AMENDATORY SECTION (Amending WSR 15-04-051, filed 1/29/15, effective 3/1/15)

WAC 173-441-020 Definitions. The definitions in this section apply throughout this chapter unless the context clearly requires otherwise.

(1) **Definitions specific to this chapter:**

(a) "Biomass" means nonfossilized and biodegradable organic material originating from plants, animals, or microorganisms, including products, by-products, residues and waste from agriculture, forestry, and related industries as well as the nonfossilized and biodegradable organic fractions of industrial and municipal wastes, including gases and liquids recovered from the decomposition of nonfossilized and biodegradable organic material.

(b) "Carbon dioxide equivalent" or "CO_2e" means a metric measure used to compare the emissions from various greenhouse gases based upon their global warming potential.

(c) "Department of licensing" or "DOL" means the Washington state department of licensing.

(d) "Director" means the director of the department of ecology.

(e) "Ecology" means the Washington state department of ecology.

(f) "Facility" unless otherwise specified in any subpart of 40 C.F.R. Part 98 as adopted by ((~~January 1, 2015~~)) September 1, 2016, means any physical property, plant, building, structure, source, or stationary equipment located on one or more contiguous or adjacent properties in actual physical contact or separated solely by a public roadway or other public right of way and under common ownership or common control, that emits or may emit any greenhouse gas. Operators of military installations may classify such installations as more than a single facility based on distinct and independent functional groupings within contiguous military properties. All source categories in WAC 173-441-120 are considered facilities even if the source category name includes the word "supplier."

(g) "Greenhouse gas," "greenhouse gases," "GHG," and "GHGs" includes carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Beginning on January 1, 2012, "greenhouse gas" also includes any other gas or gases designated by ecology by rule in Table A-1 in WAC 173-441-040.

(h) "Person" includes:

(i) An owner or operator, as those terms are defined by the United States Environmental Protection Agency in its mandatory greenhouse gas reporting regulation in 40 C.F.R. Part 98, as adopted by ((~~January 1, 2015~~)) September 1, 2016; and

(ii) A supplier.

(i) "Product data" means data related to a facility's production that is part of the annual GHG report.

(j) "Supplier" or "transportation fuel supplier" means:

(i) Any person who is:

((~~(i)~~)) (A) A motor vehicle fuel or special fuel supplier or ((~~a motor vehicle fuel importer~~)) distributor, as those terms are defined in RCW ((~~82.36.010;~~

~~(ii) A special fuel supplier or a special fuel importer, as those terms are defined in RCW 82.38.020; or~~

~~(iii)~~)) 82.38.020; or

(B) A distributor of aircraft fuel, as the term is defined in RCW 82.42.010.

(ii) Any use of the term "supplier" in a source category in WAC 173-441-120 or incorporated from 40 C.F.R. Part 98, as adopted by September 1, 2016, is not a "supplier" under this definition. Those uses are instead types of "facilities."

(2) **Definitions specific to suppliers.** Suppliers must use the definitions found in the following ((~~regulations~~)) statutes unless the definition is in conflict with a definition found in subsection (1) of this section. These definitions do not apply to facilities.

(a) ((~~WAC 308-72-800;~~

~~(b) WAC 308-77-005; and~~

~~(c) WAC 308-78-010~~)) Chapter 82.38 RCW; and

(b) Chapter 82.42 RCW.

(3) **Definitions from 40 C.F.R. Part 98.** For those terms not listed in subsection (1) or (2) of this section, the definitions found in 40 C.F.R. § 98.6 or a subpart as adopted in WAC 173-441-120, as adopted by ((~~January 1, 2015~~)) September 1, 2016, are adopted by reference as modified in WAC 173-441-120(2).

(4) **Definitions from chapter 173-400 WAC.** If no definition is provided in subsections (1) through (3) in this section, use the definition found in chapter 173-400 WAC.

AMENDATORY SECTION (Amending WSR 15-04-051, filed 1/29/15, effective 3/1/15)

WAC 173-441-050 General monitoring, reporting, recordkeeping and verification requirements. Persons subject to the requirements of this chapter must submit GHG reports to ecology, as specified in this section. Every metric ton of CO_2e emitted by a facility or supplier required to report under this chapter and covered under any applicable source category listed in WAC 173-441-120 or 173-441-130 must be included in the report.

(1) **General.** Follow the procedures for emission calculation, monitoring, quality assurance, missing data, recordkeeping, and reporting that are specified in each relevant section of this chapter.

(2) **Schedule.** The annual GHG report must be submitted as follows:

(a) Report submission due date:

(i) A person required to report GHG emissions to the United States Environmental Protection Agency under 40 C.F.R. Part 98 must submit the report required under this chapter to ecology no later than March 31st of each calendar year for GHG emissions in the previous calendar year.

(ii) A person not required to report GHG emissions to the United States Environmental Protection Agency under 40 C.F.R. Part 98 must submit the report required under this chapter to ecology no later than October 31st of each calendar year for GHG emissions in the previous calendar year.

(iii) Unless otherwise stated, if the final day of any time period falls on a weekend or a state holiday, the time period shall be extended to the next business day.

(b) Reporting requirements begin:

(i) For an existing facility or supplier that began operation before January 1, 2012, report emissions for calendar year 2012 and each subsequent calendar year.

(ii) For a new facility or supplier that begins operation on or after January 1, 2012, and becomes subject to the rule in the year that it becomes operational, report emissions beginning with the first operating month and ending on December 31st of that year. Each subsequent annual report must cover emissions for the calendar year, beginning on January 1st and ending on December 31st.

(iii) For any facility or supplier that becomes subject to this rule because of a physical or operational change that is made after January 1, 2012, report emissions for the first calendar year in which the change occurs.

(A) Facilities begin reporting with the first month of the change and ending on December 31st of that year. For a facility that becomes subject to this rule solely because of an increase in hours of operation or level of production, the first month of the change is the month in which the increased hours of operation or level of production, if maintained for the remainder of the year, would cause the facility or supplier to exceed the applicable threshold.

(B) Suppliers begin reporting January 1st and ending on December 31st the year of the change.

(C) For both facilities and suppliers, each subsequent annual report must cover emissions for the calendar year, beginning on January 1st and ending on December 31st.

(3) **Content of the annual report.** Each annual GHG report must contain the following information:

(a) Facility name or supplier name (as appropriate), facility or supplier ID number, and physical street address of the facility or supplier, including the city, state, and zip code. If the facility does not have a physical street address, then the facility must provide the latitude and longitude representing the geographic centroid or center point of facility operations in decimal degree format. This must be provided in a comma-delimited "latitude, longitude" coordinate pair reported in decimal degrees to at least four digits to the right of the decimal point.

(b) Year and months covered by the report.

(c) Date of submittal.

(d) For facilities, report annual emissions of each GHG (as defined in WAC 173-441-020) and each fluorinated heat transfer fluid, as follows:

(i) Annual emissions (including biogenic CO_2) aggregated for all GHGs from all applicable source categories in WAC 173-441-120 and expressed in metric tons of CO_2e calculated using Equation A-1 of WAC 173-441-030 (1)(b)(iii).

(ii) Annual emissions of biogenic CO_2 aggregated for all applicable source categories in WAC 173-441-120, expressed in metric tons.

(iii) Annual emissions from each applicable source category in WAC 173-441-120, expressed in metric tons of each applicable GHG listed in subsections (3)(d)(iii)(A) through (F) of this section.

(A) Biogenic CO_2.

(B) CO_2 (including biogenic CO_2).

(C) CH_4.

(D) N_2O.

(E) Each fluorinated GHG.

(F) For electronics manufacturing each fluorinated heat transfer fluid that is not also a fluorinated GHG as specified under WAC 173-441-040.

(iv) Emissions and other data for individual units, processes, activities, and operations as specified in the "data reporting requirements" section of each applicable source category referenced in WAC 173-441-120.

(v) Indicate (yes or no) whether reported emissions include emissions from a cogeneration unit located at the facility.

(vi) When applying subsection (3)(d)(i) of this section to fluorinated GHGs and fluorinated heat transfer fluids, calculate and report CO_2e for only those fluorinated GHGs and fluorinated heat transfer fluids listed in WAC 173-441-040.

(vii) For reporting year 2014 and thereafter, you must enter into verification software specified by the director the data specified in the verification software records provision in each applicable recordkeeping section. For each data element entered into the verification software, if the software produces a warning message for the data value and you elect not to revise the data value, you may provide an explanation in the verification software of why the data value is not being revised. Whenever the use of verification software is required or voluntarily used, the file generated by the verification software must be submitted with the facility's annual GHG report.

