

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

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 gas in 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;

$\rho_i$  = Density of greenhouse gas  $i$  that is 1.893 kg per cubic metre for  $CO_2$  and 0.690 kg per cubic metre for  $CH_4$  at standard conditions;

0.001 = Conversion factor, kilograms to metric tons;

$i$  =  $CO_2$  or  $CH_4$ .