical shoe seal.	For double seal roof tanks, either: • Visually inspect the internal floating roof, the seal(s), gaskets, slotted membranes, and sleeve seals (if any) at least once every 5 years. • Annually, conduct a visual inspection of the internal floating roof and seal system through manholes and roof hatches and visually inspect the internal floating roof, the seal(s), gaskets, slotted membranes, and sleeve seals (if any). Notify the NWCAA in writing 30 calendar days prior to filling or refilling the tank or 7 days if unforeseen. Keep records of each inspection, including the inspection date, vessel identification, observed condition of the control equipment (seals, internal floating roof, and fittings). If defects are found, submit an inspection report to the NWCAA within 30 days of the inspection identifying the vessel, the nature of the defects, and the date the storage vessel was emptied or the nature of and date the repair was made.
5.13.27 VOC	NWCAA 580.33 (12/13/89)	<u>Seal Condition</u> All seals are to be maintained in good operating condition and the seal fabric shall contain no visible holes, tears, or other openings.	*Directly Enforceable:* Follow MR&R under AOP Term 5.13.26.

Internal Floating Roof Tank 60 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC, and OAC 341a)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.13.28 VOC/HAP	40 CFR 60 Subpart Kb 60.112b(a)(1)(i) (10/8/97) 40 CFR 61 Subpart FF 61.351(a)(1) (9/10/90) → 60.112b(a)(1)(i) (10/8/97) 40 CFR 63 Subpart CC 63.647 (8/18/95) → 40 CFR 61 Subpart FF 61.340-61.355 40 CFR 63 Subpart CC 63.655(a) (6/20/13) → 40 CFR 61 Subpart FF 61.356-61.357 NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	<u>Internal Floating Roof on Surface</u> The internal floating roof shall rest or float on the liquid surface at all times (i.e., off the roof leg supports), except during initial fill and during those intervals when the storage vessel is completely emptied or subsequently emptied and refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible.	*Directly Enforceable:* Keep records of periods when the floating roof is resting on the leg supports.

Internal Floating Roof Tank 60 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC, and OAC 341a)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.13.29 VOC/HAP	40 CFR 60 Subpart Kb 60.113b(a)(2) (8/11/89), and 60.115b(a)(3) (4/8/87) 40 CFR 61 Subpart FF 61.351(a)(1) (9/10/90) → 60.113b(a)(2) (8/11/89), and 60.115b(a)(3) (4/8/87) 40 CFR 63 Subpart CC 63.647 (8/18/95) → 40 CFR 61 Subpart FF 61.340-61.355 40 CFR 63 Subpart CC 63.655(a) (6/20/13) → 40 CFR 61 Subpart FF 61.356-61.357 NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	<u>Internal Floating Roof Defect Repairs</u> Repair internal floating roof defects (e.g., roof not resting on surface of liquid, liquid accumulated on floating roof, seal is detached, holes and tears in seal fabric) no later than 45 calendar days after identification, or empty and remove the storage vessel from service no later than 45 calendar days after identification. If a failure is detected that cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested in the inspection report.	Submit in the inspection report: identification of the storage vessel, the nature of the defects, and the date the storage vessel was emptied or the nature of and date the repair was made along with documentation of the decision to use an extension, if any. Documentation of a decision to use an extension shall include documentation that alternate storage capacity is unavailable, and an action schedule that will ensure that the control equipment will be repaired or the vessel will be emptied as soon as possible.

Internal Floating Roof Tank 60 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC, and OAC 341a)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.13.30 VOC/HAP	40 CFR 60 Subpart Kb 60.113b(a)(4) & (5) (8/11/89) 40 CFR 61 Subpart FF 61.351(a)(1) (9/10/90) → 60.113b(a)(4) & (5) (8/11/89) 40 CFR 63 Subpart CC 63.647 (8/18/95) → 40 CFR 61 Subpart FF 61.340-61.355 40 CFR 63 Subpart CC 63.655(a) (6/20/13) → 40 CFR 61 Subpart FF 61.356-61.357 NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	Internal Floating Roof Visual Inspection After Degassing Visually inspect the internal floating roof, the primary seal, the secondary seal (if one is in service), gaskets, slotted membranes and sleeve seals (if any) each time the storage vessel is emptied and degassed. If inspection shows the internal floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, or the gaskets no longer close off the liquid surfaces from the atmosphere, or the slotted membrane has more than 10 percent open area, repair the items as necessary so that none of these conditions specified in this paragraph exist before filling or refilling the storage vessel with VOL.	Notify the NWCAA in writing at least 30 days prior to the filling or refilling of each storage vessel. If the inspection is unplanned and was not foreseen 30 days prior to refilling, notify the NWCAA at least 7 days prior to refilling. Notification may be made by telephone, followed by written documentation.
5.13.31 VOC/HAP	40 CFR 60 Subpart Kb 60.116b (10/15/03) 40 CFR 61 Subpart FF 61.351(a)(1) (9/10/90) → 60.116b (10/15/03) 40 CFR 63 Subpart CC 63.647 (8/18/95) → 40 CFR 61 Subpart FF 61.340-61.355 40 CFR 63 Subpart CC 63.655(a) (6/20/13) → 40 CFR 61 Subpart FF 61.356-61.357 NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	Storage Tank Records Keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. Maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period.	Maintain records at the facility with dimensions and capacities. For storage vessels with design capacity greater than 151 m^3 storing a liquid with a maximum true vapor pressure that is normally less than 5.2 kPa or with a design capacity greater than or equal to 75 m^3 but less than 151 m^3 storing a liquid with a maximum true vapor pressure that is normally less than 27.6 kPa shall notify the NWCAA within 30 days when the maximum true vapor pressure of the liquid exceeds the respective true maximum true vapor pressure values for each volume range.

Internal Floating Roof Tank 60 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC, and OAC 341a)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.13.32 VOC	NWCAA 580.34 (12/13/89)	<u>Openings</u> All openings not related to safety are to be sealed with suitable closures.	*Directly Enforceable:* Follow MR&R under AOP Terms 5.13.33 through 5.13.36.
5.13.33 VOC/HAP	40 CFR 60 Subpart Kb 60.112b(a)(1)(iii) & (iv) (10/8/97) 40 CFR 61 Subpart FF 61.351(a)(1) (9/10/90) → 60.112b(a)(1)(iii) & (iv) (10/8/97) 40 CFR 63 Subpart CC 63.647 (8/18/95) → 40 CFR 61 Subpart FF 61.340-61.355 40 CFR 63 Subpart CC 63.655(a) (6/20/13) → 40 CFR 61 Subpart FF 61.356-61.357 NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	<u>Roof Openings</u> Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and rim space vents is to provide a projection below the liquid surface. Except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains, each opening in the roof is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use.	Follow MR&R under AOP Term 5.13.26.

Internal Floating Roof Tank 60 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC, and OAC 341a)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.13.34 VOC/HAP	40 CFR 60 Subpart Kb 60.112b(a)(1)(vii), (viii) & (ix) (10/8/97) 40 CFR 61 Subpart FF 61.351(a)(1) (9/10/90) → 60.112b(a)(1)(vii), (viii) & (ix) (10/8/97) 40 CFR 63 Subpart CC 63.647 (8/18/95) → 40 CFR 61 Subpart FF 61.340-61.355 40 CFR 63 Subpart CC 63.655(a) (6/20/13) → 40 CFR 61 Subpart FF 61.356-61.357 NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	<u>Roof Penetrations</u> Each penetration of the roof for the purpose of sampling shall be a sample well. The sample well shall have a slit fabric cover that covers at least 90 percent of the opening. Each penetration of the roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or gasketed sliding cover. Each penetration of the roof that allows for passage of a ladder shall have a gasketed sliding cover.	Follow MR&R under AOP Term 5.13.26.

Internal Floating Roof Tank 60 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC, and OAC 341a)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.13.35 VOC/HAP	40 CFR 60 Subpart Kb 60.112b(a)(1)(v) (10/8/97) 40 CFR 61 Subpart FF 61.351(a)(1) (9/10/90) → 60.112b(a)(1)(v) (10/8/97) 40 CFR 63 Subpart CC 63.647 (8/18/95) → 40 CFR 61 Subpart FF 61.340-61.355 40 CFR 63 Subpart CC 63.655(a) (6/20/13) → 40 CFR 61 Subpart FF 61.356-61.357 NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	<u>Automatic Bleeder Vents</u> Automatic bleeder vents shall be equipped with a gasket and are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports.	Follow MR&R under AOP Term 5.13.26.

Internal Floating Roof Tank 60 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC, and OAC 341a)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.13.36 VOC/HAP	40 CFR 60 Subpart Kb 60.112b(a)(1)(vi) (10/8/97) 40 CFR 61 Subpart FF 61.351(a)(1) (9/10/90) → 60.112b(a)(1)(vi) (10/8/97) 40 CFR 63 Subpart CC 63.647 (8/18/95) → 40 CFR 61 Subpart FF 61.340-61.355 40 CFR 63 Subpart CC 63.655(a) (6/20/13) → 40 CFR 61 Subpart FF 61.356-61.357 NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	<u>Rim Space Vents</u> Rim space vents shall be equipped with a gasket and are to be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting.	Follow MR&R under AOP Term 5.13.26.
5.13.37 VOC/HAP	OAC 341a Condition 1 (4/10/13)	True vapor pressure of the stored liquid shall not exceed 11.1 psi.	Maintain records demonstrating that the liquid stored in the tank has a vapor pressure of 11.1 psi or less.

5.13.3.2 Tanks 61, 62, and 71

Internal Floating Roof Tanks 61, 62, and 71 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF and 40 CFR 63 Subpart CC)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Note: 40 CFR 60, 61, and 63 General Provisions included in AOP Section 3 apply to these affected facilities			
5.13.38 VOC	NWCAA 560 (4/14/93)	Storage of Organic Liquid with a True Vapor Pressure greater than 1.5 psia and less than 11.1 psia 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.	*Directly Enforceable:* Follow MR&R under AOP Terms 5.13.39 through 5.13.49. Maintain records demonstrating that the stored organic liquid has a true vapor pressure less than 11.1 psi. Notify the NWCAA within 12 hours of discovering an exceedance of the 11.1 psi limit.

Internal Floating Roof Tanks 61, 62, and 71 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF and 40 CFR 63 Subpart CC)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.13.39 VOC/HAP	40 CFR 60 Subpart Kb 60.112b(a)(1)(ii) (10/8/97), 60.113b(a)(2), (3), and (5) (8/11/89), 60.115b(a)(2), (3), and (4) (4/8/87) 40 CFR 61 Subpart FF 61.351(a)(1) (9/10/90), 61.356(k) (11/12/02), & 61.357(f) (10/17/00) → 60.112b(a)(1)(ii) (10/8/97), 60.113b(a)(2), (3), and (5) (8/11/89), 60.115b(a)(2), (3), and (4) (4/8/87) 40 CFR 63 Subpart CC 63.647 (8/18/95) → 40 CFR 61 Subpart FF 61.340-61.355 40 CFR 63 Subpart CC 63.655(a) (6/20/13) → 40 CFR 61 Subpart FF 61.356-61.357 NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	<u>Internal Floating Roof Operation</u> Each internal floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof: a foam- or liquid-filled liquid-mounted seal, two seals mounted one above the other so that each forms a continuous closure between the wall of the storage vessel and the edge of the internal floating roof, or a mechanical shoe seal.	For double seal roof tanks, either: • Visually inspect the internal floating roof, the seal(s), gaskets, slotted membranes, and sleeve seals (if any) at least once every 5 years. • Annually, conduct a visual inspection of the internal floating roof and seal system through manholes and roof hatches and visually inspect the internal floating roof, the seal(s), gaskets, slotted membranes, and sleeve seals (if any). Notify the NWCAA in writing 30 calendar days prior to filling or refilling the tank or 7 days if unforeseen. Keep records of each inspection, including the inspection date, vessel identification, observed condition of the control equipment (seals, internal floating roof, and fittings). If defects are found, submit an inspection report to the NWCAA within 30 days of the inspection identifying the vessel, the nature of the defects, and the date the storage vessel was emptied or the nature of and date the repair was made.
5.13.40 VOC	NWCAA 580.33 (12/13/89)	<u>Seal Condition</u> All seals are to be maintained in good operating condition and the seal fabric shall contain no visible holes, tears, or other openings.	*Directly Enforceable:* Follow MR&R under AOP Term 5.13.39.

Internal Floating Roof Tanks 61, 62, and 71 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF and 40 CFR 63 Subpart CC)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.13.41 VOC/HAP	40 CFR 60 Subpart Kb 60.112b(a)(1)(i) (10/8/97) 40 CFR 61 Subpart FF 61.351(a)(1) (9/10/90) → 60.112b(a)(1)(i) (10/8/97) 40 CFR 63 Subpart CC 63.647 (8/18/95) → 40 CFR 61 Subpart FF 61.340-61.355 40 CFR 63 Subpart CC 63.655(a) (6/20/13) → 40 CFR 61 Subpart FF 61.356-61.357 NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	<u>Internal Floating Roof on Surface</u> The internal floating roof shall rest or float on the liquid surface at all times (i.e., off the roof leg supports), except during initial fill and during those intervals when the storage vessel is completely emptied or subsequently emptied and refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible.	*Directly Enforceable:* Keep records of periods when the floating roof is resting on the leg supports.

Internal Floating Roof Tanks 61, 62, and 71 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF and 40 CFR 63 Subpart CC)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.13.42 VOC/HAP	40 CFR 60 Subpart Kb 60.113b(a)(2) (8/11/89), and 60.115b(a)(3) (4/8/87) 40 CFR 61 Subpart FF 61.351(a)(1) (9/10/90) → 60.113b(a)(2) (8/11/89), and 60.115b(a)(3) (4/8/87) 40 CFR 63 Subpart CC 63.647 (8/18/95) → 40 CFR 61 Subpart FF 61.340-61.355 40 CFR 63 Subpart CC 63.655(a) (6/20/13) → 40 CFR 61 Subpart FF 61.356-61.357 NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	<u>Internal Floating Roof Defect Repairs</u> Repair internal floating roof defects (e.g., roof not resting on surface of liquid, liquid accumulated on floating roof, seal is detached, holes and tears in seal fabric) no later than 45 calendar days after identification, or empty and remove the storage vessel from service no later than 45 calendar days after identification. If a failure is detected that cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested in the inspection report.	Submit in the inspection report: identification of the storage vessel, the nature of the defects, and the date the storage vessel was emptied or the nature of and date the repair was made along with documentation of the decision to use an extension, if any. Documentation of a decision to use an extension shall include documentation that alternate storage capacity is unavailable, and an action schedule that will ensure that the control equipment will be repaired or the vessel will be emptied as soon as possible.

Internal Floating Roof Tanks 61, 62, and 71 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF and 40 CFR 63 Subpart CC)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.13.43 VOC/HAP	40 CFR 60 Subpart Kb 60.113b(a)(4) & (5) (8/11/89) 40 CFR 61 Subpart FF 61.351(a)(1) (9/10/90) → 60.113b(a)(4) & (5) (8/11/89) 40 CFR 63 Subpart CC 63.647 (8/18/95) → 40 CFR 61 Subpart FF 61.340-61.355 40 CFR 63 Subpart CC 63.655(a) (6/20/13) → 40 CFR 61 Subpart FF 61.356-61.357 NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	<u>Internal Floating Roof Visual Inspection After Degassing</u> Visually inspect the internal floating roof, the primary seal, the secondary seal (if one is in service), gaskets, slotted membranes and sleeve seals (if any) each time the storage vessel is emptied and degassed. If inspection shows the internal floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, or the gaskets no longer close off the liquid surfaces from the atmosphere, or the slotted membrane has more than 10 percent open area, repair the items as necessary so that none of these conditions specified in this paragraph exist before filling or refilling the storage vessel with VOL.	Notify the NWCAA in writing at least 30 days prior to the filling or refilling of each storage vessel. If the inspection is unplanned and was not foreseen 30 days prior to refilling, notify the NWCAA at least 7 days prior to refilling. Notification may be made by telephone, followed by written documentation.
5.13.44 VOC/HAP	40 CFR 60 Subpart Kb 60.116b (10/15/03) 40 CFR 61 Subpart FF 61.351(a)(1) (9/10/90) → 60.116b (10/15/03) 40 CFR 63 Subpart CC 63.647 (8/18/95) → 40 CFR 61 Subpart FF 61.340-61.355 40 CFR 63 Subpart CC 63.655(a) (6/20/13) → 40 CFR 61 Subpart FF 61.356-61.357 NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	<u>Storage Tank Records</u> Keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. Maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period.	Maintain records at the facility with dimensions and capacities. For storage vessels with design capacity greater than 151 m^3 storing a liquid with a maximum true vapor pressure that is normally less than 5.2 kPa or with a design capacity greater than or equal to 75 m^3 but less than 151 m^3 storing a liquid with a maximum true vapor pressure that is normally less than 27.6 kPa shall notify the NWCAA within 30 days when the maximum true vapor pressure of the liquid exceeds the respective true maximum true vapor pressure values for each volume range.

Internal Floating Roof Tanks 61, 62, and 71 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF and 40 CFR 63 Subpart CC)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.13.45 VOC	NWCAA 580.34 (12/13/89)	<u>Openings</u> All openings not related to safety are to be sealed with suitable closures.	*Directly Enforceable:* Follow MR&R under AOP Terms 5.13.46 through 5.13.49.
5.13.46 VOC/HAP	40 CFR 60 Subpart Kb 60.112b(a)(1)(iii) & (iv) (10/8/97) 40 CFR 61 Subpart FF 61.351(a)(1) (9/10/90) → 60.112b(a)(1)(iii) & (iv) (10/8/97) 40 CFR 63 Subpart CC 63.647 (8/18/95) → 40 CFR 61 Subpart FF 61.340-61.355 40 CFR 63 Subpart CC 63.655(a) (6/20/13) → 40 CFR 61 Subpart FF 61.356-61.357 NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	<u>Roof Openings</u> Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and rim space vents is to provide a projection below the liquid surface. Except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains, each opening in the roof is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use.	Follow MR&R under AOP Term 5.13.39.

Internal Floating Roof Tanks 61, 62, and 71 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF and 40 CFR 63 Subpart CC)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.13.47 VOC/HAP	40 CFR 60 Subpart Kb 60.112b(a)(1)(vii), (viii) & (ix) (10/8/97) 40 CFR 61 Subpart FF 61.351(a)(1) (9/10/90) → 60.112b(a)(1)(vii), (viii) & (ix) (10/8/97) 40 CFR 63 Subpart CC 63.647 (8/18/95) → 40 CFR 61 Subpart FF 61.340-61.355 40 CFR 63 Subpart CC 63.655(a) (6/20/13) → 40 CFR 61 Subpart FF 61.356-61.357 NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	<u>Roof Penetrations</u> Each penetration of the roof for the purpose of sampling shall be a sample well. The sample well shall have a slit fabric cover that covers at least 90 percent of the opening. Each penetration of the roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or gasketed sliding cover. Each penetration of the roof that allows for passage of a ladder shall have a gasketed sliding cover.	Follow MR&R under AOP Term 5.13.39.

Internal Floating Roof Tanks 61, 62, and 71 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF and 40 CFR 63 Subpart CC)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.13.48 VOC/HAP	40 CFR 60 Subpart Kb 60.112b(a)(1)(v) (10/8/97) 40 CFR 61 Subpart FF 61.351(a)(1) (9/10/90) → 60.112b(a)(1)(v) (10/8/97) 40 CFR 63 Subpart CC 63.647 (8/18/95) → 40 CFR 61 Subpart FF 61.340-61.355 40 CFR 63 Subpart CC 63.655(a) (6/20/13) → 40 CFR 61 Subpart FF 61.356-61.357 NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	<u>Automatic Bleeder Vents</u> Automatic bleeder vents shall be equipped with a gasket and are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports.	Follow MR&R under AOP Term 5.13.39.

Internal Floating Roof Tanks 61, 62, and 71 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF and 40 CFR 63 Subpart CC)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.13.49 VOC/HAP	40 CFR 60 Subpart Kb 60.112b(a)(1)(vi) (10/8/97) 40 CFR 61 Subpart FF 61.351(a)(1) (9/10/90) → 60.112b(a)(1)(vi) (10/8/97) 40 CFR 63 Subpart CC 63.647 (8/18/95) → 40 CFR 61 Subpart FF 61.340-61.355 40 CFR 63 Subpart CC 63.655(a) (6/20/13) → 40 CFR 61 Subpart FF 61.356-61.357 NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	Rim Space Vents Rim space vents shall be equipped with a gasket and are to be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting.	Follow MR&R under AOP Term 5.13.39.

5.13.3.3 Tank 70

Internal Floating Roof Tank 70 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC, and OAC 241a)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Note: 40 CFR 60, 61, and 63 General Provisions included in AOP Section 3 apply to this affected facility			
5.13.50 VOC	NWCAA 560 (4/14/93)	Storage of Organic Liquid with a True Vapor Pressure greater than 1.5 psia and less than 11.1 psia 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.	*Directly Enforceable:* Follow MR&R under AOP Terms 5.13.51 through 5.13.61. Maintain records demonstrating that the stored organic liquid has a true vapor pressure less than 11.1 psi. Notify the NWCAA within 12 hours of discovering an exceedance of the 11.1 psi limit.

