



1600 South Second Street  
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www.nwcleanairwa.gov

Original Issuance: July 26, 2001

Revision a: June 9, 2016

Revision b: December 22, 2021

**Northwest Clean Air Agency (NWCAA) hereby issues  
Order of Approval to Construct (OAC) 780b**

**Project Summary:** Replacement of the Diesel Hydrotreater (DHT) burners with new ultra-low NOx burners, installation of a new fuel gas filter-coalescer with associated new equipment components. The project will not increase the firing capacity of the DHT.

**Approved Emission Unit:**

- One (1) gas-fired DHT Heater (33F-1) with a heat input capacity of 48 MMBtu/hr (HHV).

Owner/Operator	Facility Name and Location
Phillips 66 Ferndale Refinery P.O. Box 8 Ferndale, WA 98248  Contact: Sandy Paris, Environmental Supervisor	Phillips 66 Ferndale Refinery 3901 Unick Road Ferndale, WA 98248

**Permit History**

- As of the date of issuance, this Order supersedes NWCAA OAC 780a, issued June 9, 2016.

Note that in addition to other applicable rules and regulations, the approved emission unit is subject to applicable portions of the following federal regulations:

**New Source Performance Standards (NSPS)**

- 40 CFR 60 Subpart A - General Provisions
- 40 CFR 60 Subpart J - Standards of Performance for Petroleum Refineries
- 40 CFR Subpart VV – Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry

**National Emission Standards for Hazardous Air Pollutants (NESHAP)**

- 40 CFR 63 Subpart A – General Provisions
- 40 CFR 63 Subpart DDDDD - National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters

**Issuance of this Order is authorized by Northwest Clean Air Agency Regulation  
Section 300. The Owner/Operator must comply with the following restrictions and  
conditions<sup>1</sup>:**

- (1) Fuel combusted in the DHT Heater is limited to refinery fuel gas and purchased natural gas.

The hydrogen sulfide (H<sub>2</sub>S) concentration of refinery fuel gas combusted in the DHT Heater shall not exceed 50 ppm by volume, based on a consecutive 24-hour rolling average. Compliance with this condition shall be determined by operating a continuous emission monitoring system (CEMS) for hydrogen sulfide. The CEMS shall be installed, calibrated, maintained, and operated in accordance with the appropriate requirements of 40 CFR 60 Subpart J, Appendix B and Appendix F, and NWCAA Section 367 and Appendix A, including all relevant recordkeeping and reporting requirements.

- (2) Emissions of nitrogen oxides (NO<sub>x</sub>) from the DHT Heater shall not exceed 0.05 lb/MMBtu, based on a 3-hour rolling average.

- (3) An initial performance test must be conducted on the DHT heater within 180 days of initial firing of the replacement burners to demonstrate compliance with Condition 2. The test shall be conducted in accordance with 40 CFR Appendix A, Method 19 and Method 7E, and NWCAA Section 367 and Appendix A, or other method approved in advance by NWCCA, based on a 3-hour rolling average. Thereafter, demonstrate compliance by the following testing:

(A) Conduct testing at least once every four (4) calendar quarters by measuring NO<sub>x</sub> in accordance with the procedures specified in EPA Conditional Test Method (CTM)-034 utilizing a portable emissions analyzer, or other method approved in advance by NWCCA. Maintain a record of each test report performed in accordance with this condition. Notify the NWCAA within seven (7) days of any test performed in accordance with this condition that indicates noncompliance with the NO<sub>x</sub> limit in Condition 2 of this Order.

(B) Conduct testing at least once every 60 months in accordance with NWCAA Section 367 and NWCAA Appendix A, based on a 3-hour rolling average. The test shall be conducted in accordance with 40 CFR Appendix A, Method 19 and Method 7E, and NWCAA Section 367 and Appendix A, or other test method approved in advance by the NWCAA.

Unless approved in advance by the NWCAA in writing, conduct all testing while operating the heater at a firing rate that is at least equal to the average firing rate of the previous month prior to the scheduled test.

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<sup>1</sup> Nothing in this permit is intended to, or shall, alter or waive any applicable law [including but not limited to defenses, entitlements, challenges or clarifications related to the Credible Evidence Rule, 62 FR 8315 (Feb. 27, 1997)] concerning the use of data for any purpose under the Act, generated by the reference method specified herein or otherwise.

Pursuant to Section 300.10 of the NWCAA Regulation and ch 43.21B RCW, this Order may be appealed to the Pollution Control Hearings Board (PCHB). To appeal to the PCHB, a written notice of appeal must be filed with the PCHB and a copy served upon the NWCAA within 30 days of the date the applicant receives this Order. Additional information regarding appeal procedures can be found at: <http://www.eluho.wa.gov/> under PCHB.

- (4) The firing rate of the DHT Heater shall not exceed 48 MMBtu/hour, based on a consecutive three-hour rolling average. Compliance with this condition shall be documented by maintaining a record of the firing rate of the heater.
- (5) Visible emissions from the DHT Heater stack shall not exceed an average of five (5) percent opacity in any consecutive 6-minute period as determined by 40 CFR 60 Appendix A Method 9.
- (6) Submit a notice to NWCAA within seven (7) days from first firing the burners, referencing OAC 780b.

X



Shannon Logan, P.G.  
Air Quality Scientist  
Signed by: Shannon Logan

X



Agata McIntyre, PE  
Engineering Manager  
Signed by: Agata McIntyre

Revision a: Clean up permit terms prior to incorporation into the refinery's Air Operating Permit open for renewal.

Revision b: Permit new burners for the DHT heater. Revise condition 3 from a one-time source test to a startup test and source testing every 5 years.



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Original Issuance: October 5, 2020

**Northwest Clean Air Agency (NWCAA) hereby issues  
Order of Approval to Construct (OAC) 1356**

**Project Summary:** Install a rim-mounted or shoe-mounted secondary seal and new fugitive emission controls on tank 550x100 to allow the flexibility to store a material with a higher vapor pressure.

**Approved Emission Unit:**

- Tank 550x100 equipped with an internal floating roof with a primary seal and modified secondary seal.

Owner/Operator	Facility Name and Location
Phillips 66 Ferndale Refinery PO Box 8 Ferndale, WA 98248 Contact: Sandy Paris, Environmental Lead	Phillips 66 Ferndale Refinery 3901 Unick Road Ferndale, WA 98248

Note that in addition to other applicable rules and regulations, the approved emission unit is subject to applicable portions of the following federal regulations:

**New Source Performance Standards (NSPS)**

- 40 CFR 60 Subpart A – General Provisions
- 40 CFR 60 Subpart Kb - Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984

**National Emission Standards for Hazardous Air Pollutants (NESHAP)**

- 40 CFR 63 Subpart A – General Provisions
- 40 CFR 63 Subpart WW – National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries.

**Issuance of this Order is authorized by Northwest Clean Air Agency Regulation Section 300. The Owner/Operator must comply with the following restrictions and conditions<sup>1</sup>:**

- (1) Keep records as required by 40 CFR 63 Subpart WW.
- (2) Provide written notice to NWCAA of the initial fill of Tank 550x100 following installation of the secondary seal. The notice shall be postmarked no later than 15 days after the initial fill and shall include reference to OAC 1356.



Shannon Logan, P.G.  
Air Quality Scientist

10/5/2020



Agata McIntyre, P.E.  
Engineering Manager

10/5/20

<sup>1</sup> Nothing in this permit is intended to, or shall, alter or waive any applicable law [including but not limited to defenses, entitlements, challenges or clarifications related to the Credible Evidence Rule, 62 FR 8315 (Feb. 27, 1997)] concerning the use of data for any purpose under the Act, generated by the reference method specified herein or otherwise.

Pursuant to Section 300.10 of the NWCAA Regulation and ch 43.21B RCW, this Order may be appealed to the Pollution Control Hearings Board (PCHB). To appeal to the PCHB, a written notice of appeal must be filed with the PCHB and a copy served upon the NWCAA within 30 days of the date the applicant receives this Order. Additional information regarding appeal procedures can be found at: <http://www.eluho.wa.gov/> under PCHB.



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## SEPA DETERMINATION OF NONSIGNIFICANCE

**DESCRIPTION OF PROJECT PROPOSAL:** Install a rim-mounted or shoe-mounted secondary seal and new fugitive emission controls on tank 550x100 to allow the flexibility to store a material with a higher vapor pressure.

**PROJECT PROPONENT:** Phillips 66 Ferndale Refinery

**PROJECT LOCATION:** 3901 Unick Road, Ferndale WA (Whatcom)

**SEPA LEAD AGENCY:** Northwest Clean Air Agency (NWCAA)

The SEPA lead agency for this proposal has determined that it does not have a probable significant adverse impact on the environment and an Environmental Impact Statement (EIS) is not required under NWCAA 155. This decision was made after review of a completed environmental checklist and other information on file with the lead agency. This information is available to the public on request.

☒ There is no comment period for this Determination of Nonsignificance (DNS).

☐ This DNS is issued under NWCAA 155. The NWCAA will not act on this proposal for 14 days from the date below. Comments must be submitted by: \_\_\_\_\_

**RESPONSIBLE OFFICIAL:** Agata McIntyre

**POSITION/TITLE:** Engineering Manager      **PHONE:** (360) 428-1617

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

Signature: \_\_\_\_\_

*Agata McIntyre*

Date: \_\_\_\_\_

*10/5/20*



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## SEPA DETERMINATION OF NONSIGNIFICANCE

**DESCRIPTION OF PROJECT PROPOSAL:** Install a rim-mounted or shoe-mounted secondary seal and new fugitive emission controls on tank 550x100 to allow the flexibility to store a material with a higher vapor pressure.

**PROJECT PROPONENT:** Phillips 66 Ferndale Refinery

**PROJECT LOCATION:** 3901 Unick Road, Ferndale WA (Whatcom)

**SEPA LEAD AGENCY:** Northwest Clean Air Agency (NWCAA)

The SEPA lead agency for this proposal has determined that it does not have a probable significant adverse impact on the environment and an Environmental Impact Statement (EIS) is not required under NWCAA 155. This decision was made after review of a completed environmental checklist and other information on file with the lead agency. This information is available to the public on request.

☒ There is no comment period for this Determination of Nonsignificance (DNS).

☐ This DNS is issued under NWCAA 155. The NWCAA will not act on this proposal for 14 days from the date below. Comments must be submitted by: \_\_\_\_\_

**RESPONSIBLE OFFICIAL:** Agata McIntyre

**POSITION/TITLE:** Engineering Manager      **PHONE:** (360) 428-1617

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

Signature: \_\_\_\_\_

*Agata McIntyre*

Date: \_\_\_\_\_

*10/5/20*

**NORTHWEST CLEAN AIR AGENCY**

In the Matter of Additional Action Required by: )  
 ) COMPLIANCE ORDER  
 )  
Phillips 66 Ferndale Refinery )  
 ) No. 13  
 )  
 )

TO: Dan Toperosky, HS&E Manager  
Phillips 66 Company, Ferndale Refinery  
3901 Unick Road, Ferndale, WA 98248

**I.**

**Jurisdiction**

This Compliance Order is issued pursuant to the authority of RCW 70.94.141 and Sections 103 and 121 of the NWCAA Regulation.

**II.**

**Findings of Fact**

Northwest Clean Air Agency (NWCAA) makes the following Findings of Fact:

- (A) Phillips 66 Company (formerly ConocoPhillips Company) owns and operates the Phillips 66 Ferndale Refinery (Ferndale Refinery), a petroleum refinery located at 3901 Unick Road, Ferndale, Washington.
- (B) ConocoPhillips Company (COPC) entered into a consent decree with the United States and the Northwest Clean Air Agency entitled United States, et. al. v. ConocoPhillips Company, Southern District of Texas, Civil Action No. H-05-0258 (Consent Decree). The Consent Decree was initially lodged with the court on January 27, 2005 and amended on May 1, 2007, August 11, 2008, April 13, 2012, June 1, 2012 and September 21, 2012.

- (C) On June 1, 2012, Phillips 66 Company, as the new owner and operator of the Ferndale Refinery, replaced ConocoPhillips as a Party to the Consent Decree, and agreed to assume the obligations and liabilities under the Consent Decree.
- (D) Paragraph 84 of the Consent Decree requires that the Fluid Catalytic Cracking Unit (FCCU) located at the Ferndale Refinery meet the following carbon monoxide (CO) limits no later than the date of lodging (January 27, 2005):
- (i) 500 ppm<sub>dv</sub> , corrected to 0% oxygen, 1-hour average
  - (ii) 100 ppm<sub>dv</sub> , corrected to 0% oxygen, 365 day rolling average
- (E) Paragraph 85 of the Consent Decree states: "CO emissions during periods of startup, shutdown, or malfunction of the FCCU will not be used in determining compliance with the emission limits of 500 ppm<sub>dv</sub> CO at 0% O<sub>2</sub> on a 1-hour average basis, provided that during such periods COPC implements good air pollution control practices to minimize CO emissions.
- (F) Paragraph 86 of the Consent Decree requires that a continuous emissions monitoring system (CEMS) be used to determine compliance with the CO limits established in paragraphs 84 and 85 of the Consent Decree.
- (G) Paragraph 257 of the Consent Decree states: "As soon as practicable, but in no event later than ninety days after the effective date or establishment of any emission limits and standards under this Consent Decree, COPC will submit complete applications to the applicable state/local agency to incorporate those emission limits and standards into federally enforceable minor or major new source review permits or other permits that will ensure that the underlying emission limit or standard survives the termination of this Consent Decree."
- (H) In a letter from Phillips 66 to the Washington State Department of Ecology (WDOE) dated August 26, 2013, Phillips 66 requested that Prevention of Significant Deterioration (PSD) Permit 00-02 Amendment 6 be modified to include the text from paragraph 85 of the Consent Decree.

### **III.**

#### **Regulatory Basis**

- (A) Condition 5 of WDOE PSD-00-02, Amendment 6 (11/28/11) states; "Combined CO emissions from the FCCU and CO boiler shall not exceed 500 ppm<sub>dv</sub> at zero percent O<sub>2</sub> over a 1-hour averaging period and 100 ppm<sub>dv</sub> at zero percent O<sub>2</sub> over a 365-day rolling average".

- (B) Condition 12 of WDOE PSD-00-02, Amendment 6 (11/28/11) states; "Compliance with Approval Condition 5 will be demonstrated by a Continuous Emission Monitor for CO meeting the performance specifications of 40 C.F.R. Part 60, Appendix B, and quality control/quality assurance requirements of 40 C.F.R. Part 60, Appendix F".
- (C) New Source Performance Standard (NSPS) 40 CFR 60 Subpart J - Standards of Performance for Petroleum Refineries applies to FCCU catalyst regenerators that have been constructed, reconstructed or modified after June 11, 1973 but before May 14, 2007.
- (D) 40 CFR 60 Subpart J, §60.103(a) limits CO emissions from the FCCU catalyst regenerator at the Ferndale Refinery to 500 ppm<sub>dv</sub> (no O<sub>2</sub> correction) based on a 1-hour average with compliance demonstrated by a continuous emissions monitoring system installed, calibrated, maintained, and operated accordance with §60.105(a)(2).
- (E) 40 CFR 63 Subpart UUU - National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur-Recovery Units applies to catalytic cracking units at existing refineries that are a major source of hazardous air pollutants.
- (F) 40 CFR 60 Subpart UUU, §63.1565(a) limits CO emissions from the FCCU at the Ferndale Refinery to 500 ppm<sub>dv</sub> (no O<sub>2</sub> correction) based on a 1-hour average with compliance demonstrated by a continuous emissions monitoring system installed, maintained, and operated accordance with §63.1565(b).