(e) For suppliers, report the following information:

(i) Annual emissions of CO_2, expressed in metric tons of CO_2, as required in subsections (3)(e)(i)(A) and (B) of this section that would be emitted from the complete combustion or oxidation of the fuels reported to DOL as sold in Washington state during the calendar year.

(A) Aggregate biogenic CO_2.

(B) Aggregate CO_2 (including nonbiogenic and biogenic CO_2).

(ii) All contact information reported to DOL not included in (a) of this subsection.

(f) A written explanation, as required under subsection (4) of this section, if you change emission calculation methodologies during the reporting period.

(g) Each data element for which a missing data procedure was used according to the procedures of an applicable subpart referenced in WAC 173-441-120 and the total number of hours in the year that a missing data procedure was used for each data element.

(h) A signed and dated certification statement provided by the designated representative of the owner or operator, according to the requirements of WAC 173-441-060 (5)(a).

(i) NAICS code(s) that apply to the facility or supplier.

(i) Primary NAICS code. Report the NAICS code that most accurately describes the facility or supplier's primary product/activity/service. The primary product/activity/service is the principal source of revenue for the facility or supplier. A facility or supplier that has two distinct products/activities/services providing comparable revenue may report a second primary NAICS code.

(ii) Additional NAICS code(s). Report all additional NAICS codes that describe all product(s)/activity(s)/service(s) at the facility or supplier that are not related to the principal source of revenue.

(j) Legal name(s) and physical address(es) of the highest-level United States parent company(s) of the owners (or operators) of the facility or supplier and the percentage of ownership interest for each

listed parent company as of December 31st of the year for which data are being reported according to the following instructions:

(i) If the facility or supplier is entirely owned by a single United States company that is not owned by another company, provide that company's legal name and physical address as the United States parent company and report one hundred percent ownership.

(ii) If the facility or supplier is entirely owned by a single United States company that is, itself, owned by another company (e.g., it is a division or subsidiary of a higher-level company), provide the legal name and physical address of the highest-level company in the ownership hierarchy as the United States parent company and report one hundred percent ownership.

(iii) If the facility or supplier is owned by more than one United States company (e.g., company A owns forty percent, company B owns thirty-five percent, and company C owns twenty-five percent), provide the legal names and physical addresses of all the highest-level companies with an ownership interest as the United States parent companies and report the percent ownership of each company.

(iv) If the facility or supplier is owned by a joint venture or a cooperative, the joint venture or cooperative is its own United States parent company. Provide the legal name and physical address of the joint venture or cooperative as the United States parent company, and report one hundred percent ownership by the joint venture or cooperative.

(v) If the facility or supplier is entirely owned by a foreign company, provide the legal name and physical address of the foreign company's highest-level company based in the United States as the United States parent company, and report one hundred percent ownership.

(vi) If the facility or supplier is partially owned by a foreign company and partially owned by one or more United States companies, provide the legal name and physical address of the foreign company's highest-level company based in the United States, along with the legal names and physical addresses of the other United States parent companies, and report the percent ownership of each of these companies.

(vii) If the facility or supplier is a federally owned facility, report "U.S. Government" and do not report physical address or percent ownership.

(k) An indication of whether the facility includes one or more plant sites that have been assigned a "plant code" by either the Department of Energy's Energy Information Administration or by the Environmental Protection Agency's (EPA) Clean Air Markets Division.

(4) **Emission calculations.** In preparing the GHG report, you must use the calculation methodologies specified in the relevant sections of this chapter. For each source category, you must use the same calculation methodology throughout a reporting period unless you provide a written explanation of why a change in methodology was required.

(5) **Verification.** To verify the completeness and accuracy of reported GHG emissions, ecology may review the certification statements described in subsection (3)(h) of this section and any other credible evidence, in conjunction with a comprehensive review of the GHG reports and periodic audits of selected reporting facilities. Nothing in this section prohibits ecology from using additional information to verify the completeness and accuracy of the reports.

(6) **Recordkeeping.** A person that is required to report GHGs under this chapter must keep records as specified in this subsection. Retain all required records for at least three years from the date of submission of the annual GHG report for the reporting year in which the re-

cord was generated. Upon request by ecology, the records required under this section must be made available to ecology. Records may be retained off-site if the records are readily available for expeditious inspection and review. For records that are electronically generated or maintained, the equipment or software necessary to read the records must be made available, or, if requested by ecology, electronic records must be converted to paper documents. You must retain the following records, in addition to those records prescribed in each applicable section of this chapter:

(a) A list of all units, operations, processes, and activities for which GHG emissions were calculated.

(b) The data used to calculate the GHG emissions for each unit, operation, process, and activity, categorized by fuel or material type. These data include, but are not limited to, the following information:

(i) The GHG emissions calculations and methods used.

(ii) Analytical results for the development of site-specific emissions factors.

(iii) The results of all required analyses for high heat value, carbon content, and other required fuel or feedstock parameters.

(iv) Any facility operating data or process information used for the GHG emission calculations.

(c) The annual GHG reports.

(d) Missing data computations. For each missing data event, also retain a record of the cause of the event and the corrective actions taken to restore malfunctioning monitoring equipment.

(e) Owners or operators required to report under WAC 173-441-030(1) must keep a written GHG monitoring plan (monitoring plan, plan).

(i) At a minimum, the GHG monitoring plan must include the following elements:

(A) Identification of positions of responsibility (i.e., job titles) for collection of the emissions data.

(B) Explanation of the processes and methods used to collect the necessary data for the GHG calculations.

(C) Description of the procedures and methods that are used for quality assurance, maintenance, and repair of all continuous monitoring systems, flow meters, and other instrumentation used to provide data for the GHGs reported under this chapter.

(ii) The GHG monitoring plan may rely on references to existing corporate documents (e.g., standard operating procedures, quality assurance programs under appendix F to 40 C.F.R. Part 60 or appendix B to 40 C.F.R. Part 75, and other documents) provided that the elements required by (e)(i) of this subsection are easily recognizable.

(iii) The owner or operator must revise the GHG monitoring plan as needed to reflect changes in production processes, monitoring instrumentation, and quality assurance procedures; or to improve procedures for the maintenance and repair of monitoring systems to reduce the frequency of monitoring equipment downtime.

(iv) Upon request by ecology, the owner or operator must make all information that is collected in conformance with the GHG monitoring plan available for review during an audit. Electronic storage of the information in the plan is permissible, provided that the information can be made available in hard copy upon request during an audit.

(f) The results of all required certification and quality assurance tests of continuous monitoring systems, fuel flow meters, and

other instrumentation used to provide data for the GHGs reported under this chapter.

(g) Maintenance records for all continuous monitoring systems, flow meters, and other instrumentation used to provide data for the GHGs reported under this chapter.

(h) Suppliers must retain any other data specified in WAC 173-441-130(5).

(7) **Annual GHG report revisions.**

(a) A person must submit a revised annual GHG report within forty-five days of discovering that an annual GHG report that the person previously submitted contains one or more substantive errors. The revised report must correct all substantive errors.

(b) Ecology may notify the person in writing that an annual GHG report previously submitted by the person contains one or more substantive errors. Such notification will identify each such substantive error. The person must, within forty-five days of receipt of the notification, either resubmit the report that, for each identified substantive error, corrects the identified substantive error (in accordance with the applicable requirements of this chapter) or provide information demonstrating that the previously submitted report does not contain the identified substantive error or that the identified error is not a substantive error.

(c) A substantive error is an error that impacts the quantity of GHG emissions reported or otherwise prevents the reported data from being validated or verified.

(d) Notwithstanding (a) and (b) of this subsection, upon request by a person, ecology may provide reasonable extensions of the forty-five day period for submission of the revised report or information under (a) and (b) of this subsection. If ecology receives a request for extension of the forty-five day period, by e-mail to ghgreporting@ecy.wa.gov, at least two business days prior to the expiration of the forty-five day period, and ecology does not respond to the request by the end of such period, the extension request is deemed to be automatically granted for thirty more days. During the automatic thirty-day extension, ecology will determine what extension, if any, beyond the automatic extension is reasonable and will provide any such additional extension.

(e) The owner or operator must retain documentation for three years to support any revision made to an annual GHG report.