Internal Floating Roof Tank 70 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC, and OAC 241a)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.13.51 VOC/HAP	40 CFR 60 Subpart Kb 60.112b(a)(1)(ii) (10/8/97), 60.113b(a)(2), (3), and (5) (8/11/89), 60.115b(a)(2), (3), and (4) (4/8/87) 40 CFR 61 Subpart FF 61.351(a)(1) (9/10/90), 61.356(k) (11/12/02), & 61.357(f) (10/17/00) → 60.112b(a)(1)(ii) (10/8/97), 60.113b(a)(2), (3), and (5) (8/11/89), 60.115b(a)(2), (3), and (4) (4/8/87) 40 CFR 63 Subpart CC 63.647 (8/18/95) → 40 CFR 61 Subpart FF 61.340-61.355 40 CFR 63 Subpart CC 63.655(a) (6/20/13) → 40 CFR 61 Subpart FF 61.356-61.357 NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	<u>Internal Floating Roof Operation</u> Each internal floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof: a foam- or liquid-filled liquid-mounted seal, two seals mounted one above the other so that each forms a continuous closure between the wall of the storage vessel and the edge of the internal floating roof, or a mechanical shoe seal.	For double seal roof tanks, either: • Visually inspect the internal floating roof, the seal(s), gaskets, slotted membranes, and sleeve seals (if any) at least once every 5 years. • Annually, conduct a visual inspection of the internal floating roof and seal system through manholes and roof hatches and visually inspect the internal floating roof, the seal(s), gaskets, slotted membranes, and sleeve seals (if any). Notify the NWCAA in writing 30 calendar days prior to filling or refilling the tank or 7 days if unforeseen. Keep records of each inspection, including the inspection date, vessel identification, observed condition of the control equipment (seals, internal floating roof, and fittings). If defects are found, submit an inspection report to the NWCAA within 30 days of the inspection identifying the vessel, the nature of the defects, and the date the storage vessel was emptied or the nature of and date the repair was made.
5.13.52 VOC	NWCAA 580.33 (12/13/89)	<u>Seal Condition</u> All seals are to be maintained in good operating condition and the seal fabric shall contain no visible holes, tears, or other openings.	*Directly Enforceable:* Follow MR&R under AOP Term 5.13.51.

Internal Floating Roof Tank 70 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC, and OAC 241a)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.13.53 VOC/HAP	40 CFR 60 Subpart Kb 60.112b(a)(1)(i) (10/8/97) 40 CFR 61 Subpart FF 61.351(a)(1) (9/10/90) → 60.112b(a)(1)(i) (10/8/97) 40 CFR 63 Subpart CC 63.647 (8/18/95) → 40 CFR 61 Subpart FF 61.340-61.355 40 CFR 63 Subpart CC 63.655(a) (6/20/13) → 40 CFR 61 Subpart FF 61.356-61.357 NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	<u>Internal Floating Roof on Surface</u> The internal floating roof shall rest or float on the liquid surface at all times (i.e., off the roof leg supports), except during initial fill and during those intervals when the storage vessel is completely emptied or subsequently emptied and refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible.	*Directly Enforceable:* Keep records of periods when the floating roof is resting on the leg supports.

Internal Floating Roof Tank 70 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC, and OAC 241a)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.13.54 VOC/HAP	40 CFR 60 Subpart Kb 60.113b(a)(2) (8/11/89), and 60.115b(a)(3) (4/8/87) 40 CFR 61 Subpart FF 61.351(a)(1) (9/10/90) → 60.113b(a)(2) (8/11/89), and 60.115b(a)(3) (4/8/87) 40 CFR 63 Subpart CC 63.647 (8/18/95) → 40 CFR 61 Subpart FF 61.340-61.355 40 CFR 63 Subpart CC 63.655(a) (6/20/13) → 40 CFR 61 Subpart FF 61.356-61.357 NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	<u>Internal Floating Roof Defect Repairs</u> Repair internal floating roof defects (e.g., roof not resting on surface of liquid, liquid accumulated on floating roof, seal is detached, holes and tears in seal fabric) no later than 45 calendar days after identification, or empty and remove the storage vessel from service no later than 45 calendar days after identification. If a failure is detected that cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested in the inspection report.	Submit in the inspection report: identification of the storage vessel, the nature of the defects, and the date the storage vessel was emptied or the nature of and date the repair was made along with documentation of the decision to use an extension, if any. Documentation of a decision to use an extension shall include documentation that alternate storage capacity is unavailable, and an action schedule that will ensure that the control equipment will be repaired or the vessel will be emptied as soon as possible.

Internal Floating Roof Tank 70 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC, and OAC 241a)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.13.55 VOC/HAP	40 CFR 60 Subpart Kb 60.113b(a)(4) & (5) (8/11/89) 40 CFR 61 Subpart FF 61.351(a)(1) (9/10/90) → 60.113b(a)(4) & (5) (8/11/89) 40 CFR 63 Subpart CC 63.647 (8/18/95) → 40 CFR 61 Subpart FF 61.340-61.355 40 CFR 63 Subpart CC 63.655(a) (6/20/13) → 40 CFR 61 Subpart FF 61.356-61.357 NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	Internal Floating Roof Visual Inspection After Degassing Visually inspect the internal floating roof, the primary seal, the secondary seal (if one is in service), gaskets, slotted membranes and sleeve seals (if any) each time the storage vessel is emptied and degassed. If inspection shows the internal floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, or the gaskets no longer close off the liquid surfaces from the atmosphere, or the slotted membrane has more than 10 percent open area, repair the items as necessary so that none of these conditions specified in this paragraph exist before filling or refilling the storage vessel with VOL.	Notify the NWCAA in writing at least 30 days prior to the filling or refilling of each storage vessel. If the inspection is unplanned and was not foreseen 30 days prior to refilling, notify the NWCAA at least 7 days prior to refilling. Notification may be made by telephone, followed by written documentation.
5.13.56 VOC/HAP	40 CFR 60 Subpart Kb 60.116b (10/15/03) 40 CFR 61 Subpart FF 61.351(a)(1) (9/10/90) → 60.116b (10/15/03) 40 CFR 63 Subpart CC 63.647 (8/18/95) → 40 CFR 61 Subpart FF 61.340-61.355 40 CFR 63 Subpart CC 63.655(a) (6/20/13) → 40 CFR 61 Subpart FF 61.356-61.357 NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	Storage Tank Records Keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. Maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period.	Maintain records at the facility with dimensions and capacities. For storage vessels with design capacity greater than 151 m^3 storing a liquid with a maximum true vapor pressure that is normally less than 5.2 kPa or with a design capacity greater than or equal to 75 m^3 but less than 151 m^3 storing a liquid with a maximum true vapor pressure that is normally less than 27.6 kPa shall notify the NWCAA within 30 days when the maximum true vapor pressure of the liquid exceeds the respective true maximum true vapor pressure values for each volume range.

Internal Floating Roof Tank 70 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC, and OAC 241a)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.13.57 VOC	NWCAA 580.34 (12/13/89)	<u>Openings</u> All openings not related to safety are to be sealed with suitable closures.	*Directly Enforceable:* Follow MR&R under AOP Terms 5.13.58 through 5.13.61.
5.13.58 VOC/HAP	40 CFR 60 Subpart Kb 60.112b(a)(1)(iii) & (iv) (10/8/97) 40 CFR 61 Subpart FF 61.351(a)(1) (9/10/90) → 60.112b(a)(1)(iii) & (iv) (10/8/97) 40 CFR 63 Subpart CC 63.647 (8/18/95) → 40 CFR 61 Subpart FF 61.340-61.355 40 CFR 63 Subpart CC 63.655(a) (6/20/13) → 40 CFR 61 Subpart FF 61.356-61.357 NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	<u>Roof Openings</u> Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and rim space vents is to provide a projection below the liquid surface. Except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains, each opening in the roof is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use.	Follow MR&R under AOP Term 5.13.51.

Internal Floating Roof Tank 70 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC, and OAC 241a)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.13.59 VOC/HAP	40 CFR 60 Subpart Kb 60.112b(a)(1)(vii), (viii) & (ix) (10/8/97) 40 CFR 61 Subpart FF 61.351(a)(1) (9/10/90) → 60.112b(a)(1)(vii), (viii) & (ix) (10/8/97) 40 CFR 63 Subpart CC 63.647 (8/18/95) → 40 CFR 61 Subpart FF 61.340-61.355 40 CFR 63 Subpart CC 63.655(a) (6/20/13) → 40 CFR 61 Subpart FF 61.356-61.357 NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	<u>Roof Penetrations</u> Each penetration of the roof for the purpose of sampling shall be a sample well. The sample well shall have a slit fabric cover that covers at least 90 percent of the opening. Each penetration of the roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or gasketed sliding cover. Each penetration of the roof that allows for passage of a ladder shall have a gasketed sliding cover.	Follow MR&R under AOP Term 5.13.51.

Internal Floating Roof Tank 70 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC, and OAC 241a)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.13.60 VOC/HAP	40 CFR 60 Subpart Kb 60.112b(a)(1)(v) (10/8/97) 40 CFR 61 Subpart FF 61.351(a)(1) (9/10/90) → 60.112b(a)(1)(v) (10/8/97) 40 CFR 63 Subpart CC 63.647 (8/18/95) → 40 CFR 61 Subpart FF 61.340-61.355 40 CFR 63 Subpart CC 63.655(a) (6/20/13) → 40 CFR 61 Subpart FF 61.356-61.357 NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	<u>Automatic Bleeder Vents</u> Automatic bleeder vents shall be equipped with a gasket and are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports.	Follow MR&R under AOP Term 5.13.51.

Internal Floating Roof Tank 70 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 61 Subpart FF, 40 CFR 63 Subpart CC, and OAC 241a)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.13.61 VOC/HAP	40 CFR 60 Subpart Kb 60.112b(a)(1)(vi) (10/8/97) 40 CFR 61 Subpart FF 61.351(a)(1) (9/10/90) → 60.112b(a)(1)(vi) (10/8/97) 40 CFR 63 Subpart CC 63.647 (8/18/95) → 40 CFR 61 Subpart FF 61.340-61.355 40 CFR 63 Subpart CC 63.655(a) (6/20/13) → 40 CFR 61 Subpart FF 61.356-61.357 NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	<u>Rim Space Vents</u> Rim space vents shall be equipped with a gasket and are to be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting.	Follow MR&R under AOP Term 5.13.51.
5.13.62 Odors	OAC 241a Condition 1 (4/10/13)	No objectionable odors as determined by NWCAA staff shall be emitted from this storage tank.	*Directly Enforceable:* Follow MR&R under AOP Terms 4.4, 4.5, and 4.6.

5.14 Storage Tanks/Vessels

External Floating Roof Tanks

Tanks 1, 2, 3, 4, 5, 6, 11, 15, 17, 19, 21, 22, 24, 29, 43, 50, 51, 52, 55 and 58 (NWCAA 560/580 and 40 CFR 63 Subpart CC Group 1) – Tanks 4, 5, 6, & 19 also subject to 40 CFR 60 Subpart K
Tank 38 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 63 Subpart CC Group 1, and CO 08)
Tank 45 (40 CFR 63 Subpart CC Group 2 and OAC 297a)
Tanks 80, 81, and 82 (OAC 296a, 40 CFR 63 Subpart CC Group 2)
Tanks 34, 44, and 59 (40 CFR 63 Subpart CC Group 2)

Internal Floating Roof Tanks

Tanks 23, 28, 30, 36, 53, and 54 (NWCAA 560/580 and 40 CFR 63 Subpart CC Group 1) – Tank 36 also subject to 40 CFR 60 Subpart K
Tanks 12, 13, and 14 (NWCAA 560/580, 40 CFR 60 Subpart Kb, and 40 CFR 63 Subpart CC Group 1)
Tank 39 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 63 Subpart CC Group 1, and OAC 337a)
Tanks 15D-100A, 15D-100B, and 15D-100C (40 CFR 63 Subpart CC Group 2)

Fixed Roof Tanks

Tanks 10, 16, 18, 25, 26, 27, 31, 32, 33, 35, 37, 40, 41, 42, 49, 56, 57, and 204 (40 CFR 63 Subpart CC Group 2) – Tanks 18 & 37 also subject to 40 CFR 60 Subpart Ka

5.14.1 External Floating Roof Tanks 1, 2, 3, 4, 5, 6, 11, 15, 17, 19, 21, 22, 24, 29, 43, 50, 51, 52, 55 and 58

External Floating Roof Tanks 1, 2, 3, 4, 5, 6, 11, 15, 17, 19, 21, 22, 24, 29, 43, 50, 51, 52, 55 and 58 (NWCAA 560/580 and 40 CFR 63 Subpart CC Group 1) – Tanks 4, 5, 6, and 19 (also 40 CFR 60 Subpart K)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Note: 40 CFR 63 General Provisions included in AOP Section 3 apply to these affected facilities			
Note: 40 CFR 60 General Provisions included in AOP Section 3 apply to Tanks 4, 5, 6, and 19			
5.14.1 VOC	NWCAA 560 (4/14/93)	<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.	*Directly Enforceable:* Follow MR&R under AOP Terms 5.14.2 through 5.14.22. Maintain records demonstrating that the stored organic liquid has a true vapor pressure less than 11.1 psia. Notify the NWCAA within 12 hours of discovering an exceedance of the 11.1 psia limit.

External Floating Roof Tanks 1, 2, 3, 4, 5, 6, 11, 15, 17, 19, 21, 22, 24, 29, 43, 50, 51, 52, 55 and 58 (NWCAA 560/580 and 40 CFR 63 Subpart CC Group 1) – Tanks 4, 5, 6, and 19 (also 40 CFR 60 Subpart K)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.14.2 VOC	NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb 60.112b(a)(2)(i) (10/8/97), 60.113b(b) (8/11/89), and 60.115b(b) (4/8/87)	<u>External Floating Roof Seal Coverage</u> An external floating roof means a pontoon-type or double-deck type cover that rests on the liquid surface in a vessel with no fixed roof. Each external floating roof shall be equipped with a closure device between the wall of the vessel the roof edge. The closure device shall consist of two seals: a primary (either a metallic shoe seal or a liquid-mounted seal) and a secondary seal. Both the primary and secondary seals shall completely cover the annular space between the external floating roof and the storage vessel wall, except for when necessary repairs are being made or the vessel is empty, as provided in 60.113b(b)(4). For the primary seal, the accumulated area of gaps shall not exceed 212 cm^2 per meter of tank diameter, and the width of any portion of any gap shall not exceed 3.81 cm. One end of the mechanical shoe should extend into the stored liquid and the other end should be at least 61 cm above the liquid surface. For the secondary seal, the accumulated area of gaps shall not exceed 21.2 cm^2 per meter of tank diameter and the width of any portion of any gap shall not exceed 1.27 cm. There should be no holes, tears, or other openings in the primary mechanical shoe, the primary or secondary seal fabric, or the seal envelope.	Measure gaps between the vessel wall and the primary seal within 60 days of initial fill and at least every 5 years thereafter. Gap measurement between the vessel wall and the secondary seal shall be performed within 60 days of initial fill and at least once per year thereafter. Seal gaps shall be measured at one or more floating roof levels when the roof is floating off the roof leg supports. Measure around the entire tank circumference in each place where a 0.32-cm diameter uniform probe passes freely between the seal and the vessel wall. Measure the circumferential distance of each such location. The total surface area of each gap shall be determined by using probes of various widths to measure accurately the actual distance from the tank wall to the seal and multiplying each such width by its respective circumferential distance. Add the gap surface area of each gap location for each seal individually and divide the sum by the nominal diameter of the tank. Notify the NWCAA 30 days in advance of any gap measurements or 7 days prior if unforeseen. Keep records of each gap measurement including the date of measurement, the raw data, and the calculation of accumulated gap area. For the primary and secondary seal gap measurements, submit this data to the NWCAA within 60 days of taking the measurement. After each seal gap measurement that detects gaps exceeding the gap area allowance, submit an inspection report to the NWCAA within 30 days of the inspection identifying the vessel, the date of measurement, the raw data, the calculation of accumulated gap area, and date the vessel was emptied or repairs were made.

External Floating Roof Tanks 1, 2, 3, 4, 5, 6, 11, 15, 17, 19, 21, 22, 24, 29, 43, 50, 51, 52, 55 and 58 (NWCAA 560/580 and 40 CFR 63 Subpart CC Group 1) – Tanks 4, 5, 6, and 19 (also 40 CFR 60 Subpart K)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.14.3 HAP	40 CFR 63 Subpart CC 63.646 (6/30/10) → 40 CFR 63 Subpart G 63.119(c)(1) (12/21/06), 63.120(b)(1), (b)(2), (b)(3), (b)(4), (b)(5), (b)(6), (b)(7), & (b)(9) (1/17/97) 40 CFR 63 Subpart CC 63.655(g)(3)(i) (6/20/13) 40 CFR 63 Subpart CC 63.655(h)(2)(ii) (6/20/13) 40 CFR 63 Subpart CC 63.655(i)(1) (6/20/13) → 63.123(d) (12/23/04) Tanks 4, 5, 6, & 19: 40 CFR 60 Subpart K 60.110-60.113 (4/4/80, 10/17/00) NWCAA 104.2 (3/14/13)	<u>External Floating Roof Seal Coverage</u> Each external floating roof shall be equipped with a closure device between the wall of the vessel the roof edge. The closure device shall consist of two seals: a primary (either a metallic shoe seal or a liquid-mounted seal) and a secondary seal. Except during inspections, both the primary and secondary seals shall completely cover the annular space between the external floating roof and the storage vessel wall. The accumulated area of gaps between the vessel wall and the primary seal shall not exceed 212 cm^2/meter of vessel diameter and the width of any gap shall not exceed 3.81 cm (1.5 inches). Also, one end of the mechanical shoe should extend into the stored liquid and the other end should be at least 61 cm above the liquid surface. The accumulated area of gaps between the vessel wall and the secondary seal shall not exceed 21.2 cm^2/meter of vessel diameter and the width of any portion of any gap shall not exceed 1.27 cm (0.5 inch). These seal gap requirements may be exceeded during the measurement of primary seal gaps. There shall be no holes, tears, or other openings in the shoe, seal fabric, or seal envelope of the primary seal, and no holes, tears, or other openings in the seal or seal fabric.	Except when unsafe (as addressed in 63.120(b)(7)), measure for gaps between the vessel wall and the primary seal within 60 days of initial fill and at least once every 5 years thereafter. Except when unsafe, measure gaps between the vessel wall and the secondary seal within 60 days of initial fill and once per year thereafter. Seal gaps shall be measured at one or more floating roof levels when the roof is not resting on the leg supports. Measure around the entire circumference in each place where a 0.32-cm (1/8-inch) diameter uniform probe passes freely between the seal and the wall of the storage vessel. Measure the circumferential distance of each location. Calculate the total surface area of each gap. Notify the NWCAA 30 calendar days prior to gap testing or 7 days if unforeseen. Keep records of the results of each seal gap measurement including the date of measurement, the raw data, and the gap area calculations. Submit as part of the semiannual Periodic Report, the results of each seal gap measurement in which the seal and seal gap requirements are not met including the date of the measurement, raw data, a description of the seal condition failure, and the nature and date the repair was made or the date the storage vessel was emptied.

External Floating Roof Tanks 1, 2, 3, 4, 5, 6, 11, 15, 17, 19, 21, 22, 24, 29, 43, 50, 51, 52, 55 and 58 (NWCAA 560/580 and 40 CFR 63 Subpart CC Group 1) – Tanks 4, 5, 6, and 19 (also 40 CFR 60 Subpart K)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.14.4 VOC	NWCAA 580.33 (12/13/89)	Seal Condition All seals are to be maintained in good operating condition and the seal fabric shall contain no visible holes, tears, or other openings.	*Directly Enforceable:* Semiannually, visually inspect the secondary seal. If the secondary seal has holes, tears, or other openings in the seal or fabric, repair the items as necessary. Maintain records of the types of petroleum liquids stored, the maximum true vapor pressure of the liquid as stored, and the results of any inspections performed for a period of two years after the date on which the record was made. Note: Under WAC 173-401-615(2), records of required monitoring data and support information shall be retained for a period of five years from the date of the monitoring sample, measurement, report, or application.
5.14.5 VOC	NWCAA 580.93, 580.94 and 580.99 (12/13/89)	Volatile Organic Compound in External Floating Roof Tanks Store volatile organic compounds in vessels subject to this section that have been fitted with a rim-mounted secondary seal. All of these seals or closure devices shall meet the following requirements: There must be no visible holes, tears, or other openings in the seal or seal fabric; The seal shall be intact and uniformly in place around the circumference of the floating roof between the roof and the tank wall. For vapor-mounted primary seals, the accumulated area of gaps exceeding 0.32 cm (1.8 inch) in width between the secondary seal and the tank wall shall not exceed 21.2 cm^2 per meter of tank diameter (1.0 in^2 per foot of tank diameter)	Semiannually, visually inspect the secondary seal gap. Measure the secondary seal gap annually if the floating roof is equipped with a vapor-mounted primary seal. Notify the NWCAA not less than five working days prior to the measurement. Maintain records of the types of petroleum liquids stored, the maximum true vapor pressure of the liquid as stored, and the results of any inspections performed for a period of two years after the date on which the record was made. *Directly Enforceable:* Note: Under WAC 173-401-615(2), records of required monitoring data and support information shall be retained for a period of five years from the date of the monitoring sample, measurement, report, or application. If the secondary seal has holes, tears, or other openings in the seal or fabric, repair the items as necessary.