#### **IV.**

##### **Determinations**

Based upon the foregoing Findings of Fact and Regulatory Basis, NWCAA makes the following Determinations:

- (A) PSD-00-02 Amendment 6 does not include any exemptions from the FCCU CO limits for startup, shutdown and malfunction events.
- (B) The FCCU catalyst regenerator at the Ferndale Refinery is subject to New Source Performance Standard (NSPS) 40 CFR 60 Subpart J because it was constructed in 2002.
- (C) 40 CFR 60 Subpart A provides conditional exemptions from the FCCU CO limit of 40 CFR 60 Subpart J for startup, shutdown and malfunction events under §60.7 and §60.11.

- (D) The FCCU at the Ferndale Refinery is subject to National Emission Standards for Hazardous Air Pollutants for Source Categories (NESHAP) 40 CFR 63 Subpart UUU because it is a catalytic cracking unit that is located at a major source of hazardous air pollutants as defined in §63.2.
- (E) 40 CFR 63 Subpart A and 40 CFR 63 Subpart UUU provide conditional exemptions from the FCCU CO limit for startup, shutdown and malfunction events under §63.6 (e) & (f) and §63.1565(b).
- (F) The requirements contained in paragraphs 84, 85 and 86 of the Consent Decree related to FCCU CO limits are wholly independent of similar requirements in PSD-00-02 Amendment 6, 40 CFR 60 Subpart J, and 40 CFR 63 Subpart 63.
- (G) Exemptions allowed in paragraph 85 of the Consent Decree only apply to the limit required by paragraph 84 of the Consent Decree.
- (H) Paragraph 85 of the Consent Decree provides a conditional exemption from 500 ppm<sub>dv</sub>, 1-hour CO limit for the FCCU of paragraph 84 during startup, shutdown and malfunction events provided that "good air pollution control practices" are implemented to minimize CO emissions.
- (I) The requirements contained in paragraphs 84, 85 and 86 of the Consent Decree can be imposed by the NWCAA through this federally enforceable Compliance Order pursuant to RCW 70.94.141 and Sections 103 and 121 of the NWCAA Regulation.
- (J) Under this Order, the NWCAA defines expectations for "good air pollution control practices" by relying on similar provisions in 40 CFR 63 Subpart A.

## **V.**

### **Terms of Order: Actions to Be Taken**

Based on the forgoing Facts, Regulatory Basis, and Determinations, it is hereby ordered that Phillips 66 take the following actions:

- (A) Carbon monoxide (CO) emissions from the FCCU located at the Ferndale Refinery shall not exceed any of the following limits.
  - (i) 500 ppm<sub>dv</sub>, corrected to 0% oxygen, 1-hour average
  - (ii) 100 ppm<sub>dv</sub>, corrected to 0% oxygen, 365 day rolling average
- (B) Carbon monoxide (CO) emissions during periods of startup, shutdown, or malfunction of the FCCU will not be used in determining compliance with the 1-hour

CO limit required under Term (A)(i) of this Order, provided that during such periods Phillips 66 implements good air pollution control practices to minimize CO emissions.

- (C) The general duty to implement good air pollution control practices in Term (B) of this Order shall be considered operation and maintenance practices, and associated recordkeeping and reporting requirements of §63.6(e) & (f) of 40 CFR 63 Subpart A.
- (D) Compliance with Term (A) of this Order shall be determined by the installation, certification, calibration, maintenance and operation of a continuous emissions monitoring system (CEMS) in accordance with the provisions of 40 CFR 60 Subpart A, §60.13 (excluding those provisions applicable only to Continuous Opacity Monitoring Systems) and 40 CFR 60 Appendices A and F, and the applicable performance specification test of 40 CFR 60 Appendix B.

## **VI.**

### **Terms and Definitions in Order**

Unless otherwise specified, the definitions set forth in NWCAA Regulation 200, ch 173-400 and 401 WAC, ch 70.94 RCW, 40 CFR 60 Subpart A, 40 CFR 60 Subpart J, 40 CFR 60 Appendices A, B and F, 40 CFR 63 Subpart A and 40 CFR 63 Subpart UUU shall control the meanings of the terms used in this Order.

*Ppmdv* means parts per million by volume, dry basis.

## **VII.**

### **Enforcement**

Pursuant to RCW 70.94.221, this Order may be enforced by the Northwest Clean Air Agency.

## **VIII.**


### **Order Not Subject to Appeal**

The terms of this Order having been agreed to by both parties, it is further stipulated that the same shall be final and not be subject to appeal in accordance with RCW 43.21B.230 and NWCAA Regulation 122.

Effective date of this Order: 7/14/14

ORDERED BY:


NORTHWEST CLEAN AIR AGENCY

By:   
Mark Asmundson, Executive Director

7/14/14  
Date

AGREED BY:

PHILLIPS 66 COMPANY

By:   
Dan Toperosky, HS&E Manager

07/14/14  
Date



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Original Issuance: April 06, 2001

Revision a: August 13, 2002

Revision b: June 08, 2005

Revision c: July 29, 2005

Revision d: August 02, 2012

Revision e: September 30, 2016

Revision f: December 10, 2019

### **Northwest Clean Air Agency (NWCAA) hereby issues Order of Approval to Construct (OAC) 733f**

**Project Summary:** Construct and operate a new Fluidized Catalytic Cracking Unit (FCCU), new Catalytic Gasoline Desulfurizer Unit (S-Zorb CGD), modify the Alkylation Unit with a new feed treater, modify the #2 Hydrofiner (HDF) to treat light straight run gasoline, and modify the Sulfur Recovery Unit (SRU #1 or Unit 19) with oxygen injection to increase its capacity. The new FCCU replaces the Thermoform Catalytic Cracking Unit (TCCU) constructed in 1953. These changes are collectively referred to as the Ferndale Upgrade and Clean Fuels Project. The project is designed to increase gasoline production and improve reliability. An FCCU gas plant modification approved under OAC 908 and PSD-05-01 debottlenecked the FCCU to its current feed rate of 36,500 barrels per day.

#### **Approved Emission Units:**

- Fluidized Catalytic Cracking Unit (FCCU) with a feed rate of 36,500 barrels per day. The FCCU includes a catalyst regenerator, a combustion air heater with a heat input capacity of 70 MMBtu per hour, and a carbon monoxide boiler (CO Boiler ) with an auxiliary fuel heat input capacity of 109 MMBtu per hour. FCCU emissions are controlled with a wet flue gas scrubber (FGS).
- Catalytic Gasoline Desulfurizer Unit Feed Heater (S-Zorb Heater) with a heat input capacity of 40 MMBtu per hour.
- Sulfur Recovery Unit (SRU #1 or Unit 19) with oxygen injection. SRU #1 has an elemental sulfur production capacity of 56 long tons per day (LTPD).
- Equipment leaks at the FCCU, Alkylation, Cat Gasoline Desulfurizer and #2 Hydrofiner

<b>Owner/Operator</b>	<b>Facility Name and Location</b>
Phillips 66 Ferndale Refinery P.O. Box 8 Ferndale, WA 98248  Contact: Erin Strang, Environmental Specialist	Phillips 66 Ferndale Refinery 3901 Unick Road Ferndale, WA 98248

### **Permit History**

- As of the date of issuance, this Order supersedes NWCAA OAC 733e dated September 30, 2016.
- This project is also subject to Prevention of Significant Deterioration Permit PSD-00-02 and its subsequent revisions issued by the Washington Department of Ecology for particulate matter (PM & PM<sub>10</sub>), oxides of nitrogen (NO<sub>x</sub>) and carbon monoxide (CO).

Note that in addition to other applicable rules and regulations, this project is subject to applicable portions of the following federal regulations:

### **New Source Performance Standards (NSPS)**

- 40 CFR 60 Subpart A – General Provisions
- 40 CFR 60 Subpart Db - Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units
- 40 CFR 60 Subpart J – Standards of Performance for Petroleum Refineries
- 40 CFR 60 Subpart GGG – Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries
- 40 CFR 60 Subpart QQQ - Standards of Performance for VOC Emissions from Petroleum Refinery Wastewater Systems

### **National Emission Standards for Hazardous Air Pollutants (NESHAP)/Maximum Achievable Control Technology Standards (MACT)**

- 40 CFR Part 63 Subpart A – General Provisions
- 40 CFR Part 63 Subpart UUU – National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units
- 40 CFR Part 63 Subpart CC – National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries

**As authorized by Northwest Clean Air Agency Regulation Section 300, this order is issued subject to the following restrictions and conditions<sup>1</sup>:**

- (1) All equipment in the FCCU, Alkylation, Cat Gasoline Desulfurizer and #2 Hydrofiner Units subject to 40 CFR 60 Subpart GGG or 40 CFR 63 Subpart CC must comply with applicable requirements of 40 CFR 60 Subpart VV with the following revisions.
  - (A) The leak definition for pumps in light liquid service is 2,000 ppm. [Revision to §60.482-2(b)(1)].
  - (B) The leak definition for valves in gas/vapor service and in light liquid service is 1,000 ppm. [Revision to §60.482-7(b)].
  - (C) Calibration gas shall be a mixture of methane or n-hexane and air at a concentration no more than 2,000 ppm greater than the leak definition concentration of the equipment monitored. If the monitoring instrument's design

allows for multiple calibration scales, then the lower scale shall be calibrated with a calibration gas that is no higher than 2,000 ppm above the concentration specified as a leak, and the highest scale shall be calibrated with a calibration gas that is approximately equal to 10,000 ppm. If only one scale on an instrument will be used during monitoring, the owner or operator need not calibrate the scales that will not be used during that day's monitoring. [Substitute language in §60.485(b)(1)(ii) with §60.485a(b)(1)(ii)].

- (D) A calibration drift assessment shall be performed, at a minimum, at the end of each monitoring day. Check the instrument using the same calibration gas(es) that were used to calibrate the instrument before use. Follow the procedures specified in Method 21 of appendix A-7 of this part, Section 10.1, except do not adjust the meter readout to correspond to the calibration gas value. Record the instrument reading for each scale used as specified in §60.486a(e)(8). Calculate the average algebraic difference between the three meter readings and the most recent calibration value. Divide this algebraic difference by the initial calibration value and multiply by 100 to express the calibration drift as a percentage. If any calibration drift assessment shows a negative drift of more than 10 percent from the initial calibration value, then all equipment monitored since the last calibration with instrument readings below the appropriate leak definition and above the leak definition multiplied by (100 minus the percent of negative drift/divided by 100) must be re-monitored. If any calibration drift assessment shows a positive drift of more than 10 percent from the initial calibration value, then, at the owner/operator's discretion, all equipment since the last calibration with instrument readings above the appropriate leak definition and below the leak definition multiplied by (100 plus the percent of positive drift/divided by 100) may be re-monitored. [Add language from §60.485a(b)(2)].
- (2) Sulfur dioxide emissions from the SRU #1 (Unit 19) tail gas incinerator stack shall not exceed any of the following limits;
    - (A) 250 ppm by volume, dry basis, corrected to zero percent oxygen, based on a consecutive 12-hour average.
    - (B) 150 ppm by volume, dry basis (ppmvd), corrected to zero percent oxygen, based on a consecutive 720 operating-hour average.

Compliance with this condition shall be determined by a continuous emission monitoring system (CEMS) installed, calibrated, maintained, and operated to measure sulfur dioxide and oxygen. The CEMS shall be operated with low range SO<sub>2</sub> span of 500 ppm. A high range output from the analyzer shall be able to measure at least 2,000 ppm. The low range (0 — 500 ppm) span of the CEMS must meet the monitoring requirements of 40 CFR 60 Subpart J, the appropriate specifications of 40 CFR 60 Appendices B and F, and Section 367 and Appendix A of the NWCAA Regulation.

The requirement to operate the SO<sub>2</sub> CEMS with a high range output of at least 2,000 ppm becomes effective on January 1, 2021.

- (3) The SO<sub>2</sub> emission limit specified in Condition (2)(A) of this Order (250 ppm, 12-hr-rolling) does not apply during startup, shutdown and malfunction events as defined in 40 CFR 63.2. The following conditions apply during startup, shutdown and malfunction events.
  - (A) In accordance with 40 CFR 63.1568(a)(4)(iii) (NESHAP Subpart UUU – NESHAP for Petroleum Refineries), send any startup or shutdown purge gases to the incinerator operated at a minimum hourly average temperature of 1,200 degrees Fahrenheit in the firebox and a minimum hourly average outlet oxygen concentration of two percent by volume, dry basis.
  - (B) In accordance with 40 CFR 60.11 (NSPS Subpart A - General Provisions) and 40 CFR 63.6(e)(I) (NESHAPS Subpart A - General Provisions), emissions associated with startup, shutdown and malfunction events at the sulfur recover unit and tail gas unit shall be minimized in accordance with good air pollution control practices.
- (4) Visible emissions from the SRU #1 tail gas incinerator stack shall not exceed 10 percent opacity for more than three minutes in any consecutive 60-minute period as determined by Washington State Department of Ecology Method 9A.
- (5) Supplemental fuel combusted in the SRU #1 Incinerator (19F-21) shall be limited to purchased natural gas.
- (6) The owner or operator shall prepare, maintain on-site, and make available to NWCAA personnel upon request, an operation and maintenance manual that identifies good air pollution control practices for minimizing emissions pursuant to 40 CFR 60.11(d) for SRU #1 including air pollution compliance monitoring and plantwide sulfur dioxide emissions abatement during upset conditions.
- (7) Fuel combusted in the CGD Feed Heater, shall be limited to refinery fuel gas containing less than 50 ppm by volume hydrogen sulfide, based on a consecutive 24-hour average, or purchased natural gas. Compliance with this condition shall be determined by operating a continuous emissions monitoring system (CEMS) for hydrogen sulfide in the fuel gas in accordance with 40 CFR 60 Subpart A, Subpart J and the quality assurance requirements of Appendix F.
- (8) Emissions from the FCCU Combustion Air Heater, FCCU Regenerator, and the CO Boiler shall be continuously routed through a wet gas scrubber that reduces sulfur dioxide emissions to the atmosphere by at least 90%, based on a consecutive 24 operating-hour average and at least 95%, based on a consecutive 7 operating-day average. . The owner or operator shall conduct monitoring, testing, recordkeeping and reporting in compliance with the appropriate sections of 40 CFR §60.105, §60.106 & §60.107. The emission limits specified in this condition shall be included in the basis for recordkeeping and reporting.
- (9) Sulfur dioxide discharged from the FCCU Combustion Air Heater, FCCU Regenerator, and the CO Boiler in combination shall not exceed 548.4 tons, based on a consecutive 12-month total. Each calendar month the owner or operator shall use data from the

SO<sub>2</sub> continuous monitoring system (CMS) to calculate the mass of sulfur dioxide emitted over the preceding 12-month period. The results of this calculation shall be reported to the NWCAA each month. All data and supporting documentation used to make each calculation shall be kept on-site for at least five years.

