

**NB: Unofficial translation,
legally binding only in Finnish and Swedish**
Finnish Transport Safety Agency

**Decree of the Ministry of Transport and Communications
on the monitoring and verification of carbon dioxide emissions
and tonne-kilometre data, and on the approval of verifiers**
(63/2010)

**Chapter 1
General provisions**

**Section 1
Scope of application**

This Decree shall apply to the preparation of monitoring plans for carbon dioxide emissions and tonne-kilometre data of aircraft falling within the scope of application of the Act on Aviation Emissions Trading, to the monitoring of aircraft emissions and tonne-kilometre data, and to any reports issued on these subjects.

This Decree shall also apply to the approval procedure of verifiers for aviation emissions trading and to the performance of verification duties related to aviation emissions and tonne-kilometre data.

**Section 2
Definitions**

In this Decree:

- 1) *Eurocontrol* means the European Organisation for the Safety of Air Navigation, composed of 38 Member States and the European Community;
- 2) *EC Monitoring Guidelines* means Commission Decision 2007/589/EC establishing guidelines for the monitoring and reporting of greenhouse gas emissions pursuant to Directive 2003/87/EC of the European Parliament and of the Council, and Commission Decision 2009/339/EC amending decision 2007/589/EC as regards the inclusion of monitoring and reporting guidelines for emissions and tonne-kilometre data from aviation activities;
- 3) *payload* means the total mass of freight, mail, passengers and baggage carried onboard the aircraft;
- 4) *aviation emissions trading authority* means the Finnish Transport Safety Agency;
- 5) *aerodrome pair* means a pair constituted by an aerodrome of departure and an aerodrome of arrival;
- 6) *distance* means the great circle distance between the aerodrome of departure and the aerodrome of arrival plus an additional fixed factor of 95 km;

- 7) *passengers* means the persons onboard the aircraft during a flight, excluding its crew members;
- 8) *verifier* means a legal person approved in accordance with the requirements laid down in section 55 or 55 a of the Emissions Trading Act ;
- 9) *tonne-kilometre* means a tonne of payload carried a distance of one kilometre;
- 10) *tonne-kilometre monitoring year* means the years defined in section 7 and 9 of the Act on Aviation Emissions Trading, for which the kilometres flown and payloads carried on flights falling within the scope of application of the Act shall be reported as tonne-kilometres; and
- 11) *small emitting aircraft operators* means those aircraft operators who operate fewer than 243 flights per period during three consecutive four-month periods and those aircraft operators with total annual emissions lower than 10,000 carbon dioxide tonnes per year.

Section 3 **General principles for the monitoring and reporting of emissions and tonne-kilometres**

The monitoring and reporting of carbon dioxide emissions and tonne-kilometres of aircraft falling within the scope of application of the Act on Aviation Emissions Trading shall be carried out so that:

- 1) the monitoring of emissions and tonne-kilometres, and the reports provided on emissions and tonne-kilometres, cover all flights flown under the scope of application of the Act on Aviation Emissions Trading as well as the carbon dioxide emissions and tonne-kilometre data for these flights (*principle of completeness*);
- 2) the monitoring, reporting and reported data for different years are comparable with each other, notwithstanding any changes in monitoring methodologies approved by the emissions trading authority, provided that the accuracy of the reported data is improved as a result of the change (*principle of consistency*);
- 3) any assumptions made for the determination of emissions and tonne-kilometres, references to sources used, fuel and consumption data, emission factors, kilometres flown, payload carried as well as other data and methods used for emission determination are explained, compiled, analysed, reported and documented in a manner that enables the verifier and the emissions trading authority to afterwards verify the reliability of the emissions data and their determination (*principle of openness and transparency*);
- 4) the monitoring and reporting of emissions and tonne-kilometres aim for the highest achievable accuracy in estimating the emissions through producing the emissions data at the highest achievable level of determination which is technically feasible and will not lead to unreasonably high costs (*principle of cost-effectiveness*);
- 5) the emissions report and tonne-kilometre report describe the aircraft emissions and tonne-kilometres truthfully and reliably, so that the emissions have not been intentionally overestimated or underestimated, sources of uncertainties have been minimised, and the emissions report and data contained in it are free of material errors, deficiencies or misinterpretations (*principle of trueness*); and

6) the aircraft operator, in its monitoring of emissions and tonne-kilometre data, aims to continuously maintain and improve the quality and accuracy of emissions data (*principle of continuous improvement*).