(8) **Calibration and accuracy requirements.** The owner or operator of a facility that is subject to the requirements of this chapter must meet the applicable flow meter calibration and accuracy requirements of this subsection. The accuracy specifications in this subsection do not apply where either the use of company records (as defined in WAC 173-441-020(3)) or the use of "best available information" is specified in an applicable subsection of this chapter to quantify fuel usage and/or other parameters. Further, the provisions of this subsection do not apply to stationary fuel combustion units that use the methodologies in 40 C.F.R. Part 75 to calculate CO_2 mass emissions. Suppliers subject to the requirements of this chapter must meet the calibration accuracy requirements in chapters 308-72, 308-77, and 308-78 WAC.

(a) Except as otherwise provided in (d) through (f) of this subsection, flow meters that measure liquid and gaseous fuel feed rates, process stream flow rates, or feedstock flow rates and provide data for the GHG emissions calculations, must be calibrated prior to Janu-

ary 1, 2012, using the procedures specified in this subsection when such calibration is specified in a relevant section of this chapter. Each of these flow meters must meet the applicable accuracy specification in (b) or (c) of this subsection. All other measurement devices (e.g., weighing devices) that are required by a relevant subsection of this chapter, and that are used to provide data for the GHG emissions calculations, must also be calibrated prior to January 1, 2012; however, the accuracy specifications in (b) and (c) of this subsection do not apply to these devices. Rather, each of these measurement devices must be calibrated to meet the accuracy requirement specified for the device in the applicable subsection of this chapter, or, in the absence of such accuracy requirement, the device must be calibrated to an accuracy within the appropriate error range for the specific measurement technology, based on an applicable operating standard including, but not limited to, manufacturer's specifications and industry standards. The procedures and methods used to quality-assure the data from each measurement device must be documented in the written monitoring plan, pursuant to subsection (6)(e)(i)(C) of this section.

(i) All flow meters and other measurement devices that are subject to the provisions of this subsection must be calibrated according to one of the following: You may use the manufacturer's recommended procedures; an appropriate industry consensus standard method; or a method specified in a relevant section of this chapter. The calibration method(s) used must be documented in the monitoring plan required under subsection (6)(e) of this section.

(ii) For facilities and suppliers that become subject to this chapter after January 1, 2012, all flow meters and other measurement devices (if any) that are required by the relevant subsection(s) of this chapter to provide data for the GHG emissions calculations must be installed no later than the date on which data collection is required to begin using the measurement device, and the initial calibration(s) required by this subsection (if any) must be performed no later than that date.

(iii) Except as otherwise provided in (d) through (f) of this subsection, subsequent recalibrations of the flow meters and other measurement devices subject to the requirements of this subsection must be performed at one of the following frequencies:

(A) You may use the frequency specified in each applicable subsection of this chapter.

(B) You may use the frequency recommended by the manufacturer or by an industry consensus standard practice, if no recalibration frequency is specified in an applicable subsection.

(b) Perform all flow meter calibration at measurement points that are representative of the normal operating range of the meter. Except for the orifice, nozzle, and venturi flow meters described in (c) of this subsection, calculate the calibration error at each measurement point using Equation A–2 of this subsection. The terms "R" and "A" in Equation A–2 must be expressed in consistent units of measure (e.g., gallons/minute, ft^3/min). The calibration error at each measurement point must not exceed 5.0 percent of the reference value.

$$CE = \frac{|R-A|}{R} \times 100 \qquad \textit{(Eq. A – 2)}$$

Where:

CE = Calibration error (%)
R = Reference value
A = Flow meter response to the reference value

(c) For orifice, nozzle, and venturi flow meters, the initial quality assurance consists of in situ calibration of the differential pressure (delta-P), total pressure, and temperature transmitters.

(i) Calibrate each transmitter at a zero point and at least one upscale point. Fixed reference points, such as the freezing point of water, may be used for temperature transmitter calibrations. Calculate the calibration error of each transmitter at each measurement point, using Equation A–3 of this subsection. The terms "R," "A," and "FS" in Equation A–3 of this subsection must be in consistent units of measure (e.g., milliamperes, inches of water, psi, degrees). For each transmitter, the CE value at each measurement point must not exceed 2.0 percent of full-scale. Alternatively, the results are acceptable if the sum of the calculated CE values for the three transmitters at each calibration level (i.e., at the zero level and at each upscale level) does not exceed 6.0 percent.

$$CE = \frac{|R-A|}{FS} \times 100 \qquad \textit{(Eq. A – 3)}$$

Where:

CE = Calibration error (%)
R = Reference value
A = Transmitter response to the reference value
FS = Full-scale value of the transmitter

(ii) In cases where there are only two transmitters (i.e., differential pressure and either temperature or total pressure) in the immediate vicinity of the flow meter's primary element (e.g., the orifice plate), or when there is only a differential pressure transmitter in close proximity to the primary element, calibration of these existing transmitters to a CE of 2.0 percent or less at each measurement point is still required, in accordance with (c)(i) of this subsection; alternatively, when two transmitters are calibrated, the results are acceptable if the sum of the CE values for the two transmitters at each calibration level does not exceed 4.0 percent. However, note that installation and calibration of an additional transmitter (or transmitters) at the flow monitor location to measure temperature or total pressure or both is not required in these cases. Instead, you may use assumed values for temperature and/or total pressure, based on measurements of these parameters at a remote location (or locations), provided that the following conditions are met:

(A) You must demonstrate that measurements at the remote location(s) can, when appropriate correction factors are applied, reliably and accurately represent the actual temperature or total pressure at the flow meter under all expected ambient conditions.

(B) You must make all temperature and/or total pressure measurements in the demonstration described in (c)(ii)(A) of this subsection with calibrated gauges, sensors, transmitters, or other appropriate measurement devices. At a minimum, calibrate each of these devices to an accuracy within the appropriate error range for the specific measurement technology, according to one of the following: You may cali-

brate using a manufacturer's specification or an industry consensus standard.

(C) You must document the methods used for the demonstration described in (c)(ii)(A) of this subsection in the written GHG monitoring plan under subsection (6)(e)(i)(C) of this section. You must also include the data from the demonstration, the mathematical correlation(s) between the remote readings and actual flow meter conditions derived from the data, and any supporting engineering calculations in the GHG monitoring plan. You must maintain all of this information in a format suitable for auditing and inspection.

(D) You must use the mathematical correlation(s) derived from the demonstration described in (c)(ii)(A) of this subsection to convert the remote temperature or the total pressure readings, or both, to the actual temperature or total pressure at the flow meter, or both, on a daily basis. You must then use the actual temperature and total pressure values to correct the measured flow rates to standard conditions.

(E) You must periodically check the correlation(s) between the remote and actual readings (at least once a year), and make any necessary adjustments to the mathematical relationship(s).

(d) Fuel billing meters are exempted from the calibration requirements of this section and from the GHG monitoring plan and recordkeeping provisions of subsections (6)(e)(i)(C) and (g) of this section, provided that the fuel supplier and any unit combusting the fuel do not have any common owners and are not owned by subsidiaries or affiliates of the same company. Meters used exclusively to measure the flow rates of fuels that are used for unit startup are also exempted from the calibration requirements of this section.

(e) For a flow meter that has been previously calibrated in accordance with (a) of this subsection, an additional calibration is not required by the date specified in (a) of this subsection if, as of that date, the previous calibration is still active (i.e., the device is not yet due for recalibration because the time interval between successive calibrations has not elapsed). In this case, the deadline for the successive calibrations of the flow meter must be set according to one of the following: You may use either the manufacturer's recommended calibration schedule or you may use the industry consensus calibration schedule.

(f) For units and processes that operate continuously with infrequent outages, it may not be possible to meet the deadline established in (a) of this subsection for the initial calibration of a flow meter or other measurement device without disrupting normal process operation. In such cases, the owner or operator may postpone the initial calibration until the next scheduled maintenance outage. The best available information from company records may be used in the interim. The subsequent required recalibrations of the flow meters may be similarly postponed. Such postponements must be documented in the monitoring plan that is required under subsection (6)(e) of this section.

(g) If the results of an initial calibration or a recalibration fail to meet the required accuracy specification, data from the flow meter must be considered invalid, beginning with the hour of the failed calibration and continuing until a successful calibration is completed. You must follow the missing data provisions provided in the relevant missing data sections during the period of data invalidation.

(9) **Measurement device installation.** 40 C.F.R. § 98.3(j) and 40 C.F.R. § 98.3(d) as adopted by ((~~January 1, 2015~~)) September 1, 2016, are adopted by reference as modified in WAC 173-441-120(2).