- (10) Visible emissions discharged from the FCCU Combustion Air Heater, FCCU Regenerator, and the CO Boiler shall not exceed 20% opacity for more than six minutes in any hour as determined by 40 CFR 60 Appendix A, Method 9.
- (11) The owner or operator shall identify CO Boiler operational parameters and practices that have been described as "good combustion practice." These operational parameters and practices shall be included in an operation and maintenance (O&M) manual for the boiler. The O&M manual shall also include a description of records that will be maintained to ensure the continuous application of "good combustion practice." The O&M manual shall be available at the facility for review.
- (12) The FCCU Combustion Air Heater shall not be operated more than 240 hours in any 12-month period.
- (13) The annual capacity factor for natural gas burned in the CO Boiler shall not exceed ten percent of the total potential heat input to the CO Boiler in each calendar year. Total potential heat input shall not include heat recovered from the FCCU regenerator, but shall include heat generated from the combustion of CO in the boiler. The owner or operator shall continuously monitor and record the amount of purchased natural gas combusted in the CO Boiler.
- (14) The quantity of gasoline loaded onto marine vessels at the refinery marine terminal shall be less than 10,000,000 barrels per rolling 12-month period. The quantity of VOC emitted from the marine terminal shall not exceed 819 tons per rolling 12-month period. The owner or operator shall record the quantity and identity of each product transferred into marine vessels, and keep the records available to the NWCAA for at least five years. The owner or operator shall provide to the NWCAA semiannual or more frequent reports indicating the monthly rolling 12-month quantity of gasoline transferred onto marine vessels and VOC emissions from the marine terminal.
- (15) The owner or operator shall keep all raw data, calculation results, test results, and monitoring data required by this order on-site and available to NWCAA representatives for not less than five years.
- (16) The owner or operator shall provide to the NWCAA the following information in a monthly report. The report shall be submitted within 30 days after the end of each month.
  - (A) For all monitoring systems required to be operated by this order, including control device performance monitoring systems: the dates, times, and causes of all periods that the monitoring system(s) did not function or operating parameters were outside of established ranges in the reporting month.

- (B) The number of hours the FCCU Combustion Air Heater operated during the most recent consecutive 12-month period.
- (C) The total number of hours the FCCU regenerator was operated in partial combustion mode in the reporting month. The total number of hours the FCCU regenerator was operated in full combustion mode in the reporting month.
- (D) The maximum monthly concentration of SO<sub>2</sub> from SRU #1 on the basis of a consecutive 12-hour average, and a 720 operating-hour average.
- (E) The quantity of purchased natural gas combusted in the CO Boiler in the calendar year to date.

**The following conditions are included for Consent Decree purposes:**

- (17) Compliance with the requirements of this condition does not relieve the Phillips 66 Company from the responsibility to maintain continuous compliance with all applicable NWCAA, State, and Federal requirements or from the resulting liabilities for failure to comply.

The facility shall investigate the cause of Tail gas flaring incidents, take steps to correct the conditions that have caused or contributed to Tail gas flaring incidents, and minimize such incidents. For purposes of this specific condition, Tail gas shall mean exhaust gas from the Claus trains and the tail gas unit ("TGU") section of the sulfur recovery plant. A Tail gas flaring incident shall mean the combustions of Tail gas that either is: a) combusted in a flare and results in 500 pounds or more of SO<sub>2</sub> emissions in any twenty-four hour period or b) combusted in a thermal incinerator and results in excess emissions of 500 pounds or more SO<sub>2</sub> emissions in any twenty-four (24) hour period. Only those time periods which are in excess of a SO<sub>2</sub> concentration of 250 ppm (rolling twelve-hour average) shall be used to determine the amount of excess SO<sub>2</sub> emissions from the incinerator. The facility shall take, as expeditiously as practicable, such interim and/or long-term corrective actions, if any, as are consistent with good engineering practice to minimize the likelihood of a recurrence of the Root Cause and all contributing causes of the Tail gas flaring incident(s). For purposes of this specific condition, Root Cause shall mean the primary cause(s) of a Tail gas flaring incident(s) as determined through a process of investigation. Records of such investigations and corrective actions shall be kept onsite.

- (18) Emissions from the sulfur pit will either be eliminated, controlled, and/or included and monitored as part of the SRU #1 emissions under 40 CFR 60.104(a)(2).
- (19) Sulfur dioxide discharged from the FCCU Combustion Air Heater, FCCU Regenerator, and the CO Boiler in combination shall not exceed 25 ppm<sub>dv</sub> on a 365-day rolling average basis and 50 ppm<sub>dv</sub> on a 7-day rolling average basis, at 0 percent oxygen. Compliance with these emission limits shall be demonstrated through the use of a CEMS. The CEMS shall be calibrated, maintained, and operated in accordance with NWCAA Appendix A: Ambient Monitoring, Emissions Testing, and Continuous Emission and Opacity Monitoring and 40 CFR Part 60 appendices B and F.
  - (A) SO<sub>2</sub> emissions during periods of malfunction of the FCCU (defined as the fluidized catalytic cracking unit and its regenerator and associated boiler) and during

periods of malfunction of the wet gas scrubber will not be used in determining compliance with the 50 ppm<sub>dv</sub> emission limit, provided that during such periods the owner or operator implements good air pollution control practices to minimize SO<sub>2</sub> emissions. "Malfunction" shall mean, as specified in 40 CFR Part 60.2, "any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused in part by poor maintenance or careless operation are not malfunctions."

- (B) Each calendar month the owner or operator shall use data from the SO<sub>2</sub> CEMS to calculate each of the 365-day and 7-day rolling average SO<sub>2</sub> concentrations for each day in the month. The results of this calculation shall be reported to the NWCAA each month. All data and supporting documentation used to make each calculation shall be kept on-site for at least five years.
- (20) The heaters and boilers listed in Table 1 are affected facilities, as that term is used in the NSPS, 40 CFR Part 60, and are subject to and will comply with the requirements of NSPS Subparts A and J for fuel gas combustion devices. Fuel combusted in the following units shall be limited to refinery fuel gas containing less than 162 ppm hydrogen sulfide (3-hour average) or purchased natural gas:

Table 1. Facility Heaters and Boilers

Crude Heater 1F-1	Supplemental Crude Heater 1F-1A
Tar Separator Heater 4F-2	Alky Depropanizer Reboiler 17F-1
No. 2 HDF Heaters 14F-1 & 2	No. 3 Reformer Pretreat Heater 18F-1
No. 3 Reformer Heaters 18-F21, 22, 23 & 24	No. 3 Reformer Regen. Heater 18F-26
DHT Heater 33F-1	No. 3 Boiler 22F-1B
No. 1 Boiler 22F-1C	No. 4 Boiler 22F-1E
No. 2 Boiler 22F-1A	

The hydrogen sulfide content of refinery fuel gas combusted in the devices specified in this condition shall be monitored by a CEMS that is compliant with 40 CFR Part 60 Subpart J, Subpart A and Appendix F. Concentration measurements provided by the CEMS shall be used to directly determine compliance on a continuous basis.

- (21) Fuel oil (defined as any liquid fossil fuel with a sulfur content greater than 0.05% by weight) shall not be burned in any of the combustion devices listed in Table 1 of Condition 20, except during periods of natural gas curtailment, test runs, or operator training. This does not limit the owner or operator's ability to burn Torch Oil in an FCCU regenerator to assist in starting, restarting, maintaining hot standby, or maintaining regenerator heat balance.
- (22) The Fluid Catalytic Cracking Unit (FCCU) Wet Gas Scrubber (WGS) is not a venturi scrubber so the requirements of Tables 2 and 3 of MACT Subpart UUU apply. Because a WGS is being used and results in the presence of condensed water in the stack, a COMS will not properly measure opacity. An appropriate continuous parameter monitoring system (CPMS) for the FCCU WGS includes monitoring the WGS liquid-to-

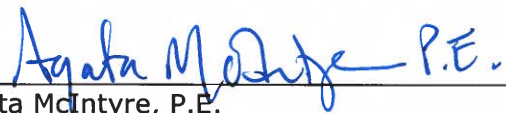
gas ratio (L/G) and the weight percent solids in the scrubber recirculation liquid. The value for L is determined by measuring the amperage to each WGS recirculation pump motor that is operating, calculating the power generated by the pump motor at the measured amperage using a standard equation from the Chemical Engineers Handbook, determining the liquid flow rate at the calculated power input from the pump manufacturer's Centrifugal Pump Characteristics Curve and summing the liquid flow rate from each operating pump. The value for G is measured directly by a gas flow meter or calculated in accordance with 40 CFR § 63.1573(a)(2)(iii) using control room instrumentation for air flow into the regenerator, and continuous gas analyzers on the exhaust from the regenerator. As described in the guideline of 40 CFR § 63.1564(b)(2) and (3), the L/G ratio is calculated and recorded at least once every operating hour. Phillips 66 has established a minimum L/G ratio of 1.25 calculated on a three-hour block average based on performance testing.

The weight percent solids in the WGS liquid must be sampled and analyzed weekly. Phillips 66 has established a maximum weight percent value of 1.0 based on data taken during performance testing.

Phillips 66 has developed and must maintain a written monitoring plan which describes the specific CPMS for this AMP including the measurement equipment, equations, centrifugal pump characteristics curves or algorithms, sampling methods, analytical methods and operation and maintenance requirements. This monitoring plan must be reviewed annually and revised, if necessary, and made available to U.S. EPA and NWCAA upon request. This CPMS must meet the requirements of 40 CFR § 63.1572(c) and (d).



Daniel A. Mahar, P.E.  
Environmental Engineer



Agata McIntyre, P.E.  
Engineering Manager

Revision a:

1. Changed catalytic gasoline desulfurization unit employing two heaters (40 and 35 MMBtu/hour) to the Phillips S-Zorb CGD unit with one 40 MMBtu/hour heater.
2. Added EPA Test Method 202 for condensable particulate matter to the FCCU testing regimen.
3. Conditions that directly overlapped with PSD permit conditions were removed and text added to indicate that BACT for NO<sub>x</sub> established in PSD-00-02.

4. Removed the designation "pipeline-grade" from references to natural gas.
5. Updated the federal rule applicability table.
6. Removed words "compliance determination" and replaced with "testing and monitoring".
7. Added limits on VOC emissions and gasoline loading at the refinery marine terminal.

Revision b:

1. Revised SRU SO<sub>2</sub> limit to a 12-hour averaging period.
2. Removed SRU CO limit.
3. Removed CGD Feed Heater CO emission limit.
4. Removed wet gas scrubber SO<sub>2</sub> removal efficiency demonstration using operating parameter monitoring because the stack has inlet and outlet CEMS.
5. Revised visible emissions monitoring at FCCU and CO Boiler to the facility's Alternative Monitoring Plan (AMP), in lieu of monitoring PM/PM<sub>10</sub>.
6. Removed FCCU Regenerator PM/PM<sub>10</sub> emission limits and monitoring requirements.
7. Removed FCCU/CO Boiler CO emission limits and monitoring requirements.
8. Added a requirement to report operating parameter readings.
9. Approve FCCU feed rate increase from 30,000 to 35,000 barrels per day.

Revision c:

1. Removed BACT statements for NO<sub>x</sub>, PM/PM<sub>10</sub>, and CO.
2. Added a sulfur pit condition to incorporate that Consent Decree (CD) requirement.
3. Added an FCCU SO<sub>2</sub> limit of 25 and 50 ppm<sub>dv</sub>, with monitoring, recordkeeping, and reporting to incorporate CD requirements.
4. Removed requirement to assess compliance with WAC 173-460 because initial testing for TAPs completed.
5. Added an applicability condition for NSPS Subparts A and J for the facility's heaters and boilers, and expanded the table of heaters and boilers to include Boiler #4 (22F-1E) and the DHT Heater (33F-1). This was to incorporate CD requirements.
6. Added a fuel oil combustion prohibition to incorporate CD requirements.

Revision d:

1. For clarification purposes, since the refinery now has two sulfur recovery units the SRU unit referenced in this permit was identified as No. 19.
2. Added quality control and assurance requirements for the CEMS.
3. Added for Consent Decree purposes, a condition to investigate the cause of Tail Gas Unit flaring incidents resulting in 500 pounds or more of SO<sub>2</sub> in a 24-hour period above 250 ppm.

Revision e:

1. Cleanup OAC for incorporation into AOP.

Revision f:

1. Administrative revision providing SS&M flexibility for SRU #1.

<sup>1</sup> Nothing in this permit is intended to, or shall, alter or waive any applicable law [including but not limited to defenses, entitlements, challenges or clarifications related to the Credible Evidence Rule, 62 FR 8315 (Feb. 27, 1997)] concerning the use of data for any purpose under the Act, generated by the reference method specified herein or otherwise.

Pursuant to Section 300.10 of the NWCAA Regulation and ch 43.21B RCW, this Order may be appealed to the Pollution Control Hearings Board (PCHB). To appeal to the PCHB, a written notice of appeal must be filed with the PCHB and a copy served upon the NWCAA within 30 days of the date the applicant receives this Order. Additional information regarding appeal procedures can be found at: <http://www.eluho.wa.gov/> under PCHB.



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Original Issuance: November 17, 2005

Revision a: November 06, 2006

Revision b: June 9, 2016

Revision c: August 20, 2019

## **Northwest Clean Air Agency (NWCAA) hereby issues Order of Approval to Construct (OAC) 908c**

**Project Summary:** Construct and operate the Crude/FCC/Sulfur Recovery Unit project. The project includes modifications to the Crude Unit, Fluidized Catalytic Cracking Unit (FCCU) gas plant, and refinery amine system. The project also includes a new CLAUS Sulfur Recovery Unit (SRU #2) with a SCOT Tail Gas U (TGU #2), and incinerator. The SRU #2 has a design recovery capacity of 60 long tons per day of elemental sulfur when operated with oxygen injection. Modifications to the Crude Unit include installing piping, a new heat exchanger, and nozzles to the crude column and adding new trays to the crude column and preflash column. The FCCU gas plant modifications include replacing the main fractionator trays with packing, installing an additional column in the gas plant to separate the absorber-deethanizer tower into two, replacing the off-gas absorber with a larger tower, replacing the regenerator trays with packing, and adding another rich amine flash drum.

### **Approved Emission Units:**

- Sulfur Recovery Unit #2 (SRU #2) comprised of a CLAUS Unit with emissions controlled by Tail Gas Unit #2 (TGU #2) followed by an incinerator. With oxygen injection, the SRU #2 has a recovery capacity of 60 tons per day of elemental sulfur.
- Equipment leaks from components in the Crude Unit and FCCU.
- A new oily wastewater drain installed at SRU #2.

<b>Owner/Operator</b>	<b>Facility Name and Location</b>
Phillips 66 Ferndale Refinery P.O. Box 8 Ferndale, WA 98248  Contact: Erin Strang, Environmental Specialist	Phillips 66 Ferndale Refinery 3901 Unick Road Ferndale, WA 98248

### **Permit History**

- As of the date of issuance, this Order supersedes NWCAA OAC 908b issued June 9, 2016.
- This OAC is issued for SO<sub>2</sub>, H<sub>2</sub>SO<sub>4</sub> and toxic air pollutants. All other pollutants were reviewed under PSD-05-01 issued by the Washington State Department of Ecology November 16, 2005.

Note that in addition to other applicable rules and regulations, one or more of the approved emission units are subject to applicable portions of the following federal regulations:

**New Source Performance Standards (NSPS)**

- 40 CFR 60 Subpart A - General Provisions
- 40 CFR 60 Subpart J - Standards of Performance for Petroleum Refineries
- 40 CFR 60 Subpart GGG - Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries
- 40 CFR 60 Subpart QQQ - Standards of Performance for VOC Emissions from Petroleum Refinery Wastewater Systems

**National Emission Standards for Hazardous Air Pollutants (NESHAP)**

- 40 CFR 63 Subpart A - General Provisions
- 40 CFR 63 Subpart CC - National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries
- 40 CFR 63 Subpart UUU - National Emission Standards for Petroleum Refineries - Catalytic Cracking, Catalytic Reforming, and Sulfur Plant Units

**As authorized by Northwest Clean Air Agency Regulation Section 300, this Order is issued subject to the following restrictions and conditions<sup>1</sup>:**

- (1) Supplemental fuel combusted in the SRU #2 incinerator is limited to purchased natural gas.
- (2) Visible emissions from the SRU #2 incinerator stack shall not exceed ten percent (10%) opacity for more than three minutes in any consecutive 60-minute period as determined by Washington State Department of Ecology Method 9A.
- (3) Sulfur dioxide emissions from the SRU #2 incinerator stack shall not exceed any of the following emission limits:
  - (A) 250 ( $2.50 \times 10^2$ ) ppm by volume, dry basis, corrected to zero percent oxygen, based on a consecutive 12-hour rolling average.
  - (B) 150 ( $1.50 \times 10^2$ ) ppm by volume, dry basis, corrected to zero percent oxygen, based on a consecutive 720-hour rolling average.

