Greenhouse Gas Assessment for Projects (GAP) Rule
Washington Administrative Code (WAC) 173-445

Draft GAP Rule Language for Informal Review (Definitions and Applicability)

Washington State Department of Ecology
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Khả năng tiếp cận ADA

Bộ Môi Sinh cam kết cung cấp cho người khuyết tật quyền truy cập thông tin và dịch vụ bằng cách đáp ứng hoặc vượt quá các quy định của Đạo Luật Khuyết Tật-Americans with Disabilitities Act (ADA), Mục 504 và 508 của Đạo Luật Phục Hồi Chức Năng, và Chính Sách #188 của bang Washington.

Nếu qúy vị cần giúp đỡ cho người khuyết tật, xin liên hệ với Bộ Môi Sinh tại 360-407-6004 hoặc gửi điện thư theo địa chỉ tên.họ@ecy.wa.gov. Người khiếm thính, xin gọi Washington Relay Service số 711. Người khuyết tật nói, xin gọi TTY số 877-833-6341. Để biết thêm thông tin xin truy cập trang mạng Bộ Môi Sinh.

Definitions

(1) “Activity data” means a measurement or estimate used to calculate greenhouse gas emissions. This includes but is not limited to: organic compound mass or volume, flow rate, combustion unit rating, input use, output generation, and electricity use.

(2) “Actual emissions” means the actual rate of emissions in metric tons per year of any greenhouse gas emitted from a project over the preceding calendar year. Actual emissions shall be calculated using each emissions unit’s actual operating hours, production rates, and types of emissions during the preceding calendar year.

(3) “Applicability level” means the amount of an activity for a project, or combination of activities, that if met or exceeded means the project is subject to this rule.

(4) "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.

(5) “Facility” has the same meaning as given in WAC 173-441-020. Facility, with respect to an electric power system, organic compound transmission pipeline system, or organic compound pipeline distribution system means the entire electric power system, organic compound transmission pipeline system, or organic compound pipeline distribution system under common ownership or control in Washington state.

(6) “Global warming potential” or “GWP” means a measure of how much energy the emissions of a greenhouse gas will absorb over a given period of time, relative to the emissions of the same amount of CO_2.

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

(8) “Input” or “feedstock” means a material or energy flow that enters a unit process. As used in the International Organization for Standardization lifecycle assessment, this including raw materials, intermediate products and co-products.

(9) “Organic compound” means any of a large class of chemical compounds in which one or more atoms of carbon are covalently linked to atoms of other elements, most commonly hydrogen, oxygen, or nitrogen. Fossil fuels, biofuels, biomass, hydrocarbons, petrochemicals, and alcohols are organic compounds. The following are not considered organic compounds for purposes of this rule: carbides, carbonates, cyanides, carbon monoxide, carbon dioxide, foods, medicines, or other substances intended for human or animal consumption, unprocessed or processed biogenic inputs or outputs that are not intended for combustion such as finished wood products or textiles. Waste products are not included in this exemption.

(10) “Output” or “product” means a material or energy flow that leaves a unit process. As used in the International Organization for Standardization life cycle assessment, products and materials include raw materials, intermediate products, co-products and releases.

(11) “Potential to emit” or “PTE” means the maximum capacity of a source to emit a greenhouse gas under its physical and operational design. Any physical or operational limitation on the capacity of the source to emit a greenhouse gas, including air pollution control equipment and restrictions on hours of operation or on the type or amount of

material combusted, stored, or processed, may be treated as part of its design only if the limitation or the effect it would have on emissions is enforceable.

(12) "Project" means a proposed action by a private individual, entity, or public agency. A project includes all project facilities, transportation, inputs, outputs, and related actions.

(13) "Project facility" or "project facilities" means one or more facilities under operational control of the applicant that are associated with the project. Project facility only means the emissions sources and processes modified by the project for projects that include an existing facility.

Applicability

(1) **Requirements.** The applicant for any project that meets or exceeds the applicability level established in subsection (2) of this section must complete an environmental assessment of the project and a mitigation plan as described this rule. Applicants or lead agencies may, at their discretion, use the methods established in this rule if the project does not meet the applicability level established in subsection (2) of this section.

(2) **Applicability level.** The applicability amount is calculated by summing all the values calculated in subsections (2)(a), (b), and (c) of this section. Projects that use multiple emissions types, units, or organic compounds must calculate the applicability amount for each applicable emissions type, unit, or organic compound separately then sum all. The applicability level is pass or fail, so the applicant may cease calculations under this section once the applicability level is met. All calculations must be on an annual potential to emit basis and include all applicable GHGs using the GWPs in WAC 173-441-040. Use WAC 173-441-080 for any necessary unit conversions.