AMENDATORY SECTION (Amending WSR 15-04-051, filed 1/29/15, effective 3/1/15)

WAC 173-441-080 Standardized methods and conversion factors incorporated by reference. (1) The materials incorporated by reference by EPA in 40 C.F.R. § 98.7, as adopted by ((~~January 1, 2015~~)) September 1, 2016, are incorporated by reference in this chapter for use in the sections of this chapter that correspond to the sections of 40 C.F.R. Part 98 referenced here.

(2) Table A–2 of this section provides a conversion table for some of the common units of measure used in this chapter.

Table A-2:
Units of Measure Conversions

To convert from	To	Multiply by
Kilograms (kg)	Pounds (lbs)	2.20462
Pounds (lbs)	Kilograms (kg)	0.45359
Pounds (lbs)	Metric tons	4.53592×10^{-4}
Short tons	Pounds (lbs)	2,000
Short tons	Metric tons	0.90718
Metric tons	Short tons	1.10231
Metric tons	Kilograms (kg)	1,000
Cubic meters (m^3)	Cubic feet (ft^3)	35.31467
Cubic feet (ft^3)	Cubic meters (m^3)	0.028317
Gallons (liquid, US)	Liters (l)	3.78541
Liters (l)	Gallons (liquid, US)	0.26417
Barrels of liquid fuel (bbl)	Cubic meters (m^3)	0.15891
Cubic meters (m^3)	Barrels of liquid fuel (bbl)	6.289
Barrels of liquid fuel (bbl)	Gallons (liquid, US)	42
Gallons (liquid, US)	Barrels of liquid fuel (bbl)	0.023810
Gallons (liquid, US)	Cubic meters (m^3)	0.0037854
Liters (l)	Cubic meters (m^3)	0.001
Feet (ft)	Meters (m)	0.3048
Meters (m)	Feet (ft)	3.28084
Miles (mi)	Kilometers (km)	1.60934
Kilometers (km)	Miles (mi)	0.62137
Square feet (ft^2)	Acres	2.29568×10^{-5}
Square meters (m^2)	Acres	2.47105×10^{-4}
Square miles (mi^2)	Square kilometers (km^2)	2.58999
Degrees Celsius (°C)	Degrees Fahrenheit (°F)	°C = (5/9) x (°F - 32)
Degrees Fahrenheit (°F)	Degrees Celsius (°C)	°F = (9/5) x (°C + 32)
Degrees Celsius (°C)	Kelvin (K)	K = °C + 273.15
Kelvin (K)	Degrees Rankine (°R)	1.8
Joules	Btu	9.47817×10^{-4}
Btu	MMBtu	1×10^{-6}
Pascals (Pa)	Inches of Mercury (in Hg)	2.95334×10^{-4}
Inches of Mercury (in Hg)	Pounds per square inch (psi)	0.49110

To convert from	To	Multiply by
Pounds per square inch (psi)	Inches of Mercury (in Hg)	2.03625

NEW SECTION

WAC 173-441-085 Third-party verification. The owner or operator of a facility that exceeds the compliance threshold under WAC 173-442-030 or voluntarily participating under WAC 173-442-030(6) must have the facility's annual GHG reports verified by a third party as specified in this section.

(1) **Annual GHG reports must be third-party verified each emissions year that:**

(a) The facility has a GHG emission reduction pathway under WAC 173-442-060;

(b) The facility is voluntarily participating under WAC 173-442-030(6);

(c) Is part of a baseline calculation for a new entrant after 2020 under WAC 173-442-050 (1)(b); or

(d) For the first year after no longer meeting the requirements of (a) through (c) of this subsection unless the operations of the facility are changed such that all applicable GHG emitting processes and operations listed in WAC 173-441-120 permanently cease to operate.

(2) **Emissions subject to third-party verification.** All covered GHG emissions under chapter 173-442 WAC are subject to the requirements of this section.

(3) **Verification standards.** The third-party verifier must certify that annual GHG reports meet the following conditions:

(a) Annual GHG reports must be consistent with the relevant requirements and methods in this chapter.

(b) The absolute value of any discrepancy, omission, or misreporting, or aggregation of the three, must be less than five percent of total reported covered emissions (metric tons of CO_2e) or the verification will result in an adverse verification statement. This standard also separately applies to any covered product data in the annual GHG report.

(i) "Discrepancies" means any differences between the reported covered emissions or covered product data and the third-party verifier's review of covered emissions or covered product data for a data source or product data subject to this section.

(ii) "Omissions" means any covered emissions or covered product data the third-party verifier concludes must be part of the annual GHG report, but were not included by the reporting entity in the annual GHG report.

(iii) "Misreporting" means duplicate, incomplete or other covered emissions the third-party verifier concludes should, or should not, be part of the annual GHG report or duplicate or other product data the verifier concludes should not be part of the annual GHG report.

(iv) "Total reported covered emissions or covered product data" means the total annual reporting entity covered emissions or total reported covered product data for which the third-party verifier is conducting an assessment.

(4) **Verification services.**

(a) Full verification is required at least once every three reporting years. The first year of third-party verification for a facility must be full verification. An owner or operator may choose to obtain less intensive verification services for the remaining two years in the three-year period as long as:

(i) No year in the three-year period has an adverse verification statement;

(ii) The third-party verifier can provide findings with a reasonable level of assurance;

(iii) There has not been a change in the third-party verifier;

(iv) There has not been a change in operational control of the facility; and

(v) There has not been a significant change in sources or emissions. A difference in emissions of greater than twenty-five percent relative to the preceding year's emissions is considered significant unless that change can be directly shown to result from a verifiable change in product data.

(b) Full verification. A full verification report must be in a format specified by ecology and contain:

(i) Documentation identifying the facility reporting emissions and the scope of emissions verified in the report.

(ii) Documentation identifying the third-party verifier, including all relevant information about the third-party verifier in subsection (7)(a) of this section and the names, roles, and sector specific qualifications (if any) of all individuals working on the verification report.

(iii) Documentation demonstrating and certifying that the requirements of subsection (7)(b) and (c) of this section have been met.

(iv) A verification plan that details the data and methodologies used to verify the annual GHG report and schedule describing when the verification services occurred. This must include a sampling plan that describes how the third-party verifier prioritized which emissions to verify and a summary of the data checks used to determine the reliability of the annual GHG report. Full verification requires a more complete sampling of data and additional data checks than less intensive verification.

(v) Documentation of the third-party verifier's review of facility operations to identify applicable GHG emissions sources and product data. Any applicable GHG emissions sources or product data not included in the annual GHG report must be identified. The third-party verifier must also ensure that the reported current NAICS code(s) accurately represents the activities on-site.

(vi) Documentation of any corrections made to the annual GHG report.

(vii) Documentation supporting the third-party verifiers' findings evaluating if the annual GHG report is compliant with the requirements in subsection (3) of this section. This must include a log of any issues (if any) identified in the course of verification, their potential impact on the quality of the annual GHG report, and their resolution.

(viii) The individuals conducting the third-party verification must certify that the verification report is true, accurate, and complete to the best of their knowledge and belief.

(ix) Information about the required on-site visit, including date(s) and a description of the verification services conducted on-site. At least one accredited verifier in the verification team, including the sector specific verifier, if applicable, must at a minimum

make one site visit, during each year full verification is required. The third-party verifier must visit the headquarters or other location of central data management when the facility is a supplier of petroleum products or supplier of natural gas and natural gas liquids. During the site visit, the third-party verifier must:

(A) Confirm that all applicable emissions are included in the annual GHG report.

(B) Check that all sources specified in the annual GHG report are identified appropriately.

(C) Review and understand the data management systems used by the owners or operators to track, quantify, and report GHG emissions and, when applicable, product data and fuel transactions. The third-party verifier must evaluate the uncertainty and effectiveness of these systems.

(D) Interview key personnel.

(E) Make direct observations of equipment for data sources and equipment supplying data for sources determined to be high risk.

(F) Assess conformance with measurement accuracy, data capture, and missing data substitution requirements.

(G) Review financial transactions to confirm fuel, feedstock, and product data, and confirming the complete and accurate reporting of required data such as facility fuel suppliers, fuel quantities delivered, and if fuel was received directly from an interstate pipeline.