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<sup>1</sup> Nothing in this permit is intended to, or shall, alter or waive any applicable law [including but not limited to defenses, entitlements, challenges or clarifications related to the Credible Evidence Rule, 62 FR 8315 (Feb. 27, 1997)] concerning the use of data for any purpose under the Act, generated by the reference method specified herein or otherwise.

Pursuant to Section 300.10 of the NWCAA Regulation and ch 43.21B RCW, this Order may be appealed to the Pollution Control Hearings Board (PCHB). To appeal to the PCHB, a written notice of appeal must be filed with the PCHB and a copy served upon the NWCAA within 30 days of the date the applicant receives this Order. Additional information regarding appeal procedures can be found at: [www.eho.wa.gov](http://www.eho.wa.gov) under PCHB.

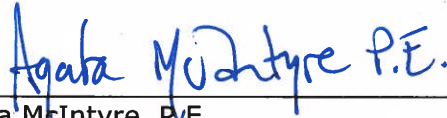
(C) 22.3 tons , based on a consecutive 12-month rolling total.

Compliance with this condition shall be determined by a continuous emission monitoring system (CEMS) installed, calibrated, maintained, and operated to measure sulfur dioxide and oxygen. The CEMS shall be operated with low range SO<sub>2</sub> span of 500 ppm. A high range output from the analyzer shall be able to measure at least 2,000 ppm. The low range (0 – 500 ppm) span of the CEMS must meet the monitoring requirements of 40 CFR 60 Subpart J, the appropriate specifications of 40 CFR 60 Appendices B and F, and Section 367 and Appendix A of the NWCAA Regulation.

- (4) The SO<sub>2</sub> emission limit specified in Condition 3.A. of this Order (250 ppm, 12-hr-rolling) does not apply during startup, shutdown and malfunction events as defined in 40 CFR 63.2. The following conditions apply during startup, shutdown and malfunction events.
- (A) In accordance with 40 CFR 63.1568(a)(4)(iii) (NESHAP Subpart UUU – NESHAP for Petroleum Refineries), send any startup or shutdown purge gases to the incinerator operated at a minimum hourly average temperature of 1,200 degrees Fahrenheit in the firebox and a minimum hourly average outlet oxygen concentration of two percent by volume, dry basis.
- (B) In accordance with 40 CFR 60.11 (NSPS Subpart A - General Provisions) and 40 CFR 63.6(e)(1) (NESHAPS Subpart A - General Provisions), emissions associated with startup, shutdown and malfunction events at the sulfur recover unit and tail gas unit shall be minimized in accordance with good air pollution control practices.
- (5) Sweep gas from the sulfur collection header used to control emissions from the elemental sulfur tank and sulfur pit, must be controlled by routing through a closed vent system to an SRU incinerator or to the front end of an SRU.
- (6) The permittee shall prepare, maintain on-site, and make available to NWCAA personnel upon request, an operation and maintenance manual that identifies good air pollution control practices for minimizing emissions pursuant to 40 CFR 60.11(d) for SRU #2 including air pollution compliance monitoring and plantwide sulfur dioxide emissions abatement during upset conditions.
- (7) Any lines that allow a bypass of sulfur bearing compounds normally emitted from the TGU #2 shall be continuously monitored for the presence of flow. The permittee shall report to the NWCAA any time that flow is detected in a bypass line. This reportable event shall be considered a startup, shutdown or upset condition and reported in accordance with NWCAA Section 340 or 341.
- (8) A monthly report shall be submitted to the NWCAA within 30 day of the end of each calendar month that includes the maximum monthly SO<sub>2</sub> emissions from the SRU #2 in units consistent with the emission limits set forth in this Order.



Daniel A. Mahar, P.E.  
Environmental Engineer



Agata McIntyre, P.E.  
Engineering Manager

Revision a: Add option to route sulfur storage tank emissions to the SRU #1 incinerator.

Revision b: Administrative revision for AOP cleanup.

Revision c: Add a high range analyzer output requirement to Condition 3. Add Condition 4 to provide greater SS&M flexibility at SRU #2. Revise Condition 5 to allow more control options for the elemental sulfur sweep gas.



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Original Issuance: April 1, 2019

**Northwest Clean Air Agency (NWCAA) hereby issues  
Order of Approval to Construct (OAC) 1245**

**Project Summary:** Modify process equipment at the Diesel Hydrotreater Unit (DHT).

**Approved Emission Unit:**

- Equipment components (valves and connectors) at the DHT.

Owner/Operator	Facility Name and Location
Phillips 66 Company P.O. Box 8 Ferndale, WA 98248  Contact: Sandy Paris, Environmental Supervisor	Phillips 66 Ferndale Refinery 3901 Unick Road Ferndale, WA 98248

Note that in addition to other applicable rules and regulations, one or more of the approved emission unit is subject to applicable portions of the following federal regulations:

**New Source Performance Standards (NSPS)**

- 40 CFR 60 Subpart A - General Provisions
- 40 CFR 60 Subpart GGG - Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for which Construction, Reconstruction, or Modification Commenced After January 4, 1983, and on or Before November 7, 2006

**National Emission Standards for Hazardous Air Pollutants (NESHAP)/Maximum Achievable Control Technology Standards (MACT)**

- 40 CFR 63 Subpart A – General Provisions
- 40 CFR 63 Subpart CC - National Emission Standards for Hazardous Air Pollutants From Petroleum Refineries

**As authorized by Northwest Clean Air Agency Regulation Section 300, this Order is issued subject to the following restrictions and conditions:**

- (1) Provide written notice to the NWCAA of the date of startup of the DHT following completion of the project approved under this Order. Postmark the notice no later than 15 days after startup and include a reference to OAC 1245.



Daniel A. Mahar, P.E.  
Environmental Engineer



Agata McIntyre, P.E.  
Engineering Manager

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<sup>1</sup> Nothing in this permit is intended to, or shall, alter or waive any applicable law [including but not limited to defenses, entitlements, challenges or clarifications related to the Credible Evidence Rule, 62 FR 8315 (Feb. 27, 1997)] concerning the use of data for any purpose under the Act, generated by the reference method specified herein or otherwise.

Pursuant to Section 300.10 of the NWCAA Regulation and ch 43.21B RCW, this Order may be appealed to the Pollution Control Hearings Board (PCHB). To appeal to the PCHB, a written notice of appeal must be filed with the PCHB and a copy served upon the NWCAA within 30 days of the date the applicant receives this Order. Additional information regarding appeal procedures can be found at: <http://www.eluho.wa.gov/> under PCHB.



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Original issuance: February 7, 2008

Revision a: September 11, 2008

Revision b: April 27, 2009

Revision c: June 7, 2012

Revision d: April 21, 2015

Revision e: May 24, 2018

**Northwest Clean Air Agency (NWCAA) hereby issues  
Order of Approval to Construct (OAC) 1012e**

**Project Summary:** Install and operate a Selective Catalytic Reduction (SCR) system on the existing 189 MMBtu/hour Vacuum Flasher Heater (4F-2) to meet NOx reduction obligations of the consent decree.

**Approved Emission Units:**

Selective Catalytic Reduction (SCR) system on the Vacuum Flasher Heater (4F-2)

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Phillips 66 Ferndale Refinery  
3901 Unick Road  
PO Box 8  
Ferndale, WA 98248  
NOC Contact:  
Sandy Paris, Environmental Supervisor

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Phillips 66 Company  
3010 Briarpark Drive  
Houston, TX 77042

**Permit History**

- As of the date of issuance, this Order supersedes NWCAA OAC 1012d issued April 21, 2015.

Note that in addition to other applicable rules and regulations, this project is subject to the following federal regulations:

**New Source Performance Standards**

- 40 CFR 60 Subpart A – General Provisions
- 40 CFR 60 Subpart J – Standards of Performance for Petroleum Refineries

**As authorized by Northwest Clean Air Agency Regulation Section 300, this order is issued subject to the following restrictions and conditions<sup>1</sup>:**

- (1) Fuel combusted in Vacuum Flasher Heater shall be limited to refinery fuel gas.
- (2) Heat input to the Vacuum Flasher Heater shall not exceed 189 MMBtu/hour maximum higher heating value (HHV) on a consecutive 12-month rolling average. Compliance


with this condition shall be determined by measuring the total fuel gas flow rate to the heater from each heater pass flow meter, multiplied by the calculated HHV from gas chromatographic composition data.

- (3) Visual emissions from the Vacuum Flasher Heater shall not exceed five percent (5%) opacity for more than three minutes in any 60-minute period as determined by Washington State Department of Ecology Method 9A.
- (4) Ammonia ( $\text{NH}_3$ ) emissions from the Vacuum Flasher Heater shall not exceed  $10 (1.00 \times 10^1)$  ppm by volume, dry (ppmvd) corrected to 3%  $\text{O}_2$ , on a consecutive 24-hour rolling average.
- (5) At least once every thirteen months, an ammonia emissions test shall be conducted on the Vacuum Flasher Heater using no less than three, 60-minute test runs and conducted using Bay Area Air Quality Management District Source Test Procedure #1B (BAAQMD ST-1B) or United States Environmental Protection Agency Method 320 (Vapor Phase Organic & Inorganic Emissions by Extractive FTIR). The test shall be conducted under normal operating rates, which is defined as being equal to or greater than the average daily heat input to the heater during the most recent consecutive 12-month period. The test may be conducted using an alternative test method with prior written approval from the NWCAA. During testing, the ammonia feed rate,  $\text{NO}_x$  emissions, fuel consumption, excess oxygen, and exhaust temperature shall be recorded and this data included in the final test report submitted to the NWCAA.
- (6) Compliance with Condition 4 of this Order shall be determined by operating in accordance with the Ammonia Emissions Monitoring Plan required under Condition 7 of this Order.
- (7) A written Ammonia Emissions Monitoring Plan for the Vacuum Flasher Heater shall be maintained that establishes a predictive relationship between the heater and SCR parameters, and ammonia emissions. The plan shall define QA/QC procedures and corrective actions when parameter monitoring indicates that the ammonia emission limit in Condition 4 is exceeded. The plan shall be updated as needed when the results of stack testing required under Condition 5 of this Order are available. A copy of the initial Ammonia Emissions Monitoring Plan and all subsequent revision to the plan shall maintained onsite and available for review by the NWCAA. The initial plan and all revisions to the plan shall be dated with the date that each plan was implemented.
- (8) The following information on the Vacuum Flasher Heater shall be reported to the NWCAA on a calendar month basis. Monthly reports are due 30 days after the close of the reported month. All emission information, including calculations, shall be kept onsite for at least five years and made available to NWCAA personnel upon request.
  - (A) Consecutive 12-month rolling average  $\text{NO}_x$  emissions in lb  $\text{NO}_x$ /MMBtu.
  - (B) Monthly maximum 24-hour rolling average  $\text{NO}_x$  emissions in ppmvd @ 3%  $\text{O}_2$
  - (C) Monthly maximum 24-hour rolling average ammonia emissions in ppmvd @ 3%  $\text{O}_2$
  - (D) Consecutive 12-month rolling average firing rate in MMBtu/hour (HHV).

**The following are included for consent decree purposes:**

- (9) Nitrogen oxide ( $\text{NO}_x$ ) emissions from the Vacuum Flasher Heater shall not exceed any of the following emission limits.

- (A) For periods when the SCR is operating for the entire 24-hour period:  
80 ( $8.0 \times 10^1$ ) ppm by volume, dry (ppmvd), corrected to 3% oxygen ( $O_2$ ), on a consecutive 24-hour rolling average.
  - (B) For periods that include any time that the SCR is not operating due to maintenance or repair:  
242 ppmvd, corrected to 3%  $O_2$ , on a consecutive 24-hour rolling average
  - (C) For all periods:  
0.07 lb  $NO_x$ /MMBtu (HHV), on a consecutive 12-month rolling average.
- (10) Compliance with Condition 9 of this Order shall be determined by a  $NO_x$  and oxygen continuous emission monitoring system (CEMS) in the heater stack. The CEMS shall be installed, calibrated, maintained and operated in accordance with NWCAA Appendix A, and 40 CFR 60 Appendices B and F.
- (11) Operation of the Vacuum Flasher Heater without SCR controls shall be limited to 336 hours in any calendar year. Compliance with this condition shall be determined by maintaining a contemporaneous record of each hour that the Vacuum Flasher Heater is operated without SCR. The record shall include the time and date of each SCR startup and shutdown and the reason that the SCR was not operating. If the SCR was down for maintenance or repair, the record shall describe the type and extent of that activity, and the periods when the maintenance and repair activity was performed.

  
Daniel A. Mahar, P.E.  
Environmental Engineer

  
Agata McIntyre, P.E.  
Engineering Manager

Revision a:

1. Changed the nitrogen oxide emission limit averaging period from a 12-month rolling average period to a 365-day rolling average and defined 365-day rolling average, pursuant to language in the Consent Decree. Also removed  $O_2$  correction and other language in the same condition.
2. Revised Condition 7 to remove the December 31, 2008 deadline for test completion. The Consent Decree requires installation by December 31, 2008, but does not require testing by that date. The sixty-day testing period after completing installation is considered sufficient.

Revision b:

1. Removed the statement regarding 40 CFR 60 Subpart Ja applicability since the promulgated version of Subpart Ja does not apply to the project.
2. Amended Condition 3 to change nitrogen oxide limits from 12 ppm @ 3%  $O_2$  to 80 ppm @ 3%  $O_2$  and from 0.011 lb/MMBtu to 0.07 lb/MMBtu (HHV).
3. Amended Condition 7 to extend the initial ammonia and opacity compliance test deadline to September 30, 2009.

Revision c:

1. For Consent Decree termination purposes, a maximum fired heat duty in HHV on a 365-day rolling average basis was added as Condition 2.
2. For Consent Decree termination purposes, the NOx emission limit in Condition 4b was clarified to define a day as a "calendar day".
3. The initial source test requirement upon startup was removed as it has been completed.
4. A reporting requirement for submittal of the maximum fired duty (HHV) on a 365-day rolling average basis was added as Condition 10f.

Revision d:

1. Add a provision allowing the heater to be operated without SCR during periods of maintenance and repair.
2. Convert 356-day MMBtu/hour and lb NOx/MMBtu limits to 12-month rolling averages.
3. Cleanup the OAC for better incorporation into the AOP.

Revision e:

1. Revise Condition 5 to allow source testing under normal operating rates instead of 90% of the heater's firing capacity.

<sup>1</sup> Nothing in this permit is intended to, or shall, alter or waive any applicable law [including but not limited to defenses, entitlements, challenges or clarifications related to the Credible Evidence Rule, 62 FR 8315 (Feb. 27, 1997)] concerning the use of data for any purpose under the Act, generated by the reference method specified herein or otherwise.

Pursuant to Section 300.10 of the NWCAA Regulation and ch 43.21B RCW, this Order may be appealed to the Pollution Control Hearings Board (PCHB). To appeal to the PCHB, a written notice of appeal must be filed with the PCHB and a copy served upon the NWCAA within 30 days of the date the applicant receives this Order. Additional information regarding appeal procedures can be found at: <http://www.eluho.wa.gov/> under PCHB.



