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<p>EA Document for Recognition of Verifiers under the EU ETS Directive</p>

PURPOSE

This document has been prepared by a working group under the direction of the European Co-operation for Accreditation (EA) Certification Committee to facilitate a harmonised approach to recognition of verifiers under the EU ETS Directive 2003/87/EC of the European Parliament and of the Council inclusive of amendments introduced under Directive 2008/101/EC and the Monitoring and Reporting Guidelines as defined in chapter 2 of this document.

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The publication has been written by a working group of the EA Certification Committee.

Official language

The publication may be translated into other languages as required. The English language version remains the definitive version.

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The revision of this document does not introduce any new or significant requirements for the verification of installations previously covered by earlier versions of this document. There is an immediate requirement for this document to address the verification of installations permitted for N₂O and, commencing in 2010, to the aviation sector.

There is a transition period for two months to allow for the translation of this document into national languages.

FOREWORD

This document has been prepared by a working group under the direction of the European Co-operation for Accreditation (EA) Certification Committee to facilitate a harmonised approach to the recognition of verification bodies under the EU ETS Directive 2003/87/EC of the European Parliament and of the Council, as amended by Directive 2008/101/EC and the Monitoring and Reporting Guidelines (MRG) (Decision 2007/589/EC) applicable to phase II of the EU ETS as amended for Aviation (Decision 2009/339/EC) and nitrous oxide or N₂O (Decision 2009/73/EC).

The working group consisted of representatives from European Accreditation Bodies (EA and non EA members), Competent Authorities, European Commission, Industry, Verifier representation and Member States Government departments with responsibility for implementation of the EU ETS Directive.

The document has been structured consistent with the key processes for verification as defined in Annex V of the EU ETS Directive and the MRG.

The following requirement applies concerning its application by Member States:

MRG Annex I, section 10.4.1

Member States shall consider respective guidance issued by the European Cooperation for Accreditation (EA).

This means that the document should be used by accreditation bodies or other appointed bodies that assess and recognize verifiers conveying formal demonstration of their competence and independence to carry out verification in accordance with specified requirements. The document should enable the Member State to confirm that the verifier has the appropriate organisational controls, independence and impartiality safeguards, and arrangements for ensuring that a competent verification team is deployed to carry out in-depth verification of reported emissions in accordance with the processes specified in Annex V of the EU ETS Directive and the MRG.

The term “shall” is used throughout this document to indicate those provisions which, reflecting the requirements of EU ETS Directive or MRG are mandatory. The term “should” is used to indicate guidance which, although not mandatory, is provided as a recognised means of meeting the requirements. Verifiers whose systems do not follow the document in any respect will only be eligible for accreditation if they can demonstrate that they meet it in an equivalent way.

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1. INTRODUCTION

This document provides guidance to accreditation bodies and other competent bodies/ organization(s) appointed by Member States that issue a formal statement on the competence and independence of verifiers to carry out verification according to specified requirements. It is used for assessing verifiers who are verifying annual emissions reports and tonne-kilometre reports before they are submitted to the relevant Competent Authorities in accordance with Directive 2003/87/EC of the European Parliament and of the Council as amended by Directive 2008/101/EC.

The objective of this document is to promote a harmonised consistent approach between member states to the criteria for and the assessment of verifiers verifying the EU ETS annual emissions report and tonne-kilometre reports.

This EA Document is used by accreditation bodies or other bodies approved by member states to assess verifier's conformance with Annex V of Directive 2003/87/EC of the European Parliament and of the Council as amended by Directive 2008/101/EC, and the MRG, but this document also provides information to verifiers on how to conduct the verification of emissions reports and tonne-kilometre reports.

According to the MRG, a "verifier" is defined as:

MRG Annex I, section 2

"Verifier" means a competent, independent, accredited verification body or person with responsibility for performing and reporting on the verification process, in accordance with the detailed requirements established by the Member State pursuant to Annex V of the Directive 2008/101/EC of the European Parliament and of the Council amending Directive 2003/87/EC.

The verification of an emissions report or tonne-kilometre report is a technical audit function more related to financial audits in its commercial risks than to auditing of management systems. The nature of this work requires transparent, independent safeguards throughout all stages of the planning and delivery of the verification engagement.