(c) Less intensive verification. A less intensive verification report must be in a format specified by ecology and meet the requirements of subsection (4)(b)(i) through (viii) of this section. Less intensive verification of an annual GHG report allows for less detailed data checks and document reviews of the annual GHG report based on the analysis and risk assessment in the most current sampling plan developed as part of the most current full verification.

(5) **Annual GHG report corrections.** Owners or operators subject to this section must correct errors in their annual GHG report.

(a) Corrections are required if errors are identified by:

(i) The third-party verifier;

(ii) The owner or operator;

(iii) Ecology; or

(iv) EPA.

(b) The owner or operator must fix all correctable errors that affect covered emissions, noncovered emissions, or covered product data in the submitted emissions data report, and submit a revised emissions data report to ecology. Failure to do so will result in an adverse verification statement.

(c) Failure to fix correctable errors that do not affect covered emissions, noncovered emissions, or covered product data represents a nonconformance with this chapter but does not, absent other errors, result in an adverse verification statement.

(d) The owner or operator must maintain documentation to support any revisions made to the initial emissions data report. Documentation for all emissions data report submittals must be retained by the reporting entity for ten years.

(6) **Timing.** The third-party verifier must submit a complete verification report to ecology for each year as required under subsection (1) of this section no later than one hundred fifty days after the report submission due date for the facility, specified in WAC 173-441-050(2) for GHG emissions occurring in the previous calendar year. Any corrections to the annual GHG report or verification report must be submitted to ecology no later than forty-five days after dis-

covery of the error. Records must be retained following the requirements of WAC 173-441-050(6).

(7) **Eligible third-party verifiers.**

(a) Owners or operators subject to this section must have their annual GHG report verified by a third-party verifier certified by ecology. Certification requires:

(i) Registering as a third-party verifier with ecology. Registration is required for both the verification organization and all individuals performing verification services for the verification organization.

(ii) Demonstrating to ecology's satisfaction that the third-party verifier has sufficient knowledge of the relevant methods and protocols in this chapter. Certification may be limited to certain types or sources of emissions.

(iii) Active accreditation or recognition as a third-party verifier under at least one of the following GHG programs:

(A) California ARB's Mandatory Reporting of Greenhouse Gas Emissions program;

(B) The Climate Registry;

(C) Climate Action Reserve;

(D) American National Standards Institute (ANSI);

(E) Accredited ISO 14064 registrars; or

(F) Other GHG verification standard approved by ecology.

(b) An owner or operator must not use the same third-party verifier (either organization or individuals) for a period of more than six consecutive years. The owner or operator must wait at least three years before using the previous third-party verifier to verify their annual GHG reports.

(c) An owner or operator and third-party verifier must certify that there is not a conflict of interest in verifying the annual GHG report. The potential for a conflict of interest must be deemed to be high where:

(i) The third-party verifier and facility share any management staff or board of directors membership, or any of the senior management staff of the facility have been employed by the third-party verifier, or vice versa, within the previous five years; or

(ii) Any employee of the third-party verifier, or any employee of a related entity, or a subcontractor who is a member of the verification team has provided to the facility any services within the previous five years.

(iii) Any staff member of the third-party verifier provides any type of incentive to a facility to secure a verification services contract.

(8) **Ecology verification.** Ecology retains full authority in determining if an annual GHG report contains a discrepancy, omission, or misreporting, or any aggregation of the three, that impacts the verification status of the annual GHG report. Ecology may issue an adverse verification statement for an annual GHG report even if the annual GHG report has received a positive verification statement from the third-party verifier. Ecology may also issue an adverse verification statement for:

(a) Failure to submit a complete annual GHG report in a timely manner;

(b) Failure to complete third-party verification if required by this subsection; or

(c) Other forms of noncompliance with this chapter.

NEW SECTION

WAC 173-441-086 Assigned emissions level. (1) Ecology may assign an emissions level to any annual GHG report that:

(a) Failed to submit a complete annual GHG report by the report submission due date, specified in WAC 173-441-050(2);

(b) Failed to meet the third-party verification requirements in WAC 173-441-085;

(c) Has an adverse verification statement; or

(d) Ecology determines the absolute value of any discrepancy, omission, or misreporting, or aggregation of the three, is at least five percent of total reported covered emissions (metric tons of CO_2e). This standard also separately applies to any covered product data in the annual GHG report.

(i) "Discrepancies" means any differences between the reported covered emissions or covered product data and ecology's review of covered emissions or covered product data for a data source or product data.

(ii) "Omissions" means any covered emissions or covered product data ecology concludes must be part of the annual GHG report, but were not included by the reporting entity in the annual GHG report.

(iii) "Misreporting" means duplicate, incomplete or other covered emissions ecology concludes should, or should not, be part of the annual GHG report or duplicate or other product data ecology concludes should not be part of the annual GHG report.

(iv) "Total reported covered emissions or covered product data" means the total annual reporting entity covered emissions or total reported covered product data for which ecology is conducting an assessment.

(2) The assigned emissions level must be used when determining compliance with chapter 173-442 WAC.

(3) Ecology must use conservative assumptions when setting the assigned emissions level to avoid underestimating emissions in a compliance year or overestimating emissions in a baseline year.

(a) Within five working days of a written request by ecology, the third-party verifier (if applicable) must provide any available verification services information or correspondence related to the emissions data.

(b) Within five working days of a written request by ecology, the owner or operator of a facility must provide the data that is required to calculate GHG emissions for the facility according to the requirements of this chapter, the preliminary or final detailed verification report prepared by the third-party verifier (if applicable), and other information requested by ecology, including the operating days and hours of the facility during the data year. The owner or operator must also make available personnel who can assist ecology's determination of an assigned emissions level for the data year.

(4) Ecology may adjust the assigned emissions level if the owner or operator is able to obtain a positive verification statement for the annual GHG report at a later date.

AMENDATORY SECTION (Amending WSR 15-04-051, filed 1/29/15, effective 3/1/15)

WAC 173-441-090 Compliance and enforcement. (1) **Violations.** Any violation of any requirement of this chapter must be a violation of chapter 70.94 RCW and subject to enforcement as provided in that chapter. A violation includes, but is not limited to, failure to report GHG emissions by the reporting deadline, failure to report accurately, failure to collect data needed to calculate GHG emissions, failure to continuously monitor and test as required, failure to retain records needed to verify the amount of GHG emissions, failure to calculate GHG emissions following the methodologies specified in this chapter, failure to have the annual GHG report third-party verified, and failure to pay the required reporting fee. Each day and each metric ton CO_2e of emissions of a violation constitutes a separate violation.

(2) **Enforcement responsibility.** Ecology must enforce the requirements of this chapter unless ecology approves a local air authority's request to enforce the requirements for persons operating within the authority's jurisdiction.

AMENDATORY SECTION (Amending WSR 10-24-108, filed 12/1/10, effective 1/1/11)

WAC 173-441-110 Fees. (1) **Fee determination.** All persons required to report ((~~or voluntarily reporting~~)) under WAC 173-441-030(1) must pay a reporting fee for each year they submit a report to ecology. Ecology must establish reporting fees based on workload using the process outlined below. The fees must be sufficient to cover ecology's costs to administer the GHG emissions reporting program.

(2) **Fee eligible activities.** All costs of activities associated with administering this reporting program, as described in RCW 70.94.151(2), are fee eligible.

(3) **Workload analysis and budget development.** Each biennium, ecology must conduct a workload analysis and develop a budget based on the process outlined below:

(a) Ecology must conduct a workload analysis projecting resource requirements for administering the reporting program, organized by categories of fee eligible activities, for the purpose of preparing the budget. Ecology must prepare the workload analysis for the two-year period corresponding to each biennium. The workload analysis must identify the fee eligible administrative activities related to the reporting program that it will perform during the biennium and must estimate the resources required to perform these activities.

(b) Ecology must prepare a budget for administering the reporting program for the two-year period corresponding to each biennium. Ecology must base the budget on the resource requirements identified in the workload analysis for the biennium and must take into account the reporting program account balance at the start of the biennium.

(4) **Allocation methodology.** ((~~Ecology must allocate the reporting program budget among the persons required to report or voluntarily reporting under WAC 173-441-030 according to the following components:~~

~~(a)~~)) The reporting fee for an owner or operator of a facility required to report ((~~or voluntarily reporting~~)) under WAC 173-441-030(1) is calculated by the equal division of ((~~seventy-five percent of~~)) the budget amount by the total number of facilities ((~~reporting~~)) required to report GHG emissions under this chapter in a given calendar year. A person required to report ((~~or voluntarily reporting~~)) multiple facilities under WAC 173-441-030(1) must pay a fee for each facility reported.