Chapter 2

Monitoring of emissions and tonne-kilometre data

Section 4

Application of EC Monitoring Guidelines

The EC Monitoring Guidelines shall be applied to the selection of monitoring methodology for aircraft carbon dioxide emissions and tonne-kilometre data, performance of monitoring activities, determination of the amount of emissions and tonne-kilometres and to reports provided on emissions and tonne-kilometres.

The aviation emissions trading authority may issue further provisions on the preparation, content and submission of emissions monitoring plans and annual emissions reports, using automated systems and data exchange formats.

Section 5

Content of emissions monitoring plan

All aircraft operators falling within the scope of application of the Act on Aviation Emissions Trading shall provide the following information in their monitoring plans:

- 1) All aircraft operators:
 - a) identification of the aircraft operator, call sign or other designator used for air traffic control purposes;
 - b) aircraft operator's address and contact details of the responsible person;
 - c) identification of the version of the monitoring plan;
 - d) number and types of aircraft operated at the time of submission of the monitoring plan, estimated type of fuel for each aircraft type and estimated amount of fuel to be used;
 - e) list of other aircraft expected to be used during the monitoring period, including the type of fuel;
 - f) a description of procedures, systems and responsibilities used to ensure the completeness of emission monitoring and reporting both for owned and leased-in aircraft over the monitoring year;
 - g) a description of the procedures used to monitor the validity of the list of flights operated under the unique designator by aerodrome pair, and the procedures used for determining whether the flights are covered by section 2 of the Act on Aviation Emissions Trading, with a view to avoid double-counting;

- h) a description of data acquisition, handling and monitoring as well as quality control and assurance activities, including maintenance and calibration of measurement equipment; and
- i) information on whether the operation is covered by the EMAS system or other quality certificates (e.g. ISO 14001:2004).

2) Aircraft operators other than small emitters:

- a) a description of the methods for monitoring fuel consumption in all aircraft (owned and leased-in), including the chosen methodology for each aircraft, selected tiers for the measurement of fuel uplifts and fuel in tanks, and the procedures for recording, retrieving, transmitting and storing information regarding measurements;
- b) a procedure to ensure that the total uncertainty will comply with the requirements of the selected tier (references to calibration certificates, national laws, customer contracts and fuel supplier's standards);
- c) the procedure for density measurement as regards fuel uplifts and fuel in tanks (the standard value used and justification for its use; a description of measurement instruments and methods if the density is measured); and
- d) emission factors for each fuel type or methodologies used for determining the emission factors (methods of sampling and analysis, description of laboratories, details of their accreditation and quality assurance).

3) Small emitting aircraft operators:

- a) an estimation method for fuel consumption approved by Eurocontrol or other organisation, provided that the method has been approved by the Commission.

Section 6

Determination of reference values for alternative fuels

For alternative fuels for which no reference values have been defined, activity specific emission factors shall be determined as specified in Section 5.5 and 13 of Annex I to the EC Monitoring Guidelines. In such cases the net calorific value shall be determined and reported as a memo-item. If the alternative fuel contains biomass, the requirements for monitoring and reporting of biomass content as set out in Annex I shall apply.

For commercially traded fuels the emission factor or the carbon content, on which it is based, the biomass content and net calorific value may be derived from the purchasing records for the respective fuel provided by the fuel supplier, provided it has been derived based on accepted international standards.

Section 7

Exceedance of small emitter threshold value during the reporting year

An aircraft operator exceeding the threshold for small emitters during a reporting year shall notify this fact to the aviation emissions trading authority.

Unless the aircraft operator demonstrates to the satisfaction of the aviation emissions trading authority that the threshold will not be exceeded again from the following reporting period onwards, the aircraft operator shall update the monitoring plan to meet the monitoring requirements laid down in section 5(1) and (2) of this Decree and sections 2 and 3 of Annex XIV to the EC Monitoring Guidelines.

