

**Chapter 173-485 WAC**  
**PETROLEUM REFINERY GREENHOUSE GAS EMISSION REQUIREMENTS**

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**WAC**

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**WAC 173-485-010 Policy and purpose.** The purpose of this rule is to determine reasonably available control technology for emissions of greenhouse gases emitted by petroleum refineries located in Washington state. The emission standards in this rule were developed under the requirements of RCW 70.94.154.

[Statutory Authority: Chapter 70.94 RCW. WSR 14-12-038 (Order 13-03), § 173-485-010, filed 5/28/14, effective 6/28/14.]

**WAC 173-485-020 Applicability.** (1) This chapter applies to all petroleum refineries in Washington state identified in WAC 173-485-030.

(2) All references to federal regulations in this regulation are to the version in effect on July 1, 2013.

[Statutory Authority: Chapter 70.94 RCW. WSR 14-12-038 (Order 13-03), § 173-485-020, filed 5/28/14, effective 6/28/14.]

**WAC 173-485-030 Definitions.** Definitions in chapter 173-400 WAC apply to this chapter. Definitions specific to this chapter include:

**"Baseline greenhouse gas emissions"** means greenhouse gas emissions, reported to the United States Environmental Protection Agency (EPA) to comply with 40 C.F.R. Part 98. The baseline greenhouse gas emissions are for calendar year 2010 or calendar year 2011 as determined by the refinery. The selected year must not include more than thirty days of outage in the refinery's crude unit. Emissions attributable to the production of electricity from on-site cogeneration equipment are not included in the baseline emissions. Emissions attributable to the production of steam by the cogeneration equipment are included in the baseline emissions.

**"Carbon dioxide equivalent"** or **"CO<sub>2</sub>e"** means the number of metric tons of carbon dioxide emissions with the same global warming potential as one metric ton of another greenhouse gas. CO<sub>2</sub>e is calculated using Equation A-1 of 40 C.F.R. Part 98.2 and the global warming potential values contained in Table A-1 of 40 C.F.R. Part 98, Subpart A.

**"Credit"** means the reduction of CO<sub>2</sub>e emitted resulting from one or more projects performed at a petroleum refinery during or prior to a reporting year. A credit is established according to WAC 173-485-060.

**"Energy efficiency standard"** means the EII® value representing the fiftieth percentile EII® of similar sized United States refineries, using the EPA EnergyStar® calculation methodology, which is based

on the United States refineries participating in the EII® process in 2006.

**"Energy Intensity Index®"** or **"EII®"** means the Solomon Associates proprietary petroleum refinery energy efficiency metric that compares actual energy consumption for a petroleum refinery with the standard energy consumption for a petroleum refinery of similar size. The standard energy consumption is based on an analysis of refining capacity as contained in the database maintained by Solomon Associates. The ratio of a facility's actual energy consumption to the standard energy consumption is multiplied by one hundred to arrive at the EII® for a refinery.

**"Greenhouse gases (GHGs)"** include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

**"Petroleum refinery"** or **"petroleum refineries"** means the following facilities, regardless of future changes in ownership or name:

- (a) BP Cherry Point Refinery in Blaine, WA;
- (b) Phillips 66 Company Refinery in Ferndale, WA;
- (c) Shell Oil Company Refinery in Anacortes, WA;
- (d) Tesoro Refining & Marketing Company, LLC Anacortes Refinery in Anacortes, WA; and
- (e) U.S. Oil & Refining Co. Tacoma Refinery in Tacoma, WA.

**"RACT"** means reasonably available control technology.

**"Similar sized United States refineries"** means refineries determined to be of similar size using the petroleum refinery capacity categories established for EPA's EnergyStar® program.

[Statutory Authority: Chapter 70.94 RCW. WSR 14-12-038 (Order 13-03), § 173-485-030, filed 5/28/14, effective 6/28/14.]

