

Measurement types and methodologies used by operators to produce releases and off-site transfers for reporting

Operators determine releases and off-site transfers using one of the three method types called Measurement, Calculation or Estimation. The appropriate method type is determined by the best information available to the operator. There is no hierarchy of data quality related to these method types although there is a hierarchy of the exactness of information available to an operator. A measurement type and an estimation type might produce the same release value. The confidence of the exactness of the release value should be greater with a measurement than the estimation. However, greater confidence in the exactness of the release value can only be assured if the correct accredited methodology is used by a suitably trained technician using properly calibrated sampling equipment for the specific process type and substance.

The method types are explained in detailed in the table below.

Measurement types:

Class M:	Release data are based on measurements (“M”). Additional calculations are needed to convert the results of measurements into annual release data. For these calculations the results of flow determinations are needed. “M” should also be used when the annual releases are determined based on the results of short term and spot measurements. “M” is used when the releases of a facility are derived from direct monitoring results for specific processes at the facility, based on actual continuous or discontinuous measurements of pollutant concentrations for a given release route.
Class C:	Release data are based on calculations (“C”). “C” is used when the releases are based on calculations using activity data (fuel used, production rate, etc.) and emission factors or mass balances. In some cases more complicated calculation methods can be applied, using variables like temperature, global radiance etc.
Class E:	Release data are based on non-standardised estimations (“E”). “E” is used when the releases are determined by best assumptions or expert guesses that are not based on publicly available references or in case of absence of recognised emission estimation methodologies or good practice guidelines.

Where the total release of a pollutant at a facility is determined by more than one method type (e.g. M and C), the method with the highest amount of release is chosen for reporting. For example, the release of an air pollutant at a site occurs at two stacks (stack A and stack B) exceeds the relevant pollutant threshold. The release at stack A is measured and amounts 100 kg/year. The release at stack B is calculated and amounts 50 kg/year. Since the highest amount of release (100 kg/year) is measured, the total release (150 kg/year) is based on the Measurement method type.

Where reported data are based on measurements or calculations (“M” or “C”), the methodology used to determine the release or transfer value shall be indicated. To this end the following designations are used for each method type.

Methods and methodologies

Method used for determination of releases/off-site transfers	Designation of the methodology used
Measurement (M) methodologies	
Internationally approved measurement standard	short designation of the relevant standard (e.g. EN 14385:2004)
Measurement methodology already prescribed by the SEPA in a licence or an operating permit for that facility	PER*
National or regional binding measurement methodology prescribed by legal act for the pollutant and facility concerned	NRB*
Alternative Measurement Method in accordance with existing CEN/ISO measurement standards	ALT
Measurement methodology the performance of which is demonstrated by means of certified reference materials and accepted by competent authority	CRM
Other measurement methodology	OTH*
Calculation (C) methodologies	
Internationally approved calculation method	short designation of the method used: ETS, IPCC, UNECE/EMEP
Calculation methodology already prescribed by the competent authority in a licence or an operating permit for that facility	PER*
National or regional binding calculation methodology prescribed by legal act for the pollutant and facility concerned	NRB*
Mass balance method which is accepted by the competent authority	MAB*
European-wide sector specific calculation method	SSC
Other calculation methodology	OTH*
Note: In addition to the three letter abbreviation (e.g. NRB) the short designation (e.g. VDI 3873) or a short description of the methodology could be given.	
Estimation (E) methodologies	
A description of the methodology used must be reported to SEPA.	
Waste transfer determination methods	

Measurement = Weighing

Calculation – as above

Estimation - AA description of the methodology used must be reported to SEPA.