The revised monitoring plan shall be submitted without undue delay to the aviation emissions trading authority for approval.

Section 8

Content of tonne-kilometre monitoring plan

The monitoring plan for tonne-kilometre data submitted to the aviation emissions trading authority shall contain the following information:

- a) identification of the aircraft operator, call sign or other designator used for air traffic control purposes;
- b) aircraft operator's address and contact details of the person responsible for the monitoring plan;
- c) identification of the version of the monitoring plan;
- d) number and types of aircraft operated at the time of submission of the monitoring plan, type and amount of fuel used for each aircraft type, and an indicative list of other aircraft expected to be used during the monitoring period, including the estimated type and number of aircraft;
- e) a description of procedures, systems and responsibilities used to ensure the completeness of tonne-kilometre monitoring and reporting both for owned and leased-in aircraft over the monitoring year;
- f) a description of the procedures used to monitor the validity of the list of flights operated under the unique designator by aerodrome pair, and the procedures used for determining whether the flights are covered by the Act on Aviation Emissions Trading, with a view to avoid double-counting;
- g) a description of control, documentation and quality assurance procedures used by the aircraft operator;
- h) information on whether the monitoring and documentation of tonne-kilometre data is covered by environmental information quality systems or aircraft operator's other quality systems (EMAS / ISO 14001:2004); and
- i) a description of the methods for determining tonne-kilometre data per flight, including:
 - a. the procedures, responsibilities, data sources and calculation formulae for determination and recording of the distance between the place of departure and destination;
 - b. information on whether a standard mass (100 kg) or the passenger mass from mass and balance documentation is used. In the latter case, a description of the procedure for obtaining the passenger mass shall be provided;
 - c. a description of the procedure used to determine the mass of freight and mail; and

- d. a description of the measurement devices used for measuring the mass of mail, freight and passengers.

Section 9

Report on aircraft annual emissions

The aircraft operator shall submit an annual emissions report using the form provided in Table 2 of Annex XIV to the EC Monitoring Guidelines, unless otherwise determined by the aviation emissions trading authority.

The form shall contain the following information as required in Annex IV to the Emissions Trading Directive 2003/87/EC:

- a) data identifying the aircraft operator, call sign or other designator used for air traffic control purposes, as well as contact details;
- b) name and address of the verifier of the emissions report;
- c) the reporting year;
- d) reference to and version number of the approved monitoring plan;
- e) relevant changes in aviation operations and deviations from the approved monitoring plan during the reporting period;
- f) the aircraft registration numbers and types of aircraft used during the reporting year to perform aviation activities falling within the scope of application of the Emissions Trading Directive;
- g) the total number of flights covered by the report;
- h) other data as required in Table 2 of Annex XIV; and
- i) as a memo item, the amount of biofuel (in tonnes or m³) contained in the fuel used during the reporting period, listed per fuel type.

Section 10

Tonne-kilometre report

The aircraft operator shall report the tonne-kilometre data for the applications referred to in section 7 and 9 of the Act on Aviation Emissions Trading, and only for the years mentioned in those sections.

Tonne-kilometre data per flight shall be reported with all significant decimals, but the total number shall be rounded to the nearest full tonnes and full kilometres.

Unless otherwise determined by the aviation emissions trading authority, the aircraft operator's tonne-kilometre report shall contain the following information as required in Annex XV to the EC Monitoring Guidelines:

- a) data identifying the aircraft operator, call sign or other unique designator used for air traffic control purposes;
- b) aircraft operator's contact details, responsible person and his/her contact details;
- c) name and address of the verifier of the report;
- d) the reporting year;
- e) reference to and version number of the approved monitoring plan;
- f) relevant changes in the operations and deviations from the approved monitoring plan;
- g) the aircraft registration numbers and types of aircraft used during the reporting period to perform aviation activities falling within the scope of application of the Emissions Trading Directive;
- h) methods used for determination of mass for passengers, checked baggage, freight and mail;
- i) total number of passenger kilometres and tonne-kilometres for all flights performed during the reporting year and falling within the scope of application of the Directive; and
- j) for each aerodrome pair in the reporting period:
 - a. ICAO designators of the aerodromes;
 - b. distance in km (great circle distance + 95 km);
 - c. total number of flights;
 - d. total mass of passengers and checked baggage (tonnes);
 - e. total number of passengers;
 - f. total number of passenger kilometres (passenger number x kilometres);
 - g. total mass of freight and mail (tonnes); and
 - h. total tonne-kilometres per aerodrome pair.