**WAC 173-485-040 Greenhouse gas reasonably available control technology emission standard.** (1) **Energy efficiency standard.** The owner/operator of each petroleum refinery subject to this rule shall meet the requirement to use reasonably available control technology (RACT) for greenhouse gas emissions by demonstrating the petroleum refinery has a calculated EII® equal to or more efficient than the EII® value representing the fiftieth percentile EII® of similar sized United States refineries, based on 2006 data and the EPA EnergyStar® calculation methodology. The petroleum refinery must demonstrate compliance with WAC 173-485-050 in the annual report required in WAC 173-485-090 using any EII® report issued between 2006 and the first annual report. If a petroleum refinery is unable to or chooses not to demonstrate compliance with the energy efficiency standard in the first annual report required in WAC 173-485-090, the petroleum refinery shall document that it has met the requirements of subsection (2) of this section no later than October 1, 2025.

(2) **Emission reduction requirement.** A petroleum refinery that does not meet the requirements of subsection (1) of this section, must:

(a) No later than October 1, 2025, have implemented greenhouse gas reduction projects that:

(i) Result in cumulative annual emissions reduction(s) equivalent to ten percent of the facility's baseline greenhouse gas emissions (as CO<sub>2</sub>e); or

(ii) Result in the petroleum refinery meeting the energy efficiency standard in subsection (1) of this section.

(b) Demonstrate compliance with the emission reduction requirement in WAC 173-485-060.

[Statutory Authority: Chapter 70.94 RCW. WSR 14-12-038 (Order 13-03), § 173-485-040, filed 5/28/14, effective 6/28/14.]

**WAC 173-485-050 Demonstrating compliance with the energy efficiency standard.** (1) Owners/operators of a petroleum refinery demonstrating compliance with the energy efficiency standard shall as part of the annual report required in WAC 173-485-090(1) submit the following information:

(a) The letter from Solomon Associates certifying that the petroleum refinery has a calculated EII® for the refinery that meets the requirements in WAC 173-485-040(1);

(b) Identification of the calendar year of the petroleum refinery's operational data submitted to Solomon Associates to reach that conclusion. The calendar year used may be any year between 2006 through 2024; and

(c) Confirmation that the operational data submitted to Solomon Associates for these calculations were reviewed and certified by a professional engineer licensed in the state of Washington, including the date the operational data were certified and the name and license number of the professional engineer who made the certification.

(2) According to WAC 173-485-090, once this certification has been made, no additional annual reports are required.

[Statutory Authority: Chapter 70.94 RCW. WSR 14-12-038 (Order 13-03), § 173-485-050, filed 5/28/14, effective 6/28/14.]

**WAC 173-485-060 Demonstrating compliance with the emission reduction requirement.** (1) **Requesting credit.** Owners/operators of a petroleum refinery demonstrating compliance through the emission reduction requirement in WAC 173-485-040(2) shall submit, as part of each annual report required in WAC 173-485-090(1), requests for a credit against the greenhouse gas emission reduction requirement. A credit request must be based on specific projects that have been completed at the petroleum refinery since the previous annual report. Each request must include the following information:

(a) An engineering description and analysis of the project, including the emission reduction and energy efficiency objectives for the project.

(b) A quantitative analysis of the project documenting the annual metric tons of CO<sub>2</sub>e emission reductions achieved as a result of completing the project.

(c) Information supporting the quantitative analysis including engineering assumptions, measurements, or monitoring data.

(d) Requests for credits shall be submitted as part of the first annual report submitted after the petroleum refinery project has been completed.

(2) **Processing a credit request.**

(a) Each request for credit shall be reviewed and certified by a professional engineer licensed in the state of Washington. The certif-

ication must contain the name and license number of the professional engineer who performed the review and certified the submittal.

(b) Within thirty days after the receipt of a request for credit, the permitting authority may require the submission of additional information needed to review the request.

(c) Within thirty days after all required information has been received, the permitting authority shall propose to approve or deny the request for credit. Final approval or denial of a request for credit shall be established through the issuance of a regulatory order. The regulatory order must be issued in accordance with the procedures of the permitting authority for issuing such orders. Each regulatory order issued to approve a request shall include both the quantity of greenhouse gas reduction credit awarded and any conditions necessary to support the validity of the credit award.