External Floating Roof Tanks 1, 2, 3, 4, 5, 6, 11, 15, 17, 19, 21, 22, 24, 29, 43, 50, 51, 52, 55 and 58 (NWCAA 560/580 and 40 CFR 63 Subpart CC Group 1) – Tanks 4, 5, 6, and 19 (also 40 CFR 60 Subpart K)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.14.6 VOC	NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb 60.112b(a)(2)(iii) (10/8/97)	<u>External Floating Roof on Surface</u> The roof shall be floating on the liquid at all times (i.e., off the roof leg supports) except during initial fill until the roof is lifted off leg supports and when the tank is completely emptied and subsequently refilled. The process of filling, emptying, or refilling when the roof is resting on the leg supports shall be continuous and shall be accomplished as rapidly as possible.	*Directly Enforceable:* Keep records of periods when the floating roof is resting on the leg supports.
5.14.7 HAP	40 CFR 63 Subpart CC 63.646 (6/30/10) → 40 CFR 63 Subpart G 63.119(c)(3) and (4) (12/21/06) Tanks 4, 5, 6, & 19: 40 CFR 60 Subpart K 60.110-60.113 (4/4/80, 10/17/00) NWCAA 104.2 (3/14/13)	<u>External Floating Roof on Surface</u> The external floating roof shall be floating on the liquid surface at all times except when it must be supported by the leg supports during (i) the initial fill, (ii) after the vessel has been completely emptied and degassed, and (iii) when the vessel is completely emptied before being subsequently refilled. When the floating roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as soon as practical.	
5.14.8 VOC	NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb 60.113b(b)(4) & (4)(iii) (8/11/89), and 60.115b(b)(4) (4/8/87)	<u>External Floating Roof Gap Repairs</u> Repair conditions not meeting the gap allowances, or empty the storage vessel within 45 days of identification of failures found in any inspection. If a failure is detected that cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested in the inspection report.	Submit in the inspection report documentation of each seal gap measurement made in which the seal and seal gap requirements of this part are not met and repairs taken to correct the defect. Documentation of a decision to use an extension shall include a failure description, documentation that alternate storage capacity is unavailable, and an action schedule that will ensure that the control equipment will be repaired or the vessel will be emptied as soon as possible.

External Floating Roof Tanks 1, 2, 3, 4, 5, 6, 11, 15, 17, 19, 21, 22, 24, 29, 43, 50, 51, 52, 55 and 58 (NWCAA 560/580 and 40 CFR 63 Subpart CC Group 1) – Tanks 4, 5, 6, and 19 (also 40 CFR 60 Subpart K)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.14.9 HAP	40 CFR 63 Subpart CC 63.646 (6/30/10) → 40 CFR 63 Subpart G 63.120(b)(8) (1/17/97) 40 CFR 63 Subpart CC 63.655(g)(3)(ii) (6/20/13) 40 CFR 63 Subpart CC 63.655(i)(1) (6/20/13) → 40 CFR 63.123(g) (12/23/04) Tanks 4, 5, 6, & 19: 40 CFR 60 Subpart K 60.110-60.113 (4/4/80, 10/17/00) NWCAA 104.2 (3/14/13)	<u>External Floating Roof Gap Repairs</u> Repair conditions that do not meet the gap allowances no later than 45 calendar days after identification, or empty and remove the storage vessel from service no later than 45 calendar days after identification. If a failure is detected that cannot be repaired within 45 calendar days and if the vessel cannot be emptied within 45 calendar days, two extensions of up to 30 additional days each can be utilized.	If an extension is utilized, submit in the semiannual Periodic Report, as applicable, identification of which vessel, a description of the failure, documentation that alternate storage capacity is unavailable, a schedule of actions that will ensure that the control equipment will be repaired or the vessel will be emptied as soon as practical, and a description of the date the vessel was emptied and the nature of and date the repair was made. Keep the documentation related to use of extensions in a readily accessible location.
5.14.10 VOC	NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb 60.113b(b)(6) (8/11/89)	<u>External Floating Roof Visual Inspection After Degassing</u> Visually inspect the external floating roof, the primary seal, the secondary seal, and fittings each time the vessel is emptied and degassed. If inspection shows that the external floating roof has defects; the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, repair the items as necessary so that none of the conditions specified in this paragraph exist before filling or refilling the storage vessel with VOL.	Notify the NWCAA in writing at least 30 days prior to the filling or refilling of each storage vessel. If the inspection is unplanned and was not foreseen 30 days prior to refilling, notify the NWCAA at least 7 days prior to refilling. Notification may be made by telephone, followed by written documentation.

External Floating Roof Tanks 1, 2, 3, 4, 5, 6, 11, 15, 17, 19, 21, 22, 24, 29, 43, 50, 51, 52, 55 and 58 (NWCAA 560/580 and 40 CFR 63 Subpart CC Group 1) – Tanks 4, 5, 6, and 19 (also 40 CFR 60 Subpart K)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.14.11 HAP	40 CFR 63 Subpart CC 63.646 (6/30/10) → 40 CFR 63 Subpart G 63.120(b)(10) (1/17/97) (as modified by 40 CFR 63.646(e) (6/30/10)) 40 CFR 63 Subpart CC 63.655(g)(3)(iii) and (h)(2)(i) (6/20/13) Tanks 4, 5, 6, & 19: 40 CFR 60 Subpart K 60.110-60.113 (4/4/80, 10/17/00) NWCAA 104.2 (3/14/13)	<u>External Floating Roof Visual Inspection After Degassing</u> Visually inspect the external floating roof, the primary seal, secondary seal, and fittings each time the vessel is emptied and degassed. If inspection shows that the external floating roof has defects; the primary seal has holes, tears, or other openings in the seal or the seal fabric; or the secondary seal has holes, tears, or other openings in the seal or fabric; the owner or operator shall repair the items as necessary so that none of the conditions specified in this paragraph exist before filling or refilling the storage vessel with organic HAP.	Notify the NWCAA in writing at least 30 days prior to the filling or refilling of each storage vessel. If the inspection is unplanned and was not foreseen 30 days prior to refilling, notify the NWCAA at least 7 days prior to refilling. Notification may be made by telephone, followed by written documentation. Submit in the semiannual Periodic Report documentation of any failures discovered during the inspection. The report shall include the date of inspection, vessel identification, description of each failure and the nature and date of each repair.
5.14.12 HAP	40 CFR 63 Subpart CC 63.655(i)(1) (6/20/13) → 40 CFR 63 Subpart G 63.123(a) (12/23/04) Tanks 4, 5, 6, & 19: 40 CFR 60 Subpart K 60.110-60.113 (4/4/80, 10/17/00) NWCAA 104.2 (3/14/13)	<u>Dimensions and Capacities</u> Keep readily accessible records showing the dimensions and capacity of each Group 1 storage vessel.	Maintain records at the facility with dimensions and capacities. Retain as long as storage vessel is subject to Group 1 status and is in operation.

External Floating Roof Tanks 1, 2, 3, 4, 5, 6, 11, 15, 17, 19, 21, 22, 24, 29, 43, 50, 51, 52, 55 and 58 (NWCAA 560/580 and 40 CFR 63 Subpart CC Group 1) – Tanks 4, 5, 6, and 19 (also 40 CFR 60 Subpart K)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.14.13 VOC	NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb 60.116b (10/15/03)	<u>Storage Tank Records</u> Keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. Maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period.	Maintain records at the facility with dimensions and capacities. For storage vessels with design capacity greater than 151 m^3 storing a liquid with a maximum true vapor pressure that is normally less than 5.2 kPa or with a design capacity greater than or equal to 75 m^3 but less than 151 m^3 storing a liquid with a maximum true vapor pressure that is normally less than 27.6 kPa shall notify the NWCAA within 30 days when the maximum true vapor pressure of the liquid exceeds the respective true maximum true vapor pressure values for each volume range.
5.14.14 VOC	NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb 60.112b(a)(2)(ii) (10/8/97)	<u>Roof Openings</u> Except for automatic bleeder vents, rim space vents, roof drains, and leg sleeves, each opening in the roof is to be equipped with a gasketed cover, seal, or lid that is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. Automatic bleeder vents are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports. Rim vents are to be set to open when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting. Automatic bleeder vents and rim space vents are to be gasketed. Each emergency roof drain is to be provided with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening.	*Directly Enforceable:* Visually inspect the vessel openings semiannually. If inspection shows that openings not related to safety are not sealed, close the opening. Document inspection results and any action taken to seal openings. Visually inspect the bleeder vents semiannually. If inspection shows that vents are not sealed and the roof is not being floated off or landed on the roof leg supports, seal them. Visually inspect the emergency roof drain's fabric covers annually. If inspection shows that the roof drain cover is damaged, fix or replace it.

External Floating Roof Tanks 1, 2, 3, 4, 5, 6, 11, 15, 17, 19, 21, 22, 24, 29, 43, 50, 51, 52, 55 and 58 (NWCAA 560/580 and 40 CFR 63 Subpart CC Group 1) – Tanks 4, 5, 6, and 19 (also 40 CFR 60 Subpart K)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.14.15 VOC	NWCAA 580.95 (12/13/89)	Openings All openings in the external floating roof, except for automatic bleeder vents, rim space vents, and leg sleeves shall be equipped with covers, seals, or lids in the closed position except when the openings are in actual use; and equipped with projections into the tank which remain below the liquid surface at all times.	*Directly Enforceable:* Visually inspect the vessel openings semiannually. If inspection shows that openings not related to safety are not sealed, close the opening. Document inspection results and any action taken to seal openings.
5.14.16 HAP	40 CFR 63 Subpart CC 63.646(f)(1) (6/30/10) Tanks 4, 5, 6, & 19: 40 CFR 60 Subpart K 60.110-60.113 (4/4/80, 10/17/00) NWCAA 104.2 (3/14/13)	Cover or Lid If a cover or lid is installed on an opening on a floating roof, the cover or lid shall remain closed except when the cover or lid must be open for access.	
5.14.17 VOC	NWCAA 580.34 (12/13/89)	Openings All openings not related to safety are to be sealed with suitable closures.	
5.14.18 VOC	NWCAA 580.96 (12/13/89)	Automatic Bleeder Vents Keep closed at all times except when the roof is floated off or landed on the roof leg supports.	
5.14.19 HAP	40 CFR 63 Subpart CC 63.646(f)(3) (6/30/10) Tanks 4, 5, 6, & 19: 40 CFR 60 Subpart K 60.110-60.113 (4/4/80, 10/17/00) NWCAA 104.2 (3/14/13)	Automatic Bleeder Vents Automatic bleeder vents are to be closed at all times when the roof is floating, except when the roof is being floated off or is being landed on the roof leg supports.	

External Floating Roof Tanks 1, 2, 3, 4, 5, 6, 11, 15, 17, 19, 21, 22, 24, 29, 43, 50, 51, 52, 55 and 58 (NWCAA 560/580 and 40 CFR 63 Subpart CC Group 1) – Tanks 4, 5, 6, and 19 (also 40 CFR 60 Subpart K)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.14.20 VOC	NWCAA 580.97 (12/13/89)	Rim Vents Shall be set to open when the roof is being floated off the leg supports or at the manufacturer's recommended setting.	*Directly Enforceable:* Visually inspection annually for damage and pressure setting. If inspection shows that the rim space vent is damaged or the pressure setting is wrong, fix or replace it.
5.14.21 HAP	40 CFR 63 Subpart CC 63.646(f)(2) (6/30/10) Tanks 4, 5, 6, & 19: 40 CFR 60 Subpart K 60.110-60.113 (4/4/80, 10/17/00) NWCAA 104.2 (3/14/13)	Rim Space Vents Rim space vents are to be set to open only when the floating roof is not floating or when the pressure beneath the rim seal exceeds the manufacturer's recommended setting.	
5.14.22 VOC	NWCAA 580.98 (12/13/89)	Emergency Roof Drains Provide emergency roof drains with slotted membrane fabric covers or equivalent, which cover at least 90 percent of the area of the opening.	*Directly Enforceable:* Visually inspect the emergency roof drain's fabric covers annually. If inspection shows that the roof drain cover is damaged, fix or replace it.

5.14.2 External Floating Roof Tank 38

External Floating Roof Tank 38 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 63 Subpart CC Group 1, and CO 08)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Note: 40 CFR 60 and 63 General Provisions included in AOP Section 3 apply to this affected facility			
5.14.23 VOC	NWCAA 560 (4/14/93)	Storage of Organic Liquid with a True Vapor Pressure greater than 1.5 psia and less than 11.1 psia 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.	*Directly Enforceable:* Follow MR&R under AOP Terms 5.14.24 through 5.14.36. Maintain records demonstrating that the stored organic liquid has a true vapor pressure less than 11.1 psia. Notify the NWCAA within 12 hours of discovering an exceedance of the 11.1 psia limit.

External Floating Roof Tank 38 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 63 Subpart CC Group 1, and CO 08)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.14.24 VOC/HAP	40 CFR 63 Subpart CC 63.640(n)(1) (6/20/13) & 40 CFR 60 Subpart Kb 60.110b-60.117b (10/15/03, 10/8/97, 8/11/89, 4/8/87, 6/16/87) → 40 CFR 60 Subpart Kb 60.112b(a)(2)(i) (10/8/97), 60.113b(b) (8/11/89), and 60.115b(b) (4/8/87) (as modified by 40 CFR 63.640(n)(8) (6/20/13)) NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	<u>External Floating Roof Seal Coverage</u> An external floating roof means a pontoon-type or double-deck type cover that rests on the liquid surface in a vessel with no fixed roof. Each external floating roof shall be equipped with a closure device between the wall of the vessel the roof edge. The closure device shall consist of two seals: a primary (either a metallic shoe seal or a liquid-mounted seal) and a secondary seal. Both the primary and secondary seals shall completely cover the annular space between the external floating roof and the storage vessel wall, except for when necessary repairs are being made or the vessel is empty, as provided in 60.113b(b)(4). For the primary seal, the accumulated area of gaps shall not exceed 212 cm^2 per meter of tank diameter, and the width of any portion of any gap shall not exceed 3.81 cm. One end of the mechanical shoe should extend into the stored liquid and the other end should be at least 61 cm above the liquid surface. For the secondary seal, the accumulated area of gaps shall not exceed 21.2 cm^2 per meter of tank diameter and the width of any portion of any gap shall not exceed 1.27 cm. There should be no holes, tears, or other openings in the primary mechanical shoe, the primary or secondary seal fabric, or the seal envelope.	Measure gaps between the vessel wall and the primary seal within 60 days of initial fill and at least every 5 years thereafter. Gap measurement between the vessel wall and the secondary seal shall be performed within 60 days of initial fill and at least once per year thereafter. If unsafe to perform gap measurements, comply with 40 CFR 63.120(b)(7). Seal gaps shall be measured at one or more floating roof levels when the roof is floating off the roof leg supports. Measure around the entire tank circumference in each place where a 0.32-cm diameter uniform probe passes freely between the seal and the vessel wall. Measure the circumferential distance of each such location. The total surface area of each gap shall be determined by using probes of various widths to measure accurately the actual distance from the tank wall to the seal and multiplying each such width by its respective circumferential distance. Add the gap surface area of each gap location for each seal individually and divide the sum by the nominal diameter of the tank. Notify the NWCAA 30 days in advance of any gap measurements or 7 days if unforeseen. Keep records of each gap measurement including the date of measurement, the raw data, and the calculation of accumulated gap area. For the primary and secondary seal gap measurements, submit this data to the NWCAA within 60 days of taking the measurement only if the measured gaps or calculated gap areas exceed the listed thresholds. For each seal gap measurement that detects gaps exceeding the gap area allowance, submit an inspection report to the NWCAA in the next periodic report identifying the vessel, the date of measurement, the raw data, the calculation of accumulated gap area, and date the vessel was emptied or repairs were made.

External Floating Roof Tank 38 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 63 Subpart CC Group 1, and CO 08)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.14.25 VOC	NWCAA 580.33 (12/13/89)	Seal Condition All seals are to be maintained in good operating condition and the seal fabric shall contain no visible holes, tears, or other openings.	*Directly Enforceable:* Semiannually, visually inspect the secondary seal. If the secondary seal has holes, tears, or other openings in the seal or fabric, repair the items as necessary. Maintain records of the types of petroleum liquids stored, the maximum true vapor pressure of the liquid as stored, and the results of any inspections performed for a period of two years after the date on which the record was made. Note: Under WAC 173-401-615(2), records of required monitoring data and support information shall be retained for a period of five years from the date of the monitoring sample, measurement, report, or application.
5.14.26 VOC	NWCAA 580.93, 580.94 and 580.99 (12/13/89)	Volatile Organic Compound in External Floating Roof Tanks Store volatile organic compounds in vessels subject to this section that have been fitted with a rim-mounted secondary seal. All of these seals or closure devices shall meet the following requirements: There must be no visible holes, tears, or other openings in the seal or seal fabric; The seal shall be intact and uniformly in place around the circumference of the floating roof between the roof and the tank wall. For vapor-mounted primary seals, the accumulated area of gaps exceeding 0.32 cm (1.8 inch) in width between the secondary seal and the tank wall shall not exceed 21.2 cm^2 per meter of tank diameter (1.0 in^2 per foot of tank diameter)	Semiannually, visually inspect the secondary seal gap. Measure the secondary seal gap annually if the floating roof is equipped with a vapor-mounted primary seal. Notify the NWCAA not less than five working days prior to the measurement. Maintain records of the types of petroleum liquids stored, the maximum true vapor pressure of the liquid as stored, and the results of any inspections performed for a period of two years after the date on which the record was made. *Directly Enforceable:* Note: Under WAC 173-401-615(2), records of required monitoring data and support information shall be retained for a period of five years from the date of the monitoring sample, measurement, report, or application. If the secondary seal has holes, tears, or other openings in the seal or fabric, repair the items as necessary.

External Floating Roof Tank 38 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 63 Subpart CC Group 1, and CO 08)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.14.27 VOC/HAP	40 CFR 63 Subpart CC 63.640(n)(1) (6/20/13) & 40 CFR 60 Subpart Kb 60.110b-60.117b (10/15/03, 10/8/97, 8/11/89, 4/8/87, 6/16/87) → 40 CFR 60 Subpart Kb 60.112b(a)(2)(iii) (10/8/97) NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	<u>External Floating Roof on Surface</u> The roof shall be floating on the liquid at all times (i.e., off the roof leg supports) except during initial fill until the roof is lifted off leg supports and when the tank is completely emptied and subsequently refilled. The process of filling, emptying, or refilling when the roof is resting on the leg supports shall be continuous and shall be accomplished as rapidly as possible.	*Directly Enforceable:* Keep records of periods when the tank is resting on the leg supports.
5.14.28 VOC/HAP	40 CFR 63 Subpart CC 63.640(n)(1) (6/20/13) & 40 CFR 60 Subpart Kb 60.110b-60.117b (10/15/03, 10/8/97, 8/11/89, 4/8/87, 6/16/87) → 40 CFR 60 Subpart Kb 60.113b(b)(4) & (4)(iii) (8/11/89), and 60.115b(b)(4) (4/8/87) (as modified by 40 CFR 63.640(n)(8) (6/20/13)) NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	<u>External Floating Roof Gap Repairs</u> Repair conditions not meeting the gap allowances, or empty the storage vessel within 45 days of identification of failures found in any inspection. If a failure is detected that cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, two extensions of up to 30 additional days each can be utilized.	A request to the NWCAA is not required to utilize these two 30-day extensions. In the next periodic report, if an extension is utilized, submit the vessel identification, a failure description, documentation that alternate storage capacity is unavailable, an action schedule that will ensure that the control equipment will be repaired or the vessel will be emptied as soon as possible, describe the nature and date of the repair made or provide the date the storage vessel was emptied.

External Floating Roof Tank 38 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 63 Subpart CC Group 1, and CO 08)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.14.29 VOC/HAP	40 CFR 63 Subpart CC 63.640(n)(1) (6/20/13) & 40 CFR 60 Subpart Kb 60.110b-60.117b (10/15/03, 10/8/97, 8/11/89, 4/8/87, 6/16/87) → 40 CFR 60 Subpart Kb 60.113b(b)(6) (8/11/89) NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	<u>External Floating Roof Visual Inspection After Degassing</u> Visually inspect the external floating roof, the primary seal, the secondary seal, and fittings each time the vessel is emptied and degassed. If inspection shows that the external floating roof has defects; the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, repair the items as necessary so that none of the conditions specified in this paragraph exist before filling or refilling the storage vessel with VOL.	Notify the NWCAA in writing at least 30 days prior to the filling or refilling of each storage vessel. If the inspection is unplanned and was not foreseen 30 days prior to refilling, notify the NWCAA at least 7 days prior to refilling. Notification may be made by telephone, followed by written documentation.
5.14.30 VOC	40 CFR 63 Subpart CC 63.640(n)(1) (6/20/13) & 40 CFR 60 Subpart Kb 60.110b-60.117b (10/15/03, 10/8/97, 8/11/89, 4/8/87, 6/16/87) → 40 CFR 60 Subpart Kb 60.116b (10/15/03) NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	<u>Storage Tank Records</u> Keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. Maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period.	Maintain records at the facility with dimensions and capacities. For storage vessels with design capacity greater than 151 m^3 storing a liquid with a maximum true vapor pressure that is normally less than 5.2 kPa or with a design capacity greater than or equal to 75 m^3 but less than 151 m^3 storing a liquid with a maximum true vapor pressure that is normally less than 27.6 kPa shall notify the NWCAA within 30 days when the maximum true vapor pressure of the liquid exceeds the respective true maximum true vapor pressure values for each volume range.