((~~(b) The reporting fee for a supplier required to report or voluntarily reporting under WAC 173-441-030 is calculated by the equal division of twenty-five percent of the budget amount by the total number of suppliers reporting GHG emissions under this chapter in a given calendar year.~~

~~(c) A person required to report or voluntarily reporting under WAC 173-441-030 both as an owner or operator of a facility or facilities and as a supplier must pay a fee for each facility reported and a fee for reporting as a supplier.~~))

(5) **Fee schedule.** Ecology must issue annually a fee schedule reflecting the reporting fee to be paid per facility or supplier. Ecology must base the fee schedule on the budget and workload analysis described above and conducted each biennium. Ecology must publish the fee schedule for the following year on or before October 31st of each year.

(6) **Fee payments.** Fees specified in this section must be paid within sixty days of receipt of ecology's billing statement. All fees collected under this chapter must be made payable to the Washington department of ecology. A late fee surcharge of fifty dollars or ten percent of the fee, whichever is more, may be assessed for any fee received after ninety days past the due date for fee payment.

(7) **Dedicated account.** Ecology must deposit all reporting fees they collect in the air pollution control account.

AMENDATORY SECTION (Amending WSR 15-04-051, filed 1/29/15, effective 3/1/15)

WAC 173-441-120 Calculation methods incorporated by reference from 40 C.F.R. Part 98 for facilities. Owners and operators of facilities that are subject to this chapter must follow the requirements of this chapter and all subparts of 40 C.F.R. Part 98 listed in Table 120-1 of this section. If a conflict exists between a provision in WAC 173-441-050(3) through 173-441-080 and any applicable provision of this section, the requirements of this section must take precedence.

(1) **Source categories and calculation methods for facilities.** An owner or operator of a facility subject to the requirements of this chapter must report GHG emissions, including GHG emissions from biomass, from all applicable source categories in Washington state listed in Table 120-1 of this section using the methods incorporated by reference in Table 120-1. Table 120-1 and subsection (2) of this section list modifications and exceptions to calculation methods adopted by reference in this section. ((~~CO_2 collected and transferred off-site must be included in the emissions calculation as required under WAC 173-441-030 (1)(b)(iv) using the methods established in 40 C.F.R. Part 98 Subpart PP as adopted by January 1, 2015. Owners or operators are~~

~~not required to comply with requirements in Subpart PP that do not address CO_2 collected and transferred off-site.~~))

Table 120-1:
Source Categories and Calculation Methods
Incorporated by Reference from 40 C.F.R. Part 98 for Facilities

Note: All source categories in Table 120-1 are considered facilities even if the source category name includes the word "supplier."

Source Category	40 C.F.R. Part 98 Subpart*	Exceptions to Calculation Method or Applicability Criteria+#
General Stationary Fuel Combustion Sources	C	
Electricity Generation	D	
Adipic Acid Production	E	
Aluminum Production	F	
Ammonia Manufacturing	G	
Cement Production	H	
Electronics Manufacturing	I	In § 98.91, replace "To calculate total annual GHG emissions for comparison to the 25,000 metric ton CO_2e per year emission threshold in paragraph § 98.2 (a)(2), follow the requirements of § 98.2(b), with one exception" with "To calculate GHG emissions for comparison to the emission threshold in WAC 173-441-030(1), follow the requirements of WAC 173-441-030 (1)(b), with one exception."
Ferroalloy Production	K	
Fluorinated Gas Production	L	In § 98.121, replace "To calculate GHG emissions for comparison to the 25,000 metric ton CO_2e per year emission threshold in § 98.2 (a)(2)" with "To calculate GHG emissions for comparison to the emission threshold in WAC 173-441-030(1)."
Glass Production	N	
HCFC-22 Production and HFC-23 Destruction	O	
Hydrogen Production	P	
Iron and Steel Production	Q	
Lead Production	R	
Lime Manufacturing	S	
Magnesium Production	T	
Miscellaneous Uses of Carbonate	U	
Nitric Acid Production	V	
Petroleum and Natural Gas Systems	W	§ 98.231(a) should read: "You must report GHG emissions under this subpart if your facility contains petroleum and natural gas systems and the facility meets the requirements of WAC 173-441-030(1)."
Petrochemical Production	X	
Petroleum Refineries	Y	
Phosphoric Acid Production	Z	
Pulp and Paper Manufacturing	AA	
Silicon Carbide Production	BB	
Soda Ash Manufacturing	CC	

Source Category	40 C.F.R. Part 98 Subpart*	Exceptions to Calculation Method or Applicability Criteria[+#]
Electrical Transmission and Distribution Equipment Use	DD	§ 98.301 should read: "You must report GHG emissions under this subpart if your facility contains any electrical transmission and distribution equipment use process and the facility meets the requirements of WAC 173-441-030(1)." See subsection (2)(f) of this section.
Titanium Dioxide Production	EE	
Underground Coal Mines	FF	
Zinc Production	GG	
Municipal Solid Waste Landfills	HH	CO_2 from combustion of landfill gas must also be included in calculating emissions for reporting and determining if the reporting threshold is met.
Industrial Wastewater Treatment	II	CO_2 from combustion of wastewater biogas must also be included in calculating emissions for reporting and determining if the reporting threshold is met.
Manure Management	JJ	See subsection (2)(e) of this section.
Suppliers of Coal-Based Liquid Fuels	LL	§ 98.380(b) should read: "An importer or exporter shall have the same meaning given in WAC 173-441-120 (2)(h)." § 98.381 should include: "Reporting of exports is voluntary."
Suppliers of Petroleum Products	MM	§ 98.391 should read: "Any refiner or importer that meets the requirements of WAC 173-441-030(1) must report GHG emissions. Any exporter of petroleum products and natural gas liquids may report GHG emissions associated with exported petroleum products using the methods established in this subpart." See subsection (2)(h) of this section.
Suppliers of Natural Gas and Natural Gas Liquids	NN	§ 98.401 should read: "Any supplier of natural gas and natural gas liquids that meets the requirements of WAC 173-441-030(1) must report GHG emissions."
Suppliers of Industrial Greenhouse Gases	OO	§ 98.411 should include: "Reporting of exports is voluntary."
Suppliers of Carbon Dioxide	PP	((~~Owners or operators are only required to calculate and report emissions specified in WAC 173-441-030 (1)(b)(iv).~~)) § 98.421 should read: "Any supplier of CO_2 who meets the requirements of WAC 173-441-030(1) must report the mass of CO_2 captured, extracted, or imported. The mass of CO_2 exported may be reported using the methods established in this subpart."
Importers and Exporters of Fluorinated Greenhouse Gases Contained in Pre-Charged Equipment or Closed-Cell Foams	QQ	§ 98.431 should read: "Any importer of fluorinated GHGs contained in pre-charged equipment or closed-cell foams who meets the requirements of WAC 173-441-030(1) must report each fluorinated GHG contained in the imported pre-charged equipment or closed-cell foams. Any exporter of fluorinated GHGs contained in pre-charged equipment or closed-cell foams may report GHG emissions associated with exported products using the methods established in this subpart."
Geologic Sequestration of Carbon Dioxide	RR	§ 98.441(a) should read: "You must report GHG emissions under this subpart if any well or group of wells within your facility injects any amount of CO_2 for long-term containment in subsurface geologic formations and the facility meets the requirements of WAC 173-441-030(1)."
Electrical Equipment Manufacture or Refurbishment	SS	§ 98.451 should read: "You must report GHG emissions under this subpart if your facility contains an electrical equipment manufacturing or refurbishing process and the facility meets the requirements of WAC 173-441-030(1)."

Source Category	40 C.F.R. Part 98 Subpart*	Exceptions to Calculation Method or Applicability Criteria+#
Industrial Waste Landfills	TT	CO_2 from combustion of landfill gas must also be included in calculating emissions for reporting and determining if the reporting threshold is met.
Injection of Carbon Dioxide	UU	§ 98.471 should read: "(a) You must report GHG emissions under this subpart if your facility contains an injection of carbon dioxide process and the facility meets the requirements of WAC 173-441-030(1). For purposes of this subpart, any reference to CO_2 emissions in WAC 173-441-030 means CO_2 received."