(a) **Organic compounds applicability level.** Use the following methods to calculate the applicability level for each organic compound. All organic compounds related to the project are part of the organic compound applicability level, including materials combusted, oxidized, or otherwise used at the project facility, inputs used by the project, and outputs from the project. The organic compounds applicability level is the sum of the values calculated for each applicable organic compound or process described in this subsection. Each unit of mass, volume, or rating of an organic compound should only be counted once if used for multiple purposes, but if the project converts an organic compound into a different organic compound, then both must be included in the organic compounds applicability level. The methods must be used in order beginning with subsection (2)(a)(i) of this section.

(i) Organic compounds listed in Table 1 of this section must use Table 1 to determine the project's organic compound applicability level. Projects that measure potential to emit on multiple bases must use the method from subsection (2)(a)(i) of this section that results in the higher organic compound applicability level for each organic compound.

(A) If the project measures an organic compound on a combustion unit rating basis, individually compare the maximum potential to emit combustion unit rating to the value listed in the Combustion Unit Rating Value column of Table 1 of this section for each organic

compound. Different potential to emit combustion unit ratings may be used for the same combustion unit if its different organic compounds have different limits for the combustion unit. Divide the project's potential to emit combustion unit rating by the applicable value in the Combustion Unit Rating Value column of Table 1 of this section. The result will be a percentage of the organic compound applicability level.

(B) If the project measures an organic compound on a mass or volume basis, individually compare the maximum potential to emit annual mass or volume to the value listed in the Mass or Volume Value column of Table 1 of this section for each organic compound. Calculations may sum all masses or volumes for a given organic compound before or after comparison to the table value. Divide the project's potential to emit annual mass or volume by the applicable value in the Mass or Volume Value column of Table 1 of this section. The result will be a percentage of the organic compound applicability level.

(C) Projects that result in a potential infrastructure expansion, such as increasing the capacity of a pipeline moving organic compounds, must use the maximum potential to emit infrastructure volume and flow rate attributable to the project to calculate a maximum potential to emit annual mass or volume. This only applies if the capacity to move a volume or mass of an organic compound is increased and does not apply to moving the same capacity to new locations or replacing existing infrastructure in a way that does not increase capacity. Use the maximum potential to emit annual mass or volume to complete calculations described in subsection (2)(a)(i)(B) of this section.

(ii) Organic compounds not listed in Table 1 of this section must use one of the following methods to determine the project's organic compound applicability level.

(A) For combustible organic compounds calculate CO_2 emissions using the organic compound's measured or literature derived carbon content. Multiply the maximum projected annual mass of the organic compound by the decimal fraction of the average carbon content of the organic compound. Multiply this value by 44/12 and convert the mass into units of metric tons CO_2 per year. Multiply this value by 1.02 to account for methane and nitrous oxide emissions to convert into metric tons CO_2e per year.

(B) For non-combustible organic compounds or combustible organic compounds without a known carbon content, use the methods from 40 CFR Part 98 as adopted in WAC 173-441-120.

(C) Divide the sum of all GHG emissions calculated using these methodologies (metric tons CO_2e/year) by ten thousand metric tons CO_2e. The result will be a percentage of the organic compounds applicability level.

(b) **Purchased electricity applicability level.** Use the following method to calculate the applicability level for purchased electricity.

(i) Use WAC 173-444-040(4) Equation 4 to calculate GHG emissions from purchased electricity.

(ii) Use total maximum projected annual purchased electricity (MWh/calendar year) for the project as the total electricity subject to this method, MWh/calendar year (Unspecified Electricity in Equation 4).

(iii) Divide the total of all GHG emissions calculated using the unspecified electricity methodology, metric tons CO_2e/year (unspecified in Equation 4) by ten thousand metric tons CO_2e. The result will be a percentage of the purchased electricity applicability level.

(c) **Process emissions applicability level.** Calculate any remaining eligible non-combustion and non-purchased electricity GHG emissions for the project using the calculation methods in WAC 173-441-120.

(i) The process emissions applicability level only applies to GHG emissions at project facilities.

(ii) GHG emissions from 40 CFR Part 98 Subparts C, D, LL, MM, NN, RR, and UU as adopted in WAC 173-441-120 are exempt from calculations under subsections (2)(c) of this section. GHG emissions included in other subparts from combustion and other processes already calculated in subsections (2)(a) or (b) are also exempt.

(iii) Divide the total of all GHG emissions calculated using this methodology (metric tons CO_2e/year) by ten thousand metric tons CO_2e. The result will be a percentage of the process emissions applicability level.