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Original Issuance: January 26, 1990

Revision a: June 9, 2016

**Northwest Clean Air Agency (NWCAA) hereby issues  
Order of Approval to Construct (OAC) 265a**

**Project Summary:** Convert the Truck Loading Rack from top loading to bottom loading and install a vapor combustion device to control emissions during liquid product loading.

**Approved Emission Units:**

- Single island, bottom loading truck loading rack controlled by a John Zink Model GV-ZTOF-2400-1 vapor combustion device with supplemental firing on propane.

Owner/Operator	Facility Name and Location
Phillips 66 Ferndale Refinery P.O. Box 8 Ferndale, WA 98248  Contact: Sandy Paris, Environmental Supervisor	Phillips 66 Ferndale Refinery 3901 Unick Road Ferndale, WA 98248

**Permit History**

- As of the date of issuance, this Order supersedes NWCAA OAC 265 issued January 26, 1990.

Note that in addition to other applicable rules and regulations, the approved emission unit is subject to the applicable portions of the following federal regulations:

**New Source Performance Standards (NSPS)**

- 40 CFR 60 Subpart A - General Provisions
- 40 CFR 60 Subpart J - Standards of Performance for Petroleum Refineries

**National Emission Standards for Hazardous Air Pollutants (NESHAP)**

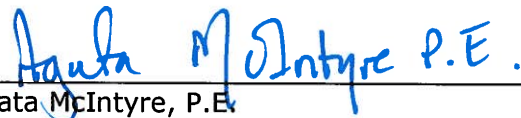
- 40 CFR 63 Subpart A - General Provisions
- 40 CFR 63 Subpart CC - National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries

**As authorized by Northwest Clean Air Agency Regulation Section 300, this Order is issued subject to the following restrictions and conditions<sup>1</sup>:**

- (1) Emissions of volatile organic compounds from the vapor combustion device must not exceed 35 milligrams per liter of gasoline transferred. Compliance shall be demonstrated biennially using 40 CFR 60 Appendix A Method 25, or an alternative method approved in advance by the NWCAA.
- (2) Visible emissions from the vapor combustion device shall not exceed an average of ten percent (10%) opacity in any consecutive six-minute period as determined by 40 CFR 60 Appendix A Method 9.



Daniel A. Mahar, P.E.  
Environmental Engineer



Agata McIntyre, P.E.  
Engineering Manager

Revision a: Administrative revision for AOP cleanup.

<sup>1</sup> Nothing in this permit is intended to, or shall, alter or waive any applicable law [including but not limited to defenses, entitlements, challenges or clarifications related to the Credible Evidence Rule, 62 FR 8315 (Feb. 27, 1997)] concerning the use of data for any purpose under the Act, generated by the reference method specified herein or otherwise.

Pursuant to Section 300.10 of the NWCAA Regulation and ch 43.21B RCW, this Order may be appealed to the Pollution Control Hearings Board (PCHB). To appeal to the PCHB, a written notice of appeal must be filed with the PCHB and a copy served upon the NWCAA within 30 days of the date the applicant receives this Order. Additional information regarding appeal procedures can be found at: <http://www.eluho.wa.gov/> under PCHB.



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Original Issuance: August 12, 2004

Revision a: September 15, 2008

Revision b: June 9, 2016

**Northwest Clean Air Agency (NWCAA) hereby issues  
Order of Approval to Construct (OAC) 877b**

**Project Summary:** Construct and operate a new gas fired utility boiler referred to the #4 Boiler (22F-1E) with a heat input capacity of 164 MMBtu per hour (HHV). The boiler replaces a temporary boiler with a heat input capacity of 88 MMBtu per hour approved under OAC 849.

**Approved Emission Unit:**

- One (1) gas fired #4 Boiler (22F-1E) with a heat input capacity of 164 MMBtu/hour. The boiler is equipped with ultra-low NOx burners.

Owner/Operator	Facility Name and Location
Phillips 66 Ferndale Refinery P.O. Box 8 Ferndale, WA 98248  Contact: Sandy Paris, Environmental Supervisor	Phillips 66 Ferndale Refinery 3901 Unick Road Ferndale, WA 98248

**Permit History**

- As of the date of issuance, this Order supersedes NWCAA OAC 877a issued September 15, 2008.

Note that in addition to other applicable rules and regulations, one or more of the approved emission units are subject to applicable portions of the following federal regulations:

**New Source Performance Standards (NSPS)**

- 40 CFR 60 Subpart A - General Provisions
- 40 CFR 60 Subpart Db - Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units
- 40 CFR 60 Subpart J - Standards of Performance for Petroleum Refineries

**National Emission Standards for Hazardous Air Pollutants (NESHAP)**

- 40 CFR 63 Subpart A - General Provisions
- 40 CFR 63 Subpart DDDDD - Standards of Performance for Industrial, Commercial, and Institutional Boilers and Process Heaters

**As authorized by Northwest Clean Air Agency Regulation Section 300, this Order is issued subject to the following restrictions and conditions<sup>1</sup>:**

- (1) The #4 Boiler shall combust only natural gas or refinery fuel gas.
- (2) Visible emissions from the #4 Boiler stack shall not exceed an average of five percent (5%) opacity in any consecutive six-minute period as determined by 40 CFR 60 Appendix A, Method 9.
- (3) Nitrogen oxides (NO<sub>x</sub>) from the #4 Boiler stack shall not exceed any of the following emission limits;
  - (A) 15 ppmvd corrected to 3% oxygen, based on a consecutive 24-hour rolling average.
  - (B) 0.018 lb/MMBtu, based on a consecutive 24-hour rolling average.Compliance with this condition shall be monitored by a Continuous Emission Monitoring System (CEMS) for NO<sub>x</sub> and O<sub>2</sub>. The CEMS shall be calibrated, maintained and operated in accordance with NWCAA Appendix A and 40 CFR 60 Appendices B and F.
- (4) Fuel combusted in the #4 Boiler shall not contain hydrogen sulfide (H<sub>2</sub>S) in excess of 50 ppm based on a consecutive 24-hour rolling average, and 162 ppm based on a consecutive 3-hour rolling average. During periods when the #4 Boiler combusts refinery fuel gas, the H<sub>2</sub>S content of the gas shall be continuously monitored in accordance with 40 CFR 60 Subpart J, Subpart A and Appendix F.
- (5) Carbon monoxide (CO) from the #4 Boiler stack shall not exceed;
  - (A) 70 ppmvd corrected to 7% oxygen, based on a consecutive 24-hour rolling average.  
or, when Condition (5)(A) is exceeded,
  - (B) 18.1 pounds per hour, based on a consecutive 24-hour rolling averageCompliance with this condition shall be monitored by a Continuous Emission Monitor System (CEMS) for CO and O<sub>2</sub>. The CEMS shall be calibrated, maintained and operated in accordance with NWCAA Appendix A and 40 CFR 60 Appendices B and F.
- (6) A monthly report shall be submitted to the NWCAA within 30 day of the end of each calendar month that includes the maximum monthly NO<sub>x</sub> and CO emissions from the #4 Boiler in units consistent with the emission limits set forth in this Order.

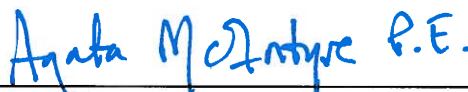
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<sup>1</sup> Nothing in this permit is intended to, or shall, alter or waive any applicable law [including but not limited to defenses, entitlements, challenges or clarifications related to the Credible Evidence Rule, 62 FR 8315 (Feb. 27, 1997)] concerning the use of data for any purpose under the Act, generated by the reference method specified herein or otherwise.

Pursuant to Section 300.10 of the NWCAA Regulation and ch 43.21B RCW, this Order may be appealed to the Pollution Control Hearings Board (PCHB). To appeal to the PCHB, a written notice of appeal must be filed with the PCHB and a copy served upon the NWCAA within 30 days of the date the applicant receives this Order. Additional information regarding appeal procedures can be found at: [www.eho.wa.gov](http://www.eho.wa.gov) under PCHB.



Daniel A. Mahar, P.E.  
Environmental Engineer



Agata McIntyre, P.E.  
Engineering Manager

Revision a: Incorporate NWCAA Regulation Appendix A for CEMS QA/QC rather than "Guidelines for Industrial Monitoring and Data Handling". Remove biennial filterable and condensable particulate testing.

Revision b: Administrative revision for AOP cleanup.



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Original Issuance: February 4, 2002

Revision a: June 9, 2016

**Northwest Clean Air Agency (NWCAA) hereby issues  
Order of Approval to Construct (OAC) 795a**

**Project Summary:** Construct and operate a new debutanizer distillation tower in the existing Alkylation Unit. The new tower will remove butane from alkylate to improve the production of low vapor pressure alkylate.

**Approved Emission Units:**

- Equipment leaks from new components installed at the Alkylation Unit.
- New or modified oily wastewater drains associated with this project.

Owner/Operator	Facility Name and Location
Phillips 66 Ferndale Refinery P.O. Box 8 Ferndale, WA 98248  Contact: Sandy Paris, Environmental Supervisor	Phillips 66 Ferndale Refinery 3901 Unick Road Ferndale, WA 98248

**Permit History**

- As of the date of issuance, this Order supersedes NWCAA OAC 795 issued February 04, 2002.

Note that in addition to other applicable rules and regulations, the approved emission unit is subject to applicable portions of the following federal regulations:

**New Source Performance Standards (NSPS)**

- 40 CFR 60 Subpart A - General Provisions
- 40 CFR 60 Subpart GGG - Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for which Construction, Reconstruction, or Modification Commenced After January 4, 1983, and on or Before November 7, 2006
- 40 CFR 60 Subpart QQQ - Standards of Performance for VOC Emissions From Petroleum Refinery Wastewater Systems

**National Emission Standards for Hazardous Air Pollutants (NESHAP)**

- 40 CFR 61 Subpart A - General Provisions
- 40 CFR 60 Subpart FF - National Emission Standard for Benzene Waste Operations
- 40 CFR 63 Subpart A - General Provisions

- 40 CFR 63 Subpart CC - National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries

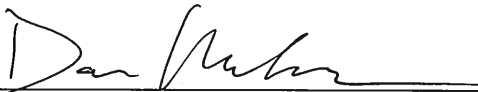
**As authorized by Northwest Clean Air Agency Regulation Section 300, this Order is issued subject to the following restrictions and conditions<sup>1</sup>:**

- (1) All equipment in the Alkylation Unit subject to 40 CFR 60 Subpart GGG or 40 CFR 63 Subpart CC must comply with applicable requirements of 40 CFR 60 Subpart VV with the following revisions.
  - (A) The leak definition for pumps in light liquid service is 2,000 ppm. [Revision to §60.482-2(b)(1)].
  - (B) The leak definition for valves in gas/vapor service and in light liquid service is 1,000 ppm. [Revision to §60.482-7(b)].
  - (C) Calibration gas shall be a mixture of methane or n-hexane and air at a concentration no more than 2,000 ppm greater than the leak definition concentration of the equipment monitored. If the monitoring instrument's design allows for multiple calibration scales, then the lower scale shall be calibrated with a calibration gas that is no higher than 2,000 ppm above the concentration specified as a leak, and the highest scale shall be calibrated with a calibration gas that is approximately equal to 10,000 ppm. If only one scale on an instrument will be used during monitoring, the owner or operator need not calibrate the scales that will not be used during that day's monitoring. [Substitute language in §60.485(b)(1)(ii) with §60.485a(b)(1)(ii)].
  - (D) A calibration drift assessment shall be performed, at a minimum, at the end of each monitoring day. Check the instrument using the same calibration gas(es) that were used to calibrate the instrument before use. Follow the procedures specified in Method 21 of appendix A-7 of this part, Section 10.1, except do not adjust the meter readout to correspond to the calibration gas value. Record the instrument reading for each scale used as specified in §60.486a(e)(8). Calculate the average algebraic difference between the three meter readings and the most recent calibration value. Divide this algebraic difference by the initial calibration value and multiply by 100 to express the calibration drift as a percentage. If any calibration drift assessment shows a negative drift of more than 10 percent from the initial calibration value, then all equipment monitored since the last calibration with instrument readings below the appropriate leak definition and above the leak definition multiplied by (100 minus the percent of negative drift/divided by 100) must be re-monitored. If any calibration drift assessment shows a positive drift of

<sup>1</sup> Nothing in this permit is intended to, or shall, alter or waive any applicable law [including but not limited to defenses, entitlements, challenges or clarifications related to the Credible Evidence Rule, 62 FR 8315 (Feb. 27, 1997)] concerning the use of data for any purpose under the Act, generated by the reference method specified herein or otherwise.

Pursuant to Section 300.10 of the NWCAA Regulation and ch 43.21B RCW, this Order may be appealed to the Pollution Control Hearings Board (PCHB). To appeal to the PCHB, a written notice of appeal must be filed with the PCHB and a copy served upon the NWCAA within 30 days of the date the applicant receives this Order. Additional information regarding appeal procedures can be found: <http://www.eluho.wa.gov/> under PCHB.

more than 10 percent from the initial calibration value, then, at the owner/operator's discretion, all equipment since the last calibration with instrument readings above the appropriate leak definition and below the leak definition multiplied by (100 plus the percent of positive drift/divided by 100) may be re-monitored. [Add language from §60.485a(b)(2)].



Daniel A. Mahar, P.E.  
Environmental Engineer



Agata McIntyre, P.E.  
Engineering Manager

Revision a: Administrative revision for AOP cleanup including realigning LDAR requirements to enhanced 40 CFR 60 Subpart VV.



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Original Issuance: May 31, 2000

Revision a: June 9, 2016

**Northwest Clean Air Agency (NWCAA) hereby issues  
Order of Approval to Construct (OAC) 727a**

**Project Summary:** Construct and operate a new Merox Extraction Unit (Merox Unit) to remove mercaptans from olefin feed streams to the Alkylation Unit. The Merox Unit is designed with two treating trains to remove sulfur from a 9,000 barrels per day (BPD) LPG stream and a 5,700 BPD light gasoline stream.

**Approved Emission Units:**

- Equipment leaks at the Merox Unit

Owner/Operator	Facility Name and Location
Phillips 66 Ferndale Refinery P.O. Box 8 Ferndale, WA 98248  Contact: Sandy Paris, Environmental Supervisor	Phillips 66 Ferndale Refinery 3901 Unick Road Ferndale, WA 98248

**Permit History**

- As of the date of issuance, this Order supersedes NWCAA OAC 727 issued May 31, 2000.