External Floating Roof Tank 38 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 63 Subpart CC Group 1, and CO 08)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.14.31 VOC/HAP	40 CFR 63 Subpart CC 63.640(n)(1) (6/20/13) & 40 CFR 60 Subpart Kb 60.110b-60.117b (10/15/03, 10/8/97, 8/11/89, 4/8/87, 6/16/87) → 40 CFR 60 Subpart Kb 60.112b(a)(2)(ii) (10/8/97) NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	Roof Openings Except for automatic bleeder vents, rim space vents, roof drains, and leg sleeves, each opening in the roof is to be equipped with a gasketed cover, seal, or lid that is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. Automatic bleeder vents are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports. Rim vents are to be set to open when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting. Automatic bleeder vents and rim space vents are to be gasketed. Each emergency roof drain is to be provided with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening.	*Directly Enforceable:* Visually inspect the vessel openings semiannually. If inspection shows that openings not related to safety are not sealed, close the opening. Document inspection results and any action taken to seal openings. Visually inspect the bleeder vents semiannually. If inspection shows that vents are not sealed and the roof is not being floated off or landed on the roof leg supports, seal them. Visually inspect the emergency roof drain's fabric covers annually. If inspection shows that the roof drain cover is damaged, fix or replace it.
5.14.32 VOC	NWCAA 580.95 (12/13/89)	Openings All openings in the external floating roof, except for automatic bleeder vents, rim space vents, and leg sleeves shall be equipped with covers, seals, or lids in the closed position except when the openings are in actual use; and equipped with projections into the tank which remain below the liquid surface at all times.	*Directly Enforceable:* Visually inspect the vessel openings semiannually. If inspection shows that openings not related to safety are not sealed, close the opening. Document inspection results and any action taken to seal openings.
5.14.33 VOC	NWCAA 580.34 (12/13/89)	Openings All openings not related to safety are to be sealed with suitable closures.	
5.14.34 VOC	NWCAA 580.96 (12/13/89)	Automatic Bleeder Vents Keep closed at all times except when the roof is floated off or landed on the roof leg supports.	
5.14.35 VOC	NWCAA 580.97 (12/13/89)	Rim Vents Shall be set to open when the roof is being floated off the leg supports or at the manufacturer's recommended setting.	*Directly Enforceable:* Visually inspection annually for damage and pressure setting. If inspection shows that the rim space vent is damaged or the pressure setting is wrong, fix or replace it.

External Floating Roof Tank 38 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 63 Subpart CC Group 1, and CO 08)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.14.36 VOC	NWCAA 580.98 (12/13/89)	Emergency Roof Drains Provide emergency roof drains with slotted membrane fabric covers or equivalent, which cover at least 90 percent of the area of the opening.	*Directly Enforceable:* Visually inspect the emergency roof drain's fabric covers annually. If inspection shows that the roof drain cover is damaged, fix or replace it.
5.14.37 VOC	CO 08 Conditions III.A & III.B (4/29/13)	The sliding cover shall be in place over the slotted guidepole opening through the floating roof at all times except when the sliding cover must be removed for access. If the control technology used includes a guidepole float, the float shall be floating within the guidepole at all times except when it must be removed for access to the stored liquid or when the tank is empty.	Visually inspect the deck fitting for the slotted guidepole at least once every 10 years and each time the vessel is emptied and degassed. If the slotted guidepole deck fitting or control devices have defects, or if a gap of more than 0.32 centimeters (1/8 inch) exists between any gasket required for control of the slotted guidepole deck fitting and any surface that it is intended to seal, such items shall be repaired before filling or refilling the storage vessel with regulated material.

5.14.3 External Floating Roof Tank 45

External Floating Roof Tank 45 (40 CFR 63 Subpart CC Group 2 and OAC 297a)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Note: 40 CFR 63 General Provisions included in AOP Section 3 apply to this affected facility			
5.14.38 HAP	40 CFR 63 Subpart CC 63.655(i)(1) (6/20/13) → 40 CFR 63 Subpart G 63.123(a) (12/23/04) NWCAA 104.2 (3/14/13)	Dimensions and Capacities Keep readily accessible records showing the dimensions and capacities of each Group 2 storage vessel.	Maintain records at the facility with dimensions and capacities. Retain as long as storage vessel is subject to Group 2 status and is in operation.
5.14.39 VOC	OAC 297a Condition 1 (4/10/13)	Maximum true vapor pressure of organic liquid stored shall not exceed 0.75 psia.	Maintain records demonstrating that the liquid stored in the tank has a vapor pressure of 0.75 psi or less.

5.14.4 External Floating Roof Tanks 80, 81 and 82

External Floating Roof Tanks 80, 81 and 82 (OAC 296a, 40 CFR 63 Subpart CC Group 2)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Note: 40 CFR 63 General Provisions included in AOP Section 3 apply to these affected facilities			
5.14.40 VOC	OAC 296a Condition 2 (4/12/13)	True vapor pressure of the liquid stored shall not exceed 0.75 psi.	Maintain records demonstrating that the liquid stored has a vapor pressure of 0.75 psi or less.
5.14.41 HAP	40 CFR 63 Subpart CC 63.655(i)(1) (6/20/13) → 40 CFR 63 Subpart G 63.123(a) (12/23/04) NWCAA 104.2 (3/14/13)	Dimensions and Capacities Keep readily accessible records showing the dimensions and capacities of each Group 2 storage vessel.	Maintain records at the facility with dimensions and capacities. Retain as long as storage vessel is subject to Group 2 status and is in operation.

5.14.5 External Floating Roof Tanks 34, 44, and 59

External Floating Roof Tanks 34, 44, and 59 (40 CFR 63 Subpart CC Group 2)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Note: 40 CFR 63 General Provisions included in AOP Section 3 apply to these affected facilities			
5.14.42 HAP	40 CFR 63 Subpart CC 63.655(i)(1) (6/20/13) → 40 CFR 63 Subpart G 63.123(a) (12/23/04) NWCAA 104.2 (3/14/13)	Dimensions and Capacities Keep readily accessible records showing the dimensions and capacities of each Group 2 storage vessel.	Maintain records at the facility with dimensions and capacities. Retain as long as storage vessel is subject to Group 2 status and is in operation.

5.14.6 Internal Floating Roof Tanks 23, 28, 30, 36, 53, and 54

Internal Floating Roof Tanks 23, 28, 30, 36, 53, and 54 (NWCAA 560/580 and 40 CFR 63 Subpart CC Group 1) – Tank 36 (also 40 CFR 60 Subpart K)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Note: 40 CFR 63 General Provisions included in AOP Section 3 apply to these affected facilities			
Note: 40 CFR 60 General Provisions included in AOP Section 3 apply to Tank 36			
5.14.43 VOC	NWCAA 560 (4/14/93)	<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.	*Directly Enforceable:* Follow MR&R under AOP Terms 5.14.44 through 5.14.62. Maintain records demonstrating that the stored organic liquid has a true vapor pressure less than 11.1 psia. Notify the NWCAA within 12 hours of discovering an exceedance of the 11.1 psia limit.

Internal Floating Roof Tanks 23, 28, 30, 36, 53, and 54 (NWCAA 560/580 and 40 CFR 63 Subpart CC Group 1) – Tank 36 (also 40 CFR 60 Subpart K)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.14.44 VOC	NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb 60.112b(a)(1)(ii) (10/8/97), 60.113b(a)(2), (3), and (5) (8/11/89), 60.115b(a)(2), (3), and (4) (4/8/87)	<u>Internal Floating Roof Operation</u> Each internal floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof: a foam- or liquid-filled liquid-mounted seal, two seals mounted one above the other so that each forms a continuous closure between the wall of the storage vessel and the edge of the internal floating roof, or a mechanical shoe seal.	For single seal roof tanks: • Annually, conduct a visual inspection of the internal floating roof and seal system through manholes and roof hatches. • Visually inspect the internal floating roof, the seal(s), gaskets, slotted membranes, and sleeve seals (if any) at least once every 10 years. For double seal roof tanks, either: • Visually inspect the internal floating roof, the seal(s), gaskets, slotted membranes, and sleeve seals (if any) at least once every 5 years. • Annually, conduct a visual inspection of the internal floating roof and seal system through manholes and roof hatches and visually inspect the internal floating roof, the seal(s), gaskets, slotted membranes, and sleeve seals (if any). Notify the NWCAA in writing 30 calendar days prior to filling or refilling the tank or 7 days if unforeseen. Keep records of each inspection, including the inspection date, vessel identification, observed condition of the control equipment (seals, internal floating roof, and fittings). If defects are found, submit an inspection report to the NWCAA within 30 days of the inspection identifying the vessel, the nature of the defects, and the date the storage vessel was emptied or the nature of and date the repair was made.

Internal Floating Roof Tanks 23, 28, 30, 36, 53, and 54 (NWCAA 560/580 and 40 CFR 63 Subpart CC Group 1) – Tank 36 (also 40 CFR 60 Subpart K)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.14.45 HAP	40 CFR 63 Subpart CC 63.646 (6/30/10) → 40 CFR 63 Subpart G 63.119(b)(3) (12/21/06), 63.120(a)(1), (2), (3), & (5) (1/17/97) (as modified by 40 CFR 63.646(e) (6/30/10)) 40 CFR 63 Subpart CC 63.655(g)(2) (6/20/13) 40 CFR 63 Subpart CC 63.655(i)(1) (6/20/13) → 63.123(c) (12/23/04) Tank 36: 40 CFR 60 Subpart K 60.110-60.113 (4/4/80, 10/17/00) NWCAA 104.2 (3/14/13)	<u>Internal Floating Roof Seal Coverage</u> Each internal floating roof shall be equipped with a closure device between the wall of the storage vessel and the roof edge. The closure device shall consist of either a liquid mounted seal, a metallic shoe seal, or two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof.	For single seal roof tanks: • Annually, conduct a visual inspection of the internal floating roof and seal system through manholes and roof hatches. • Visually inspect the internal floating roof, the seal(s), gaskets, slotted membranes, and sleeve seals (if any) at least once every 10 years. For double seal roof tanks, either: • Visually inspect the internal floating roof, the seal(s), gaskets, slotted membranes, and sleeve seals (if any) at least once every 5 years. • Annually, conduct a visual inspection of the internal floating roof and seal system through manholes and roof hatches and visually inspect the internal floating roof, the seal(s), gaskets, slotted membranes, and sleeve seals (if any). 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 • a seal is detached or there are holes or tears in the seal fabric • there are visible gaps between the seal and the wall of the vessel Keep a record of each inspection that includes the tank identification, date of inspection and any defects found. Notify the NWCAA in writing 30 calendar days prior to filling or refilling the tank or 7 days if unforeseen. Submit in the Periodic Report the date of the inspection, identification of the tank, a description of any defects found, and a description of the nature and date the repair was made or the date the storage vessel was emptied.

Internal Floating Roof Tanks 23, 28, 30, 36, 53, and 54 (NWCAA 560/580 and 40 CFR 63 Subpart CC Group 1) – Tank 36 (also 40 CFR 60 Subpart K)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.14.46 VOC	NWCAA 580.33 (12/13/89)	Seal Condition All seals are to be maintained in good operating condition and the seal fabric shall contain no visible holes, tears, or other openings.	*Directly Enforceable:* Follow MR&R under AOP Terms 5.14.44 and 5.14.45.
5.14.47 VOC	NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb 60.112b(a)(1)(i) (10/8/97)	Internal Floating Roof on Surface The internal floating roof shall rest or float on the liquid surface at all times (i.e., off the roof leg supports), except during initial fill and during those intervals when the storage vessel is completely emptied or subsequently emptied and refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible.	*Directly Enforceable:* Keep records of periods when the floating roof is resting on the leg supports.
5.14.48 HAP	40 CFR 63 Subpart CC 63.646 (6/30/10) → 63.119(b)(1) and (b)(2) (12/21/06) Tank 36: 40 CFR 60 Subpart K 60.110-60.113 (4/4/80, 10/17/00) NWCAA 104.2 (3/14/13)	Internal Floating Roof on Surface The floating roof shall be floating on the liquid surface at all times except when it must be supported by the leg supports during (i) initial fill, (ii) after the vessel has been completely emptied and degassed, and (iii) when the vessel is completely emptied before being subsequently refilled. When the floating roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as soon as practical.	
5.14.49 VOC	NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb 60.113b(a)(2) (8/11/89), and 60.115b(a)(3) (4/8/87)	Internal Floating Roof Defect Repairs Repair internal floating roof defects (e.g., roof not resting on surface of liquid, liquid accumulated on floating roof, seal is detached, holes and tears in seal fabric) no later than 45 calendar days after identification, or empty and remove the storage vessel from service no later than 45 calendar days after identification. If a failure is detected that cannot be repaired within 45 calendar days and if the vessel cannot be emptied within 45 calendar days, a 30-day extension may be requested in the inspection report.	Submit in the inspection report the request to utilize a 30-day extension. Such a request for an extension must document that alternate storage capacity is unavailable and specify a schedule of actions that will assure that the control equipment will be required or the vessel will be emptied as soon as possible.

Internal Floating Roof Tanks 23, 28, 30, 36, 53, and 54 (NWCAA 560/580 and 40 CFR 63 Subpart CC Group 1) – Tank 36 (also 40 CFR 60 Subpart K)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.14.50 HAP	40 CFR 63 Subpart CC 63.646 (6/30/10) → 40 CFR 63 Subpart G 63.120(a)(4) (1/17/97) 40 CFR 63 Subpart CC 63.655(g)(2)(i)(C) (6/20/13) 40 CFR 63 Subpart CC 63.655(i)(1) (6/20/13) → 40 CFR 63 Subpart CC 63.123(g) (12/23/04) Tank 36: 40 CFR 60 Subpart K 60.110-60.113 (4/4/80, 10/17/00) NWCAA 104.2 (3/14/13)	Internal Floating Roof Defect Repairs Repair internal floating roof defects (e.g., roof not resting on surface of liquid, liquid on floating roof, seal is detached, holes and tears in seal fabric, visible seal gaps) no later than 45 calendar days after identification, or empty and remove the storage vessel from service no later than 45 calendar days after identification. If a failure is detected that cannot be repaired within 45 calendar days and if the vessel cannot be emptied within 45 calendar days, two extensions of up to 30 additional days each can be utilized.	If an extension is utilized, submit in the semiannual Periodic Report, as applicable, identification of which vessel, a description of the failure, documentation of a description of the failure, that alternate storage capacity is unavailable, a schedule of actions that will ensure that the control equipment will be repaired or the vessel will be emptied as soon as practical, and a description of the date the vessel was emptied and the nature of and date the repair was made. Keep the documentation related to use of extensions in a readily accessible location.
5.14.51 VOC	NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb 60.113b(a)(4) & (5) (8/11/89)	Internal Floating Roof Visual Inspection After Degassing Visually inspect the internal floating roof, the primary seal, the secondary seal (if one is in service), gaskets, slotted membranes and sleeve seals (if any) each time the storage vessel is emptied and degassed. If inspection shows the internal floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, or the gaskets no longer close off the liquid surfaces from the atmosphere, or the slotted membrane has more than 10 percent open area, repair the items as necessary so that none of these conditions specified in this paragraph exist before filling or refilling the storage vessel with VOL.	Notify the NWCAA in writing at least 30 days prior to the filling or refilling of each storage vessel. If the inspection is unplanned and was not foreseen 30 days prior to refilling, notify the NWCAA at least 7 days prior to refilling. Notification may be made by telephone, followed by written documentation.

Internal Floating Roof Tanks 23, 28, 30, 36, 53, and 54 (NWCAA 560/580 and 40 CFR 63 Subpart CC Group 1) – Tank 36 (also 40 CFR 60 Subpart K)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.14.52 HAP	40 CFR 63 Subpart CC 63.646 (6/30/10) → 40 CFR 63 Subpart G 63.120(a)(2)(ii), (3)(i), (3)(iii), (6), (7) (1/17/97) (as modified by 40 CFR 63.646(e) (6/30/10)) 40 CFR 63 Subpart CC 63.655(g)(2)(ii)(B) and (h)(2)(i) (6/20/13) Tank 36: 40 CFR 60 Subpart K 60.110-60.113 (4/4/80, 10/17/00) NWCAA 104.2 (3/14/13)	Internal Floating Roof Visual Inspection After Degassing Visually inspect the internal floating roof, the seal(s), gaskets, slotted membranes, and sleeve seals (if any) each time the vessel is emptied and degassed. If inspection shows that the internal floating roof has defects; the primary seal has holes, tears, or other openings in the seal or the seal fabric; or the gaskets no longer close off the liquid surface from the atmosphere, or the slotted membrane has more than 10 percent open area; the owner or operator shall repair the items as necessary so that none of the conditions specified in this paragraph exist before filling or refilling the storage vessel with organic HAP.	Notify the NWCAA in writing at least 30 days prior to the filling or refilling of each storage vessel. If the inspection is unplanned and was not foreseen 30 days prior to refilling, notify the NWCAA at least 7 days prior to refilling. Notification may be made by telephone, followed by written documentation. Submit in the Periodic Report the date of the inspection, identification of the tank, a description of any defects found, and a description of the nature and date the repair was made.
5.14.53 VOC	NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb 60.116b (10/15/03)	Storage Tank Records Keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. Maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period.	Maintain records at the facility with dimensions and capacities. For storage vessels with design capacity greater than 151 m^3 storing a liquid with a maximum true vapor pressure that is normally less than 5.2 kPa or with a design capacity greater than or equal to 75 m^3 but less than 151 m^3 storing a liquid with a maximum true vapor pressure that is normally less than 27.6 kPa shall notify the NWCAA within 30 days when the maximum true vapor pressure of the liquid exceeds the respective true maximum true vapor pressure values for each volume range.

Internal Floating Roof Tanks 23, 28, 30, 36, 53, and 54 (NWCAA 560/580 and 40 CFR 63 Subpart CC Group 1) – Tank 36 (also 40 CFR 60 Subpart K)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.14.54 HAP	40 CFR Subpart CC 40 CFR 63.655(i)(1) (6/20/13) → 40 CFR 63 Subpart G 63.123(a) (12/23/04) Tank 36: 40 CFR 60 Subpart K 60.110-60.113 (4/4/80, 10/17/00) NWCAA 104.2 (3/14/13)	Dimensions and Capacities Keep readily accessible records showing the dimensions and capacity of each Group 1 storage vessel.	Maintain records at the facility with dimensions and capacities. Retain as long as storage vessel is subject to Group 1 status and is in operation.
5.14.55 VOC	NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb 60.112b(a)(1)(iii) & (iv) (10/8/97)	Roof Openings Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and rim space vents is to provide a projection below the liquid surface. Except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains, each opening in the roof is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use.	Follow MR&R under AOP Term 5.14.44.
5.14.56 VOC	NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb 60.112b(a)(1)(vii), (viii) & (ix) (10/8/97)	Roof Penetrations Each penetration of the roof for the purpose of sampling shall be a sample well. The sample well shall have a slit fabric cover that covers at least 90 percent of the opening. Each penetration of the roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or gasketed sliding cover. Each penetration of the roof that allows for passage of a ladder shall have a gasketed sliding cover.	Follow MR&R under AOP Term 5.14.44.

Internal Floating Roof Tanks 23, 28, 30, 36, 53, and 54 (NWCAA 560/580 and 40 CFR 63 Subpart CC Group 1) – Tank 36 (also 40 CFR 60 Subpart K)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.14.57 HAP	40 CFR 63 Subpart CC 63.646(f)(1) (6/30/10) Tank 36: 40 CFR 60 Subpart K 60.110-60.113 (4/4/80, 10/17/00) NWCAA 104.2 (3/14/13)	Cover or Lid If a cover or lid is installed on an opening on a floating roof, the cover or lid shall remain closed except when the cover or lid must be open for access.	Follow MR&R under AOP Term 5.14.45.
5.14.58 VOC	NWCAA 580.34 (12/13/89)	Openings All openings not related to safety are to be sealed with suitable closures.	*Directly Enforceable:* Follow MR&R under AOP Terms 5.14.44 and 5.14.45.
5.14.59 VOC	NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb 60.112b(a)(1)(v) (10/8/97)	Automatic Bleeder Vents Automatic bleeder vents shall be equipped with a gasket and are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports.	Follow MR&R under AOP Term 5.14.44.
5.14.60 HAP	40 CFR 63 Subpart CC 63.646(f)(3) (6/30/10) Tank 36: 40 CFR 60 Subpart K 60.110-60.113 (4/4/80, 10/17/00) NWCAA 104.2 (3/14/13)	Automatic Bleeder Vents Automatic bleeder vents are to be closed at all times when the roof is floating, except when the roof is being floated off or is being landed on the roof leg supports.	Follow MR&R under AOP Term 5.14.45.
5.14.61 VOC	NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb 60.112b(a)(1)(vi) (10/8/97)	Rim Space Vents Rim space vents shall be equipped with a gasket and are to be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting.	Follow MR&R under AOP Term 5.14.44.

Internal Floating Roof Tanks 23, 28, 30, 36, 53, and 54 (NWCAA 560/580 and 40 CFR 63 Subpart CC Group 1) – Tank 36 (also 40 CFR 60 Subpart K)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.14.62 HAP	40 CFR 63 Subpart CC 63.646(f)(2) (6/30/10) Tank 36: 40 CFR 60 Subpart K 60.110-60.113 (4/4/80, 10/17/00) NWCAA 104.2 (3/14/13)	Rim Space Vents Rim space vents are to be set to open only when the floating roof is not floating or when the pressure beneath the rim seal exceeds the manufacturer's recommended setting.	Follow MR&R under AOP Term 5.14.45.