This document can be used as specific guidance for the recognition of verifiers by member states in any of the three following ways:

1. Where accreditation via an EA member based on the requirements of ISO 14065 is required;
2. Where accreditation via an EA member based on the requirements of EN45011 and EA 6/01 is required;
3. Where accreditation is required via an EA member based on the requirements in ISO17020 and IAF/ILAC A4 related to Type A inspection bodies who can demonstrate the independency safeguards as specified in section 4.

Member states that are not using EA bodies to accredit verifiers for EU ETS can use this document.

2. DEFINITIONS

For the purposes of this EA Document and Annexes the definitions in the EU ETS Directive and MRG shall apply as well as the following definitions:

- a) 'control environment' means the overall actions of management regarding the internal control system and its importance to the installation or aircraft operator in question.

NOTE Factors reflected in the control environment include:

1. the installation's or aircraft operator's organisational structure and methods of assigning authority and responsibility;
2. the management's control system, including the internal audit function, internal financial control systems (where relevant), personnel policies and procedures and the segregation of duties;
3. the degree and effectiveness of the management control pertaining to the upkeep of the permit, where applicable, and compliance with the MRG and the approved monitoring plan;
4. where relevant accreditation of any laboratory used by the installation or aircraft operator for sampling and analyses.

- b) 'EU ETS Verifier' means an individual person responsible for conducting a verification of an EU ETS emissions or tonne-kilometre report. Information on EU ETS Verifier competency and qualification requirements is provided in section 6.3.1 of this Document;

- c) 'EU ETS Lead Verifier' means an individual person responsible for directing and controlling the verification team and/or having the overall authority and responsibility for the verification process for EU ETS emissions or tonne-kilometre reporting. Information on EU ETS Lead Verifier competency and qualification requirements is provided in section 6.3.2 of this Document;

- d) 'EU ETS Directive' means Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003, establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC, as amended by Directive 2008/101/EC.

- e) 'Internal verification documentation' means all internal documentation that a verifier has compiled to record all documentary evidence of the verification activities as referred to in section 5.4.1 of this document (referred to as 'internal verification report' in MRG Annex I, section 10.4.2 d)

- f) 'misstatements' means omissions, misrepresentations and errors (not considering the permissible uncertainty) in the annual emissions report or tonne-kilometre report;

- g) 'MRG' means Commission Decision 2007/589/EC of 18 July 2007 establishing guidelines for the monitoring and reporting of greenhouse gas emissions pursuant to Directive 2003/87/EC and Commission Decisions 2009/339/EC (Aviation) and 2009/73/EC (nitrous oxide). Subsequent amendments of Commission Decision 2007/589/EC of 18 July 2007 are also included in the definition.

- h) 'Registry Regulation' means Commission Regulation (EC) No 916/2007 of 31st July 2007 amending Regulation (EC) No 2216/2004 for a standardised and secured system of registries, pursuant to Directive 2003/87/EC of the European Parliament and of the Council and Decision No 280/2004/EC of the European Parliament and of the Council as amended by Regulation (EC) No 994/2008.

- i) 'Site' for aircraft operators relates to where the monitoring process is defined and managed, including where relevant data and information are controlled and stored.

Identification of the site(s) is subject to the strategic and risk analysis conducted by the verifier.

- j) 'verification report' means the external verification report that the operator is required to submit along with the annual emissions report or tonne-kilometre report as referred to in section 5.4.2.
- k) 'validated' – term used in EU ETS Directive Annex V point 3 - In the context of this document this is to be read as 'verified'.

3 PRINCIPLES

3.1 Scope of verification

The verification follows a risk based approach with the aim of reaching a verification opinion with reasonable assurance whether:

- 1. the data submitted in the emission or tonne-kilometre reports are fairly stated (i.e. that the report is free from material misstatements);
- 2. there is conformance with:
 - a. the EU ETS permit and the approved monitoring plan for installations; or
 - b. the approved monitoring plan for aviation.

and

- 3. where appropriate, the emissions have been monitored in accordance with the MRG or national legislation of the EU member state implementing the applicable part of the MRG.

3.2 Role and depth of verification

The role of the verifier is fundamental to the proper functioning of the EU Emissions Trading Scheme. The accreditation of verifiers according to the requirements of EU ETS is an essential element therein.

