

Emission Calculation Methodology

Emissions to Air

A1

Parameters utilising CEMS data will be calculate via a spreadsheet which has been developed to calculate a daily mass emission based on a daily average of operational half hourly average data. This operational data is generated on a monthly basis for the EA monthly emission returns and hyperlinks have been established which will automatically use the calculated daily averages from each monthly submission throughout the year. The following parameters will be calculated using this method:

Carbon Monoxide (CO), Hydrogen Chloride (HCL), Sulphur Dioxide (SO₂), Ammonia (NH₃), Volatile Organic carbon (VOC), Particulate & Oxides of Nitrogen (NO_x).

In order to complete the calculation an average of volumetric flow data at reference conditions yielded from isokinetic stack testing campaigns conducted throughout the year will be utilised.

For parameters not covered by CEMS this utilises isokinetic stack testing data throughout the year in conjunction with average volumetric flow data at reference conditions. Both calculations will be determined based on actual run time when waste is being processed through the units which is based on valid half hourly data.

A3, A4 & A5

Isokinetic sampling results are used for emission points A3, A4 & A5 as mass emission rates of g/hr have been calculated for each parameter from each testing campaign during quarter 2 & 4. An average of this mass emission is calculated and applied to realistic run data. Emission point A4 for particulate and ammonia can be based on 24/365 running as the bio-filter continuously runs with no interruption. The particulate calculation for A3 must consider the times when the de-duster units is down for maintenance. The particulate mass emission is therefore based on the additions of A1, A3, A4 & A5 and the ammonia mass emission is based on the additions of A1 & A4.

Emissions to Water

Discharge to water doesn't apply.

Emissions to Land

Discharge to Land doesn't apply.

Emission to Sewer

Discharge to sewer is based on flow data (if available) for the year at S1 or it can be estimated using the maximum discharge volume per day 20m³ and an average of each parameter.

Waste

This is relatively straight forward as waste movements are recorded on a daily basis via the weighbridge system and monthly and quarterly waste returns are provided to the EA. Annual waste movements would therefore be a consolidation of previously recorded and submitted data.

It is worth noting that the emissions data utilised for OPRA calculations is also the data submitted as part of the pollution inventory and resource efficiency physical index submissions which will demonstrate consistency to the EA.