

$$GHG_i = \sum_{j=1}^n \left[N_j \times V_j \times \left(\frac{T_{SC}}{T_B \times P_{SC}} \right) \times (P_{b1} - P_{b2}) \right] \times MF_i \times \rho_i \times 0.001$$

Where:

GHG_i = Annual emissions of greenhouse gas i attributable to natural gas emissions to the atmosphere from equipment blowdown vent stacks, in metric tons;

n = Total number of types of equipment;

j = Type of equipment with the same gas volume in the blowdown equipment chambers between isolation valves;

N_j = Annual number of blowdowns for each equipment type j , determined in accordance with QC.29.4.3;

V_j = Total volume of blowdown equipment chambers, between isolation valves, for equipment type j , determined in accordance with QC.29.4.3, in cubic metres;

T_{SC} = Temperature at standard conditions of 293.15 kelvin;

T_B = Temperature at blowdown conditions, in kelvin;

P_{b1} = Absolute pressure before blowdown, in kilopascals;

P_{b2} = Absolute pressure after blowdown or a value of 0 if the purge gas used is not CO_2 or CH_4 , in kilopascals;

P_{SC} = Pressure at standard conditions of 101.325 kPa;

MF_i = Molar fraction of greenhouse gas i in natural gas, determined in accordance with paragraph 3 of QC.29.4;

ρ_i = Density of greenhouse gas i that is 1.830 kg per cubic metre for CO_2 and 0.668 kg per cubic metre for CH_4 at standard conditions;

0.001 = Conversion factor, kilograms to metric tons;

i = CO_2 or CH_4 .