Note that in addition to other applicable rules and regulations, one or more of the approved emission units are subject to applicable portions of the following federal regulations:

**New Source Performance Standards (NSPS)**

- 40 CFR 60 Subpart A - General Provisions
- 40 CFR 60 Subpart GGG - Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for which Construction, Reconstruction, or Modification Commenced After January 4, 1983, and on or Before November 7, 2006

**National Emission Standards for Hazardous Air Pollutants (NESHAP)**

- 40 CFR 63 Subpart A - General Provisions
- 40 CFR 63 Subpart CC - National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries

**As authorized by Northwest Clean Air Agency Regulation Section 300, this Order is issued subject to the following restrictions and conditions<sup>1</sup>:**

- (1) All equipment in the Merox Unit subject to 40 CFR 60 Subpart GGG or 40 CFR 63 Subpart CC must comply with applicable requirements of 40 CFR 60 Subpart VV with the following revisions.
  - (A) The leak definition for pumps in light liquid service is 2,000 ppm. [Revision to §60.482-2(b)(1)].
  - (B) The leak definition for valves in gas/vapor service and in light liquid service is 1,000 ppm. [Revision to §60.482-7(b)].
  - (C) Calibration gas shall be a mixture of methane or n-hexane and air at a concentration no more than 2,000 ppm greater than the leak definition concentration of the equipment monitored. If the monitoring instrument's design allows for multiple calibration scales, then the lower scale shall be calibrated with a calibration gas that is no higher than 2,000 ppm above the concentration specified as a leak, and the highest scale shall be calibrated with a calibration gas that is approximately equal to 10,000 ppm. If only one scale on an instrument will be used during monitoring, the owner or operator need not calibrate the scales that will not be used during that day's monitoring. [Substitute language in §60.485(b)(1)(ii) with §60.485a(b)(1)(ii)].
  - (D) A calibration drift assessment shall be performed, at a minimum, at the end of each monitoring day. Check the instrument using the same calibration gas(es) that were used to calibrate the instrument before use. Follow the procedures specified in Method 21 of appendix A-7 of this part, Section 10.1, except do not adjust the meter readout to correspond to the calibration gas value. Record the instrument reading for each scale used as specified in §60.486a(e)(8). Calculate the average algebraic difference between the three meter readings and the most recent calibration value. Divide this algebraic difference by the initial calibration value and multiply by 100 to express the calibration drift as a percentage. If any calibration drift assessment shows a negative drift of more than 10 percent from the initial calibration value, then all equipment monitored since the last calibration with instrument readings below the appropriate leak definition and above the leak definition multiplied by (100 minus the percent of negative drift/divided by 100) must be re-monitored. If any calibration drift assessment shows a positive drift of more than 10 percent from the initial calibration value, then, at the owner/operator's discretion, all equipment since the last calibration with instrument readings above the appropriate leak definition and below the leak definition

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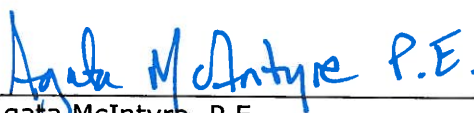
<sup>1</sup> Nothing in this permit is intended to, or shall, alter or waive any applicable law [including but not limited to defenses, entitlements, challenges or clarifications related to the Credible Evidence Rule, 62 FR 8315 (Feb. 27, 1997)] concerning the use of data for any purpose under the Act, generated by the reference method specified herein or otherwise.

Pursuant to Section 300.10 of the NWCAA Regulation and ch 43.21B RCW, this Order may be appealed to the Pollution Control Hearings Board (PCHB). To appeal to the PCHB, a written notice of appeal must be filed with the PCHB and a copy served upon the NWCAA within 30 days of the date the applicant receives this Order. Additional information regarding appeal procedures can be found at: <http://www.eluho.wa.gov/> under PCHB.

multiplied by (100 plus the percent of positive drift/divided by 100) may be re-monitored. [Add language from §60.485a(b)(2)].



Daniel A. Mahar, P.E.  
Environmental Engineer



Agata McIntyre, P.E.  
Engineering Manager

Revision a: Administrative revision for AOP cleanup including realigning LDAR requirements to enhanced 40 CFR 60 Subpart VV.



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Original Issuance: April 9, 1996

Revision a: August 13, 2008

Revision b: June 9, 2016

**Northwest Clean Air Agency (NWCAA) hereby issues  
Order of Approval to Construct (OAC) 578b**

**Project Summary:** Construct and operate a new, gas fired boiler. The new #1 Boiler replaces the old #1 Boiler that was decommissioned in 1995.

**Approved Emission Units:**

- #1 Boiler (22F-1C) with a rated heat input capacity of 162 MMBtu/hour HHV.

Owner/Operator	Facility Name and Location
Phillips 66 Ferndale Refinery P.O. Box 8 Ferndale, WA 98248  Contact: Sandy Paris, Environmental Supervisor	Phillips 66 Ferndale Refinery 3901 Unick Road Ferndale, WA 98248

**Permit History**

- As of the date of issuance, this Order supersedes NWCAA OAC 578a issued August 13, 2008.

Note that in addition to other applicable rules and regulations, one or more of the approved emission units are subject to applicable portions of the following federal regulations:

**New Source Performance Standards (NSPS)**

- 40 CFR 60 Subpart A - General Provisions
- 40 CFR 60 Subpart J - Standards of Performance for Petroleum Refineries
- 40 CFR 60 Subpart Db - Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units

**National Emission Standards for Hazardous Air Pollutants (NESHAP)**

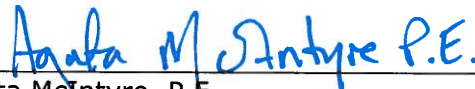
- 40 CFR 63 Subpart A - General Provisions
- 40 CFR 63 Subpart DDDDD - National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters

**As authorized by Northwest Clean Air Agency Regulation Section 300, this Order is issued subject to the following restrictions and conditions<sup>1</sup>:**

- (1) Nitrogen oxide emissions from the #1 Boiler stack shall not exceed 0.040 lb/MMBtu (HHV) on a consecutive 365-day rolling average.
- (2) The boiler shall combust only natural gas or refinery fuel gas.
- (3) Visible emissions from the #1 Boiler stack shall not exceed an average of five percent (5%) opacity in any consecutive six-minute period as determined by 40 CFR 60 Appendix A Method 9.
- (4) Continuous compliance shall be monitored by a Continuous Emission Monitor System (CEMS) for NO<sub>x</sub> and O<sub>2</sub>. The CEMS shall be calibrated, maintained and operated in accordance with NWCAA Regulation Section 367; NWCAA Regulation Appendix A and 40 CFR 60 Appendices B and F.
- (5) Submit the following information to the NWCAA within 30 days of completing the reported calendar month.
  - (A) Maximum monthly NO<sub>x</sub> emission rate in lb/MMBtu (HHV), 365-day rolling average.



Daniel A. Mahar, P.E.  
Environmental Engineer



Agata McIntyre, P.E.  
Engineering Manager

Revision a: Revise NO<sub>x</sub> limit to 0.040 lb/MMBtu, 365-day rolling average, pursuant to the Consent Decree. The remove #2 distillate as a backup fuel.

Revision b: Administrative revision for AOP cleanup.

<sup>1</sup> Nothing in this permit is intended to, or shall, alter or waive any applicable law [including but not limited to defenses, entitlements, challenges or clarifications related to the Credible Evidence Rule, 62 FR 8315 (Feb. 27, 1997)] concerning the use of data for any purpose under the Act, generated by the reference method specified herein or otherwise.

Pursuant to Section 300.10 of the NWCAA Regulation and ch 43.21B RCW, this Order may be appealed to the Pollution Control Hearings Board (PCHB). To appeal to the PCHB, a written notice of appeal must be filed with the PCHB and a copy served upon the NWCAA within 30 days of the date the applicant receives this Order. Additional information regarding appeal procedures can be found at: <http://www.eluho.wa.gov/> under PCHB.



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Original Issuance: February 11, 2016

**Northwest Clean Air Agency (NWCAA) hereby issues  
Order of Approval to Construct (OAC) 1232**

**Project Summary:** Replace the existing crude distillation tower with a new distillation tower. The tower being replaced will be decommissioned prior to startup of the new tower. The project also includes removal of pre-flash 1C-7 vessel, relocation of an existing pump, relocation of an oily water drain and various changes to piping. The project does not change the crude processing capacity at the Crude Distillation Unit.

**Approved Emission Unit:**

- Process equipment components at the Crude Distillation Unit.

Owner/Operator	Facility Name and Location
Phillips 66 Company P.O. Box 8 Ferndale, WA 98248  Contact: Sandy Paris, Environmental Supervisor	Phillips 66 Ferndale Refinery 3901 Unick Road Ferndale, WA 98248

Note that in addition to other applicable rules and regulations, one or more of the approved emission unit is subject to applicable portions of the following federal regulations:

**New Source Performance Standards (NSPS)**

- 40 CFR 60 Subpart A - General Provisions
- 40 CFR 60 Subpart GGGa - Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006

**National Emission Standards for Hazardous Air Pollutants (NESHAP)/Maximum Achievable Control Technology Standards (MACT)**

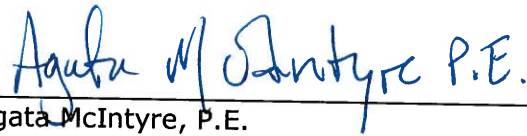
- 40 CFR 63 Subpart A - General Provisions
- 40 CFR 63 Subpart CC - National Emission Standards for Hazardous Air Pollutants From Petroleum Refineries

**As authorized by Northwest Clean Air Agency Regulation Section 300, this Order is issued subject to the following restrictions and conditions<sup>1</sup>:**

- (1) The facility shall provide written notice to the NWCAA of the startup date of the Crude Distillation Unit following completion of the crude distillation tower replacement project. The notice shall include a statement confirming that the replaced crude distillation tower has been decommissioned. The notice shall be postmarked no later than 15 days after startup of the Crude Distillation Unit and shall include a reference to OAC 1232.



Daniel A. Mahar, P.E.  
Environmental Engineer



Agata McIntyre, P.E.  
Engineering Manager

<sup>1</sup> Nothing in this permit is intended to, or shall, alter or waive any applicable law [including but not limited to defenses, entitlements, challenges or clarifications related to the Credible Evidence Rule, 62 FR 8315 (Feb. 27, 1997)] concerning the use of data for any purpose under the Act, generated by the reference method specified herein or otherwise.

Pursuant to Section 300.10 of the NWCAA Regulation and ch 43.21B RCW, this Order may be appealed to the Pollution Control Hearings Board (PCHB). To appeal to the PCHB, a written notice of appeal must be filed with the PCHB and a copy served upon the NWCAA within 30 days of the date the applicant receives this Order. Additional information regarding appeal procedures can be found at: <http://www.eluho.wa.gov/> under PCHB.



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[www.nwcleanair.org](http://www.nwcleanair.org)

Original Issuance: October 23, 2015

**Northwest Clean Air Agency (NWCAA) hereby issues  
Order of Approval to Construct (OAC) 1223**

**Project Summary:** Construct and operate a new Tier III Hydrotreater Unit. The new process unit will remove sulfur from hydrocarbon feedstocks to achieve compliance with U.S. EPA Tier III sulfur standards for gasoline.

**Approved Emission Units:**

- One (1) Tier III Hydrotreater Charger Heater with a heat input capacity of 18.7 MMBtu/hour (HHV) combusting refinery fuel gas (ID# 41F-1)
- Equipment leaks from new components at the Tier III Hydrotreater Unit
- Connection to the existing oily wastewater drain system

Owner/Operator	Facility Name and Location
Phillips 66 Ferndale Refinery P.O. Box 8 Ferndale, WA 98248  Contact: Sandy Paris, Environmental Supervisor	Phillips 66 Ferndale Refinery 3901 Unick Road Ferndale, WA 98248

Note that in addition to other applicable rules and regulations, one or more of the approved emission units are subject to applicable portions of the following federal regulations:

**New Source Performance Standards (NSPS)**

- 40 CFR 60 Subpart A - General Provisions
- 40 CFR 60 Subpart Ja - Standards of Performance for Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007
- 40 CFR 60 Subpart GGGa - Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006 which references portions of Subpart VVa.
- 40 CFR 60 Subpart QQQ - Standards of Performance for VOC Emissions from Petroleum Refinery Wastewater Systems

**National Emission Standards for Hazardous Air Pollutants (NESHAP)**

- 40 CFR 61 Subpart A - General Provisions
- 40 CFR 61 Subpart FF - National Emission Standard for Benzene Waste Operations
- 40 CFR 63 Subpart A - General Provisions

- 40 CFR 63 Subpart CC - National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries
- 40 CFR 63 Subpart DDDDD - National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters

**As authorized by Northwest Clean Air Agency Regulation Section 300, this Order is issued subject to the following restrictions and conditions<sup>1</sup>:**

1. Fuel combusted in the Tier III Hydrotreater Charge Heater is limited to natural gas and refinery fuel gas.
2. Visible emissions from the Tier III Hydrotreater Charge Heater must not exceed five percent (5%) opacity for more than three minutes in any consecutive sixty-minute period as determined by Washington State Department of Ecology Method 9A.
3. The hydrogen sulfide (H<sub>2</sub>S) content of fuel combusted in the Tier III Hydrotreater Charge Heater must not exceed the following.
  - a. 50 ppmvd, 24-hour rolling average.Compliance with this condition shall be demonstrated by continuously monitoring the H<sub>2</sub>S content of the fuel gas combusted in the Tier III Hydrotreater Charge Heater. The monitor shall be installed, and operated in accordance with 40 CFR 60 Subpart A, Subpart Ja, and Appendix F, and with NWCAA Section 367 and Appendix A.
4. Emissions of nitrogen oxides (NO<sub>x</sub>) from the Tier III Hydrotreater Charge Heater must not exceed 0.035 lb/MMBtu. Compliance with this condition shall be determined by an average of three test runs during periodic testing conducted in accordance with Condition 6 of this Order.
5. Emissions of carbon monoxide (CO) from the Tier III Hydrotreater Charge Heater must not exceed 0.030 lb/MMBtu. Compliance with this condition shall be determined by an average of three test runs during periodic testing conducted in accordance with Condition 6 of this Order.
6. An initial performance test must be conducted on the Tier III Hydrotreater Charge Heater within 120 days of initial firing to demonstrate compliance with Conditions 4 and 5 of this Order. Periodic testing must begin no less than 36 months following completion of the previous test. During testing, the Tier III Hydrotreater Charge Heater shall be fired at a rate that is representative of normal operations at the time of testing.

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<sup>1</sup> Nothing in this permit is intended to, or shall, alter or waive any applicable law [including but not limited to defenses, entitlements, challenges or clarifications related to the Credible Evidence Rule, 62 FR 8315 (Feb. 27, 1997)] concerning the use of data for any purpose under the Act, generated by the reference method specified herein or otherwise.

Pursuant to Section 300.10 of the NWCAA Regulation and ch 43.21B RCW, this Order may be appealed to the Pollution Control Hearings Board (PCHB). To appeal to the PCHB, a written notice of appeal must be filed with the PCHB and a copy served upon the NWCAA within 30 days of the date the applicant receives this Order. Additional information regarding appeal procedures can be found at: [www.eho.wa.gov](http://www.eho.wa.gov) under PCHB.

All testing shall be conducted in accordance with 40 CFR 60 Appendix A, Methods 3A and 19, and NWCAA Section 367 and Appendix A. The following test methods shall be used unless an alternative method is approved in writing in advance by the NWCAA.

- a. NOx - 40 CFR 60 Appendix A, Method 7E
  - b. CO - 40 CFR 60 Appendix A, Method 10, 10A or 10B
7. An operating and maintenance (O & M) manual for the Tier III Hydrotreater Charge Heater low NOx burners must be maintained on site. The heater shall be maintained and operated consistent with this plan.
  8. The facility must provide written notification to the NWCAA of the initial startup date of the Tier III Hydrotreater Charge Heater. The notice shall be postmarked no later than 15 days after initial firing of the heater on refinery fuel gas. The notice shall include a reference to OAC 1223.



Daniel A. Mahar, P.E.  
Environmental Engineer



Agata McIntyre, P.E.  
Engineering Manager



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Original issuance: December 18, 2009

Revision a: October 21, 2014

**Northwest Clean Air Agency (NWCAA) hereby issues  
Order of Approval to Construct (OAC) 1047a**

**Project Summary:** Construct and operate an Enhanced Selective Non-Catalytic Reduction (ESNCR) system to control NOx emissions from the Carbon Monoxide Boiler (CO Boiler) on the Fluidized Catalytic Cracker (FCC) unit. The ESNCR system includes injection of vaporized ammonia enhanced with a hydrogen reductant into the combustion chamber of the CO Boiler. The project is designed to meet the requirements of the 2005 ConocoPhillips Company's Consent Decree to reduce nitrogen oxide emissions from the FCC unit.