5.14.7 Internal Floating Roof Tank 12, 13, and 14

Internal Floating Roof Tanks 12, 13, and 14 (NWCAA 560/580, 40 CFR 60 Subpart Kb, and 40 CFR 63 Subpart CC Group 1)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Note: 40 CFR 60 and 63 General Provisions included in AOP Section 3 apply to these affected facilities			
5.14.63 VOC	NWCAA 560 (4/14/93)	Storage of Organic Liquid with a True Vapor Pressure greater than 1.5 psia and less than 11.1 psia 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.	*Directly Enforceable:* Follow MR&R under AOP Terms 5.14.64 through 5.14.74. Maintain records demonstrating that the stored organic liquid has a true vapor pressure less than 11.1 psia. Notify the NWCAA within 12 hours of discovering an exceedance of the 11.1 psia limit.

Internal Floating Roof Tanks 12, 13, and 14 (NWCAA 560/580, 40 CFR 60 Subpart Kb, and 40 CFR 63 Subpart CC Group 1)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.14.64 VOC/HAP	40 CFR 63 Subpart CC 63.640(n)(1) (6/20/13) & 40 CFR 60 Subpart Kb 60.110b-60.117b (10/15/03, 10/8/97, 8/11/89, 4/8/87, 6/16/87) → 40 CFR 60 Subpart Kb 60.112b(a)(1)(ii) (10/8/97), 60.113b(a)(2), (3), and (5) (8/11/89), 60.115b(a)(2), (3), and (4) (4/8/87) (as modified by 40 CFR 63.640(n)(8) (6/20/13)) NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	<u>Internal Floating Roof Operation</u> Each internal floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof: a foam- or liquid-filled liquid-mounted seal, two seals mounted one above the other so that each forms a continuous closure between the wall of the storage vessel and the edge of the internal floating roof, or a mechanical shoe seal.	For single seal roof tanks: • Annually, conduct a visual inspection of the internal floating roof and seal system through manholes and roof hatches. • Visually inspect the internal floating roof, the seal(s), gaskets, slotted membranes, and sleeve seals (if any) at least once every 10 years. For double seal roof tanks, either: • Visually inspect the internal floating roof, the seal(s), gaskets, slotted membranes, and sleeve seals (if any) at least once every 5 years. • Annually, conduct a visual inspection of the internal floating roof and seal system through manholes and roof hatches and visually inspect the internal floating roof, the seal(s), gaskets, slotted membranes, and sleeve seals (if any). If unsafe to perform gap measurements, comply with 40 CFR 63.120(b)(7). Notify the NWCAA in writing 30 calendar days prior to filling or refilling the tank or 7 days if unforeseen. Keep records of each inspection, including the inspection date, vessel identification, observed condition of the control equipment (seals, internal floating roof, and fittings). If defects are found, submit an inspection report to the NWCAA as part of the periodic report identifying the vessel, the nature of the defects, and the date the storage vessel was emptied or the nature of and date the repair was made.
5.14.65 VOC	NWCAA 580.33 (12/13/89)	<u>Seal Condition</u> All seals are to be maintained in good operating condition and the seal fabric shall contain no visible holes, tears, or other openings.	*Directly Enforceable:* Follow MR&R under AOP Term 5.14.64.

Internal Floating Roof Tanks 12, 13, and 14 (NWCAA 560/580, 40 CFR 60 Subpart Kb, and 40 CFR 63 Subpart CC Group 1)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.14.66 VOC/HAP	40 CFR 63 Subpart CC 63.640(n)(1) (6/20/13) & 40 CFR 60 Subpart Kb 60.110b-60.117b (10/15/03, 10/8/97, 8/11/89, 4/8/87, 6/16/87) → 40 CFR 60 Subpart Kb 60.112b(a)(1)(i) (10/8/97) NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	Internal Floating Roof on Surface The internal floating roof shall rest or float on the liquid surface at all times (i.e., off the roof leg supports), except during initial fill and during those intervals when the storage vessel is completely emptied or subsequently emptied and refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible.	*Directly Enforceable:* Keep records of periods when the floating roof is resting on the leg supports.
5.14.67 VOC/HAP	40 CFR 63 Subpart CC 63.640(n)(1) (6/20/13) & 40 CFR 60 Subpart Kb 60.110b-60.117b (10/15/03, 10/8/97, 8/11/89, 4/8/87, 6/16/87) → 40 CFR 60 Subpart Kb 60.113b(a)(2) (8/11/89), and 60.115b(a)(3) (4/8/87) (as modified by 40 CFR 63.640(n)(8) (6/20/13)) NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	Internal Floating Roof Defect Repairs Repair internal floating roof defects (e.g., roof not resting on surface of liquid, liquid accumulated on floating roof, seal is detached, holes and tears in seal fabric) no later than 45 calendar days after identification, or empty and remove the storage vessel from service no later than 45 calendar days after identification. If a failure is detected that cannot be repaired within 45 calendar days and if the vessel cannot be emptied within 45 calendar days, two extensions of up to 30 additional days each can be utilized.	A request to the NWCAA is not required to utilize two 30-day extensions. In the next periodic report, if an extension is utilized, submit the vessel identification, a failure description, documentation that alternate storage capacity is unavailable, an action schedule that will ensure that the control equipment will be repaired or the vessel will be emptied as soon as possible, describe the nature and date of the repair made or provide the date the storage vessel was emptied.

Internal Floating Roof Tanks 12, 13, and 14 (NWCAA 560/580, 40 CFR 60 Subpart Kb, and 40 CFR 63 Subpart CC Group 1)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.14.68 VOC/HAP	40 CFR 63 Subpart CC 63.640(n)(1) (6/20/13) & 40 CFR 60 Subpart Kb 60.110b-60.117b (10/15/03, 10/8/97, 8/11/89, 4/8/87, 6/16/87) → 40 CFR 60 Subpart Kb 60.113b(a)(4) & (5) (8/11/89) NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	Internal Floating Roof Visual Inspection After Degassing Visually inspect the internal floating roof, the primary seal, the secondary seal (if one is in service), gaskets, slotted membranes and sleeve seals (if any) each time the storage vessel is emptied and degassed. If inspection shows the internal floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, or the gaskets no longer close off the liquid surfaces from the atmosphere, or the slotted membrane has more than 10 percent open area, repair the items as necessary so that none of these conditions specified in this paragraph exist before filling or refilling the storage vessel with VOL.	Notify the NWCAA in writing at least 30 days prior to the filling or refilling of each storage vessel. If the inspection is unplanned and was not foreseen 30 days prior to refilling, notify the NWCAA at least 7 days prior to refilling. Notification may be made by telephone, followed by written documentation.
5.14.69 VOC/HAP	40 CFR 63 Subpart CC 63.640(n)(1) (6/20/13) & 40 CFR 60 Subpart Kb 60.110b-60.117b (10/15/03, 10/8/97, 8/11/89, 4/8/87, 6/16/87) → 40 CFR 60 Subpart Kb 60.116b (10/15/03) NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	Storage Tank Records Keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. Maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period.	Maintain records at the facility with dimensions and capacities. For storage vessels with design capacity greater than 151 m^3 storing a liquid with a maximum true vapor pressure that is normally less than 5.2 kPa or with a design capacity greater than or equal to 75 m^3 but less than 151 m^3 storing a liquid with a maximum true vapor pressure that is normally less than 27.6 kPa shall notify the NWCAA within 30 days when the maximum true vapor pressure of the liquid exceeds the respective true maximum true vapor pressure values for each volume range.

Internal Floating Roof Tanks 12, 13, and 14 (NWCAA 560/580, 40 CFR 60 Subpart Kb, and 40 CFR 63 Subpart CC Group 1)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.14.70 VOC/HAP	40 CFR 63 Subpart CC 63.640(n)(1) (6/20/13) & 40 CFR 60 Subpart Kb 60.110b-60.117b (10/15/03, 10/8/97, 8/11/89, 4/8/87, 6/16/87) → 40 CFR 60 Subpart Kb 60.112b(a)(1)(iii) & (iv) (10/8/97) NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	<u>Roof Openings</u> Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and rim space vents is to provide a projection below the liquid surface. Except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains, each opening in the roof is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use.	Follow MR&R under AOP Term 5.14.64.
5.14.71 VOC	NWCAA 580.34 (12/13/89)	<u>Openings</u> All openings not related to safety are to be sealed with suitable closures.	*Directly Enforceable:* Follow MR&R under AOP Term 5.14.64.
5.14.72 VOC/HAP	40 CFR 63 Subpart CC 63.640(n)(1) (6/20/13) & 40 CFR 60 Subpart Kb 60.110b-60.117b (10/15/03, 10/8/97, 8/11/89, 4/8/87, 6/16/87) → 40 CFR 60 Subpart Kb 60.112b(a)(1)(vii), (viii) & (ix) (10/8/97) NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	<u>Roof Penetrations</u> Each penetration of the roof for the purpose of sampling shall be a sample well. The sample well shall have a slit fabric cover that covers at least 90 percent of the opening. Each penetration of the roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or gasketed sliding cover. Each penetration of the roof that allows for passage of a ladder shall have a gasketed sliding cover.	Follow MR&R under AOP Term 5.14.64.

Internal Floating Roof Tanks 12, 13, and 14 (NWCAA 560/580, 40 CFR 60 Subpart Kb, and 40 CFR 63 Subpart CC Group 1)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.14.73 VOC/HAP	40 CFR 63 Subpart CC 63.640(n)(1) (6/20/13) & 40 CFR 60 Subpart Kb 60.110b-60.117b (10/15/03, 10/8/97, 8/11/89, 4/8/87, 6/16/87)→ 40 CFR 60 Subpart Kb 60.112b(a)(1)(v) (10/8/97) NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	Automatic Bleeder Vents Automatic bleeder vents shall be equipped with a gasket and are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports.	Follow MR&R under AOP Term 5.14.64.
5.14.74 VOC/HAP	40 CFR 63 Subpart CC 63.640(n)(1) (6/20/13) & 40 CFR 60 Subpart Kb 60.110b-60.117b (10/15/03, 10/8/97, 8/11/89, 4/8/87, 6/16/87) → 40 CFR 60 Subpart Kb 60.112b(a)(1)(vi) (10/8/97) NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	Rim Space Vents Rim space vents shall be equipped with a gasket and are to be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting.	Follow MR&R under AOP Term 5.14.64.

5.14.8 Internal Floating Roof Tank 39

Internal Floating Roof Tank 39 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 63 Subpart CC Group 1, and OAC 337a)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Note: 40 CFR 60 and 63 General Provisions included in AOP Section 3 apply to this affected facility			
5.14.75 VOC	NWCAA 560 (4/14/93)	<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.	*Directly Enforceable:* Follow MR&R under AOP Terms 5.14.76 through 5.14.86. Maintain records demonstrating that the stored organic liquid has a true vapor pressure less than 11.1 psia. Notify the NWCAA within 12 hours of discovering an exceedance of the 11.1 psia limit.

Internal Floating Roof Tank 39 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 63 Subpart CC Group 1, and OAC 337a)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.14.76 VOC/HAP	40 CFR 63 Subpart CC 63.640(n)(1) (6/20/13) & 40 CFR 60 Subpart Kb 60.110b-60.117b (10/15/03, 10/8/97, 8/11/89, 4/8/87, 6/16/87) → 40 CFR 60 Subpart Kb 60.112b(a)(1)(ii) (10/8/97), 60.113b(a)(2), (3), and (5) (8/11/89), 60.115b(a)(2), (3), and (4) (4/8/87) (as modified by 40 CFR 63.640(n)(8) (6/20/13)) NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	<u>Internal Floating Roof Operation</u> Each internal floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof: a foam- or liquid-filled liquid-mounted seal, two seals mounted one above the other so that each forms a continuous closure between the wall of the storage vessel and the edge of the internal floating roof, or a mechanical shoe seal.	For single seal roof tanks: • Annually, conduct a visual inspection of the internal floating roof and seal system through manholes and roof hatches. • Visually inspect the internal floating roof, the seal(s), gaskets, slotted membranes, and sleeve seals (if any) at least once every 10 years. For double seal roof tanks, either: • Visually inspect the internal floating roof, the seal(s), gaskets, slotted membranes, and sleeve seals (if any) at least once every 5 years. • Annually, conduct a visual inspection of the internal floating roof and seal system through manholes and roof hatches and visually inspect the internal floating roof, the seal(s), gaskets, slotted membranes, and sleeve seals (if any). If unsafe to perform gap measurements, comply with 40 CFR 63.120(b)(7). Notify the NWCAA in writing 30 calendar days prior to filling or refilling the tank or 7 days if unforeseen. Keep records of each inspection, including the inspection date, vessel identification, observed condition of the control equipment (seals, internal floating roof, and fittings). If defects are found, submit an inspection report to the NWCAA as part of the next periodic report identifying the vessel, the nature of the defects, and the date the storage vessel was emptied or the nature of and date the repair was made.
5.14.77 VOC	NWCAA 580.33 (12/13/89)	<u>Seal Condition</u> All seals are to be maintained in good operating condition and the seal fabric shall contain no visible holes, tears, or other openings.	*Directly Enforceable:* Follow MR&R under AOP Term 5.14.76.

Internal Floating Roof Tank 39 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 63 Subpart CC Group 1, and OAC 337a)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.14.78 VOC/HAP	40 CFR 63 Subpart CC 63.640(n)(1) (6/20/13) & 40 CFR 60 Subpart Kb 60.110b-60.117b (10/15/03, 10/8/97, 8/11/89, 4/8/87, 6/16/87) → 40 CFR 60 Subpart Kb 60.112b(a)(1)(i) (10/8/97) NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	<u>Internal Floating Roof on Surface</u> The internal floating roof shall rest or float on the liquid surface at all times (i.e., off the roof leg supports), except during initial fill and during those intervals when the storage vessel is completely emptied or subsequently emptied and refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible.	*Directly Enforceable:* Keep records of periods when the floating roof is resting on the leg supports.
5.14.79 VOC/HAP	40 CFR 63 Subpart CC 63.640(n)(1) (6/20/13) & 40 CFR 60 Subpart Kb 60.110b-60.117b (10/15/03, 10/8/97, 8/11/89, 4/8/87, 6/16/87) → 40 CFR 60 Subpart Kb 60.113b(a)(2) (8/11/89), and 60.115b(a)(3) (4/8/87) (as modified by 40 CFR 63.640(n)(8) (6/20/13)) NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	<u>Internal Floating Roof Defect Repairs</u> Repair internal floating roof defects (e.g., roof not resting on surface of liquid, liquid accumulated on floating roof, seal is detached, holes and tears in seal fabric) no later than 45 calendar days after identification, or empty and remove the storage vessel from service no later than 45 calendar days after identification. If a failure is detected that cannot be repaired within 45 calendar days and if the vessel cannot be emptied within 45 calendar days, two extensions of up to 30 additional days each can be utilized.	A request to the NWCAA is not required to utilize these two 30-day extensions. In the next periodic report, if an extension is utilized, submit the vessel identification, a failure description, documentation that alternate storage capacity is unavailable, an action schedule that will ensure that the control equipment will be repaired or the vessel will be emptied as soon as possible, describe the nature and date of the repair made or provide the date the storage vessel was emptied.

Internal Floating Roof Tank 39 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 63 Subpart CC Group 1, and OAC 337a)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.14.80 VOC/HAP	40 CFR 63 Subpart CC 63.640(n)(1) (6/20/13) & 40 CFR 60 Subpart Kb 60.110b-60.117b (10/15/03, 10/8/97, 8/11/89, 4/8/87, 6/16/87) → 40 CFR 60 Subpart Kb 60.113b(a)(4) & (5) (8/11/89) NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	Internal Floating Roof Visual Inspection After Degassing Visually inspect the internal floating roof, the primary seal, the secondary seal (if one is in service), gaskets, slotted membranes and sleeve seals (if any) each time the storage vessel is emptied and degassed. If inspection shows the internal floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, or the gaskets no longer close off the liquid surfaces from the atmosphere, or the slotted membrane has more than 10 percent open area, repair the items as necessary so that none of these conditions specified in this paragraph exist before filling or refilling the storage vessel with VOL.	Notify the NWCAA in writing at least 30 days prior to the filling or refilling of each storage vessel. If the inspection is unplanned and was not foreseen 30 days prior to refilling, notify the NWCAA at least 7 days prior to refilling. Notification may be made by telephone, followed by written documentation.
5.14.81 VOC/HAP	40 CFR 63 Subpart CC 63.640(n)(1) (6/20/13) & 40 CFR 60 Subpart Kb 60.110b-60.117b (10/15/03, 10/8/97, 8/11/89, 4/8/87, 6/16/87) → 40 CFR 60 Subpart Kb 60.116b (10/15/03) NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	Storage Tank Records Keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. Maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period.	Maintain records at the facility with dimensions and capacities. For storage vessels with design capacity greater than 151 m^3 storing a liquid with a maximum true vapor pressure that is normally less than 5.2 kPa or with a design capacity greater than or equal to 75 m^3 but less than 151 m^3 storing a liquid with a maximum true vapor pressure that is normally less than 27.6 kPa shall notify the NWCAA within 30 days when the maximum true vapor pressure of the liquid exceeds the respective true maximum true vapor pressure values for each volume range.

Internal Floating Roof Tank 39 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 63 Subpart CC Group 1, and OAC 337a)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.14.82 VOC/HAP	40 CFR 63 Subpart CC 63.640(n)(1) (6/20/13) & 40 CFR 60 Subpart Kb 60.110b-60.117b (10/15/03, 10/8/97, 8/11/89, 4/8/87, 6/16/87) → 40 CFR 60 Subpart Kb 60.112b(a)(1)(iii) & (iv) (10/8/97) NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	<u>Roof Openings</u> Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and rim space vents is to provide a projection below the liquid surface. Except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains, each opening in the roof is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use.	Follow MR&R under AOP Term 5.14.76.
5.14.83 VOC	NWCAA 580.34 (12/13/89)	<u>Openings</u> All openings not related to safety are to be sealed with suitable closures.	*Directly Enforceable:* Follow MR&R under AOP Term 5.14.76.
5.14.84 VOC/HAP	40 CFR 63 Subpart CC 63.640(n)(1) (6/20/13) & 40 CFR 60 Subpart Kb 60.110b-60.117b (10/15/03, 10/8/97, 8/11/89, 4/8/87, 6/16/87) → 40 CFR 60 Subpart Kb 60.112b(a)(1)(vii), (viii) & (ix) (10/8/97) NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	<u>Roof Penetrations</u> Each penetration of the roof for the purpose of sampling shall be a sample well. The sample well shall have a slit fabric cover that covers at least 90 percent of the opening. Each penetration of the roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or gasketed sliding cover. Each penetration of the roof that allows for passage of a ladder shall have a gasketed sliding cover.	Follow MR&R under AOP Term 5.14.76.

Internal Floating Roof Tank 39 (NWCAA 560/580, 40 CFR 60 Subpart Kb, 40 CFR 63 Subpart CC Group 1, and OAC 337a)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
5.14.85 VOC/HAP	40 CFR 63 Subpart CC 63.640(n)(1) (6/20/13) & 40 CFR 60 Subpart Kb 60.110b-60.117b (10/15/03, 10/8/97, 8/11/89, 4/8/87, 6/16/87) → 40 CFR 60 Subpart Kb 60.112b(a)(1)(v) (10/8/97) NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	<u>Automatic Bleeder Vents</u> Automatic bleeder vents shall be equipped with a gasket and are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports.	Follow MR&R under AOP Term 5.14.76.
5.14.86 VOC/HAP	40 CFR 63 Subpart CC 63.640(n)(1) (6/20/13) & 40 CFR 60 Subpart Kb 60.110b-60.117b (10/15/03, 10/8/97, 8/11/89, 4/8/87, 6/16/87) → 40 CFR 60 Subpart Kb 60.112b(a)(1)(vi) (10/8/97) NWCAA 580.32 (12/13/89) → 40 CFR 60 Subpart Kb NWCAA 104.2 (3/14/13)	<u>Rim Space Vents</u> Rim space vents shall be equipped with a gasket and are to be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting.	Follow MR&R under AOP Term 5.14.76.
5.14.87 VOC	OAC 337a Condition 1 (4/12/13)	True vapor pressure of the liquid stored shall not exceed 11.1 psi.	Maintain records demonstrating that the liquid stored has a vapor pressure of 11.1 psi or less.

5.14.9 Internal Floating Roof Tank 15D-100A, 15D-100B and 15D-100C

Internal Floating Roof Tank 15D-100A, 15D-100B and 15D-100C (40 CFR 63 Subpart CC Group 2)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Note: 40 CFR 63 General Provisions included in AOP Section 3 apply to these affected facilities			
5.14.88 HAP	40 CFR 63 Subpart CC 63.655(i)(1) (6/20/13) → 40 CFR 63.123(a) (12/23/04) NWCAA 104.2 (3/14/13)	Dimensions and Capacities Keep readily accessible records showing the dimensions and capacities of each Group 2 storage vessel.	Maintain records at the facility with dimensions and capacities. Retain as long as storage vessel is subject to Group 2 status and is in operation.