The verifier is required to undertake the verification work with the aim of providing a verification report with reasonable assurance. This level of assurance relates to the depth and detail of the verification activities carried out and the wording of the external verification report. With respect to EU ETS verification this means that the verification steps as mentioned in chapter 5.1 of this document are carried out taking account of reasonable assurance. Depending on the findings of a verifier the verification activities, as referred to in chapter 5, need to be adjusted to meet requirements for reasonable assurance. There should be traceable evidence and clear decision trails to support the verification conclusion related to reasonable assurance.

The verifier shall state with reasonable assurance in the verification report whether the data in the emissions or tonne-kilometre report are free from material misstatement and whether no material non-conformities exist. This shall be confirmed via a positive form of a verification opinion in a verification report. A positive form of a verification report confirms that the EU ETS annual emissions report or tonne-kilometre report is free from material misstatements and material non-conformities.

3.3 Sufficiency of verification evidence

To be able to express a conclusion over the emissions report and data, it is necessary for the verifier to obtain sufficient evidence as part of an iterative, systematic engagement process. In principle, this process involves:

- 1. for installations - obtaining an understanding of the installation, the EU ETS permit and the approved monitoring plan, including the functioning of the industrial processes, measurement techniques, data gathering and processing steps involved etc.

2. for aviation - obtaining an understanding of the approved monitoring plan, the aircraft operator's data system including management of data; understanding of calculation methods and interpretation of tonne-kilometre data flow.
3. obtaining an understanding of each activity undertaken by the installation or aircraft operator, the emission sources and source streams, abatement technologies for N₂O emissions, the metering equipment used to monitor or measure activity data, the origin and application of emission factors and oxidation/conversion factors if relevant, any other data used to calculate or measure the emissions and the environment in which the installation or aircraft operator operates;
4. continually assessing the risk that the emissions report or tonne-kilometre report and data may be materially misstated and the risk that there are material non-conformities;
5. obtaining an understanding of the control environment and the control system within the installation or the aircraft operator's activities, including the overall organisation with respect to monitoring and reporting;
6. assessing the risk that the control environment and the control system do not meet the requirements of the verification criteria;
7. determining the verification plan to carry out further assessment processes;
8. performing this further assessment process using a combination of inspection, observation, confirmation, re-calculation, analytical procedures and inquiry; and
9. finally evaluating the sufficiency and appropriateness of evidence.

3.4 Verification Risk

The verification risk, which consists of inherent risks, control risks and detection risks, shall be reduced to an acceptably low level to obtain reasonable assurance as the basis for a positive form of a verification report. The verifier reduces the verification risk through the design and implementation of a verification process.

Risk assessment directs the verification effort to areas of the installation's or aircraft operator's data generation, control environment, control system, management and reporting processes that give rise to an increased risk of misstatement and non-conformity.

The degree to which the verifier considers each verification risk is affected by the material effect these risks have on the emission data. Annex A elaborates on requirements concerning materiality and materiality thresholds.

4. ORGANISATIONAL REQUIREMENTS

4.1 Organisation

The verifier's organizational structure and its quality control procedures are imperative to underpin the integrity, independence and impartiality of the verifier and its activities. These are key elements in the focus of accreditation.

4.2 Documents to be made available by the verifier

The verifier shall document, update at regular intervals and make available through publications, electronic media or other means or on request, the following:

1. information about the accreditation(s) under which the verifier operates;
2. a description of the verification process including rules and procedures for issuing or refusing a verification report;
3. information on procedures for handling complaints, appeals and disputes;

Note - For EU ETS, verifiers are not required to have available a public directory of validated statements or clients.

4.3 Management of impartiality and independence

The verifier shall act impartially, be independent and avoid unacceptable conflicts of interest according to the requirements in Annex B to this document.

5. VERIFICATION PROCESS

5.1 Introduction

The verification process consists of the following steps:

1. Pre-contract stage (section 5.2);
2. Verification assessment (section 5.3);
3. Reporting (section 5.4);
4. Review of the verification process (section 5.5);
5. Issuing a verification report (section 5.6);
6. Entry of emission figure in the registry (section 5.7).
7. Re-issue of verification report (if relevant) (section 5.8)

The verification process is an iterative process whereby all the steps mentioned above are interconnected. Findings during the verification process can mean that a verifier has to adjust one or more steps in the verification process.

The verifier shall take the legal requirements in MRG Annex I, section 10.4.1 and 10.4.2 into account.

The verifier shall take the monitoring plan approved by the competent authority as a starting point. During the verification process the verifier shall verify the emissions or tonne-kilometre report and data against the EU ETS permit, where applicable, and the approved monitoring plan.