**Approved Emission Units:**

- ESNCR system on the CO Boiler
- Equipment components in VOC service installed as part of this project

Owner/Operator	Facility Name and Location
Phillips 66 Ferndale Refinery P.O. Box 8 Ferndale, WA 98248 Contact: Sandy Paris, Environmental Supervisor	Phillips 66 Ferndale Refinery 3901 Unick Road Ferndale, WA 98248

**Permit History**

- As of the date of issuance, this Order supersedes NWCAA OAC 1047 issued December 18, 2009.

Note that in addition to other applicable rules and regulations, one or more of the approved emission units are subject to applicable portions of the following federal regulations:

**National Emission Standards for Hazardous Air Pollutants (NESHAP)/Maximum Achievable Control Technology Standards (MACT)**

- 40 CFR 63 Subpart A – General Provisions
- 40 CFR 63 Subpart CC - National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries

**As authorized by Northwest Clean Air Agency Regulation Section 300, this Order is issued subject to the following restrictions and conditions<sup>1</sup>:**


1. A leak detection and repair (LDAR) program that conforms with the requirements of 40 CFR 63 Subpart CC for existing sources shall be performed on the new ESNCR components except for the following replacements or additions:
  - a. 40 CFR 60.482-7a - The leak definition for valves in gas/vapor or light liquid service shall be 500 ppm
  - b. 40 CFR 60.481a - The definition of "repair" includes remonitoring to verify that emissions from the equipment are below the applicable leak definition.
  - c. 40 CFR 60.485a(b)(1)(ii) - Use a calibration gas methane or n-hexane in air at a concentration no more than 2,000 ppm greater than the leak definition concentration of the equipment monitored. If the monitoring instrument's design allows for multiple calibration scales, then the lower scale shall be calibrated with a calibration gas that is no higher than 2,000 ppm above the concentration specified as a leak, and the highest scale shall be calibrated with a calibration gas that is approximately equal to 10,000 ppm. If only one scale on an instrument will be used during monitoring, the owner or operator need not calibrate the scales that will not be used during that day's monitoring.
  - d. 40 CFR 60.485a(b)(2) - A calibration drift assessment shall be performed, at a minimum, at the end of each monitoring day. Check the instrument using the same calibration gas(es) that were used to calibrate the instrument before use. Follow the procedures specified in Method 21 of appendix A-7 of this part, Section 10.1, except do not adjust the meter readout to correspond to the calibration gas value. Record the instrument reading for each scale used as specified in §60.486a(e)(8). Calculate the average algebraic difference between the three meter readings and the most recent calibration value. Divide this algebraic difference by the initial calibration value and multiply by 100 to express the calibration drift as a percentage. If any calibration drift assessment shows a negative drift of more than 10 percent from the initial calibration value, then all equipment monitored since the last calibration with instrument readings below the appropriate leak definition and above the leak definition multiplied by (100 minus the percent of negative drift/divided by 100) must be re-monitored. If any calibration drift assessment shows a positive drift of more than 10 percent from the initial calibration value, then, at the owner/operator's discretion, all equipment since the last calibration with instrument readings above the appropriate leak definition and below the leak definition multiplied by (100 plus the percent of positive drift/divided by 100) may be re-monitored.
2. Emissions of ammonia from the Flue Gas Scrubber stack shall not exceed 10 ( $1.00 \times 10^1$ ) ppmvd corrected to 0% O<sub>2</sub> as a 24-hour average.

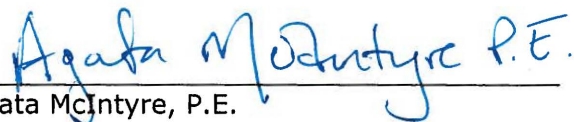
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<sup>1</sup> Nothing in this permit is intended to, or shall, alter or waive any applicable law [including but not limited to defenses, entitlements, challenges or clarifications related to the Credible Evidence Rule, 62 FR 8315 (Feb. 27, 1997)] concerning the use of data for any purpose under the Act, generated by the reference method specified herein or otherwise.

Pursuant to Section 300.10 of the NWCAA Regulation and ch 43.21B RCW, this Order may be appealed to the Pollution Control Hearings Board (PCHB). To appeal to the PCHB, a written notice of appeal must be filed with the PCHB and a copy served upon the NWCAA within 30 days of the date the applicant receives this Order. Additional information regarding appeal procedures can be found at: [www.eho.wa.gov](http://www.eho.wa.gov) under PCHB.

3. Compliance with Condition 2 of this Order shall be determined at least once every thirteen (13) months using Bay Area Air Quality Management District Source Test Procedure #1B (BAAQMD ST-1B), United States Environmental Protection Agency Method 320 (Vapor Phase Organic & Inorganic Emissions by Extractive FTIR), or other alternative method approved by the NWCAA. Results shall be the average of three 60-minute test runs during partial burn operation at the FCC Unit. During any testing, the permittee shall record ammonia feed rate, NOx emissions, fuel consumption, and other operating parameters. Operating parameters shall be included in the written test report.
4. The permittee shall develop and implement an Ammonia Emissions Monitoring Plan to establish a predictive relationship between the FCC Unit and ESNCR operating parameters and emissions of ammonia. The plan shall define QA/QC procedures and corrective actions when parameter monitoring indicates the emission limit in Condition 3 may be exceeded. The acceptability of the plan will be assessed based on the initial and annual source test results and may be amended and improved accordingly.
5. The owner or operator shall maintain and operate the ESNCR system in accordance with good air pollution control practices and in a manner minimizing particulate, ammonia, and nitrogen oxide emissions from the FCC unit.

  
Daniel A. Mahar, P.E.  
Environmental Engineer

  
Agata McIntyre, P.E.  
Engineering Manager

Revision a: Remove requirement to operate ESNCR at all times the FCCU is operating. Remove one-time only requirement that have been completed. Adjust source test frequency to provide flexibility.



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Original Issuance: March 07, 2014

**Northwest Clean Air Agency (NWCAA) hereby issues  
Order of Approval to Construct (OAC) 1174**

**Project Summary:** Construct and operate the Flare Infrastructure Upgrade Project comprised of a new steam-assisted, elevated flare, a new blowdown drum to eliminate liquids from entering the flare, a new water seal system at the base of the flare, and associated piping. The project includes decommissioning the existing ZTOF and ground flare.

**Approved Emission Units:**

- One (1) steam-assisted, elevated flare, 199 foot height
- Equipment leaks from new components installed as part of the project
- An oily wastewater drain installed as part of the project

Owner/Operator	Facility Name and Location
Phillips 66 Ferndale Refinery P.O. Box 8 Ferndale, WA 98248  Contact: Sandy Paris, Environmental Supervisor	Phillips 66 Ferndale Refinery 3901 Unick Road Ferndale, WA 98248

Note that in addition to other applicable rules and regulations, one or more of the approved emission units are subject to applicable portions of the following federal regulations:

**New Source Performance Standards (NSPS)**

- 40 CFR 60 Subpart A - General Provisions
- 40 CFR 60 Subpart Ja - Standards of Performance for Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007
- 40 CFR 60 Subpart QQQ - Standards of Performance for VOC Emissions from Petroleum Refinery Wastewater Systems

**National Emission Standards for Hazardous Air Pollutants (NESHAP)**

- 40 CFR 61 Subpart A - General Provisions
- 40 CFR 61 Subpart FF - National Emission Standard for Benzene Waste Operations
- 40 CFR 63 Subpart A - General Provisions
- 40 CFR 63 Subpart CC - National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries

**As authorized by Northwest Clean Air Agency Regulation Section 300, this Order is issued subject to the following restrictions and conditions<sup>1</sup>:**


- 1 Purge gas and pilot gas used in the elevated flare shall be limited to natural gas.
- 2 Visible emissions from the elevated flare shall not exceed five percent (5%) opacity for more than three minutes in any consecutive sixty-minute period as determined by Washington State Department of Ecology Method 9A.
- 3 Except where operation would be unsafe or endanger one or more flare gas recovery compressors, the Flare Gas Recovery Unit (FGRU) shall be operated during all flaring events.
- 4 No flaring shall occur when the pressure upstream of the elevated flare water seal is less than 60 inches of water column (60" H<sub>2</sub>O).
- 5 The following parameters shall be continuously monitored.
  - (A) The water level in the elevated flare water seal,
  - (B) The pressure in inches of water column upstream of the elevated flare water seal,
  - (C) The volumetric flow rate in actual (acfm) and standard cubic feet per minute (scfm) of gasses routed to the flare,
  - (D) The exit velocity in meters per second (mps) of gasses at the elevated flare tip calculated as a function of volumetric flow consistent with the applicable provisions of 40 CFR 60 Subpart A, §60.18 and 40 CFR 63 Subpart A, §60.11,
- 6 For each flaring event, a contemporaneous record shall be maintained for each monitoring parameter required by Condition 5 of this Order. The record shall be in a time resolution of no less than one value per minute. The record shall clearly state the beginning and end times/dates for each period that flaring occurs.
- 7 The information for determining compliance with the design specifications for flares specified in 40 CFR 60 Subpart A, §60.18(c)(3) and 40 CFR 63 Subpart A, §63.11(b)(6)&(b)(7), shall be submitted to the NWCAA by no later than the startup date of the new elevated flare. This information shall include all calculations and assumptions used to make these compliance determinations. This is a one-time only requirement that does not require submittal of any subsequent revisions to the initial information submitted in accordance with this condition.

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<sup>1</sup> Nothing in this permit is intended to, or shall, alter or waive any applicable law [including but not limited to defenses, entitlements, challenges or clarifications related to the Credible Evidence Rule, 62 FR 8315 (Feb. 27, 1997)] concerning the use of data for any purpose under the Act, generated by the reference method specified herein or otherwise.

Pursuant to Section 300.10 of the NWCAA Regulation and ch 43.21B RCW, this Order may be appealed to the Pollution Control Hearings Board (PCHB). To appeal to the PCHB, a written notice of appeal must be filed with the PCHB and a copy served upon the NWCAA within 30 days of the date the applicant receives this Order. Additional information regarding appeal procedures can be found at: [www.eho.wa.gov](http://www.eho.wa.gov) under PCHB.

- 8 The flare management plan required by 40 CFR 60 Subpart Ja, §60.103a(a) shall be submitted to the NWCAA by no later than the startup date of the new elevated flare.
- 9 All process equipment in VOC service (10% by weight) installed as part of the Flare Infrastructure Upgrade Project shall be in a leak detection and repair program meeting the monitoring, recordkeeping and reporting provisions of 40 CFR 60 Subpart GGa and its referenced requirements of 40 CFR 60 Subpart VVa.
- 10 The ZTOF and ground flare shall be decommissioned upon successful commissioning of the new elevated flare. A written notice of the date of decommissioning of each flare shall be submitted to the NWCAA within 15 days of its decommissioning. The notice shall include a description of the decommissioning method (e.g., blinding, car-seal) and a reference to OAC 1174.
- 11 The facility shall provide the NWCAA with a written notification of the initial pilot light firing date and date of commissioning of the new elevated flare. The notices shall be postmarked no later than 15 days after the initial pilot firing date and date of commissioning of the flare, respectively. The notices shall include a reference to OAC 1174.



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Daniel A. Mahar, P.E.  
Environmental Engineer



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Mark Buford, P.E.  
Assistant Director



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Original Issuance: June 7, 2013

**Northwest Clean Air Agency (NWCAA) hereby issues  
Order of Approval to Construct (OAC) 1152**

**Project Summary:** Construct and operate a facility to transfer crude oil from railcars to existing refinery storage tanks. The facility includes a rail spur and crude oil unloading area capable of accommodating the concurrent unloading of up to 54 railcars, and associated piping, spill containment and wastewater handling systems.

**Approved Emission Unit:**

- Crude Unloading Facility and associated oily wastewater collection and conveyance

Owner/Operator	Facility Name and Location
Phillips 66 Company PO Box 8 Ferndale, WA 98248 Contact: Dan Toperosky, HS&E Manager	Phillips 66 Ferndale Refinery 3901 Unick Road Ferndale, WA 98248

Note that in addition to other applicable rules and regulations, one or more of the approved emission units are subject to applicable portions of the following federal regulations:

**New Source Performance Standards (NSPS)**

- 40 CFR 60 Subpart A - General Provisions
- 40 CFR 60 Subpart QQQ - Standards of Performance for VOC Emissions from Petroleum Refinery Wastewater Systems

**National Emission Standards for Hazardous Air Pollutants (NESHAP)/Maximum Achievable Control Technology Standards (MACT)**

- 40 CFR 61 Subpart A - General Provisions
- 40 CFR 61 Subpart FF - National Emission Standard for Benzene Waste Operations
- 40 CFR 63 Subpart A - General Provisions
- 40 CFR 63 - Subpart CC - National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries

**As authorized by Northwest Clean Air Agency Regulation Section 300, this order is issued subject to the following restrictions and conditions<sup>1</sup>:**

1. The Crude Unloading Facility shall unload only crude oil with a benzene content that is equal to, or less than 3.0% by weight.
2. The following records shall be maintained for each rail shipment received at the Crude Unloading Facility;

- a. Type of material and its origin,
  - b. Benzene content in percent by weight,
  - c. Volume of the shipment in barrels, and
  - d. Time period and dates that the shipment was unloaded.
3. Railcar unloading operations shall be conducted using a combination of vapor balancing and direct vacuum breaker methods that prevent emissions to the atmosphere from vapor balancing lines and stand pipes from exceeding 500 ppm VOC as determined using 40 CFR 60 Appendix A Method 21 (EPA Method 21).
  4. At least once every 12 months, all equipment used for vapor balancing conducted in accordance with Condition 3 of this Order, shall be visually inspected to ensure proper operation. Potential leaks identified during the visual inspection shall be monitored within 24 hours of identification using EPA Method 21. Any leaks found that exceed 500 ppm VOC shall be repaired, or the associated equipment removed from service, prior to unloading the next shipment.
  5. Maintain a record of the results of each visual inspection, results of instrument monitoring, information on leaking components that are repaired, and information on equipment that taken out of service in accordance with Condition 4 of this Order.
  6. All vents from the oily wastewater system associated with the Crude Unloading Facility shall be connected to a closed-vent system and control device designed and operated in accordance with §61.349 of 40 CFR 61 Subpart FF.
  7. All equipment, as the term is defined in 40 CFR 60.591, located at the Crude Unloading Facility shall be in a leak detection and repair program meeting the monitoring, recordkeeping and reporting provisions of 40 CFR 60 Subpart GGGa and its referenced requirements under 40 CFR 60 Subpart VVa.
  8. Phillis 66 shall provide the NWCAA with a written notification of the date of initial crude unloading at the Crude Unloading Facility. This notice shall be postmarked no later than 15 days after the start of unloading operations and shall include a reference to OAC 1152.



Daniel A. Mahar, P.E.  
Environmental Engineer



Mark Asmundson  
Director

<sup>1</sup> Nothing in this permit is intended to, or shall, alter or waive any applicable law [including but not limited to defenses, entitlements, challenges or clarifications related to the Credible Evidence Rule, 62. Fed. Reg. 8315 (Feb. 27, 1997)] concerning the use of data for any purpose under the Act, generated by the reference method specified herein or otherwise.

Pursuant to Section 300.10 of the NWCAA Regulation and RCW 43.21B, this Order may be appealed to the Pollution Control Hearings Board (PCHB). To appeal to the PCHB, a written notice of appeal must be filed with the PCHB and a copy served upon the NWCAA within 30 days of the date the applicant receives this Order. Additional information regarding appeal procedures can be found at: [www.eho.wa.gov](http://www.eho.wa.gov) under PCHB.