Chapter 3 **Approval of aviation verifiers**

Section 11 **Application for verifier duties**

Application for approval as an aviation verifier shall be submitted in writing to the aviation emissions trading authority, using a form determined by the authority. The application shall contain the following information:

- 1) applicant's name, business identity code, location of registered office and contact details; and
- 2) names, dates of birth and contact details of the lead verifier, the person carrying out the verification and the person validating the verifier's statement.

Attached to the application shall be a decision of accreditation attesting the competence of the applicant, issued by an accreditation body established in a European Economic Area member state, which shows that the applicant meets the requirements laid down in section 12 of the Act on Aviation Emissions Trading for aviation verifiers.

For the use of the national emissions trading register, the application shall also contain the following information:

- 1) name and contact details of the person authorised to use the national emissions trading register within the organisation;
- 2) method of identification when logging in the national emissions trading register; and
- 3) personal identity code of the authorised person, in case the personal identity code is used as the basis for identification.

Section 12 Decision on verifier approval

The aviation emissions trading authority shall approve the application, if the applicant meets the requirements laid down in section 12 of the Act on Aviation Emissions Trading and the application is in accordance with section 11 of this Decree.

In its decision of approval, the aviation emissions trading authority shall notify the names of the lead verifier, the person carrying out the verification and the person validating the verifier's statement.

The aviation emissions trading authority shall approve the verifier for a fixed period of time.

The aviation emissions trading authority shall maintain a public list of aviation verifiers approved in Finland.

Section 13 Changing the approval decision

A notification in accordance with section 12 of the Act on Aviation Emissions Trading on changes in the verifier's activities that may affect the approval shall be submitted to the aviation emissions trading authority within six months of the actual change.

Where necessary, the aviation emissions trading authority may require the verifier to provide a new accreditation decision or statement of competence in accordance with section 11(2) of this Decree.

The aviation emissions trading authority may change its earlier decision based on the verifier's application for change or on a new accreditation decision or statement issued by an accreditation body in accordance with section 11 of this Decree.

Chapter 4

Performance of verification tasks

Section 14

Content of the verification task

For the implementation of the verification provisions of section 11(3) of the Act on Aviation Emissions Trading, the verifier shall check that:

- 1) the aircraft operator's emissions report and tonne-kilometre report cover all flights falling within the scope of application of the Act on Aviation Emissions Trading actually conducted by the operator, and only such flights. To verify this, the verifier must have the necessary information on the aircraft operator's routes and schedules, as well as statistical data from Eurocontrol or other equivalent entity on the flights actually flown by that aircraft operator;
- 2) the aircraft operator monitors the annual carbon dioxide emissions from actual flights, as well as the kilometres flown and payload carried on flights conducted during the monitoring years for tonne-kilometres;
- 3) the aircraft operator monitors the emissions and tonne-kilometres in accordance with monitoring plans approved by the emissions trading authority; and
- 4) the data presented by the aircraft operator in annual emissions reports and reports on tonne-kilometres flown over the monitoring years for tonne-kilometres are based on source values determined using the methods specified in the approved monitoring plan, and the emission calculations based on these values do not contain material omissions, misstatements or errors.

Section 15

Verification plan

In order to duly perform the verification task, the verifier shall:

- 1) create a clear picture for him/herself of the aircraft operator's flights, the determination methods for mass carried and fuel consumed, emission sources and their level of magnitude, and the uncertainty assessment systems and quality systems used by the aircraft operator (*strategic analysis*); and
- 2) identify the areas that could be prone to errors, omissions or misunderstandings (*risk analysis*).