* Unless otherwise noted, all calculation methods are from 40 C.F.R. Part 98, as adopted by ((~~January 1, 2015~~)) September 1, 2016.
+ Modifications and exceptions in subsection (2) of this section and WAC 173-441-010 through 173-441-050(2) also apply.
# Whenever the use of verification software is required or voluntarily used, the file generated by the verification software must be submitted with the facility's annual GHG report.

(2) **Modifications and exceptions to calculation methods adopted by reference.** Except as otherwise specifically provided:

(a) Wherever the term "administrator" is used in the rules incorporated by reference in this chapter, the term "director" must be substituted.

(b) Wherever the term "EPA" is used in the rules incorporated by reference in this chapter, the term "ecology" must be substituted.

(c) Wherever the term "United States" is used in the rules incorporated by reference in this chapter, the term "Washington state" must be substituted.

(d) Wherever a calculation method adopted by reference in Table 120-1 of this section or a definition adopted by reference from 40 C.F.R. Part 98.6 refers to another subpart or paragraph of 40 C.F.R. Part 98:

(i) If Table 120-2 of this section lists the reference, then replace the reference with the corresponding reference to this chapter as specified in Table 120-2.

(ii) If the reference is to a subpart or subsection of a reference listed in Table 120-2 of this section, then replace the reference with the appropriate subsection of the corresponding reference to this chapter as specified in Table 120-2.

(iii) If the reference is to a subpart or paragraph of 40 C.F.R. Part 98 Subparts C through UU incorporated by reference in Table 120-1, then use the existing reference except as modified by this chapter.

(e) For manure management, use the following subsections instead of the corresponding subsections in 40 C.F.R. § 98.360 as adopted by ((~~January 1, 2015~~)) September 1, 2016.

(i) 40 C.F.R. § 98.360(a): This source category consists of livestock facilities with manure management systems.

(A) § 98.360 (a)(1) is not adopted by reference.

(B) § 98.360 (a)(2) is not adopted by reference.

(ii) 40 C.F.R. § 98.360(b): A manure management system (MMS) is a system that stabilizes and/or stores livestock manure, litter, or manure wastewater in one or more of the following system components: Uncovered anaerobic lagoons, liquid/slurry systems with and without crust covers (including, but not limited to, ponds and tanks), storage pits, digesters, solid manure storage, dry lots (including feedlots), high-rise houses for poultry production (poultry without litter), poultry production with litter, deep bedding systems for cattle and swine, manure composting, and aerobic treatment.

(iii) 40 C.F.R. § 98.360(c): This source category does not include system components at a livestock facility that are unrelated to the stabilization and/or storage of manure such as daily spread or pasture/range/paddock systems or land application activities or any method of manure utilization that is not listed in § 98.360(b) as modified in WAC 173-441-120 (2)(e)(ii).

(iv) 40 C.F.R. § 98.360(d): This source category does not include manure management activities located off-site from a livestock facility or off-site manure composting operations.

(v) 40 C.F.R. § 98.361: Livestock facilities must report GHG emissions under this subpart if the facility contains a manure management system as defined in 98.360(b) as modified in WAC 173-441-120 (2)(e)(ii), and meets the requirements of WAC 173-441-030(1).

(vi) 40 C.F.R. § 98.362 (b) and (c) are not adopted by reference.

(vii) 40 C.F.R. § 98.362(a), 40 C.F.R. § 98.363 through 40 C.F.R. § 98.368, Equations JJ-2 through JJ-15, and Tables JJ-2 through JJ-7 as adopted by ((~~January 1, 2015~~)) September 1, 2016, remain unchanged unless otherwise modified in this chapter.

(viii) CO_2 from combustion of gas from manure management must also be included in calculating emissions for reporting and determining if the reporting threshold is met.

(f) For electrical transmission and distribution equipment use facilities where the electrical power system crosses Washington state boundaries, limit the GHG report to emissions that occur in Washington state using one of the following methods:

(i) Direct, state specific measurements;

(ii) Prorate the total emissions of the electric power system based upon either nameplate capacity or transmission line miles in the respective service areas by state using company records. Update the nameplate capacity or transmission line miles factor each reporting year and include the data used to establish the nameplate capacity or transmission line miles factor with your annual GHG report((.));

(iii) Prorate the total emissions of the electric power system based upon population in the respective service areas by state using the most recent U.S. Census data. Update the population factor each reporting year and include the data used to establish the population factor with your annual GHG report.

(g) Use the following method to obtain specific version or date references for any reference in 40 C.F.R. Part 98 that refers to any document not contained in 40 C.F.R. Part 98:

(i) If the reference in 40 C.F.R. Part 98 includes a specific version or date reference, then use the version or date as specified in 40 C.F.R. Part 98.

(ii) If the reference in 40 C.F.R. Part 98 does not include a specific version or date reference, then use the version of the referenced document as available on the date of adoption of this chapter.

(h) For suppliers of petroleum products or coal-based liquid fuels, use the following subsections instead of the corresponding subsections in 40 C.F.R. § 98.390 as adopted by September 1, 2016.

(i) 40 C.F.R. § 98.390: Definition of the source category.

This source category consists of petroleum refineries and importers and exporters of petroleum products and natural gas liquids as listed in Table MM-1 of this subpart.

(A) A petroleum refinery for the purpose of this subpart is any facility engaged in producing petroleum products through the distillation of crude oil.

(B) A refiner is the owner or operator of a petroleum refinery.

(C) Importer has the same meaning given in subsection (2)(h)(ii) of this section and includes any entity that imports petroleum products, natural gas liquids, or coal-based liquid fuels as listed in Table MM-1 of this subpart. Any blender or refiner of refined or semi-refined petroleum products shall be considered an importer if it otherwise satisfies the aforementioned definition.

(D) Exporter has the same meaning given in subsection (2)(h)(ii) of this section and includes any entity that exports petroleum products, natural gas liquids, or coal-based liquid fuels as listed in Table MM-1 of this subpart. Any blender or refiner of refined or semi-refined petroleum products shall be considered an exporter if it otherwise satisfies the aforementioned definition.

(ii) Definitions specific to imports and exports:

(A) Export means to transport a product from inside Washington state to persons outside Washington state, excluding any such transport on behalf of the United States military including foreign military sales under the Arms Export Control Act. The final destination of the product must occur outside of Washington state.

(B) Exporter means any person, company or organization of record that transfers for sale or for other benefit, products from Washington state to another state, country, or to an affiliate in another country, excluding any such transfers on behalf of the United States military or military purposes including foreign military sales under the Arms Export Control Act. The final destination of the product must occur outside of Washington state. An exporter is not the entity merely transporting the domestic products, rather an exporter is the entity deriving the principal benefit from the transaction.

(C) Import means, to land on, bring into, or introduce into, any place subject to the jurisdiction of Washington state.

(D) Importer means any person, company, or organization of record that for any reason brings a product into Washington state from a different state or foreign country, excluding introduction into Washington state jurisdiction exclusively for United States military purposes. The term includes, as appropriate:

(I) The consignee.

(II) The importer of record.

(III) The actual owner.

(IV) The transferee, if the right to draw merchandise in a bonded warehouse has been transferred.

(iii) Each importer shall report all information at the state level.

(iv) Each exporter choosing to report emissions associated with exported products to ecology under these subparts shall report all information at the state level:

(v) Exporters choosing to report emissions associated with exported products to ecology under these subparts and refineries and importers must report information for each product where emissions were calculated.