The scope of verification depends largely upon the extent to which the approved monitoring plan has covered all the elements of the MRG especially MRG Annex I, section 4.3 which lists requirements on the content of a monitoring plan in relation to an installation and Annex XIII section 5, Annex XIV section 6 and Annex XV section 3 which lists requirements on the content of a monitoring plan in relation to N₂O and an aircraft operator respectively. Three situations can occur:

1. The approved monitoring plan is complete, correctly implemented and in line with the MRG;
2. The approved monitoring plan is not correctly implemented or is not in line with the MRG;
3. The approved monitoring plan is too limited and does not provide for an adequate starting point to verify the emissions or tonne-kilometre report.

Situation 1

The verifier will check the emission or tonne-kilometre report against the approved monitoring plan.

Situation 2

The verifier takes the approved monitoring plan as a starting point and assesses whether the monitoring plan has been implemented correctly and is up to date. If non-compliance with the MRG relates to the accuracy of the emission or tonne-kilometre data, the verifier shall take this into account and consider whether this is a misstatement. Additional information on the responsibilities of a verifier with regard to non-conformities and misstatements is provided in MRG Annex I.

Situation 3

If the approved monitoring plan does not provide sufficient scope or clarity to conclude on the verification process, the verifier shall normally decide that the emissions or tonne-

kilometre report cannot be verified. In such cases the verifier shall advise that the operator contacts the competent authority as soon as possible.

In all situations the verifier shall check and assess:

1. whether the emission data in the emissions report or tonne-kilometre data in the tonne-kilometre report are correct. This derives from MRG Annex I, section 10.4.1 according to which the objective of verification is to ensure that emissions or tonne-kilometre data have been monitored in accordance with the MRG and that reliable and correct emission or tonne-kilometre data will be reported pursuant to Article 14(3) of EU ETS Directive.
2. whether the approved monitoring plan is implemented and up to date.
3. whether the installation or aircraft operator boundaries (source streams, emission sources etc.) are correctly defined in the approved monitoring plan since they can affect the emission or tonne-kilometre data.

In the verification assignment, the verifier assesses the evidence collected as a result of the verification process and expresses a conclusion in the verification report.

The required components of the verification process as outlined in MRG Annex I, section 10.4.2, Annex XIII section 8.2, Annex XIV section 9, and Annex XV section 8 will be further elaborated later in this document. Potential process adjustments for future years' verification beyond year 1, are set out in Annex D, this also includes requirements related to the conduct of a verifier and the verification process after the verification has been taken over from another verifier.

5.1.1 Responsibilities of the verifier in the verification process

The scope of verification is defined by the tasks and activities the verifier needs to perform to reach an accurate and sound verification opinion with reasonable assurance. It is the verifier's responsibility to design the verification activities that are to be applied to each installation or aircraft operator in sufficient detail and consistent with the outcome of the risk analysis.

As each installation or aircraft operator is required to submit a verified emissions or tonne-kilometre report to the competent authority, the verifier shall perform the verification process on the emissions or tonne-kilometre report for each and every installation or aircraft operator. Sampling within a group of installations or aircraft operators, is not allowed as it will not provide sufficient, appropriate evidence on which to issue a verification report at an installation or aircraft operator level.

5.1.2 Procedures

The verifier should establish, implement, maintain and document procedures for the verification activities in the verification process, as referred to in section 5.1.

5.1.3 Recording and documentation

The verifier shall document and maintain records to demonstrate conformance to the requirements in the EU ETS Directive, MRG, any relevant guidance and interpretations issued by the Commission or the relevant Member State in relation to Monitoring, Reporting and Verification, applicable accreditation rules and this document.

Records shall be kept by the verifier for 10 years after the end of the annual verification cycle. This applies even in cases where no further verification is conducted.

5.2 Pre-contract stage

In the pre-contract stage the verifier assesses whether it is possible to undertake the verification activities for the specific installation or aircraft operator. The verifier should carry out the following activities at the pre-contract stage;

1. evaluating the risks that are involved for the verifier to undertake the verification activities within a particular installation site or aircraft operator's activities (section 5.2.1);
2. assessing whether the operator has provided the verifier with sufficient information (section 5.2.2);
3. undertaking a contract review and competency needs analysis to select the verification team (section 5.2.3, 5.2.4 and 5.2.5);
4. reviewing the quotation (section 5.2.6);
5. specifying the contract conditions (section 5.2.7);
6. allocating time to verification activities section (5.2.8);
7. documenting the pre-contract stage (section 5.2.9).

