

ANNEX IV

Activity-specific monitoring methodologies related to installations (Article 20(2))

1. Specific monitoring rules for emissions from combustion processes

A. *Scope*

Operators shall monitor CO₂ emissions from all types of combustion processes taking place under all activities as listed in Annex I to Directive 2003/87/EC or included in the Union Scheme under Article 24 of that Directive including the related scrubbing processes using the rules laid down in this Annex. Any emissions from fuels used as process input shall be treated like combustion emissions with regard to monitoring and reporting methodologies, without prejudice to other classifications applied to emissions.

The operator shall not monitor and report emissions from internal combustion engines for transportation purposes. The operator shall assign all emissions from the combustion of fuels at the installation to the installation, regardless of exports of heat or electricity to other installations. The operator shall not assign emissions associated with the production of heat or electricity that is imported from other installations to the importing installation.

The operator shall include at least the following emission sources: boilers, burners, turbines, heaters, furnaces, incinerators, kilns, ovens, dryers, engines, flares, scrubbers (process emissions) and any other equipment or machinery that uses fuel, excluding equipment or machinery with combustion engines that are used for transportation purposes.

B. *Specific monitoring rules*

The emissions from combustion processes shall be calculated in accordance with Article 24(1), unless the fuels are included in a mass balance in accordance with Article 25. The tiers defined in section 2 of Annex II shall apply. In addition, process emissions from flue gas scrubbing shall be monitored using the provisions laid down in subsection C.

For emissions from flares special requirements shall apply, as laid down in subsection D of this section.

Combustion processes taking place in gas processing terminals may be monitored using a mass balance in accordance with Article 25.

C. *Flue gas scrubbing*

Process CO₂ emissions from the use of carbonate for acid gas scrubbing from the flue gas stream shall be calculated in accordance with Article 24(2) on the basis of carbonate consumed, Method A as follows, or gypsum produced, Method B as follows.

Method Emission factor

A:

Tier 1 : The emission factor shall be determined from stoichiometric ratios as laid down in section 2 of Annex VI. The determination of the amount of CaCO₃ and MgCO₃ in the relevant input material shall be carried out using best industry practice guidelines.

Method Emission factor

B:

Tier 1 : The emission factor shall be the stoichiometric ratio of dry gypsum (CaSO₄ × 2H₂O) to CO₂ emitted: 0,2558 t CO₂/t gypsum.

Changes to legislation: There are currently no known outstanding effects for the Commission Regulation (EU) No 601/2012 (repealed), Division 1.. (See end of Document for details)

D. Flares

When calculating emissions from flares the operator shall include routine flaring and operational flaring (trips, start-up and shutdown as well as emergency relieves). The operator shall also include inherent CO₂ in accordance with Article 48.

By way of derogation from section 2.1 of Annex II, tiers 1 and 2b for the emission factor shall be defined as follows:

- Tier 1 : The operator shall use a reference emission factor of 0,00393 t CO₂/Nm³ derived from the combustion of pure ethane used as a conservative proxy for flare gases.
- Tier 2b : Installation-specific emission factors shall be derived from an estimate of the molecular weight of the flare stream, using process modelling based on industry standard models. By considering the relative proportions and the molecular weights of each of the contributing streams, a weighted annual average figure shall be derived for the molecular weight of the flare gas.

By way of derogation from section 2.3 of Annex II, only tiers 1 and 2 shall be applied for the oxidation factor in the case of flares.

Changes to legislation:

There are currently no known outstanding effects for the Commission Regulation (EU) No 601/2012 (repealed), Division 1..