



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

*PO Box 47600 • Olympia, WA 98504-7600 • 360-407-6000
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Nathaniel Biletchnikoff
Shell Oil Co.
Shell Puget Sound Refinery
8505 S Texas Rd
Anacortes, WA 98221-9643

RE: Order Docket No. 15501
Clean Air Rule Baseline Establishment Order

Dear Nathaniel Biletchnikoff:

Attached is the Clean Air Rule Baseline Establishment Order for Shell Puget Sound Refinery. You are receiving this order because the reported covered emissions of greenhouse gas (GHG) from your operations covered by the Clean Air Rule during the reporting years 2012-2016 were greater than 100,000 metric tons of carbon dioxide equivalent (CO₂e) per year.

This order includes your emissions reduction requirements and other compliance, recordkeeping, and reporting requirements that you must follow.

You have the right to appeal this order. The requirements to file an appeal are contained in Condition 20 of the order.

If you have any questions about this order, please contact me by phone at (360) 407-7624 or email at ben.blank@ecy.wa.gov. You may also contact Chris Conn by phone at (360) 407-6519 or email at chris.conn@ecy.wa.gov.

Sincerely,

Ben Blank
Climate Policy Section Manager
Air Quality Program
State of Washington Department of Ecology

CC: Northwest Clean Air Agency



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CLEAN AIR RULE BASELINE ESTABLISHMENT ORDER

Issued To:

Shell Oil Co.
Shell Puget Sound Refinery
8505 S Texas Rd
Anacortes, WA 98221-9643

Date Order Issued:
December 18, 2017

Regulatory Order Number:
15501

Date(s) Order Revised:
N/A

This Clean Air Rule Baseline Establishment Order is issued under the authority of the:

- Washington State Clean Air Act, Chapter 70.94 Revised Code of Washington.
- Washington State Department of Ecology regulations for the Reporting of Emissions of Greenhouse Gases as set forth in Chapter 173-441, Washington Administrative Code
- Washington State Department of Ecology regulations for the Clean Air Rule as set forth in Chapter 173-442, Washington Administrative Code.

REVIEWED BY:

/s/ Christopher Conn
Christopher Conn, P.E.
Industrial Engineering Specialist
chris.conn@ecy.wa.gov, (360) 407-6519

Date: December 18, 2017

APPROVED BY:

/s/ Ben Blank
Ben Blank
Climate Policy Section Manager
ben.blank@ecy.wa.gov, (360) 407-7624

Date: December 18, 2017

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Findings

- A. Shell Oil Co. operates Shell Puget Sound Refinery, a petroleum refinery in the state of Washington and is a covered party as defined in Washington Administrative Code (WAC) 173-442-020.
- B. The covered party is subject to the greenhouse gas (GHG) emissions reporting requirements of WAC Chapter 173-441.
- C. During the period of 2012-2016 Shell Puget Sound Refinery had reported annual GHG emissions that averaged above 100,000 metric tons of carbon dioxide equivalent (CO₂e). The covered party is therefore subject to the requirements of WAC Chapter 173-442.
- D. The covered party does not meet the criteria in WAC 173-442-020 to be defined as an energy intensive and trade exposed (EITE) covered party.

Baseline Emissions

1. Ecology has determined the baseline emissions for Shell Puget Sound Refinery are 1,968,375 metric tons CO₂e/year. The calculations of the baseline emissions are described in the support documentation for this order.

Emission Reduction Requirement

2. The emission reduction requirement is defined as a covered party's GHG emissions limit for a compliance period as defined in WAC 173-442-020.
3. The GHG emissions from Shell Puget Sound Refinery must be limited to the baseline emissions in the first year of the first compliance period.
4. The GHG emissions from Shell Puget Sound Refinery must be limited to a reduction from the baseline emissions of an average reduction rate of 1.7% per year starting in the second year of the first compliance period.
5. The reduction rate for Shell Puget Sound Refinery, starting in the second year of the first compliance period is 33,462 MT CO₂e/year.
6. At the end of each compliance period, covered GHG emissions from the Shell Puget Sound Refinery facility must be below the limits listed in Table 1.

