

**WAC 173-407-160 Emissions and electrical production monitoring, recordkeeping and reporting requirements under Part II.** (1) Monitoring and recordkeeping requirements. A baseload electric generation facility or unit and baseload electric cogeneration facility or unit required to meet GHG EPS in WAC 173-407-130 must monitor and report the following parameters as explained below:

(a) Electrical output in MWh: Electrical output as measured at the point of connection with the local electrical distribution network or transmission line, as appropriate. The facility will measure on an hourly or daily basis and the measurements in a form suitable for calculations to determine compliance with GHG EPS;

(b) Useful thermal energy output in  $MWh_{eq}$ : Quantity of energy supplied to nonelectrical production determined by monitoring both the energy supplied and the unused energy returned by the thermal energy user or users. The facility can accomplish required monitoring through:

(i) Measurement of the mass, pressure, and temperature of the supply and return streams of the steam or thermal fluid; or

(ii) Use of thermodynamic calculations as approved by ecology.

(iii) Each facility will measure on an hourly or daily basis and record the measurements in a form suitable for calculations to determine compliance with the GHG EPS.

(c) Regulated GHG emissions.

(i) The regulated GHG emissions are the emissions of regulated GHG from the main plant exhaust stack and any bypass stacks or flares. A facility or unit using CO<sub>2</sub> controls and sequestration to comply with the GHG EPS must include direct and fugitive CO<sub>2</sub> emissions from the CO<sub>2</sub> separation and compression process.

(ii) Carbon dioxide.

(A) A facility or unit subject to WAC 173-407-130, with a net output rating of 25 MW or more of electricity, must monitor CO<sub>2</sub> emissions by a continuous emission monitoring system meeting the requirements of 40 C.F.R. 75.10 and 75.13 and 40 C.F.R. Part 75, Appendix F, except under (c)(i)(A)(I) and (II) of this subsection (federal rules in effect on the date in WAC 173-407-006):

(I) If allowed by the requirements of 40 C.F.R. Part 72, a facility may estimate CO<sub>2</sub> emissions through fuel carbon content monitoring and methods meeting the requirements of 40 C.F.R. 75.10 and 75.13 and 40 C.F.R. Part 75, Appendix G (federal rules in effect on the date in WAC 173-407-006).

(II) If the annual heat input to the electric generation facility is less than 90 percent fossil fuel, ecology may approve the use of emission factors in 40 C.F.R. Part 98, Table C-1 (in effect on the date in WAC 173-407-006).

(B) A facility or unit subject to WAC 173-407-130, with a net output of less than 25 MW of electricity, must use one of the following three methods:

(I) Continuous emission monitoring system meeting the requirements of 40 C.F.R. 75.10 and 75.13 and 40 C.F.R. Part 75, Appendix F (federal rules in effect on the date in WAC 173-407-006);

(II) Fuel carbon content monitoring and methods meeting the requirements of 40 C.F.R. 75.10 and 75.13 and 40 C.F.R. Part 75, Appendix G (federal rules in effect on the date in WAC 173-407-006); or

(III) Emission factors in 40 C.F.R. Part 98, Table C-1 (in effect on the date in WAC 173-407-006).

(C) When the monitoring data from a continuous emission monitoring system does not meet the completeness requirements of 40 C.F.R.

Part 75, Subpart D, the facility owner or operator must substitute data according to the process in 40 C.F.R. Part 75, Appendix C (in effect on the date in WAC 173-407-006).

(D) A facility or unit must install continuous emission monitors for CO<sub>2</sub> under (c)(ii) of this subsection at a location meeting the requirements of 40 C.F.R. Part 75, Appendix A. The CO<sub>2</sub> and flow monitoring equipment must meet the quality control and quality assurance requirements of 40 C.F.R. Part 75, Appendix B (in effect on the date in WAC 173-407-006).

(iii) Nitrous oxide (N<sub>2</sub>O).

(A) A facility or unit that triggers the applicability in WAC 173-407-120 prior to March 24, 2018, and produces 25 MW or more of electricity must determine the N<sub>2</sub>O emissions as follows:

(I) For the first year of operation, facility owner or operator will estimate N<sub>2</sub>O emissions using the emission factors from 40 C.F.R. Part 98, Table C-2 or other authoritative source as approved by ecology.

(II) For succeeding years, facility operator or owner will estimate N<sub>2</sub>O emissions using generating unit specific emission factors derived from emissions testing using ecology or EPA approved methods. Facility owner or operator must derive the emission factor through testing N<sub>2</sub>O emissions from the stack at varying loads and through at least four separate test periods spaced evenly throughout the first year of commercial operation.

(B) A facility or unit that triggers the applicability in WAC 173-407-120 prior to March 24, 2018, and produces less than 25 MW of electricity will estimate the annual N<sub>2</sub>O emissions by the emission factors from 40 C.F.R. Part 98, Table C-2 or other authoritative source as approved by ecology.

(C) A facility or unit required to develop a generating unit specific N<sub>2</sub>O emission factor prior to March 24, 2018, must estimate N<sub>2</sub>O emissions using the generating unit specific emission factor.

(D) Any facility or unit that triggers the applicability in WAC 173-407-120 on or after March 24, 2018, must estimate N<sub>2</sub>O emissions using one of the following emission factors:

(I) Generating unit specific emission factor derived through emissions testing following the schedule in (c)(iii)(A) of this subsection;

(II) Emission factor from 40 C.F.R. Part 98, Table C-2; or

(III) Other emission factor from authoritative sources as approved by ecology.