Based on the strategic analysis and risk analysis, the verifier shall establish a verification plan for each aircraft operator to be verified. The verification plan shall include the areas and monitoring methodologies to be verified in the aircraft operator's activities, and a plan on which documents and what data contained in the documents are to be checked in case of that aircraft operator.

Section 16

Verification of the emissions report

On the basis of the verification plan, the verifier shall check whether the aircraft operator's fuel data used for the determination of carbon dioxide emissions, and the kilometres flown and payload used

for the determination of tonne-kilometre data, have been determined and documented in accordance with the monitoring plan approved by the aviation emissions trading authority.

The verifier shall assess any omissions, errors and misstatements contained in the aircraft operator's emissions report.

In the verification opinion, the verifier shall provide a reasoned assessment specifying to what extent the omissions, errors and misstatements contained in the report affect the total amount of carbon dioxide emissions reported by the aircraft operator.

If the aircraft operator's monitoring plan as approved by the aviation emissions trading authority has not been followed and the requirements of the approved plan cannot be complied with retrospectively, the verifier shall contact the aviation emissions trading authority.

Section 17

Verifier's task report

The verifier shall draw up a task report on his/her activities and results, recording the progress of the verification procedure laid down in section 16, the results obtained as well as any omissions, errors and misstatements detected.

The task report shall contain all information gathered during the preparation, planning and completion phases of the verification, essential for drawing the necessary conclusions, so as to enable the drafting and validation of the verification opinion.

The verifier shall, on request, submit the task report to the aviation emissions trading authority for the purpose of monitoring compliance with the Act on Aviation Emissions Trading.

Section 18

Notification to the aircraft operator

The verifier shall, without delay, notify the aircraft operator of any omissions, errors, ambiguities, misstatements and deviations from the monitoring plan approved by the aviation emissions trading authority detected during the verification process, and request the operator to correct the situation.

Section 19

Verification of an emissions report as satisfactory

The verifier shall verify the information provided in the aircraft operator's emissions report or tonne-kilometre report as satisfactory, if:

- 1) the report covers all flights of the aircraft operator falling within the scope of application of the Act on Aviation Emissions Trading, all emissions resulting from these flights and all tonne-kilometres flown over the monitoring years;
- 2) the information needed for the calculation of emissions and tonne-kilometre data has been determined in accordance with a monitoring plan approved by the aviation emissions trading authority; and

3) the total amount of the aircraft operator's carbon dioxide emissions or tonne-kilometres has not been materially misstated.

The total amount of the aircraft operator's carbon dioxide emissions or tonne-kilometres has not been materially misstated, if the verifier can establish that the emissions report or tonne-kilometre report does not contain any omissions, errors or misstatements for which the combined effect on the total amount of emissions or tonne-kilometres would be more than five per cent.

Section 20 **Verification report**

The verification report (statement) in accordance with section 13 of the Act on Aviation Emissions Trading shall be given on the form established by the aviation emissions trading authority. The statement shall contain the following information:

- 1) the verifying organisation and its contact details;
- 2) details of the verifying organisation's approval;
- 3) details of the persons involved in the verification and their duties and responsibilities in the verification process;
- 4) name and identification of the verified aircraft operator;
- 5) the year for which the emissions report was made;
- 6) verified total amount of emissions, including the assessment referred to in section 16(3) of this Decree;
- 7) statement that the emissions report has been verified as satisfactory in accordance with section 19 of this Decree;
- 8) details of the verification process, e.g. the number and dates of visits to the aircraft operator's premises; and
- 9) instructions for claiming rectification of the statement as required in section 28 of the Act on Aviation Emissions Trading.

The statement shall be signed by the lead verifier and the person validating the statement.

Where necessary, the verifier may, in a memorandum attached to the statement, suggest areas where the aircraft operator's monitoring and information management procedures should be developed.

The aircraft operator is responsible for submitting the verification statement and its attachments to the aviation emissions trading authority.

The aviation emissions trading authority may, where necessary, request the verifier to complement the statement.

Chapter 5
Entry into force

Section 21
Entry into force

This Decree enters into force on 1 February 2010.