5.14.10 Fixed Roof Tanks 10, 16, 18, 25, 26, 27, 31, 32, 33, 35, 37, 40, 41, 42, 49, 56, 57, and 204

Fixed Roof Tanks 10, 16, 18, 25, 26, 27, 31, 32, 33, 35, 37, 40, 41, 42, 49, 56, 57, and 204 (40 CFR 63 Subpart CC Group 2) – Tanks 18 and 37 (also 60 CFR 60 Subpart Ka)			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Note: 40 CFR 63 General Provisions included in AOP Section 3 apply to these affected facilities			
5.14.89 HAP	40 CFR 63 Subpart CC 63.655(i)(1) (6/20/13) → 40 CFR 63 Subpart G 63.123(a) (12/23/04) Tanks 18 & 37: 40 CFR 60 Subpart Ka 60.110a-60.115a (12/14/00, 10/17/00, 12/18/80, 4/8/87) NWCAA 104.2 (3/14/13)	Dimensions and Capacities Keep readily accessible records showing the dimensions and capacities of each Group 2 storage vessel.	Maintain records at the facility with dimensions and capacities. Retain as long as storage vessel is subject to Group 2 status and is in operation.

5.14.11 Miscellaneous Tank Farm Requirements

Miscellaneous Tank Farm Requirements			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
Fugitive Components in HAP service			
Note: 40 CFR 63 General Provisions included in AOP Section 3 apply to this affected facility			
5.14.90 HAP	40 CFR 63 Subpart CC 63.648(a) and (b) (8/18/98) → 40 CFR 60 Subpart VV 60.480-60.489 (6/2/08, 11/16/07, 12/14/00, 5/30/84, 10/17/00) NWCAA 104.2 (3/14/13)	Refinery MACT Equipment Leaks Comply with 40 CFR 63 Subpart CC for equipment leaks in HAP service.	Conduct an Equipment Leak (LDAR) program as specified in AOP Section 6.2

SECTION 6 COMMONLY REFERENCED 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 combustion units at the refinery. The requirements specified in Sections 6.2 and 6.3 are applicable to the applicable process unit components in VOC/HAP service as listed in Section 5 of the AOP. The requirements specified in Section 6.4 are applicable to the applicable process unit drains in VOC service as listed in Section 5 of the AOP. Section 6.5 lists the requirements for boilers and heaters subject to 40 CFR 63 Subpart DDDDD.

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. The "Description" column is a brief description of the applicable requirements for informational purposes only and is not enforceable. Periodic or continuous monitoring requirements (including testing) are specified in the "Monitoring, Recordkeeping, & Reporting" column, which identifies monitoring, recordkeeping and reporting (MR&R) obligations the source must perform as required by WAC 173-401-605(1) and 615(1) and (2) or the underlying requirement. MR&R obligations do not apply to insignificant emission units.

The requirements in the MR&R column labeled "*Directly Enforceable:*" are legally enforceable requirements added under the NWCAA's "gap-filling" authority. Other requirements not labeled "*Directly Enforceable:*" are brief descriptions of the regulatory requirements for informational purposes, and are not enforceable. Unless the text of the MR&R column is specifically identified to be directly enforceable, the language of the cited regulation takes precedence over a paraphrased requirement.

The commonly referenced requirements are listed as follows.

6.1 Visible Emissions Monitoring

Monitoring, recordkeeping, and reporting (MR&R) for combustion units is as follows:

For combustion units burning gaseous fuels, 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 practicable. If emissions cannot be reduced to zero, the permittee may monitor by Ecology Method 9A no later than 24 hours after detection and daily thereafter until opacity is shown to be less than the applicable opacity standard. Otherwise visible emissions shall be considered in excess of the opacity standard. Note, condensed water vapor (steam) is not considered a visible emission.

Record observation results 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. Record that an observation was performed, with date, time, background conditions, and identification of the observer. 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 Leak Detection and Repair (LDAR) Program – as referenced under 40 CFR 60 Subpart VV

Leak Detection and Repair (LDAR) Program as referenced under 40 CFR 60 Subpart VV			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
6.2.1 VOC/HAP	As referenced: 40 CFR 60 Subpart VV 60.482-2(a), (b), (c), (e), (f), & (g) (11/16/07); 60.485(a) & (b) (11/16/07); 60.486(a), (b), (c), (e), & (f) (11/16/07); and 60.487(a) & (c) (11/16/07) Also as modified by specifically applicable Permit Terms in Section 5 NWCAA 104.2 (3/14/13)	<u>Pumps in Light Liquid Service without Dual Mechanical Seals</u> Visually inspect each calendar week. If there are visible indications of liquids dripping from the pump seal, monitor the pump within 5 days or designate that a leak is detected, except when the pump was monitored during the previous week and found to be less than the leak definition and the pump was not repaired since that monitoring event. Monitor each pump monthly to detect leaks. A pump that begins operation after the initial startup date must be monitored for the first time within 30 days after the end of its startup period, except for a pump that replaces a leaking pump or except that is provided for as pumps designated as no detectable emissions, equipped with a closed vent system, or unsafe-to-monitor. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected, except for units with a leak definition of 2,000 ppm. When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided under delay of repair in AOP Term 6.2.9. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.	Each calendar week, visually inspect each pump for indications of liquids dripping from the pump seal. Monthly, instrument monitor using EPA Method 21. The instrument shall be calibrated before use each day. The following calibration gases shall be used: Zero air (less than 10 ppm of hydrocarbon in air), and a mixture of methane or n-hexane and air at a concentration of about, but not less than, 10,000 ppm methane or n-hexane. When a leak is detected, comply with AOP Term 6.2.13. Record in a log in a readily accessible location the information required in 60.486(e). Submit a semiannual report as required in AOP Term 6.2.14. *Directly Enforceable:* For those units complying with a lower leak definition, calibrate using a mixture of n-hexane or methane and air at a concentration approximately equal to the leak definition.

Leak Detection and Repair (LDAR) Program as referenced under 40 CFR 60 Subpart VV			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
6.2.2 VOC/HAP	As referenced: 40 CFR 60 Subpart VV 60.482-2(d), (e), (f) & (g) (11/16/07); 60.485(a) & (b) (11/16/07); 60.486(a), (b), (c), (e), (f) & (h) (11/16/07); and 60.487(a) & (c) (11/16/07) Also as modified by specifically applicable Permit Terms in Section 5 NWCAA 104.2 (3/14/13)	<u>Pumps in Light Liquid Service with Dual Mechanical Seals Including a Barrier Fluid System</u> Operate the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure, route barrier fluid degassing reservoir to process or fuel gas system or control device, or purge the barrier fluid into a process stream with zero VOC emissions to the atmosphere. The barrier fluid system should be in heavy liquid service or not in VOC service. Equip each barrier fluid system with a sensor that will detect failure of the seal system, the barrier fluid system, or both. Check each sensor daily or equip the sensor with an audible alarm. Determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both. If the sensor indicates a failure of the seal system, the barrier fluid system, or both, a leak is detected. If there are indications of liquids dripping from the pump seal, monitor the pump within 5 days or designate that a leak is detected. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected, except for units with a leak definition of 2,000 ppm. Repair a leak as soon as practicable, but not later than 15 calendar days after it is detected, except as provided under delay of repair in AOP Term 6.2.9. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected. A pump equipped with a closed vent system capable of capturing and transporting any leakage from the seal(s) to a process or fuel gas system or control device is exempt from this requirement.	Each calendar week, visually inspect each pump for indications of liquids dripping from the pump seal. If the sensor is not equipped with an audible alarm, check sensor daily. When appropriate, instrument monitor using EPA Method 21. The instrument used to monitor leaks shall be calibrated before use each day of use. The following calibration gases shall be used: Zero air (less than 10 ppm of hydrocarbon in air); and a mixture of methane or n-hexane and air at a concentration of about, but not less than, 10,000 ppm methane or n-hexane. The design criterion required must be recorded in a log and kept readily accessible. Also record an explanation of the design criterion and any changes to the criterion (and reasons for the changes). When a leak is detected, comply with AOP Term 6.2.13. Record in a log in a readily accessible location the information required in 60.486(e). Submit a semiannual report as required in AOP Term 6.2.14. *Directly Enforceable:* For those units complying with a lower leak definition, calibrate using a mixture of n-hexane or methane and air at a concentration approximately equal to the leak definition.

Leak Detection and Repair (LDAR) Program as referenced under 40 CFR 60 Subpart VV			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
6.2.3 VOC/HAP	As referenced: 40 CFR 60 Subpart VV 60.482-3 (11/16/07); 60.486(a), (b), (c), (e) and (h) (11/16/07); and 60.487(a) & (c) (11/16/07) NWCAA 104.2 (3/14/13)	<u>Compressors</u> Equip each compressor with a seal system that includes a barrier fluid system and that prevents leakage of VOC to the atmosphere. Operate the seal system with a barrier fluid at a pressure that is greater than the compressor stuffing box pressure; or route to a process or fuel gas system or connect by a closed vent system to a control device; or purge the barrier fluid into a process stream with zero VOC emissions to the atmosphere. The barrier fluid system shall be in heavy liquid service or shall not be in VOC service. Equip each barrier fluid system with a sensor that will detect failure of the seal system, the barrier fluid system, or both. Check each sensor daily or equip the sensor with an audible alarm. Determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both. If the sensor indicates failure of the seal system, the barrier fluid system, or both, a leak is detected. Repair a leak as soon as practicable, but not later than 15 calendar days after it is detected, except as provided under delay of repair in AOP Term 6.2.9. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected. A compressor equipped with a closed vent system to capture and transport leakage from the compressor drive shaft back to a process or fuel gas system or to a control device is exempt from this requirement.	If the sensor is not equipped with an audible alarm, check sensor daily. When a leak is detected, comply with AOP Term 6.2.13. The design criterion required must be recorded in a log and kept readily accessible. Also record an explanation of the design criterion and any changes to the criterion (and reasons for the changes). Record in a log in a readily accessible location the information required in 60.486(e). Submit a semiannual report as required in AOP Term 6.2.14.

Leak Detection and Repair (LDAR) Program as referenced under 40 CFR 60 Subpart VV			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
6.2.4 VOC/HAP	As referenced: 40 CFR 60 Subpart VV 60.482-4 (12/14/00); 60.485(a), (b) & (c) (11/16/07); and 60.486(a) & (e) (11/16/07) NWCAA 104.2 (3/14/13)	<u>Pressure Relief Devices</u> Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background. After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions as soon as practicable, but no later than 5 calendar days after the pressure release, except as provided in under delay of repair in AOP Term 6.2.9. No later than 5 calendar days after the pressure release, the pressure relief device shall be monitored to confirm the conditions of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background. Any pressure relief device routed to the fuel gas system or equipped with a closed vent system a control device is exempt from this requirement. Any pressure relief device equipped with a rupture disk upstream of the pressure relief device is exempt from this requirement, provided that after each release a new rupture disk is installed as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided under delay of repair in AOP Term 6.2.9.	Instrument monitor using EPA Method 21. All potential leak interfaces shall be traversed as close to the interface as possible. The arithmetic difference between the maximum concentration indicated by the instrument and the background is compared with 500 ppm for determining compliance. The instrument used to monitor leaks shall be calibrated before use each day of use. The following calibration gases shall be used: Zero air (less than 10 ppm of hydrocarbon in air); and a mixture of methane or n-hexane and air at a concentration of about, but not less than, 10,000 ppm methane or n-hexane. Record in a log in a readily accessible location the information required in 60.486(e).

Leak Detection and Repair (LDAR) Program as referenced under 40 CFR 60 Subpart VV			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
6.2.5 VOC/HAP	As referenced: 40 CFR 60 Subpart VV 60.482-5 (11/16/07) and 60.486(a) & (e) (11/16/07) NWCAA 104.2 (3/14/13)	<u>Sampling Connection Systems</u> Each sampling connection system shall be equipped with a closed-purge, closed-loop, or closed-vent system (except for in situ sampling systems and sampling systems without purges). Gases displaced during sample container filling are not required to be collected or captured. Containers that are part of a closed-purge system must be covered or closed when not being filled or emptied. Gases remaining in the tubing or piping between the closed-purge system valve(s) and sample container valve(s) after the valves are closed and the sample container is disconnected are not required to be collected or captured. The purged process fluid must be returned directly to the process line; collected and recycled to a process; captured and transported to a control device; or collected and transported to a waste management unit subject to 40 CFR 63 Subpart G, or a treatment, storage, or disposal facility submit to 40 CFR 262, 264, 265, or 266, or a facility permitted, licensed, or registered by a State to manage municipal or industrial solid waste, if the process fluids are not hazardous waste, or a waste management unit operated in compliance with 61.348(a).	Record in a log in a readily accessible location the information required in 60.486(e).

Leak Detection and Repair (LDAR) Program as referenced under 40 CFR 60 Subpart VV			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
6.2.6 VOC/HAP	As referenced: 40 CFR 60 Subpart VV 60.482-6 (11/16/07), and 60.486(a) & (e) (11/16/07) NWCAA 104.2 (3/14/13)	<u>Open-ended Valves or Lines</u> Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve that seals the open end at all times except during operations requiring process fluid flow. Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed. When a double block-and-bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves, but shall remain closed at other times. Open-ended valves or lines in an emergency shutdown system which are designed to open automatically in the event of a process upset are exempt. Likewise, open-ended valves or lines containing materials which would polymerize or would present an explosion, serious overpressure, or other safety hazard if capped or equipped with a double block and bleed system is exempt.	Record in a log in a readily accessible location the information required in 60.486(e).

Leak Detection and Repair (LDAR) Program as referenced under 40 CFR 60 Subpart VV			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
6.2.7 VOC/HAP	As referenced: 40 CFR 60 Subpart VV 60.482-7 (11/16/07); 60.483-2 (11/16/07); 60.485(a), (b) & (h) (11/16/07); 60.486(a), (b), (c), (e), (f) & (g) (11/16/07); and 60.487(a), (c) & (d) (11/16/07) Also as modified by specifically applicable Permit Terms in Section 5 NWCAA 104.2 (3/14/13)	<u>Valves in Gas/Vapor Service and in Light Liquid Service – Skip Period Monitoring Program for Valves</u> Monitor each valve monthly to detect leaks, except as provided for valves designated for no detectable emissions, as unsafe-to-monitor, or as difficult-to-monitor. Any valve for which a leak is not detected for 2 successive months may be monitored quarterly. If a leak is detected, the valve shall be monitored monthly until a leak is not detected for 2 successive months. The facility may elect to follow a less frequent monitoring schedule as follows, except for units subject to a modified skip monitoring program: Any valve for which a leak is not detected for 2 successive months may be monitored the first month of every quarter, beginning with the next quarter, until a leak is detected. After 2 consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0%, one quarterly leak detection period may be skipped. After 5 consecutive quarterly leak detection periods with a leak rate equal to or less than 2.0%, the source may skip 3 of the quarterly leak detection periods (i.e., monitor annually). If the percent of valves leaking is greater than 2.0, the source shall revert to the monthly monitoring but can again elect to use these skip period provisions. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected, except for units with a leak definition of 500 ppm. When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided under delay of repair in AOP Term 6.2.9. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected. First attempts at repair include, but are not limited to, (1) tightening of bonnet bolts, (2) replacement of bonnet bolts, (3) tightening of packing gland nuts; and (4) injection of lubricant into lubricated packing.	Submit a 90-day advance notification to use skip period provisions. Monthly, instrument monitor using EPA Method 21. The instrument shall be calibrated before use each day. The following calibration gases shall be used: Zero air (less than 10 ppm of hydrocarbon in air), and a mixture of methane or n-hexane and air at a concentration of about, but not less than, 10,000 ppm methane or n-hexane. Keep a record of the percent of valves found leaking during each leak detection period. Keep a record of the monitoring schedule. When a leak is detected, comply with AOP Term 6.2.13. Record in a log in a readily accessible location the information required in 60.486(e). Submit a semiannual report as required in AOP Term 6.2.14. *Directly Enforceable:* For those units complying with a lower leak definition, calibrate using a mixture of n-hexane or methane and air at a concentration approximately equal to the leak definition.

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

Leak Detection and Repair (LDAR) Program as referenced under 40 CFR 60 Subpart VV			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
6.2.8 VOC/HAP	As referenced: 40 CFR 60 Subpart VV 60.482-8 (11/16/07), 60.485(a) & (b) (11/16/07); and 60.486(a), (b), (c) & (e) (11/16/07) Also as modified by specifically applicable Permit Terms in Section 5 NWCAA 104.2 (3/14/13)	<u>Pumps and Valves in Heavy Liquid Service, Pressure Relief Devices in Light Liquid or Heavy Liquid Service, and Connectors</u> If evidence of a potential leak is found by visual, audible, olfactory, or any other detection method, within 5 days, either monitor using EPA Method 21 or eliminate the visual, audible, olfactory, or other indication of potential leak. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected, except for units with a leak definition of 2,000 ppm. When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided under delay of repair in AOP Term 6.2.9. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.	Instrument monitor using EPA Method 21. The instrument used to monitor leaks shall be calibrated before use each day of use. The following calibration gases shall be used: Zero air (less than 10 ppm of hydrocarbon in air); and a mixture of methane or n-hexane and air at a concentration of about, but not less than, 10,000 ppm methane or n-hexane. When a leak is detected, comply with AOP Term 6.2.13. Record in a log in a readily accessible location the information required in 60.486(e). *Directly Enforceable:* For those units complying with a lower leak definition, calibrate using a mixture of n-hexane or methane and air at a concentration approximately equal to the leak definition.

Leak Detection and Repair (LDAR) Program as referenced under 40 CFR 60 Subpart VV			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
6.2.9 VOC/HAP	As referenced: 40 CFR 60 Subpart VV 60.482-9 (11/16/07); 60.486(a) & (c) (11/16/07); and 60.487(a) & (c) (11/16/07) NWCAA 104.2 (3/14/13)	<u>Delay of Repair</u> Delay of repair of equipment for which leaks have been detected will be allowed if repair within 15 days is technically infeasible without a process unit shutdown. Repair shall occur before the end of the next process unit shutdown. Monitoring to verify repair must occur within 15 days after startup of the process unit. Delay is also allowed for equipment isolated from the process and which does not remain in VOC service. Valves: Delay of repair will be allowed if (1) it is demonstrated that purged material resulting from immediate repair are greater than the fugitive emissions likely to result from delay of repair, and (2) when repair procedures are effected, the purged material is collected and destroyed or recovered in a control device. Delay of repair beyond a process unit shutdown will be allowed if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and supplies had been sufficiently stocked before they were depleted. Delay of repair beyond the next process unit shutdown will not be allowed unless the next process unit shutdown occurs sooner than 6 months after the first process unit shutdown. Pumps: Delay of repair will be allowed if (1) repair requires the use of a dual mechanical seal system that includes a barrier fluid system, and (2) repair is completed as soon as practicable, but not later than 6 months after the leak was detected. A leaking valve or pump may be considered to be repaired and no longer subject to delay of repair requirements if two consecutive monthly instrument readings are below the leak definition.	When each leak is detected and a delay of repair is utilized, record in a log in a readily accessible location: “repair delayed” and the reason for the delay if a leak is not repaired within 15 calendar days after discovery, the signature of the person whose decision it was that repair could not be effected without a process shutdown, the expected date of successful repair of the leak if a leak is not repaired within 15 days, dates of process unit shutdowns that occur while the equipment is unrepaired, and date of successful repair of the leak. Submit a semiannual report as required in AOP Term 6.2.14.

Leak Detection and Repair (LDAR) Program as referenced under 40 CFR 60 Subpart VV			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
6.2.10 VOC/HAP	As referenced: 40 CFR 60 Subpart VV 60.482-10(a), (d), (e), & (m) (12/14/00); 60.485(a) & (g) (11/16/07); and 60.486(a), (d) & (e) (11/16/07) → 40 CFR 60 Subpart A 60.18 NWCAA 104.2 (3/14/13)	<u>Standards for Closed Vent Systems and Control Devices</u> Flares used as a control device shall comply with the requirements of 60.18.	Monitor control devices used to comply to ensure that they are operated and maintained in conformance with their designs. Comply with AOP Terms 5.11.1 through 5.11.7. For the control devices, record and keep in a readily accessible location detailed schematics, design specifications, and piping and instrumentation diagrams; dates and descriptions of any changes in the design specifications; periods when the control devices are not operated as designed including periods when a flare pilot light does not have a flame; and dates of startups and shutdowns of the control devices. Record in a log in a readily accessible location the information required in 60.486(e).

Leak Detection and Repair (LDAR) Program as referenced under 40 CFR 60 Subpart VV			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
6.2.11 VOC/HAP	As referenced: 40 CFR 60 Subpart VV 60.482-10(a), (f) - (m) (12/14/00); 60.485(a) & (b) (11/16/07); and 60.486(a), (d) & (e) (11/16/07) NWCAA 104.2 (3/14/13)	<u>Inspections of Closed Vent Systems</u> For closed vent systems constructed of hard-piping, conduct annual visual inspections for visible, audible, or olfactory indications of leaks. For closed vent systems constructed of ductwork, conduct annual instrument monitoring inspections. If an instrument reading of 500 ppm above background is detected or by visual inspection, a leak is detected. When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided under delay of repair. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected. A delay of repair is allowed if the repair is technically infeasible without a process unit shutdown or if it is determined that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be complete by the end of the next process unit shutdown. If a closed vent system is operated under a vacuum, it is exempt from the monitoring requirement. If it is designated as unsafe to inspect or difficult to inspect, it is also exempt from the inspection requirements if it is identified and a written plan in place for inspection. Equipment designated as difficult to inspect must not exceed 3% of the total number of equipment in the system.	Instrument monitor using EPA Method 21. The instrument used to monitor leaks shall be calibrated before use each day of use. The following calibration gases shall be used: Zero air (less than 10 ppm of hydrocarbon in air); and a mixture of methane or n-hexane and air at a concentration of about, but not less than, 10,000 ppm methane or n-hexane. For each visual and instrumental inspection conducted during which no leaks are detected, record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected. If a leak is detected, record the monitoring instrument and operator identification numbers, the leaking equipment identification number, the date the leak was detected, the leak value in ppm, the date of each attempt at repair, and the repair methods used. If a delay of repair is utilized; record the reason for the delay and the signature of the person whose decision it was that repair could not done without a process shutdown, the expected date of successful repair, the dates of process unit shutdowns that occurred while the equipment was unrepaired, and the date of successful repair. For the closed vent systems, record and keep in a readily accessible location detailed schematics, design specifications, and piping and instrumentation diagrams; dates and descriptions of any changes in the design specifications; periods when the closed vent systems are not operated as designed; and dates of startups and shutdowns of the closed vent systems. Record in a log in a readily accessible location the information required in 60.486(e).