(iv) Methane (CH<sub>4</sub>).

(A) A facility or unit that triggers the applicability in WAC 173-407-120 prior to March 24, 2018, and produces 25 MW or more of electricity must determine the CH<sub>4</sub> emissions as follows:

(I) For the first year of operation, the facility owner or operator will estimate CH<sub>4</sub> emissions using the emission factors from 40 C.F.R. Part 98, Table C-2 or other authoritative source as approved by ecology.

(II) For succeeding years, the facility owner or operator will estimate CH<sub>4</sub> emissions using generating unit specific emission factors derived from emissions testing using ecology or EPA approved methods. The facility owner or operator must derive the emission factor through testing CH<sub>4</sub> emissions from the stack at varying loads and through at

least four separate test periods spaced evenly through the first year of commercial operation.

(B) A facility or unit that triggers the applicability in WAC 173-407-120 prior to March 24, 2018, and produces less than 25 MW of electricity will estimate the annual CH<sub>4</sub> emissions by the emission factors from 40 C.F.R. Part 98, Table C-2 or other authoritative source as approved by ecology.

(C) A facility or unit required to develop a generating unit specific CH<sub>4</sub> emission factor prior to March 24, 2018, must estimate CH<sub>4</sub> emissions using the generating unit specific emission factor.

(D) Any facility or unit that triggers the applicability in WAC 173-407-120 on or after March 24, 2018, must estimate CH<sub>4</sub> emissions using one of the following emission factors:

(I) Generating unit specific emission factor derived through emissions testing following the schedule in (c)(iv)(A) of this subsection;

(II) Emission factor from 40 C.F.R. Part 98, Table C-2; or

(III) Other emission factor from authoritative sources as approved by ecology.

(d) Fuel usage and heat content information.

(i) Facility owner and operator must monitor fossil fuel usage by measuring continuous fuel volume or weight as appropriate for the fuel used. Facility owner and operator must measure on an hourly or daily basis and record the measurements in a form suitable for use in calculating GHG emissions.

(ii) Facility owner or operator must monitor renewable fuel usage by measuring continuous fuel volume or weight as appropriate for the fuel used. Facility owner or operator must measure on an hourly or daily basis and record the measurements in a form suitable for use in calculating GHG emissions.

(iii) Facility owner or operator must monitor renewable fuel feedstocks by measuring the fuel volume or weight, as appropriate, as the feedstocks are used in the combustion process. Facility owner or operator must measure on an hourly or daily basis and record the measurements in a form suitable for use in calculating GHG emissions.

(iv) Facility owner or operator must monitor renewable resources used in the production of electricity continuously by a method approved by ecology to determine heat input to the electric generation process.

(v) Facility owner or operator must test heat content of fossil fuels at least once per calendar year. The owner or operator of the facility or unit must submit a proposed fuel content monitoring program to ecology for approval. Upon request and submission of appropriate documentation of fuel heat content variability, ecology may allow a source to:

(A) Test the heat content of the fossil fuel less often than once per year; or

(B) Use the representative heat content for the fuel instead of the periodic monitoring of heat content.

(vi) Facility owner or operator must test renewable fuel heat content monthly or with a different frequency approved by ecology. The facility owner or operator must base the different frequency on the variability of the heat content of the renewable fuel.

(A) If a facility or unit using a mixture of renewable and fossil fuels does not adjust their GHG emissions by accounting for the heat

input from renewable fuels, ecology does not require monitoring of the heat content of the renewable fuels.

(B) Upon request and with appropriate documentation, ecology may allow a source to use representative heat content for the renewable fuel instead of the periodic monitoring of heat content required above.

(vii) Facility owner or operator must test the heat content of renewable fuel feedstocks monthly or on a different schedule approved by ecology. Ecology will approve the different schedule based on the variability of the heat content of the renewable fuel feedstocks. The facility owner or operator must measure the heat content of the fuel feedstocks in the form they are used in the combustion process.

(A) If a facility or a unit using a mixture of renewable and fossil fuels and does not adjust their GHG emissions by accounting for the heat input from renewable fuels, ecology does not require monitoring of the heat content of the renewable fuel feedstocks.

(B) Upon request and with supporting documentation, ecology may allow a source to use representative heat content for the renewable fuel feedstock instead of the periodic monitoring of heat content required above.

(2) Reporting requirements. Facility owner or operator must report the results of the monitoring required by this section to ecology and the permitting authority annually.

(a) Facility or unit subject to the reporting requirements of 40 C.F.R. Part 75. Facility owner or operator must report annual emissions of CO<sub>2</sub>, N<sub>2</sub>O and CH<sub>4</sub> that occurred in the previous calendar year and supporting information to ecology and the permitting authority by January 31st of each calendar year. The facility owner or operator may submit the report as an Excel™ or CSV format copy of the report submitted to EPA per 40 C.F.R. Part 75 with N<sub>2</sub>O and CH<sub>4</sub> emissions appended to the report.

(b) Facility or unit not subject to the reporting requirements of 40 C.F.R. Part 75. Facility owners or operators must report annual emissions of CO<sub>2</sub>, N<sub>2</sub>O and CH<sub>4</sub> that occurred in the previous calendar year and supporting information to ecology and the permitting authority by January 31st of each calendar year.

[Statutory Authority: Chapter 80.80 RCW. WSR 18-05-091 (Order 16-12), amended and recodified as § 173-407-160, filed 2/21/18, effective 3/24/18; WSR 08-14-011 (Order 07-11), § 173-407-230, filed 6/19/08, effective 7/20/08.]