Table 1: Applicability Values for Organic Compounds

Organic Compound	Mass or Volume Value	Mass or Volume Units	Combustion Unit Rating Value (mmBTU)	Category	Biogenic
Natural Gas	183,000,000	standard cubic foot	21.2	Natural gas	No
Anthracite	3,800	short tons	10.8	Coal and coke	No
Bituminous	4,200	short tons	12.1	Coal and coke	No
Coal Coke	3,500	short tons	9.9	Coal and coke	No
Coal Mixed	4,000	short tons	11.8	Coal and coke	No
Lignite	7,100	short tons	11.5	Coal and coke	No
Subbituminous	5,900	short tons	11.6	Coal and coke	No
Asphalt and Road Oil	837,000	gallons	14.9	Petroleum products	No
Aviation Gasoline	1,190,000	gallons	16.3	Petroleum products	No
Butane	1,490,000	gallons	17.4	Petroleum products	No

Butylene	1,370,000	gallons	16.4	Petroleum products	No
Crude Oil	968,000	gallons	15.1	Petroleum products	No
DIPE	1,400,000	gallons	NA	Petroleum products	No
Distillate Fuel Oil No. 1	978,000	gallons	15.4	Petroleum products	No
Distillate Fuel Oil No. 2 (Diesel)	912,000	gallons	15.2	Petroleum products	No
Distillate Fuel Oil No. 4	909,000	gallons	15	Petroleum products	No
ETBE	1,370,000	gallons	NA	Petroleum products	No
Ethane	2,450,000	gallons	18.9	Petroleum products	No
Ethanol	1,730,000	gallons	16.5	Petroleum products	No
Ethylene	2,600,000	gallons	17.1	Petroleum products	No
Fuel Gas	120,000,000	standard cubic foot	19.1	Petroleum products	No
Gasoline	1,110,000	gallons	16	Petroleum products	No
GTBA	1,400,000	gallons	NA	Petroleum products	No
Heavy Gas Oils	898,000	gallons	15	Petroleum products	No
Isobutane	1,540,000	gallons	17.4	Petroleum products	No
Isobutylene	1,400,000	gallons	16.4	Petroleum products	No
Jet Fuel	1,020,000	gallons	15.6	Petroleum products	No
Kerosene	981,000	gallons	15	Petroleum products	No
Liquefied Petroleum Gases (LPG)	1,750,000	gallons	18.3	Petroleum products	No
Lubricants	931,000	gallons	15.2	Petroleum products	No
Methanol	2,400,000	gallons	NA	Petroleum products	No
MTBE	1,420,000	gallons	NA	Petroleum products	No
Naphtha (<401 °F)	1,170,000	gallons	16.6	Petroleum products	No
Naphthas (< 401 °F)	1,170,000	gallons	16.6	Petroleum products	No
Natural Gasoline	1,350,000	gallons	16.8	Petroleum products	No
Other Oil (>401 °F)	940,000	gallons	14.8	Petroleum products	No
Other Oils (> 401 °F)	943,000	gallons	14.8	Petroleum products	No
Pentanes Plus	1,290,000	gallons	16.1	Petroleum products	No
Petrochemical Feedstocks	1,120,000	gallons	15.9	Petroleum products	No
Petroleum Coke	681,000	gallons	22	Petroleum products	No
Petroleum Coke	3,200	short tons	22	Petroleum products	No
Propane	1,740,000	gallons	17.9	Petroleum products	No

Propane Gas	64,400,000	standard cubic foot	18.3	Petroleum products	No
Propylene	1,610,000	gallons	16.6	Petroleum products	No
Residual Fuel Oil No. 5 (Navy Special)	976,000	gallons	15.4	Petroleum products	No
Residual Fuel Oil No. 6 (Bunker C)	884,000	gallons	15	Petroleum products	No
Residuum	824,000	gallons	15	Petroleum products	No
Special Naphtha	1,100,000	gallons	15.6	Petroleum products	No
Still Gas	1,040,000	gallons	19.1	Petroleum products	No
TAME	1,320,000	gallons	NA	Petroleum products	No
Unfinished Oils	961,000	gallons	15.1	Petroleum products	No
Used Oil	975,000	gallons	15.2	Petroleum products	No
Waxes	1,040,000	gallons	NA	Petroleum products	No
Blast Furnace Gas	396,000,000	standard cubic foot	4.1	Other fuels	No
Coke Oven Gas	356,000,000	standard cubic foot	24.1	Other fuels	No
Plastics	3,400	short tons	15	Other fuels	No
Tires	4,000	short tons	13.1	Other fuels	No
Municipal Solid Waste	10,800	short tons	12.4	Other fuels	Mixed
Agricultural Byproducts	10,000	short tons	9.5	Biomass fuels	Yes
Biodiesel	1,050,000	gallons	15.3	Biomass fuels	Yes
Biogas (Captured Methane)	272,000,000	standard cubic foot	21.7	Biomass fuels	Yes
Landfill Gas	393,000,000	standard cubic foot	21.7	Biomass fuels	Yes
Peat	10,900	short tons	10.1	Biomass fuels	Yes
Rendered Animal Fat	1,120,000	gallons	15.9	Biomass fuels	Yes
Solid Byproducts	8,900	short tons	10.7	Biomass fuels	Yes
Vegetable Oil	1,020,000	gallons	13.8	Biomass fuels	Yes
Wood and Wood Residuals	6,000	short tons	12	Biomass fuels	Yes

Organic compounds with a Combustion Unit Rating Value of NA are ineligible for the method described in subsection (2)(a)(i)(A) of this section.