$$CH_{4} = N \times H \times \frac{(P_{CV} + 101.325)}{101.325} \times f_{void} \times \frac{\Pi \times D^{2}}{4} \times \frac{16}{MVC} \times MF_{CH4} \times 0.001$$

Where:

CH<sub>4</sub> = Annual CH<sub>4</sub> emissions attributable to delayed coking processes, in metric tons;

N = Annual number of vessel openings for all vessels of the same dimensions in the coking unit;

H = Height of coking vessel, in metres;

 $P_{cv}$  = Gauge pressure of the coking vessel when opened to the atmosphere prior to coke cutting or, if the method in paragraph

2 is used, gauge pressure of the coking vessel when depressurization gases are first routed to the atmosphere, in kilopascals;

101.325 = Atmospheric pressure, in kilopascals;

 $f_{void}$  = Volumetric void fraction of coking vessel prior to the injection of water or steam, in cubic metres of gas at standard conditions per cubic metre of vessel;

 $\Pi = Pi$ , i.e. 3.1416;

 $D^2$  = Diameter of coking vessel, in square metres;

16 = Molecular weight of CH<sub>4</sub>, in kilograms per kilomole;

MVC = Molar volume conversion factor (24.06 m<sup>3</sup> per kilomole at standard conditions);

 $MF_{CH4}$  = Average mole fraction of  $CH_4$  in coking vessel gas based on the analysis of at least 2 samples per year, collected at least 4 months apart, in kilomoles of  $CH_4$  per kilomole of gas, wet basis;

0.001 = Conversion factor, kilograms to metric tons;