Leak Detection and Repair (LDAR) Program as referenced under 40 CFR 60 Subpart VV			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
6.2.12 VOC/HAP	As referenced: 40 CFR 60 Subpart VV 60.485(d) (11/16/07) and 60.486(a) & (j) (11/16/07) NWCAA 104.2 (3/14/13)	<u>Process Units Not in VOC Service</u> Each piece of equipment shall be tested unless it is demonstrated that a process unit is not in VOC service (i.e., that the VOC content would never be reasonably expected to exceed 10 % by weight). To demonstrate that a process unit is not in VOC service, either follow (1) procedures that conform to the general methods in ASTM E260, E168, E169 (incorporated by reference in 40 CFR 60.17), (2) demonstrate that the organic compounds are considered by the EPA to have negligible photochemical reactivity, or (3) use engineering judgment to estimate the VOC content if a piece of equipment has not been shown previously to be in service.	Information and data used to demonstrate that a piece of equipment is not in VOC service shall be recorded in a log that is kept in a readily accessible location.
6.2.13 VOC/HAP	As referenced: 40 CFR 60 Subpart VV 60.486(a), (b) & (c) (11/16/07) NWCAA 104.2 (3/14/13)	<u>Maintain Records for Equipment Found Leaking</u> When each leak is detected, attach a weatherproof and readily visible identification, marked with the equipment identification number to the leaking equipment. The identification on a valve may be removed after it has been monitored for 2 successive months and no leak has been detected. Identification on equipment except valves may be removed after it has been repaired.	When each leak is detected, record in a log in a readily accessible location: the instrument and operator identification numbers and equipment identification number, date of leak detection and each attempt at repair, repair methods applied for each attempt, instrument leak reading, and date of successful repair of leak.

Leak Detection and Repair (LDAR) Program as referenced under 40 CFR 60 Subpart VV			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
6.2.14 VOC/HAP	As referenced: 40 CFR 60 Subpart VV 60.487(a) & (c) (11/16/07) NWCAA 104.2 (3/14/13)	<u>Semiannual Report</u> Submit semiannual reports to the NWCAA beginning 6 months after the initial startup date.	The semiannual reports shall include the following information: (1) Process unit identification. (2) For each month during the semiannual reporting period, (i) Number of valves for which leaks were detected as described in 60.482-7(b) or 60.483-2, (ii) Number of valves for which leaks were not repaired as required in 60.482-7(d)(1), (iii) Number of pumps for which leaks were detected as described in 60.482-2(b), (d)(4)(ii)(A) or (B), or (d)(5)(iii), (iv) Number of pumps for which leaks were not repaired as required in 60.482-2(c)(1) and (d)(6), (v) Number of compressors for which leaks were detected as described in 60.482-3(f), (vi) Number of compressors for which leaks were not repaired as required in 60.482-3(g)(1), and (vii) The facts that explain each delay of repair and, where appropriate, why a process unit shutdown was technically infeasible. (3) Dates of process unit shutdowns which occurred within the semiannual reporting period. (4) Revisions to items in the initial semiannual report if changes have occurred since the initial report or subsequent revisions to the initial report.

6.3 Leak Detection and Repair (LDAR) Program – as referenced under 40 CFR 60 Subpart VVa

Leak Detection and Repair (LDAR) Program as referenced under 40 CFR 60 Subpart VVa			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
6.3.1 VOC/HAP	As referenced: 40 CFR 60 Subpart VVa 60.482-2a(a), (b), (c), (e), (f), & (g) (11/16/07); 60.485a(a) & (b) (11/16/07); 60.486a(a), (b), (c), (e) & (f) (11/16/07); and 60.487a(a) & (c) (11/16/07) NWCAA 104.2 (3/14/13)	<u>Pumps in Light Liquid Service without Dual Mechanical Seals</u> Visually inspect each calendar week. If there are visible indications of liquids dripping from the pump seal, monitor the pump within 5 days or designate that a leak is detected, except when the pump was monitored during the previous week and found to be less than the leak definition and the pump was not repaired since that monitoring event. Monitor each pump monthly to detect leaks. A pump that begins operation after the initial startup date must be monitored for the first time within 30 days after the end of its startup period, except for a pump that replaces a leaking pump or except that is provided for as pumps designated as no detectable emissions, equipped with a closed vent system, or unsafe-to-monitor. A leak is detected if an instrument reading is measured of 2,000 ppm or greater for pumps. When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided under delay of repair in AOP Term 6.3.9. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.	Each calendar week, visually inspect each pump for indications of liquids dripping from the pump seal. Monthly, instrument monitor using EPA Method 21. The instrument shall be calibrated before use each day and a calibration drift assessment shall be performed at the end of each monitoring day. The following calibration gases shall be used: Zero air (less than 10 ppm of hydrocarbon in air), and a mixture of methane or n-hexane and air at a concentration no more than 2,000 ppm greater than the leak definition concentration of the equipment monitored. For each monitoring event, record the monitoring instrument identification, operator identification, equipment identification, date of monitoring, and instrument reading. When a leak is detected, comply with AOP Term 6.3.13. Record in a log in a readily accessible location the information required in 60.486a(e). Submit a semiannual report as required in AOP Term 6.3.14.

Leak Detection and Repair (LDAR) Program as referenced under 40 CFR 60 Subpart VVa			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
6.3.2 VOC/HAP	As referenced: 40 CFR 60 Subpart VVa 60.482-2a(d), (e), (f) & (g) (11/16/07); 60.485a(a) & (b) (11/16/07); 60.486a(a), (b), (c), (e), (f), & (h) (11/16/07); and 60.487a(a) & (c) (11/16/07) NWCAA 104.2 (3/14/13)	<u>Pumps in Light Liquid Service with Dual Mechanical Seals Including a Barrier Fluid System</u> Operate the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure, route barrier fluid degassing reservoir to process or fuel gas system or control device, or purge the barrier fluid into a process stream with zero VOC emissions to the atmosphere. The barrier fluid system should be in heavy liquid service or not in VOC service. Equip each barrier fluid system with a sensor that will detect failure of the seal system, the barrier fluid system, or both. Check each sensor daily or equip the sensor with an audible alarm. Determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both. If the sensor indicates a failure of the seal system, the barrier fluid system, or both, a leak is detected. If there are indications of liquids dripping from the pump seal, monitor the pump within 5 days or designate that a leak is detected. If an instrument reading of 2,000 ppm or greater is measured, a leak is detected. Repair a leak as soon as practicable, but not later than 15 calendar days after it is detected, except as provided under delay of repair in AOP Term 6.3.9. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected. A pump equipped with a closed vent system capable of capturing and transporting any leakage from the seal(s) to a process or fuel gas system or control device is exempt from this requirement.	Each calendar week, visually inspect each pump for indications of liquids dripping from the pump seal. If the sensor is not equipped with an audible alarm, check sensor daily. When appropriate, instrument monitor using EPA Method 21. The instrument shall be calibrated before use each day and a calibration drift assessment shall be performed at the end of each monitoring day. The following calibration gases shall be used: Zero air (less than 10 ppm of hydrocarbon in air), and a mixture of methane or n-hexane and air at a concentration no more than 2,000 ppm greater than the leak definition concentration of the equipment monitored. The design criterion required must be recorded in a log and kept readily accessible. Also record an explanation of the design criterion and any changes to the criterion (and reasons for the changes). For each monitoring event, record the monitoring instrument identification, operator identification, equipment identification, date of monitoring, and instrument reading. When a leak is detected, comply with AOP Term 6.3.13. Record in a log in a readily accessible location the information required in 60.486a(e). Submit a semiannual report as required in AOP Term 6.3.14.

Leak Detection and Repair (LDAR) Program as referenced under 40 CFR 60 Subpart VVa			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
6.3.3 VOC/HAP	As referenced: 40 CFR 60 Subpart VVa 60.482-3a (11/16/07); 60.486a(a), (b), (c), (e) and (h) (11/16/07); and 60.487a(a) & (c) (11/16/07) NWCAA 104.2 (3/14/13)	<u>Compressors</u> Equip each compressor with a seal system that includes a barrier fluid system and that prevents leakage of VOC to the atmosphere. Operate the seal system with a barrier fluid at a pressure that is greater than the compressor stuffing box pressure; or route to a process or fuel gas system or connect by a closed vent system to a control device; or purge the barrier fluid into a process stream with zero VOC emissions to the atmosphere. The barrier fluid system shall be in heavy liquid service or shall not be in VOC service. Equip each barrier fluid system with a sensor that will detect failure of the seal system, the barrier fluid system, or both. Check each sensor daily or equip the sensor with an audible alarm. Determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both. If the sensor indicates failure of the seal system, the barrier fluid system, or both, a leak is detected. Repair a leak as soon as practicable, but not later than 15 calendar days after it is detected, except as provided under delay of repair in AOP Term 6.3.9. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected. A compressor equipped with a closed vent system to capture and transport leakage from the compressor drive shaft back to a process or fuel gas system or to a control device is exempt from this requirement.	If the sensor is not equipped with an audible alarm, check sensor daily. For each monitoring event, record the monitoring instrument identification, operator identification, equipment identification, date of monitoring, and instrument reading. When a leak is detected, comply with AOP Term 6.3.13. The design criterion required must be recorded in a log and kept readily accessible. Also record an explanation of the design criterion and any changes to the criterion (and reasons for the changes). Record in a log in a readily accessible location the information required in 60.486a(e). Submit a semiannual report as required in AOP Term 6.3.14.

Leak Detection and Repair (LDAR) Program as referenced under 40 CFR 60 Subpart VVa			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
6.3.4 VOC/HAP	As referenced: 40 CFR 60 Subpart VVa 60.482-4a (11/16/07); 60.485a(a), (b) & (c) (11/16/07); and 60.486a(a) & (e) (11/16/07) NWCAA 104.2 (3/14/13)	<u>Pressure Relief Devices</u> Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background. After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions as soon as practicable, but no later than 5 calendar days after the pressure release, except as provided in under delay of repair in AOP Term 6.3.9. No later than 5 calendar days after the pressure release, the pressure relief device shall be monitored to confirm the conditions of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background. Any pressure relief device routed to the fuel gas system or equipped with a closed vent system a control device is exempt from this requirement. Any pressure relief device equipped with a rupture disk upstream of the pressure relief device is exempt from this requirement, provided that after each release a new rupture disk is installed as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided under delay of repair in AOP Term 6.3.9.	Instrument monitor using EPA Method 21. All potential leak interfaces shall be traversed as close to the interface as possible. The arithmetic difference between the maximum concentration indicated by the instrument and the background is compared with 500 ppm for determining compliance. The instrument shall be calibrated before use each day and a calibration drift assessment shall be performed at the end of each monitoring day. The following calibration gases shall be used: Zero air (less than 10 ppm of hydrocarbon in air), and a mixture of methane or n-hexane and air at a concentration no more than 2,000 ppm greater than the leak definition concentration of the equipment monitored. Record in a log in a readily accessible location the information required in 60.486a(e).

Leak Detection and Repair (LDAR) Program as referenced under 40 CFR 60 Subpart VVa			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
6.3.5 VOC/HAP	As referenced: 40 CFR 60 Subpart VVa 60.482-5a (11/16/07) and 60.486a(a) & (e) (11/16/07) NWCAA 104.2 (3/14/13)	<u>Sampling Connection Systems</u> Each sampling connection system shall be equipped with a closed-purged, closed-purge, closed-loop, or closed-vent system (except for in situ sampling systems and sampling systems without purges). Gases displaced during sample container filling are not required to be collected or captured. Containers that are part of a closed-purge system must be covered or closed when not being filled or emptied. Gases remaining in the tubing or piping between the closed-purge system valve(s) and sample container valve(s) after the valves are closed and the sample container is disconnected are not required to be collected or captured. The purged process fluid must be returned directly to the process line; collected and recycled to a process; captured and transported to a control device; or collected and transported to a waste management unit subject to 40 CFR 63 Subpart G, or a treatment, storage, or disposal facility submit to 40 CFR 262, 264, 265, or 266, or a facility permitted, licensed, or registered by a State to manage municipal or industrial solid waste, if the process fluids are not hazardous waste, or a waste management unit operated in compliance with 61.348(a).	Record in a log in a readily accessible location the information required in 60.486a(e).

Leak Detection and Repair (LDAR) Program as referenced under 40 CFR 60 Subpart VVa			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
6.3.6 VOC/HAP	As referenced: 40 CFR 60 Subpart VVa 60.482-6a (11/16/07), and 60.486a(a) & (e) (11/16/07) NWCAA 104.2 (3/14/13)	<u>Open-ended Valves or Lines</u> Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve that seals the open end at all times except during operations requiring process fluid flow. Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed. When a double block-and-bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves, but shall remain closed at other times. Open-ended valves or lines in an emergency shutdown system which are designed to open automatically in the event of a process upset are exempt. Likewise, open-ended valves or lines containing materials which would polymerize or would present an explosion, serious overpressure, or other safety hazard if capped or equipped with a double block and bleed system are exempt.	Record in a log in a readily accessible location the information required in 60.486a(e).

Leak Detection and Repair (LDAR) Program as referenced under 40 CFR 60 Subpart VVa			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
6.3.7 VOC/HAP	As referenced: 40 CFR 60 Subpart VVa 60.482-7a (11/16/07); 60.483-2a (11/16/07); 60.485a(a), (b) & (h) (11/16/07); 60.486a(a), (b), (c), (e), (f) & (g) (11/16/07); and 60.487a(a), (c) & (d) (11/16/07) NWCAA 104.2 (3/14/13)	<u>Valves in Gas/Vapor Service and in Light Liquid Service – Skip Period Monitoring Program for Valves</u> Monitor each valve monthly to detect leaks, except as provided for valves designated for no detectable emissions, as unsafe-to-monitor, or as difficult-to-monitor. Any valve for which a leak is not detected for 2 successive months may be monitored quarterly. If a leak is detected, the valve shall be monitored monthly until a leak is not detected for 2 successive months. Any valve for which a leak is not detected for 2 successive months may be monitored the first month of every quarter, beginning with the next quarter, until a leak is detected. The facility may elect to follow a less frequent monitoring schedule as follows: After 2 consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0%, one quarterly leak detection period may be skipped. After 5 consecutive quarterly leak detection periods with a leak rate equal to or less than 2.0%, the source may skip 3 of the quarterly leak detection periods (i.e., monitor annually). If the percent of valves leaking is greater than 2.0, the source shall revert to the monthly monitoring but can again elect to use these skip period provisions. If an instrument reading of 500 ppm or greater is measured, a leak is detected. When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided under delay of repair in AOP Term 6.3.9. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected. First attempts at repair include, but are not limited to, (1) tightening of bonnet bolts, (2) replacement of bonnet bolts, (3) tightening of packing gland nuts; and (4) injection of lubricant into lubricated packing.	Submit a 90-day advance notification to use skip period provisions. Monthly, instrument monitor using EPA Method 21. The instrument shall be calibrated before use each day and a calibration drift assessment shall be performed at the end of each monitoring day. The following calibration gases shall be used: Zero air (less than 10 ppm of hydrocarbon in air), and a mixture of methane or n-hexane and air at a concentration no more than 2,000 ppm greater than the leak definition concentration of the equipment monitored. Keep a record of the percent of valves found leaking during each leak detection period. Keep a record of the monitoring schedule. For each monitoring event, record the monitoring instrument identification, operator identification, equipment identification, date of monitoring, and instrument reading. When a leak is detected, comply with AOP Term 6.3.13. Record in a log in a readily accessible location the information required in 60.486a(e). Submit a semiannual report as required in AOP Term 6.3.14.

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

Leak Detection and Repair (LDAR) Program as referenced under 40 CFR 60 Subpart VVa			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
6.3.8 VOC/HAP	As referenced: 40 CFR 60 Subpart VVa 60.482-8a (11/16/07), 60.485a(a) & (b) (11/16/07); and 60.486a(a), (b), (c) & (e) (11/16/07) NWCAA 104.2 (3/14/13)	<u>Pumps and Valves in Heavy Liquid Service, Pressure Relief Devices in Light Liquid or Heavy Liquid Service</u> If evidence of a potential leak is found by visual, audible, olfactory, or any other detection method, within 5 days, either monitor using EPA Method 21 or eliminate the visual, audible, olfactory, or other indication of potential leak. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected. When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided under delay of repair in AOP Term 6.3.9. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.	Instrument monitor using EPA Method 21. The instrument shall be calibrated before use each day and a calibration drift assessment shall be performed at the end of each monitoring day. The following calibration gases shall be used: Zero air (less than 10 ppm of hydrocarbon in air), and a mixture of methane or n-hexane and air at a concentration no more than 2,000 ppm greater than the leak definition concentration of the equipment monitored. For each monitoring event, record the monitoring instrument identification, operator identification, equipment identification, date of monitoring, and instrument reading. When a leak is detected, comply with AOP Term 6.3.13. Record in a log in a readily accessible location the information required in 60.486a(e).

Leak Detection and Repair (LDAR) Program as referenced under 40 CFR 60 Subpart VVa			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
6.3.9 VOC/HAP	As referenced: 40 CFR 60 Subpart VVa 60.482-9a (11/16/07); 40.486a(a) & (c)(5) – (c)(9) (11/16/07); and 60.487a(a) & (c) (11/16/07) NWCAA 104.2 (3/14/13)	<u>Delay of Repair</u> Delay of repair of equipment for which leaks have been detected will be allowed if repair within 15 days is technically infeasible without a process unit shutdown. Repair shall occur before the end of the next process unit shutdown. Delay is also allowed for equipment isolated from the process and which does not remain in VOC service. Valves and connectors: Delay of repair will be allowed if (1) it is demonstrated that purged material resulting from immediate repair are greater than the fugitive emissions likely to result from delay of repair, and (2) when repair procedures are effected, the purged material is collected and destroyed or recovered in a control device. Delay of repair beyond a process unit shutdown will be allowed if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and supplies had been sufficiently stocked before they were depleted. Delay of repair beyond the next process unit shutdown will not be allowed unless the next process unit shutdown occurs sooner than 6 months after the first process unit shutdown. Pumps: Delay of repair will be allowed if (1) repair requires the use of a dual mechanical seal system that includes a barrier fluid system, and (2) repair is completed as soon as practicable, but not later than 6 months after the leak was detected. A leaking valve, connector, or pump may be considered to be repaired and no longer subject to delay of repair requirements if two consecutive monthly instrument readings are below the leak definition.	Monitoring to verify repair must occur within 15 days after startup of the process unit. When each leak is detected and a delay of repair is utilized, record in a log in a readily accessible location: “repair delayed” and the reason for the delay if a leak is not repaired within 15 calendar days after discovery, the signature of the person whose decision it was that repair could not be effected without a process shutdown, the expected date of successful repair of the leak if a leak is not repaired within 15 days, dates of process unit shutdowns that occur while the equipment is unrepaired, and date of successful repair of the leak. Submit a semiannual report as required in AOP Term 6.3.14.

Leak Detection and Repair (LDAR) Program as referenced under 40 CFR 60 Subpart VVa			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
6.3.10 VOC/HAP	As referenced: 40 CFR 60 Subpart VVa 60.482-10a(a), (d), (e), & (m) (11/16/07); 60.485a(a) & (g) (11/16/07); and 60.486a(a), (d) & (e) (11/16/07) → 40 CFR 60 Subpart A 60.18 NWCAA 104.2 (3/14/13)	<u>Standards for Control Devices</u> Flares used as a control device shall comply with the requirements of 60.18.	Monitor control devices used to comply to ensure that they are operated and maintained in conformance with their designs. Comply with AOP Terms 5.11.1 through 5.11.7. Record and keep in a readily accessible location: detailed schematics, design specifications, and piping and instrumentation diagrams; dates and descriptions of any changes in the design specifications; periods when the control devices are not operated as designed including periods when a flare pilot light does not have a flame; and dates of startups and shutdowns of the control devices. Record in a log in a readily accessible location the information required in 60.486a(e).

