

Commission Regulation (EU) No 601/2012 of 21 June 2012 on the monitoring and reporting of greenhouse gas emissions pursuant to Directive 2003/87/EC of the European Parliament and of the Council (Text with EEA relevance) (repealed)

## CHAPTER V

### DATA MANAGEMENT AND CONTROL

#### *Article 57*

##### **Data flow activities**

1 The operator or aircraft operator shall establish, document, implement and maintain written procedures for data flow activities for the monitoring and reporting of greenhouse gas emissions and ensure that the annual emission report resulting from data flow activities, does not contain misstatements and is in conformance with the monitoring plan, those written procedures and this Regulation.

Where the aircraft operator intends to apply for an allocation of allowances free of charge pursuant to Articles 3e or 3f of Directive 2003/87/EC, the first subparagraph shall also apply to the monitoring and reporting of tonne-kilometre data.

2 Descriptions of written procedures for data flow activities in the monitoring plan shall at least cover the following elements:

- a the items of information listed in Article 12(2);
- b identification of the primary data sources;
- c each step in the data flow from primary data to annual emissions or tonne-kilometre data which shall reflect the sequence and interaction between the data flow activities;
- d the relevant processing steps related to each specific data flow activity including the formulas and data used to determine the emissions or tonne-kilometre data;
- e relevant electronic data processing and storage systems used as well as the interaction between such systems and other inputs including manual input;
- f the way outputs of data flow activities are recorded.

#### *Article 58*

##### **Control system**

1 The operator or aircraft operator shall establish, document, implement and maintain an effective control system to ensure that the annual emission report and, where applicable, the tonne-kilometre report resulting from data flow activities does not contain misstatements and is in conformity with the monitoring plan and this Regulation.

2 The control system referred to in paragraph 1 shall consist of the following:

- a an operator's or aircraft operator's assessment of inherent risks and control risks;
- b written procedures related to control activities that are to mitigate the risks identified.

3 Written procedures related to control activities as referred to in point (b) of paragraph 2 shall at least include:

---

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

---

- a quality assurance of the measurement equipment;
- b quality assurance of the information technology system used for data flow activities, including process control computer technology;
- c segregation of duties in the data flow activities and control activities as well as management of necessary competencies;
- d internal reviews and validation of data;
- e corrections and corrective action;
- f control of out-sourced processes;
- g keeping records and documentation including the management of document versions.

4 The operator or aircraft operator shall monitor the effectiveness of the control system, including by carrying out internal reviews and taking into account the findings of the verifier during the verification of annual emission reports and, where applicable, tonne-kilometre data reports, carried out pursuant to Regulation (EU) No 600/2012.

Whenever the control system is found to be ineffective or not commensurate with the risks identified, the operator or aircraft operator shall seek to improve the control system and update the monitoring plan or the underlying written procedures for data flow activities, risk assessments and control activities as appropriate.

#### *Article 59*

#### **Quality assurance**

1 <sup>[F1]</sup>For the purposes of point (a) of Article 58(3), the operator shall ensure that all relevant measuring equipment is calibrated, adjusted and checked at regular intervals including prior to use, and checked against measurement standards traceable to international measurement standards, where available, in accordance with the requirements of this Regulation and proportionate to the risks identified.

Where components of the measuring systems cannot be calibrated, the operator shall identify those in the monitoring plan and propose alternative control activities.

When the equipment is found not to comply with required performance, the operator shall promptly take necessary corrective action.]

2 With regard to continuous emission measurement systems, the operator shall apply quality assurance based on the standard Quality assurance of automated measuring systems (EN 14181), including parallel measurements with standard reference methods at least once per year, performed by competent staff.

Where such quality assurance requires emission limit values (ELVs) as necessary parameters for the basis of calibration and performance checks, the annual average hourly concentration of the greenhouse gas shall be used as a substitute for such ELVs. Where the operator finds a non-compliance with the quality assurance requirements, including that recalibration has to be performed, it shall report that circumstance to the competent authority and take corrective action without undue delay.

#### **Textual Amendments**

- F1** Substituted by [Commission Implementing Regulation \(EU\) 2018/2066 of 19 December 2018 on the monitoring and reporting of greenhouse gas emissions pursuant to Directive 2003/87/EC of the](#)

European Parliament and of the Council and amending Commission Regulation (EU) No 601/2012 (Text with EEA relevance).

#### Article 60

### Quality assurance of information technology

For the purposes of point (b) of Article 58(3), the operator or aircraft operator shall ensure that the information technology system is designed, documented, tested, implemented, controlled and maintained in a way to process reliable, accurate and timely data in accordance with the risks identified in accordance with point (a) of Article 58(2).

The control of the information technology system shall include access control, control of back up, recovery, continuity planning and security.

#### Article 61

### Segregation of duties

For the purposes of point (c) of Article 58(3), the operator or aircraft operator shall assign responsible persons for all data flow activities and for all control activities in a way to segregate conflicting duties. In the absence of other control activities, it shall ensure for all data flow activities commensurate with the identified inherent risks that all relevant information and data shall be confirmed by at least one person who has not been involved in the determination and recording of that information or data.