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Original issuance: February 16, 2012

**Northwest Clean Air Agency (NWCAA) hereby issues  
Order of Approval to Construct (OAC) #1111**

**Project Summary:** Construct and operate an ethanol truck unloading facility with new equipment consisting of a 270,000-gallon ethanol storage tank, secondary containment, piping and associated valves and components, truck unloading hoses, a truck unloading pump, a transfer pump, new drive area and a truck unloading pad. The project is designed to meet the refinery's requirement to blend ethanol in their gasoline products.

**Approved Emission Units:**

- New and existing equipment components associated with the new ethanol truck unloading facility in the Offplot Control Area.
- New 270,000-gallon ethanol storage tank with internal floating roof and primary and secondary seals.

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Mr. Ryan K. Biggs  
HSE Manager  
ConocoPhillips Company  
PO Box 8  
Ferndale, WA 98248

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ConocoPhillips  
PO Box 2197  
Houston, TX 77252-2197

**FACILITY LOCATION:**

ConocoPhillips Company – Ferndale Refinery – 3901 Unick Road, Ferndale, Washington

In addition to other applicable rules and regulations, this project is subject to the following federal regulations:

**New Source Performance Standards**

- 40 CFR 60 Subpart A – General Provisions
- 40 CFR 60 Subpart GGGa – Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006.
- 40 CFR Subpart Kb – Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984
- 40 CFR Subpart QQQ – Standards of Performance for VOC Emissions from Petroleum Refinery Wastewater Systems


**National Emission Standards for Hazardous Air Pollutants/Maximum Achievable Control Technology Standards**


February 16, 2012

- 40 CFR 63 Subpart A – General Provisions
- 40 CFR 63 Subpart CC – National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries. New equipment components with fugitive emissions are not subject to this subpart. The ethanol storage tank is subject to Subpart CC Group 2 requirements.

**As authorized by the Northwest Clean Air Agency Regulation Section 300, this order is issued subject to the following restrictions and conditions<sup>1</sup>:**

1. The ethanol storage tank shall be equipped with an internal floating roof with both a primary and secondary seal. Records documenting the roof type, seals, and monitoring shall be maintained while the storage tank is in ethanol service.
2. A written notice of completion of the Ethanol Blending Project shall be submitted to the NWCAA and postmarked within 15 days after completion of the project.

  
Anne Naismith, PE  
Senior Engineer

  
Mark Buford, P.E.  
Assistant Director

<sup>1</sup> Nothing in this permit is intended to, or shall, alter or waive any applicable law [including but not limited to defenses, entitlements, challenges or clarifications related to the Credible Evidence Rule , 62. Fed. Reg. 8315 (Feb. 27, 1997)] concerning the use of data for any purpose under the Act, generated by the reference method specified herein or otherwise.



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Original issuance: October 16, 2008

**Northwest Clean Air Agency (NWCAA) hereby issues  
Order of Approval to Construct (OAC) #1029**

**Project Summary:** Construct and operate a Flare Gas Recovery (FGR) system including three sliding vane compressors, air-cooled discharge and intercooler exchangers, an amine contactor, and associated piping and connection equipment. The project is designed to meet the requirements of the 2005 ConocoPhillips Company's Consent Decree to reduce fuel gas flaring and will be installed in two phases. Under the Consent Decree, the project is required to be completed by the end of 2011.

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Mr. Ryan K. Biggs  
HSE Manager  
ConocoPhillips Company  
PO Box 8  
Ferndale, WA 98248

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ConocoPhillips  
PO Box 2197  
Houston, TX 77252-2197

**FACILITY LOCATION:**

ConocoPhillips Company – Ferndale Refinery – 3901 Unick Road, Ferndale, Washington

**Best Available Control Technology (BACT)**

- BACT for Volatile Organic Compounds (VOCs) and Toxic Best Available Control Technology for Toxic Air Pollutants (TAPs) from equipment leaks has been determined to be an ongoing leak detection and repair (LDAR) program as specified in Subpart GGGa and as further defined in this Order.

In addition to other applicable rules and regulations, this project is subject to the following federal regulations:

**New Source Performance Standards**

- 40 CFR 60 Subpart A – General Provisions
- 40 CFR 60 Subpart GGGa – Standards of Performance for Equipment Leaks of Volatile Organic Compounds in Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006

**As authorized by the Northwest Clean Air Agency Regulation Section 300, this order is issued subject to the following restrictions and conditions:**

1. Flare gas produced at the facility shall be routed to and recovered by the flare gas recovery unit during continuous and/or routine releases. Process upset gases and fuel gas that is released to

October 16, 2008

the flare as a result of relief valve leakage or other emergency malfunction are exempt from this requirement.

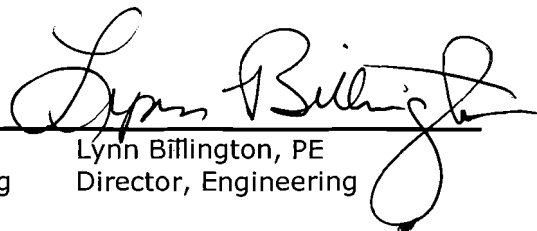
2. Compliance with Condition 1 shall be demonstrated by continuously monitoring the position of the control valve used to route the flare gas to the FGR system versus the existing flare system. The control valve position shall be alarmed to indicate FGR system bypass to the flare.
3. A record shall be kept of each occurrence when flare gas is not recovered in accordance with Condition 1. Records shall include the time, date, duration and description of each event and an estimate of the resulting sulfur dioxide emissions that would otherwise have been recovered.
4. Fugitive leak equipment (including compressors) associated with the FGR system area in VOC service shall be in compliance with 40 CFR Part 60 Subpart GGGa. Other new fugitive leak components shall be included in the leak detection and repair programs applicable to the process areas in which they are located.
5. For fugitive leak equipment associated with the FGR system area in VOC service, a semiannual report shall be submitted to the NWCAA as per the requirements of Subpart GGGa, which references 40 CFR 60.687a. Following the initial report (due six months after initial unit startup), the facility may submit reports on a semiannual schedule approved by the NWCAA.
6. The NWCAA shall be notified in writing of the completion of installation of the first phase of the project and of the second phase. This notification shall be postmarked no later than 15 days after the compressor trains' startup dates.



Annie Naismith, PE  
Permitting Engineer



Mark Buford, PE  
Assistant Director, Engineering



Lynn Billington, PE  
Director, Engineering



1600 South Second Street  
Mount Vernon, WA 98273-5202

Original Issuance: March 3, 2005

Revisions: None

**Northwest Clean Air Agency (NWCAA) hereby issues  
Order of Approval to Construct (OAC) #886**

**Project Summary:** The ConocoPhillips Company will install two new reactors on the diesel hydrotreater (DHT) to improve catalyst run life. The DHT produces ultra low sulfur diesel (ULSD) fuel that complies with the U.S. EPA's diesel sulfur specification of 15 ppm sulfur in diesel, which will be effective in 2006. The DHT Revamp Project does not hydraulically debottleneck the DHT unit above the 32,000 barrel per day nominal capacity.

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Gary A. Solari  
ConocoPhillips Company  
3901 Unick Road  
Ferndale, WA 98248

NWAPA ID# 004-V-W

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ConocoPhillips Company  
600 N. Dairy Ashford Rd.  
Houston, Texas 77079

**FACILITY LOCATION:**

3901 Unick Road, Ferndale, Washington

Note that in addition to other applicable rules and regulations, this project is subject to applicable portions of the following federal regulation:

**New Source Performance Standards**

- 40 CFR 60 Subpart A – General Provisions

**Permit History:** The original construction order for the DHT unit (OAC #343) was issued on October 3, 1991. Requirements pertaining to the heater for the DHT unit, Heater 33F-1, were established in OAC #552 issued on June 5, 1995. The requirements for the DHT Heater in both OAC #343 and OAC #552 were rescinded and superseded by OAC #780 issued July 26, 2001. This OAC (OAC #886) incorporates the remaining DHT unit requirement in OAC #343 and hereby rescinds and supersedes that permit on the date the subject modification is completed.

**As authorized by Northwest Clean Air Agency Regulation Section 300, this order is issued subject to the following restrictions and conditions:**

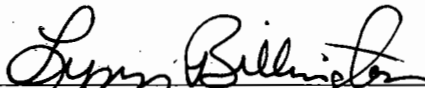
1. The DHT Unit shall be subject to federal New Source Performance Standards 40 CFR 60.590-593 Subpart GGG Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries.

ConocoPhillips Company  
OAC #886  
March 3, 2005

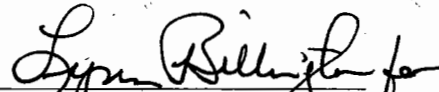
2. The relocated individual drain systems and aggregate facilities at the DHT unit shall be designed and maintained in compliance with the requirements of 40 CFR Subpart QQQ.
3. ConocoPhillips shall notify the NWCAA in writing within 30 days of initial startup.



Annie Naismith, PE  
Permitting Engineer



Lynn Billington, PE  
Reviewing Engineer



James Randles  
Director



# NORTHWEST

AIR POLLUTION AUTHORITY

1600 South Second Street  
Mount Vernon, WA 98273-5202  
Tel: (360) 428-1617 / Fax: (360) 428-1620

*Serving Island, Skagit and Whatcom Counties*

August 30, 1996

Revision a: October 2, 2002

Gary Goodman  
ConocoPhillips Ferndale Refinery  
P.O. Box 8  
Ferndale, WA 98248

## ORDER OF APPROVAL TO CONSTRUCT NO. 564a

Dear Mr. Goodman:

Tosco Refining Company submitted a "Notice of Construction and Application for Approval" on August 9, 1996 to construct a Butane Isomerization Unit for conversion of normal butane to the more valuable isobutane isomer at the alkylation unit area of the Tosco Refining Company Ferndale Refinery. The project, scheduled for completion in the first quarter of 1997, will include one reactor, heat exchangers, an organic chloride injection system, a perchloroethylene storage tank, pumps, feed dryers, process sewer connections, a caustic scrubber and associated valves and flanges. This project increases fugitive air pollutant emissions of butane, a volatile organic compound and toxic air pollutant. The project also causes emission of a new toxic air pollutant, perchloroethylene, from the alkylation unit area.

Subsequent to issuance of the original Order of Approval to Construct the NWAPA reopened the approval order to remove obsolete and extraneous approval conditions. The changes made are listed at the end of this approval order.

The information was reviewed to determine that all known, available, and reasonable air pollution control measures would be employed. The project was reviewed subject to NWAPA regulation Sections 302, 560, and 580, WAC 173-400-100, WAC 173-400-110, WAC 173-460, and Title 40 CFR 60 Subparts GGG, and QQQ. A Determination of Non-significance was issued by the Northwest Air Pollution Authority on September 25, 1995.

Equipment in Volatile Organic Compound service such as pumps, valves, and flanges installed as part of this project will be subject to Title 40 CFR 60 Subpart GGG. Equipment in VOC service at the Butamer is also subject to NWAPA Regulation section 580.8. Any new sewers that will receive VOC from the Butamer will be subject to Title 40 CFR 60 Subpart QQQ. These federal rules provide a level of control that is equivalent to the best available control technology requirements of state and local air pollution regulations. In light of these overlapping requirements this approval order is being issued with conditions for equipment and sewers that are in VOC service. The exception to this is equipment in perchloroethylene service, which is not subject to Subpart GGG. Approval conditions are established for equipment in perchloroethylene service.

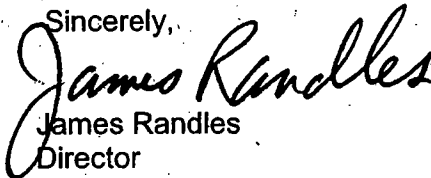
Gary Goodman  
ConocoPhillips Ferndale Refinery  
10/02/02  
NOC # 564a  
Page 2 of 2

You are hereby authorized to construct and operate the aforementioned equipment subject to the following condition:

- 1 Equipment in perchloroethylene service shall be subject to the equipment leak standards, monitoring, recordkeeping and reporting requirements in 40 CFR Part 63 Subpart CC National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries. Note: the Butane Isomerization Unit is not a tacitly affected process unit with respect to Subpart CC because the equipment is not in "organic hazardous air pollutant service" as defined by this subpart.

Please call Lester Keel if you have any questions about the approval of this project.

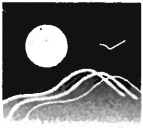
Sincerely,

  
James Randles  
Director

Reviewed by: Annie Naismith, P.E. *A. N.*

Revision a: October 2, 2002

- 1) Added text indicating equivalency between applicable federal standards and the conditions of the approval order. Deleted the overlapping conditions from the approval order.
- 2) Deleted out of date text pertaining to fees and procedures.



# NORTHWEST

AIR POLLUTION AUTHORITY

1600 South Second Street  
Mount Vernon, WA 98273-5202  
Tel: (360) 428-1617 / Fax: (360) 428-1620

*Serving Island, Skagit and Whatcom Counties*

August 21, 1991

Revision a: October 2, 2002

Gary Goodman  
ConocoPhillips Ferndale Refinery  
P.O. Box 8  
Ferndale, WA 98248

## Order of Approval to Construct #314a

Dear Mr. Goodman:


On April 21, 1991 BP Oil Refinery in Ferndale, WA submitted a Notice of Construction and Application for Approval to construct three 90,000 barrel storage tanks and retrofit five existing tanks. These projects are part of an effort to comply with the National Emission Standards for Hazardous Air Pollutants for Benzene Waste Operations (40 CFR 61 Subpart FF). Subsequent to issuance of the original Order of Approval to Construct the Northwest Air Pollution Authority (NWAPA) reopened the approval order to remove obsolete and extraneous approval conditions. The changes made are listed at the end of this approval order.

The information submitted was reviewed to determine that all known available and reasonable air pollution control measures would be employed. The project was reviewed subject to NWAPA Regulation Section 302, Washington Administrative Code 173-403-105, and 40 CFR 61 Subpart FF. A Determination of Non-significance was issued by the NWAPA on April 18, 1991. You are hereby granted approval to construct tanks 900x1, 900x2, and 900x3 and modify tanks 300x40, 100x92, 100x95, and 100x98 subject to the following conditions.

1. Tanks 100x92 and 100x95 shall be retrofitted with rim mounted continuous secondary seals on existing external floating roofs conforming to the design requirements of 40 CFR 60 Subpart Kb (60.112b (a)(2)).
2. Tanks 300x40 and 100x98 shall be retrofitted with the design requirements of internal floating roofs conforming 40 CFR 60 Subpart Kb (60.112b (a)(1)).
3. Tanks 300x40, 100x98, 100x92 and 100x95 shall be subject to testing and procedures requirements 40 CFR 60 subpart Kb (60.113b) reporting and recordkeeping requirements (60.115b) and monitoring (60.116b).

It is noted that tanks 900x1, 900x2, and 900x3 are subject to 40 CFR 61 Subpart FF (Benzene Waste Standards) and 40 CFR 60 Subpart Kb (Volatile Organic Liquid Storage Vessels). Compliance with these federal rules establishes emission control that

is equivalent to the best available control technology requirements of state and local new source review regulations.

Sincerely,  
  
James Randles  
Director

Reviewed by: Annie Naismith P.E. 

Revision a: October 2, 2002

- 1) Removed approval conditions for tanks 900x1, 900x2, and 900x3 and, for these tanks, added text indicating equivalency between the deleted approval condition and compliance with 40 CFR 61 Subpart FF.
- 2) Deleted references to tank 13x100 which is out of service and was not retrofitted as planned.
- 3) Deleted out of date text pertaining to procedures and fees.