Leak Detection and Repair (LDAR) Program as referenced under 40 CFR 60 Subpart VVa			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
6.3.11 VOC/HAP	As referenced: 40 CFR 60 Subpart VVa 60.482-10a(a), (f) - (m) (11/16/07); 60.485a(a) & (b) (11/16/07); and 60.486a(a), (d) & (e) (11/16/07) NWCAA 104.2 (3/14/13)	<u>Inspections of Closed Vent Systems</u> For closed vent systems constructed of hard-piping, conduct annual visual inspections for visible, audible, or olfactory indications of leaks. For closed vent systems constructed of ductwork, conduct annual instrument monitoring inspections. If an instrument reading of 500 ppm above background is detected or by visual inspection, a leak is detected. When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided under delay of repair. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected. A delay of repair is allowed if the repair is technically infeasible without a process unit shutdown or if it is determined that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be complete by the end of the next process unit shutdown. If a closed vent system is operated under a vacuum, it is exempt from the monitoring requirement. If it is designated as unsafe to inspect or difficult to inspect, it is also exempt from the inspection requirements if it is identified and a written plan in place for inspection. Equipment designated as difficult to inspect must not exceed 3% of the total number of equipment in the system.	Instrument monitor using EPA Method 21. The instrument shall be calibrated before use each day and a calibration drift assessment shall be performed at the end of each monitoring day. The following calibration gases shall be used: Zero air (less than 10 ppm of hydrocarbon in air), and a mixture of methane or n-hexane and air at a concentration no more than 2,000 ppm greater than the leak definition concentration of the equipment monitored. For each visual and instrumental inspection conducted during which no leaks are detected, record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected. If a leak is detected, record the information listed in AOP Term 6.3.13. 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 done without a process shutdown, the expected date of successful repair, the dates of process unit shutdowns that occurred while the equipment was unrepaired, and the date of successful repair. Record and keep in a readily accessible location detailed schematics, design specifications, and piping and instrumentation diagrams; dates and descriptions of any changes in the design specifications; periods when the closed vent systems are not operated as designed; and dates of startups and shutdowns of the closed vent systems. Record in a log in a readily accessible location the information required in 60.486a(e).

Leak Detection and Repair (LDAR) Program as referenced under 40 CFR 60 Subpart VVa			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
6.3.12 VOC/HAP	As referenced: 40 CFR 60 Subpart VVa 60.485a(d) (11/16/07) and 60.486a(a) & (j) (11/16/07) NWCAA 104.2 (3/14/13)	Process Units Not in VOC Service Each piece of equipment shall be tested unless it is demonstrated that a process unit is not in VOC service (i.e., that the VOC content would never be reasonably expected to exceed 10 % by weight). To demonstrate that a process unit is not in VOC service, either follow (1) procedures that conform to the general methods in ASTM E260, E168, or E169 (incorporated by reference in 40 CFR 60.17), (2) demonstrate that the organic compounds are considered by the EPA to have negligible photochemical reactivity, or (3) use engineering judgment to estimate the VOC content if a piece of equipment has not been shown previously to be in service.	Information and data used to demonstrate that a piece of equipment is not in VOC service shall be recorded in a log that is kept in a readily accessible location.
6.3.13 VOC/HAP	As referenced: 40 CFR 60 Subpart VVa 60.486a(b) & (c) (11/16/07) NWCAA 104.2 (3/14/13)	Maintain Records for Equipment Found Leaking When each leak is detected, attach a weatherproof and readily visible identification, marked with the equipment identification number to the leaking equipment. The identification on a valve may be removed after it has been monitored for 2 successive months and no leak has been detected. Identification on equipment except valves may be removed after it has been repaired.	When each leak is detected, record in a log in a readily accessible location: the instrument and operator identification numbers and equipment identification number, date of leak detection and each attempt at repair, repair methods applied for each attempt, instrument leak reading, and date of successful repair of leak.

Leak Detection and Repair (LDAR) Program as referenced under 40 CFR 60 Subpart VVa			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
6.3.14 VOC/HAP	As referenced: 40 CFR 60 Subpart VVa 60.487a(a) & (c) (11/16/07) NWCAA 104.2 (3/14/13)	<u>Semiannual Report</u> Submit semiannual reports to the NWCAA beginning 6 months after the initial startup date.	The semiannual reports shall include the following information summarized from the information in 60.486a: (1) Process unit identification. (2) For each month during the semiannual reporting period, (i) Number of valves for which leaks were detected as described in 60.482-7a(b) or 60.483-2a, (ii) Number of valves for which leaks were not repaired as required in 60.482-7a(d)(1), (iii) Number of pumps for which leaks were detected as described in 60.482-2a(b), (d)(4)(ii)(A) or (B), or (d)(5)(iii), (iv) Number of pumps for which leaks were not repaired as required in 60.482-2a(c)(1) and (d)(6), (v) Number of compressors for which leaks were detected as described in 60.482-3a(f), (vi) Number of compressors for which leaks were not repaired as required in 60.482-3a(g)(1), and (vii) The facts that explain each delay of repair and, where appropriate, why a process unit shutdown was technically infeasible. (3) Dates of process unit shutdowns which occurred within the semiannual reporting period. (4) Revisions to items in the initial semiannual report if changes have occurred since the initial report or subsequent revisions to the initial report.

6.4 40 CFR 60 Subpart QQQ— Standards of Performance for VOC Emissions From Petroleum Refinery Wastewater Systems – Individual Drain Systems

40 CFR 60 Subpart QQQ— Individual Drain Systems – except for individual drain systems regulated under Part 63 Subpart CC [63.640(o)]			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
6.4.1 VOC	40 CFR 60 Subpart QQQ 60.692-2 (a)(1), (2), & (5) (11/23/88), 60.697(b)(1) (10/17/00), 60.698 (b)(1) & (c) (8/18/95) NWCAA 104.2 (3/14/13)	Individual Drain Systems in Active Service Each drain shall be equipped with water seal controls. Whenever low water levels or missing or improperly installed caps or plugs are identified, water shall be added or first efforts at repair shall be made as soon as practicable, but not later than 24 hours after identification, unless such repair would be covered under AOP Term 6.4.5.	Check each drain visually or physically monthly for indications of low water levels or other conditions that would reduce water seal control effectiveness. For each problem identified during inspection that could result in VOC emissions (including water seal is dry or otherwise breached) record the location, date, and corrective action. Semiannually, submit a certification to the NWCAA that all of the required inspections have been carried out and submit a report summarizing when a water seal was dry or otherwise breached, when a drain cap or plug was missing or improperly installed, or when cracks, gaps, or other problems were identified that could result in VOC emissions, including information about the repairs or corrective action taken.

40 CFR 60 Subpart QQQ— Individual Drain Systems – except for individual drain systems regulated under Part 63 Subpart CC [63.640(o)]			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
6.4.2 VOC	40 CFR 60 Subpart QQQ 60.692-2 (a)(1), (3), (4), (5) (11/23/88), 60.697(b)(1) & (g) (10/17/00), 60.698 (b)(1) & (c) (8/18/95) NWCAA 104.2 (3/14/13)	Individual Drain Systems Out of Active Service Each drain shall be equipped with water seal controls. Alternatively, install a tightly sealed cap or plug over a drain that is out of service. Whenever low water levels are identified or missing or improperly installed caps or plugs are identified, water shall be added or first efforts at repair shall be made as soon as practicable, but not later than 24 hours after detection, unless such repair would be covered under AOP Term 6.4.5.	Check each drain visually or physically weekly for indications of low water levels or other problems that could result in VOC emissions. If a cap or plug has been installed, inspect semiannually to ensure caps or plugs are in place and properly installed. For drains that have a tightly sealed cap or plug installed, keep for the life of the facility in a readily accessible location plans or specifications which indicate the location of such drains. For each problem identified during inspection that could result in VOC emissions (including water seal is dry or otherwise breached or a drain cap or plug is missing or improperly installed) record the location, date, and corrective action. Semiannually, submit a certification to the NWCAA that all of the required inspections have been carried out and submit a report summarizing when a water seal was dry or otherwise breached, when a drain cap or plug was missing or improperly installed, or when cracks, gaps, or other problems were identified that could result in VOC emissions, including information about the repairs or corrective action taken.
6.4.3 VOC	40 CFR 60 Subpart QQQ 60.692-2 (b) (11/23/88), 60.697(b)(2) (10/17/00), 60.698 (b)(1) & (c) (8/18/95) NWCAA 104.2 (3/14/13)	Junction Boxes Each junction box shall be equipped with a cover and may have an open vent pipe of at least 3 feet in length and no more than 4 inches in diameter. Covers shall have a tight seal around the edge and shall be kept in place at all times, except during inspection and maintenance. If a broken seal or gap is identified, first efforts at repair shall be made as soon as practicable, but not later than 15 calendar days after the broken seal or gap is identified, unless such repair would be covered under AOP Term 6.4.5.	Visually inspect junction boxes semiannually to ensure that the cover is in place and to ensure that the cover has a tight seal around the edge. For each problem identified during inspection that could result in VOC emissions (including broken seals or gaps) record the location, date, and corrective action. Semiannually, submit a certification to the NWCAA that all of the required inspections have been carried out and submit a report summarizing when a water seal was dry or otherwise breached, when a drain cap or plug was missing or improperly installed, or when cracks, gaps, or other problems were identified that could result in VOC emissions, including information about the repairs or corrective action taken.

40 CFR 60 Subpart QQQ— Individual Drain Systems – except for individual drain systems regulated under Part 63 Subpart CC [63.640(o)]			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
6.4.4 VOC	40 CFR 60 Subpart QQQ 60.692-2 (c) (11/23/88), 60.697(b)(3) (10/17/00), 60.698 (b)(1) & (c) (8/18/95) NWCAA 104.2 (3/14/13)	Sewer Lines Sewer lines shall not be open to the atmosphere and shall be covered or enclosed in a manner so as to have no visual gaps or cracks in joints, seals, or other emission interfaces. Whenever cracks, gaps, or other problems are detected, repairs shall be made as soon as practicable, but not later than 15 calendar days after identification, unless such repair would be covered under AOP Term 6.4.5.	Visually inspect the portion of each unburied sewer line semiannually for cracks, gaps, or other problems that could result in VOC emissions. For each problem identified during inspection that could result in VOC emissions record the location, date, and corrective action. Semiannually, submit a certification to the NWCAA that all of the required inspections have been carried out and submit a report summarizing when a water seal was dry or otherwise breached, when a drain cap or plug was missing or improperly installed, or when cracks, gaps, or other problems were identified that could result in VOC emissions, including information about the repairs or corrective action taken.
6.4.5 VOC	40 CFR 60 Subpart QQQ 60.692-6 (11/23/88), 60.697(e) & (f) (10/17/00) NWCAA 104.2 (3/14/13)	Delay of repair is allowed if the repair is technically impossible without a complete or partial refinery or process unit shutdown. Repair of such equipment shall occur before the end of the next refinery or process unit shutdown.	If an emission point cannot be repaired or corrected without a process unit shutdown, record the expected date of a successful repair, the reason for the delay, the signature of the person whose decision it was that the repair would be delayed, and the date of successful repair or correction action. Maintain a copy of the plans or specifications indicating the design and location of the emission point and related process equipment readily accessible for the life of the facility.

6.5 40 CFR 63 Subpart DDDDD— National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters

40 CFR 63 Subpart DDDDD — Boilers and Process Heaters			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
6.5.1 HAP	40 CFR 63 Subpart DDDDD 63.7500(a), (e), Table 3 Line 1, 7505(a), 7510(e), 7515(d), 7530(d), 7540(a)(12) & (b), 7545(a) & (e)(8)(i), 7550(a), (b), Table 9, (c)(1), (c)(5)(i)-(iv), (xiv), & (xvii), (h)(3), 7555(a) (1/31/13) NWCAA 104.2 (3/14/13)	Boiler & Process Heater Tune-Up – with Continuous Oxygen Trim Conduct a tune-up of the process heater every 5 years. The initial tune-up shall be completed by January 31, 2016. Subsequent tune-ups shall be conducted no more than 61 months after the previous tune-up. The inspection shall include: inspect the burner, clean and replace components as necessary; inspect the flame pattern, adjust as necessary; inspect air-to-fuel ratio system control, as applicable to ensure it is correctly calibrated and functioning properly; optimize total emissions of CO; measure CO concentrations before and after adjustments are made; and maintain on-site an annual report summarizing inspection.	Submit a signed certification in the Notification of Compliance Status (NCS) in accordance with AOP Term 3.3.22.3 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)." Submit a compliance report every five calendar years. Reports are due, in accordance with AOP Term 4.1, 30 days after the close of the period that the reports cover. If available, the compliance reports shall be submitted electronically via CEDRI (www.epa.gov/cdx). The compliance report shall include, among other things, the date of the most recent tune-up and burner inspection; if applicable, a statement that no deviations occurred; and be certified by the Responsible Official.
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) & (b), 7545(a) & (e)(8)(i), 7550(a), (b), Table 9, (c)(1), (c)(5)(i)-(iv), (xiv), & (xvii), (h)(3), 7555(a) (1/31/13) NWCAA 104.2 (3/14/13)	Boiler & Process Heater Tune-Up – without Continuous Oxygen Trim Conduct a tune-up of the process heater annually. The initial tune-up shall be completed by January 31, 2016. Subsequent annual tune-ups shall be conducted no more than 13 months after the previous tune-up. The inspection shall include: inspect the burner, clean and replace components as necessary; inspect the flame pattern, adjust as necessary; inspect air-to-fuel ratio system control, as applicable to ensure it is correctly calibrated and functioning properly; optimize total emissions of CO; measure CO concentrations before and after adjustments are made; and maintain on-site an annual report summarizing inspection.	Submit a signed certification in the Notification of Compliance Status (NCS) in accordance with AOP Term 3.3.22.3 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)." Submit a compliance report every calendar year. Reports are due, in accordance with AOP Term 4.1, 30 days after the close of the period that the reports cover. If available, the compliance reports shall be submitted electronically via CEDRI (www.epa.gov/cdx). The compliance report shall include, among other things, the date of the most recent tune-up and burner inspection; if applicable, a statement that no deviations occurred; and be certified by the Responsible Official.

40 CFR 63 Subpart DDDDD — Boilers and Process Heaters			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
6.5.3 HAP	40 CFR 63 Subpart DDDDD 63.7500(a), (e), Table 3 Line 4, 7505(a), 7510(e), 7530(e), 7545(a) & (e)(8)(ii), 7555(a) (1/31/13) NWCAA 104.2 (3/14/13)	Energy Assessment Conduct a one-time energy assessment performed by a qualified energy assessor. The energy assessment shall be completed by January 31, 2016. The energy assessment shall include, among other things: a review of the refinery's energy management practices and recommendations for improvements, a list of cost-effective energy conservation measures that are within the facility's control, a list of the energy savings potential of the energy conservation measures, a comprehensive report summarizing the assessment findings.	Submit a signed certification in the Notification of Compliance Status (NCS) in accordance with AOP Term 3.3.22.3 that indicates an energy assessment was completed and is an accurate depiction of the facility at the time of the assessment. Include a statement in the NCS, as applicable, "This facility has had an energy assessment performed according to 63.7530(e)."
6.5.4 HAP	40 CFR 63 Subpart DDDDD 63.7500(f), 63.7555(i) & (j) (1/31/13) NWCAA 104.2 (3/14/13)	Startup and Shutdown These 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 the work practice standard requirements.	Comply with AOP Terms 6.5.1 through 6.5.3. Maintain records of the calendar date, time, occurrence and duration of each startup and shutdown. Also, maintain records of the type and amount of fuels used during each startup and shutdown.

6.6 40 CFR 63 Subpart CC — National Emission Standards for Hazardous Air Pollutants From Petroleum Refineries – Heat Exchangers

40 CFR 63 Subpart CC — Heat Exchangers			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
6.6.1 HAP	40 CFR 63 Subpart CC 63.654(c)(1), (c)(3), (c)(4), (c)(6) (d), & (e); and 63.655(g)(9), (h)(7), & (i)(4) (6/20/13) NWCAA 104.2 (3/14/13)	Conduct sampling using Modified El Paso Method for total strippable VOC (in ppmv as methane) on either each cooling tower return line or representative riser prior to exposure to air or individual heat exchanger exit line(s). If monthly monitoring is selected for that exchanger, a measured concentration of 6.2 ppmv or greater is a leak. If quarterly monitoring is selected for that exchanger, a measured concentration of 3.1 ppmv or greater is a leak except as provided under delay of repair in AOP Term 6.6.2. If a repair is delayed, monitor monthly. When a leak is detected, it shall be repaired as soon as practicable, but not later than 45 days after it is detected, except as provided under delay of repair in AOP Term 6.6.2. Repair includes remonitoring after repair to verify concentrations are below action levels.	Semiannually, report: • The number of heat exchange systems subject to monitoring • The number of heat exchange systems found to be leaking • For leaking heat exchange systems, identification of monitoring location, measured concentration, date leak was found, and (if applicable) date the source of the leak was identified • For leaks that were repaired during the reporting period (including delayed repairs), identification of the monitoring location, post-repair monitored concentration, and remonitoring date Notify the NWCAA at least 30 calendar days prior to changing between the monthly and quarterly monitoring options. Keep a record of: • Identification of subject heat exchangers and average annual HAP concentrations of process fluid estimated when developing the NCS • Identification of all subject and exempt heat exchanger systems. For the subject systems, identification of all heat exchangers in the system and associated cooling tower. • For each monitoring event, record: date/time of event; barometric pressure; El Paso apparatus water flow, air flow, and air temperature; FID reading; length of sampling period; sample volume; calibration information; the date when a leak was identified; the date the source of the leak was identified; and date when heat exchanger was repaired of taken out of service

40 CFR 63 Subpart CC — Heat Exchangers			
Term	**Citation**	**Description**	**Monitoring, Recordkeeping, & Reporting**
6.6.2 HAP	40 CFR 63 Subpart CC 63.654(f) & (g); and 63.655(g)(9) & (i)(4) (6/20/13) NWCAA 104.2 (3/14/13)	<u>Delay of Repair</u> Delay of repair for a leaking exchanger will be allowed if repair within 45 days is technically infeasible without a process unit shutdown and the monthly measured concentrations are less than 62 ppmv. Repair may be delayed until the next scheduled shutdown. Delay of repair for a leaking exchanger will also be allowed if repair within 45 days is not feasible because the necessary equipment, parts, or personnel are not available and the monthly measured concentrations are less than 62 ppmv. Repair may be delayed for a maximum of 120 calendar days. The lack of necessary equipment, parts, or personnel must be demonstrated. If during subsequent monthly monitoring the measured concentration exceeds 62 ppmv, the leak shall be repaired within 30 days of exceeding the threshold concentration.	When a delay of repair is utilized, record: • The reason(s) for delaying repair • A schedule for completing the repair as soon as practical • Monitoring data (date and concentration) • An estimate of potential strippable hydrocarbon emissions from the leaking heat exchange system Semiannually, report: For each delayed repair, identification of monitoring location, date when the delay of repair began, date the repair is expected to be completed (if not repaired during the reporting period), all monitored concentrations while on delay of repair, and an estimate of potential emissions associated with the delayed repair. Keep a record of: the reason for the delay; schedule for completing the repair; heat exchange exit line flow or cooling tower return line average flow rate at the monitoring location; and estimate of potential emissions for each required monitoring interval during the delay of repair.

SECTION 7 INAPPLICABLE REQUIREMENTS

The regulations identified in this section do not apply to the Puget Sound Refinery as of the date of permit issuance. The basis for each determination is specified in the Reason(s) for Inapplicability column.

Citation	Title or Applicability	Reason(s) for Inapplicability
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	Facility does not have this source category.
NWCAA 510	Incinerator Burning	Facility does not have this source category.
NWCAA 511	Refuse Burning - Time Restriction	Facility does not have this source category.
NWCAA 520.14	Gaseous Fuel 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 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.
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.
Federal Regulations		
Standard of Performance for New Stationary Sources (NSPS)		
40 CFR 60 Subparts D	Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After August 17, 1971	Facility does not operate any of the affected sources.

Citation	Title or Applicability	Reason(s) for Inapplicability
40 CFR 60 Subparts Da	Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After September 18, 1978	Facility does not operate any of the affected sources.
40 CFR 60 Subpart UU	Asphalt Processing and Asphalt Roofing Manufacture	There is no asphalt processing or handling equipment at the refinery.
40 CFR 60 Subpart VVa	Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006	Facility does not operate any of the affected facilities.
40 CFR 60 Subpart III	Volatile Organic Compound (VOC) Emissions From the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Processes	Facility does not operate any SOCMI operations that utilize air oxidation reactors.
40 CFR 60 Subpart NNN	Volatile Organic Compound (VOC) Emissions From the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations	The Nonene Unit does not meet the criteria to be an affected source. Facility does not operate any SOCMI operations.
40 CFR 60 Subpart RRR	Volatile Organic Compound Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes	Refinery does not operate any SOCMI operations that utilize reactor processes.
40 CFR 60 Subpart JJJJ	Stationary Spark Ignition Internal Combustion Engines	Facility does not have this source category
National Emission Standards for Hazardous Air Pollutants (NESHAPs)		
40 CFR 61 Subpart J	Equipment Leaks (Fugitive Emission Sources) of Benzene	The refinery does not have any streams with a benzene concentration greater than 10 wt% benzene

Citation	Title or Applicability	Reason(s) for Inapplicability
40 CFR 61 Subpart BB	Benzene Emissions from Benzene Storage Vessels	The refinery does not ship out benzene-rich material.
National Emission Standards for Hazardous Air Pollutants (MACTs)		
40 CFR 63 Subpart F	Synthetic Organic Chemical Manufacturing Industry	Nonene is not a listed chemical. 40 CFR 63 Subpart F 63.100(j) exempts petroleum refining process units. The facility does not maintain any subject chemical manufacturing process units.
40 CFR 63 Subpart G	Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater	Nonene is not a listed chemical. 40 CFR 63 Subpart F 63.100(j) exempts petroleum refining process units. The facility does not maintain any subject chemical manufacturing process units.
40 CFR 63 Subpart H	Organic Hazardous Air Pollutants From Equipment Leaks	Nonene is not a listed chemical. 40 CFR 63 Subpart F 63.100(j) exempts petroleum refining process units. The facility does not maintain any subject chemical manufacturing process units.
40 CFR 63 Subpart Q	Industrial Process Cooling Towers	Did not use chromium-based treatment chemicals as of the specified date.