Table 1: Emission Reduction Requirement

Compliance Period (Calendar Years)	Three Year Total Emissions Limit (MT CO ₂ e)
2017-2019	5,804,739
2020-2022	5,503,577
2023-2025	5,202,416
2026-2028	4,901,255
2029-2031	4,600,093
2032-2034	4,298,932
2035 and every three years thereafter	4,098,157

Demonstrating Compliance

7. The compliance obligations are calculated per the methods defined in WAC 173-442-200.
8. Covered parties must demonstrate compliance by submitting:
 - a. Actual emission reductions as exhibited in annual GHG reporting data as defined in WAC chapter 173-441 by required date as defined in WAC 173-441-050;
 - b. Banked Emission Reduction Units (ERUs) as defined in WAC 173-442-120 by required date as defined in WAC 173-442-250; or
 - c. A combination of (a) and (b) of this subsection that achieves a level meeting the compliance obligation.
9. Covered parties must document compliance consistent with the requirements in WAC 173-442-210.

Recordkeeping

10. Covered parties must monitor emissions and other parameters as required in WAC 173-441-050 and in methodologies adopted by reference in WAC 173-441-120.
11. Emissions data, evidence of emissions reductions, and ERU records must be retained per the requirements in WAC 173-441 and WAC 173-442.
12. Monitoring and recordkeeping data required to complete the emission reports and compliance reports required by WAC 173-441 and WAC 173-442 must be available for inspection by ecology inspectors and authorized third party verifiers consistent with the requirements in WAC 173-441-050.

Third-Party Verification

13. Annual emissions reports are subject to the third-party verification processes in WAC 173-441-085.
14. Compliance reports are subject to third-party verification requirements of WAC 173-442-220.
15. Projects used to generate ERUs must meet the requirements contained within WAC 173-442-160. Projects must meet the third-party verification requirements in WAC 173-442-220.

General Conditions

16. Right of Entry

Chapter 70.94, Revised Code of Washington, and WAC 173-400-105(3) provide authorized representatives of Ecology certain rights to enter and inspect the source. Refusal by the covered party to allow such entry and inspection may be a violation of state law subject to penalty as provided in the statute. Pursuant to this statute, authorized representatives of Ecology, upon the presentation of credentials:

- A. Have a right of entry to, upon, or through any premises of the covered party or any premises in which any records required by the covered party to maintain are located.

B. Have the right, during normal business hours, to access and copy any records the covered party is required to maintain.

C. Have the right, at reasonable times, to inspect any monitoring equipment or method required by the covered party to determine emissions and compliance.

D. Have the right, at reasonable times, to sample any emissions that the covered party is required to sample to determine greenhouse gasses emitted by the covered party.

17. Revisions to this Order

This order may be revised on request of the covered party. The request must be in writing and provide a full explanation of what revision is requested, any and all necessary calculations to support the request, the provision of WAC 173-442 or WAC 173-441 that allows for the change, and the covered party's interpretation of the effects of the change on the covered party's baseline emissions and emission reduction requirement.

This order may be revised by Ecology based on findings in verification reports, changes to emissions calculation methodologies, correction of errors, or assigned emissions levels per WAC 173-441-086.

If Ecology agrees with the covered party or determines that a revision is required, Ecology will issue a revised Order.

18. Transfer of Ownership

A. In the event of any changes in control or ownership of the covered party or facility, the requirements of this Order will be binding on all subsequent owners and operators. The covered party must notify the succeeding owner and operator of the existence of this Order and its conditions by letter. A copy of the letter must be forwarded to Ecology at the same time it is sent to the succeeding owner or operator.

B. If this order has been incorporated into an Air Operating Permit issued pursuant to chapter WAC 173-401, the provisions for amending that Air Operating Permit to change ownership or operational control shall apply in place of the notification provisions above.

C. The new owner of the covered party or facility must update its certificate of representation required by WAC 173-441 to reflect the new ownership of the covered party or facility and establish new designated representatives in conjunction with the new ownership.

19. Correspondence

A. Mailing Address:

Order No. 15501

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Clean Air Rule, Air Quality Program
Department of Ecology
P.O. Box 47600
Olympia, WA 98504-7600

B. Electronic Correspondence and E-Mail:
car@ecy.wa.gov

Right to Appeal this Order

20. You have the right to appeal this Order to the Pollution Control Hearings Board (PCHB) within 30 days of the date of receipt of this Order. The appeal process is governed by Chapter 43.21B RCW and Chapter 371-08 WAC. "Date of receipt" is defined in RCW 43.21B.001(2).