The operator or aircraft operator shall manage the necessary competencies for the responsibilities involved, including the appropriate assignment of responsibilities, training, and performance reviews.

#### Article 62

### Internal reviews and validation of data

1 For the purposes of point (d) of Article 58(3) and based on the inherent risks and control risks identified in the risk assessment referred to in point (a) of Article 58(2), the operator or aircraft operator shall review and validate data resulting from the data flow activities referred to in Article 57.

Such review and validation of the data shall at least include:

- a a check as to whether the data are complete;
- b a comparison of the data that the operator or aircraft operator has obtained, monitored and reported over several years;
- c a comparison of data and values resulting from different operational data collection systems, including the following comparisons, where applicable:
  - (i) a comparison of fuel or material purchasing data with data on stock changes and data on consumption for the applicable source streams;

---

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

---

- (ii) a comparison of calculation factors that have been determined by analysis, calculated or obtained from the supplier of the fuel or material, with national or international reference factors of comparable fuels or materials;
- (iii) a comparison of emissions obtained from measurement-based methodologies and the results of the corroborating calculation pursuant to Article 46;
- (iv) a comparison of aggregated data and raw data.

2 The operator or aircraft operator shall, to the extent possible, ensure the criteria for rejecting data as part of the review and validation are known in advance. For that purpose the criteria for rejecting data shall be laid down in the documentation of the relevant written procedures.

### *Article 63*

#### **Corrections and corrective action**

1 Where any part of the data flow activities referred to in Article 57 or control activities referred to in Article 58 is found not to function effectively, or to function outside boundaries that are set in documentation of procedures for those data flow activities and control activities, the operator or aircraft operator shall make appropriate corrections and correct rejected data whilst avoiding underestimation of emissions.

2 For the purpose of paragraph 1, the operator or aircraft operator shall at least proceed to all of the following:

- a assessment of the validity of the outputs of the applicable steps in the data flow activities referred to in Article 57 or control activities referred to in Article 58;
- b determination of the cause of the malfunctioning or error concerned;
- c implementation of appropriate corrective action, including correcting any affected data in the emission report or tonne-kilometre report, as appropriate.

3 The operator or aircraft operator shall carry out the corrections and corrective actions pursuant to paragraph 1 of this Article such that they are responsive to the inherent risks and control risks identified in the risk assessment referred to in Article 58.

### *Article 64*

#### **Out-sourced processes**

Where the operator or aircraft operator outsources one or more data flow activities referred to in Article 57 or control activities referred to in Article 58, the operator or aircraft operator shall proceed to all of the following:

- (a) check the quality of the outsourced data flow activities and control activities in accordance with this Regulation;
- (b) define appropriate requirements for the outputs of the outsourced processes as well as the methods used in those processes;
- (c) check the quality of the outputs and methods referred to in point (b) of this Article;

- (d) ensure that outsourced activities are carried out such that those are responsive to the inherent risks and control risks identified in the risk assessment referred to in Article 58.

## Article 65

### Treatment of data gaps

1 Where data relevant for the determination of the emissions of an installation are missing, the operator shall use an appropriate estimation method for determining conservative surrogate data for the respective time period and missing parameter.

Where the operator has not laid down the estimation method in a written procedure, it shall establish such written procedure and submit to the competent authority an appropriate modification of the monitoring plan in accordance with Article 15 for approval.

2 Where data relevant for the determination of an aircraft operator's emissions for one flight or more flights are missing, the aircraft operator shall use surrogate data for the respective time period calculated in accordance with the alternative method defined in the monitoring plan.

Where surrogate data cannot be determined in accordance with the first subparagraph of this paragraph, the emissions for that flight or those flights may be estimated by the aircraft operator from the fuel consumption determined by using a tool referred to in Article 54(2).

[<sup>F2</sup>Where the number of flights with data gaps referred to in the first two sub-paragraphs exceed 5 % of the annual flights that are reported, the operator shall inform the competent authority thereof without undue delay and shall take remedial action for improving the monitoring methodology.]

#### Textual Amendments

- F2** Inserted by [Commission Implementing Regulation \(EU\) 2018/2066 of 19 December 2018 on the monitoring and reporting of greenhouse gas emissions pursuant to Directive 2003/87/EC of the European Parliament and of the Council and amending Commission Regulation \(EU\) No 601/2012 \(Text with EEA relevance\).](#)

## Article 66

### Records and documentation

1 The operator or aircraft operator shall keep records of all relevant data and information, including information as listed in Annex IX, for at least 10 years.

The documented and archived monitoring data shall allow for the verification of the annual emissions report or tonne-kilometre data in accordance with Regulation (EU) No 600/2012. Data reported by the operator or aircraft operator contained in an electronic reporting and data management system set up by the competent authority may be considered to be retained by the operator or aircraft operator, if they can access those data.

---

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

---

2 The operator or aircraft operator shall ensure that relevant documents are available when and where they are needed to perform the data flow activities as well as control activities.

The operator or aircraft operator shall, upon request, make those documents available to the competent authority as well as to the verifier verifying the emissions report or tonne-kilometre data report in accordance with Regulation (EU) No 600/2012.

**Changes to legislation:**

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