Table 120-2:
Corresponding References in 40 C.F.R. Part 98 and Chapter 173-441 WAC

Reference in 40 C.F.R. Part 98		Corresponding Reference in Chapter 173-441 WAC	
Section	**Topic**	**Section**	**Topic**
40 C.F.R. Part 98 or "part"	Mandatory Greenhouse Gas Reporting	Chapter 173-441 WAC	Reporting of Emissions of Greenhouse Gases

Reference in 40 C.F.R. Part 98		Corresponding Reference in Chapter 173-441 WAC	
Subpart A	General Provision	WAC 173-441-010 through 173-441-100	General Provisions
§ 98.1	Purpose and scope	WAC 173-441-010	Scope
§ 98.2	Who must report?	WAC 173-441-030	Applicability
§ 98.2(a)	Applicability: Facility reporting	WAC 173-441-030(1)	Applicability: Facility reporting
§ 98.2 (a)(1)	Applicability: Facility reporting Table A-3	WAC 173-441-030(1)	Applicability: Facility reporting
§ 98.2 (a)(2)	Applicability: Facility reporting Table A-4	WAC 173-441-030(1)	Applicability: Facility reporting
§ 98.2 (a)(3)	Applicability: Facility reporting source categories that meet all three of the conditions listed in this paragraph (a)(3)	WAC 173-441-030(1)	Applicability: Facility reporting
§ 98.2 (a)(4)	Applicability: Facility reporting Table A-5 source categories	WAC 173-441-030(1)	Applicability: Facility reporting
§ 98.2(b)	Calculating emissions for comparison to the threshold	WAC 173-441-030 (1)(b)	Calculating facility emissions for comparison to the threshold
§ 98.2(i)	Reporting requirements when emissions of greenhouse gases fall below reporting thresholds	WAC 173-441-030(5)	Reporting requirements when emissions of greenhouse gases fall below reporting thresholds
§ 98.3	What are the general monitoring, reporting, recordkeeping and verification requirements of this part?	WAC 173-441-050	General monitoring, reporting, recordkeeping and verification requirements
§ 98.3(c)	Content of the annual report	WAC 173-441-050(3)	Content of the annual report
§ 98.3(g)	Recordkeeping	WAC 173-441-050(6)	Recordkeeping
§ 98.3 (g)(5)	A written GHG monitoring plan	WAC 173-441-050 (6)(e)	A written GHG monitoring plan
§ 98.3(i)	Calibration accuracy requirements	WAC 173-441-050(8)	Calibration and accuracy requirements
§ 98.3 (i)(6)	Calibration accuracy requirements: Initial calibration	WAC 173-441-050 (8)(f)	Calibration accuracy requirements: Initial calibration
§ 98.4	Authorization and responsibilities of the designated representative	WAC 173-441-060	Authorization and responsibilities of the designated representative
§ 98.5	How is the report submitted?	WAC 173-441-070	Report submittal
§ 98.5(b)	Verification software	WAC 173-441-070(1)	Facility report submittal
§ 98.6	Definitions	WAC 173-441-020	Definitions
§ 98.7	What standardized methods are incorporated by reference into this part?	WAC 173-441-080	Standardized methods and conversion factors incorporated by reference
§ 98.8	What are the compliance and enforcement provisions of this part?	WAC 173-441-090	Compliance and enforcement
§ 98.9	Addresses	WAC 173-441-100	Addresses
Table A-1 to Subpart A of Part 98—Global Warming Potentials, Table A-1 of this part, or Table A-1 of this subpart	Global Warming Potentials	Table A-1 of WAC 173-441-040	Global Warming Potentials
Table A-2 to Subpart A of Part 98—Units of Measure Conversions	Units of Measure Conversions	Table A-2 of WAC 173-441-080	Units of Measure Conversions

(3) **Calculation methods for voluntary reporting.** GHG emissions reported voluntarily under WAC 173-441-030(4) must be calculated using the following methods:

(a) If the GHG emissions have calculation methods specified in Table 120-1 of this section, use the methods specified in Table 120-1.

(b) If the GHG emissions have calculation methods specified in WAC 173-441-130, use the methods specified in WAC 173-441-130.

(c) For all GHG emissions from facilities not covered in Table 120-1 of this section or persons supplying any product other than those listed in WAC 173-441-130, contact ecology for an appropriate calculation method no later than one hundred eighty days prior to the emissions report deadline established in WAC 173-441-050(2) or submit a petition for alternative calculation methods according to the requirements of WAC 173-441-140.

(4) **Alternative calculation methods approved by petition.** An owner or operator may petition ecology to use calculation methods other

than those specified in Table 120-1 of this section to calculate its facility GHG emissions. Such alternative calculation methods must be approved by ecology prior to reporting and must meet the requirements of WAC 173-441-140.

AMENDATORY SECTION (Amending WSR 15-04-051, filed 1/29/15, effective 3/1/15)

WAC 173-441-130 Calculation methods for suppliers. Suppliers of ((~~liquid~~)) motor vehicle fuel, special fuel, or aircraft fuel subject to the requirements of this chapter must calculate the CO_2 emissions that would result from the complete combustion or oxidation of each fuel that is reported to DOL as sold in Washington state using the methods in this section.

(1) **Applicable fuels.** Suppliers are responsible for calculating CO_2 emissions from the following applicable fossil fuels and biomass derived fuels:

(a) All taxed ((~~liquid~~)) motor vehicle fuel that the supplier is required to report to DOL as part of the supplier's filed periodic tax reports of motor vehicle fuel sales under chapter ((~~308-72 WAC~~)) 82.38 RCW.

(b) All taxed special fuel that the supplier is required to report to DOL as part of the supplier's filed periodic tax reports of special fuel sales under chapter ((~~308-77 WAC~~)) 82.38 RCW.

(c) All taxed and untaxed aircraft fuel supplied to end users that the supplier is required to report to DOL as part of the supplier's filed periodic tax reports of aircraft fuel under chapter ((~~308-78 WAC~~)) 82.42 RCW.

(2) Calculating CO_2 emissions separately for each fuel type. CO_2 emissions must be calculated separately for each applicable fuel type using Equation 130-1 of this section. Use Equation 130-2 of this section to separate each blended fuel into pure fuel types prior to calculating emissions using Equation 130-1.

$$CO_{2i} = Fuel\ Type_i \times EF_i \qquad (Eq.\ 130-1)$$

Where:

CO_{2i}	=	Annual CO_2 emissions that would result from the complete combustion or oxidation of each fuel type "i" (metric tons)
Fuel $Type_i$	=	Annual volume of fuel type "i" supplied by the supplier (gallons).
EF_i	=	Fuel type-specific CO_2 emission factor (metric tons CO_2 per gallon) found in Table 130-1 of this section.

$$Fuel\ Type_i = Fuel_i \times \%Vol_i \qquad (Eq.\ 130-2)$$

Where:

$Fuel\ Type_i$	=	Annual volume of fuel type "i" supplied by the supplier (gallons).
$Fuel_i$	=	Annual volume of blended fuel "i" supplied by the supplier (gallons).
$\%Vol_i$	=	Percent volume of product "i" that is $fuel\ type_i$.

(3) **Calculating total CO_2 emissions.** A supplier must calculate total annual CO_2 emissions from all fuels using Equation 130-3 of this section.

$$CO_{2x} = \sum(CO_{2i}) \qquad \textit{(Eq. 130 – 3)}$$

Where:

CO_{2x}	=	Annual CO_2 emissions that would result from the complete combustion or oxidation of all fuels (metric tons).
CO_{2i}	=	Annual CO_2 emissions that would result from the complete combustion or oxidation of each fuel type "i" (gallons).

(4) **Monitoring and QA/QC requirements.** Comply with all monitoring and QA/QC requirements under chapters 308-72, 308-77, and 308-78 WAC.

(5) **Data recordkeeping requirements.** In addition to the annual GHG report required by WAC 173-441-050 (6)(c), the following records must be retained by the supplier in accordance with the requirements established in WAC 173-441-050(6):

(a) For each fuel type listed in Table 130-1 of this section, the annual quantity of applicable fuel in gallons of pure fuel supplied in Washington state.

(b) The CO_2 emissions in metric tons that would result from the complete combustion or oxidation of each fuel type for which subsection (5)(a) of this section requires records to be retained, calculated according to subsection (2) of this section.

(c) The sum of biogenic CO_2 emissions that would result from the complete combustion oxidation of all supplied fuels, calculated according to subsection (3) of this section.

(d) The sum of nonbiogenic and biogenic CO_2 emissions that would result from the complete combustion oxidation of all supplied fuels, calculated according to subsection (3) of this section.

(e) All records required under chapters 308-72, 308-77, and 308-78 WAC in the format required by DOL.

Table 130-1:
Emission Factors for Applicable ((~~Liquid~~)) Motor Vehicle Fuels, Special Fuels, and Aircraft Fuels

Fuel Type (pure fuel)	Emission Factor (metric tons CO_2 per gallon)
Gasoline	0.008960
Ethanol (E100)	0.005767
Diesel	0.010230
Biodiesel (B100)	0.009421
Propane	0.005593

Fuel Type (pure fuel)	Emission Factor (metric tons CO_2 per gallon)
Natural gas	0.000055*
Kerosene	0.010150
Jet fuel	0.009750
Aviation gasoline	0.008310

Contact ecology to obtain an emission factor for any applicable fuel type not listed in this table.
*In units of metric tons CO_2 per scf. When using Equation 130-1 of this section, enter fuel in units of scf.