(3) Improvements in the efficiency of existing electrical equipment or electrical equipment upgrades at the refinery are not eligible for credits.

(4) Greenhouse gas reductions for the replacement of direct fired or steam-driven equipment with electrical equipment will be credited based on the calculated difference between the greenhouse gas emissions reduced at the refinery and the greenhouse gas emissions calculated for the electricity required. The greenhouse gas emissions for electricity used will be the greenhouse gas emissions specific to the petroleum refinery's source of electricity.

(5) Greenhouse gas emission reductions at the petroleum refinery occurring as a result of projects completed prior to January 1, 2010, are not eligible for credits.

[Statutory Authority: Chapter 70.94 RCW. WSR 14-12-038 (Order 13-03), § 173-485-060, filed 5/28/14, effective 6/28/14.]

**WAC 173-485-070 Monitoring.** (1) To demonstrate compliance with the emission reduction requirement, each petroleum refinery must use monitoring measures that satisfy requirements for petroleum refinery owners/operators reporting greenhouse gas emissions to EPA under 40 C.F.R. Part 98. Unless additional monitoring is required by the credit order issued under WAC 173-485-060 (2)(c), the 40 C.F.R. Part 98 monitoring is considered sufficient for quantifying annual emissions for this regulation.

(2) The permitting authority may require additional monitoring, recordkeeping, and reporting to document compliance with a credit established through this regulation. The additional monitoring, recordkeeping, and reporting must be identified in the credit order issued under WAC 173-485-060 (2)(c).

[Statutory Authority: Chapter 70.94 RCW. WSR 14-12-038 (Order 13-03), § 173-485-070, filed 5/28/14, effective 6/28/14.]

**WAC 173-485-080 Recordkeeping.** (1) All records used for preparing submittals to Solomon Associates to support a determination of compliance with the energy efficiency standard or for preparing reports to the permitting authority shall be retained at least five years beyond the date of the last annual report required by WAC 173-485-090(2).

(2) Records related to emission calculations and reports shall be provided to the permitting authority upon request. The petroleum refinery owner/operator retains the rights to keep specified records and information confidential as provided in RCW 70.94.205.

[Statutory Authority: Chapter 70.94 RCW. WSR 14-12-038 (Order 13-03), § 173-485-080, filed 5/28/14, effective 6/28/14.]

**WAC 173-485-090 Reporting.** (1) **Annual reports.** Starting on October 1, 2014, and by October 1 of each year until October 1, 2025, unless compliance has been demonstrated on an earlier date, the owners/operators of a petroleum refinery subject to this standard shall submit reports to their permitting authority that include the following information:

(a) Identification of the option the petroleum refinery intends to use to demonstrate compliance with this standard, including the baseline greenhouse gas emissions year the refinery has selected and justification to utilize that year.

(b) Activities completed since the last annual report to reduce greenhouse gas emissions.

(c) Any changes since the last annual report regarding the compliance option utilized by the petroleum refinery.

(d) Baseline greenhouse gas emissions for the petroleum refinery, actual greenhouse gas emissions for the previous calendar year, total greenhouse gas emission reductions already credited to the petroleum refinery, and any emission reductions previously approved through regulatory order to comply with WAC 173-485-040(3), since the effective date of this regulation.

(e) All compliance documentation submittals required in WAC 173-485-050 or 173-485-060(1), as applicable.

(f) If the first annual report does not indicate compliance with the requirements in WAC 173-485-040, the first report must contain an overview plan of how the refinery intends to comply with the requirements of WAC 173-485-040.

(2) Annual reports must be submitted to the permitting authority until compliance has been demonstrated with either WAC 173-485-040 (2) or (3). The owner/operator of a petroleum refinery shall identify in the annual report that the report is the final report that will be submitted to the authority.

[Statutory Authority: Chapter 70.94 RCW. WSR 14-12-038 (Order 13-03), § 173-485-090, filed 5/28/14, effective 6/28/14.]