To appeal you must do all of the following within 30 days of the date of receipt of this Order:

- File your appeal and a copy of this Order with the PCHB (see addresses below). Filing means actual receipt by the PCHB during regular business hours.
- Serve a copy of your appeal and this Order on Ecology in paper form - by mail or in person. (See addresses below.) E-mail is not accepted.

You must also comply with other applicable requirements in Chapter 43.21B RCW and Chapter 371-08 WAC.

ADDRESS AND LOCATION INFORMATION

Street Addresses:

Department of Ecology
Attn: Appeals Processing Desk
300 Desmond Drive SE
Lacey, WA 98503

Pollution Control Hearing Board
111 Israel RD SW
STE 301
Tumwater, WA 98501

Mailing Addresses:

Department of Ecology
Attn: Appeals Processing Desk
PO Box 47608
Olympia, WA 98504-7608

Pollution Control Hearing Board
PO Box 40903
Olympia, WA 98504-090

Baseline Establishment Order Support Document

The purpose of this document is to explain how the baseline emission and reduction requirements have been established for Shell Puget Sound Refinery.

Facility Information

Shell Puget Sound Refinery is a petroleum refinery located in Anacortes, WA
 Primary North American Industry Classification System (NAICS) Code: 324110

Determination of Greenhouse Gas (GHG) Baseline Emissions

The baseline emissions for this facility were collected through GHG emissions data reported to Ecology as required by Washington Administrative Code (WAC) Chapter 173-441 for the reporting years 2012-2016. Emissions data is reported in metric tons of carbon dioxide equivalent (MT CO_{2e}).

The following table lists the covered greenhouse gas emissions reported to Ecology for the Shell Puget Sound Refinery facility for calendar years 2012-2016.

Table 1: Baseline Emissions

Year	Covered GHG Emissions, MT CO _{2e}	Adjusted by Ecology (Y/N)	Used to calculate Baseline (Y/N)
2012	2,105,542	No	Yes
2013	2,003,779	No	Yes
2014	1,805,933	No	Yes
2015	1,946,151	No	Yes
2016	1,980,471	No	Yes
Baseline	1,968,375		

Ecology adjusted or did not use the indicated year(s) to determine the baseline emissions for this facility:

No emissions years were excluded from the baseline calculation.

The baseline emissions are defined as the average reported GHG emissions from the baseline period that have not been excluded per WAC 173-442-040. Ecology has determined the baseline CO_{2e} emissions for Shell Puget Sound Refinery to be 1,968,375 MT CO_{2e}.

Because baseline emissions are greater than 70,000 MT CO_{2e}, the facility is subject to the provisions of WAC Chapter 173-442 (Clean Air Rule).

Emissions Limits and Emissions Reduction Pathway

The emissions reduction pathway is based on the requirements in WAC 173-442-060. Table 2 shows the annual emissions reductions pathway for Shell Puget Sound Refinery and Table 3 shows the three year total emissions allowed in each compliance period. The emissions limits for Shell Puget Sound Refinery decrease at an annual rate of 1.7% per year beginning in the second year of the first compliance period as shown in Table 2.

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Table 2: Emission Reduction Pathway

Calendar Year	Calculated Annual Emissions Limit (MT CO ₂ e)
2017	1,968,375
2018	1,934,913
2019	1,901,451
2020	1,867,988
2021	1,834,526
2022	1,801,063
2023	1,767,601
2024	1,734,139
2025	1,700,676
2026	1,667,214
2027	1,633,752
2028	1,600,289
2029	1,566,827
2030	1,533,364
2031	1,499,902
2032	1,466,440
2033	1,432,977
2034	1,399,515
2035 (and all subsequent years)	1,366,052

Compliance periods are three year periods at the end of which the covered party must demonstrate that it met its GHG emissions reduction requirement. The emissions reduction requirement is the total emissions allowed over a three year compliance period. The emissions limit is the sum of the calculated annual emissions limits over a compliance period. Shell Puget Sound Refinery’s compliance period maximum allowable emissions are shown in Table 3. Compliance may be demonstrated by actual emissions reductions or by retiring emission reduction units (ERUs).

Table 3: Emission Reduction Requirement

Compliance Period (Calendar Years)	Three Year Total Emissions Limit (MT CO ₂ e)
2017-2019	5,804,739
2020-2022	5,503,577
2023-2025	5,202,416
2026-2028	4,901,255
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