5.2.1 Evaluation of the risks involved for the verifier (business risk)

The verifier should carry out an evaluation of the risks that are involved for the verifier in undertaking the work in accordance with the requirements. This business risk evaluation should be fully documented. The evaluation should show that the verifier has recognised the business risks involved with the contract and that it has developed an approach for the work that will ensure that the scope of the verification work and the time quoted is consistent with the risks identified. The approach should be documented.

5.2.2 Information needed

The verifier should ensure that the operator has provided sufficient information on which the scope and objectives for the verification engagement can be confirmed. The information provided shall include the EU ETS permit, where applicable, and the approved monitoring plan, as well as any other relevant information.

5.2.3 Competency needs analysis and contract review

The verifier should undertake a review of the information supplied by the operator to determine the scope of the verification and whether the verifier has the accreditation, competence, personnel and resources necessary to successfully complete the verification activities to the specified timescales required, and to establish the specific competencies needed to undertake the work. A competent resource is confirmed via the competence process described in section 6; availability of this resource will be influenced by resource planning/allocation depending on demands.

In addition, the review shall confirm the team selection, ensuring the verifier competency requirements identified for the work, are held by the team (be that one or more people) selected to undertake the verification activities as listed in section 6 and expanded in this chapter, for the operator's scope of activity/industry sub sector and the nature of the emissions or tonne-kilometre data. This may require additional personnel and technical experts, depending on specified resource availability and alternative competency combinations.

Confirmation of resource should also include the independent technical reviewer as referred to in section 5.5.

5.2.4. Verification team allocation.

Verification team means a team that consists of person(s) conducting verification activities as outlined in this chapter. A team may consist of an individual EU ETS Lead Verifier provided all the competencies required and identified are held by the individual. Team members shall be competent for the tasks assigned to them and shall be able to demonstrate this competency according to chapter 6 of this document.

Teams should be made up such that:

1. each verification team includes at least one person complying with all requirements for an EU ETS Lead Verifier as referred to in chapter 6 (while it is not necessary that the EU

- ETS Lead Verifier himself has the specific technical understanding or the accreditation scope for the activities in Annex F carried out within the client's installation or aircraft operator);
2. all verification team members operating independently comply at least with all requirements for an EU ETS Verifier as referred to in chapter 6;
 3. each team member has a clear understanding of their individual role in the verification process and knowledge of the related requirements and applicable procedures and documents;
 4. overall the team has (a) person(s) who is/are designated as competent to assess each area/activity consistent with the technical understanding for the activities in Annex F, such that all competences are covered.
 5. each team member is able to communicate effectively, both in writing and verbally, in the language(s) required for the execution of their specific tasks; and
 6. each team member is selected on the basis of knowledge, attributes and skills in such a way that the knowledge, experience and skills of the team as a whole meet the requirements of the verification.

Each verification team member shall have knowledge of data auditing and the EU ETS Directive, MRG and any other guidance issued by the European Commission or the relevant Member State in relation to EU ETS monitoring, reporting and verification.

The verifier shall maintain sufficient documentation to provide objective evidence of team selection and management.

5.2.5 Verification team roles

The verification team should be made up such that:

An EU ETS Lead Verifier carries out the following tasks:

1. leading and managing a particular verification process;
2. identifying any additional competence needs and confirming the competence of team members;
3. allocating and briefing team members on their specific tasks;
4. conducting the strategic and risk analyses;
5. developing and implementing the verification plan;
6. directing the compilation of the internal verification documentation, the drafting of the verification report and communicating/distributing them to the reviewer;
7. ensuring that all internal verification documentation, including working papers, supporting evidence, recommendations and the draft verification report are complete;
8. providing assistance to reviewers in order to complete the verification.

An EU ETS Verifier, if assigned to the team, may carry out the following tasks under the responsibility of the EU ETS Lead Verifier:

1. confirm the scope of the verification with the installation or aircraft operator;
2. ensure that the verification objectives are addressed in the detailed verification planning;
3. undertake the process analysis;
4. resolve issues relating to the verification, in particular those associated with materiality threshold and conformity and changes in the risk profile of the reported data;
5. compile the internal verification documentation;
6. write the verification report.

5.2.6 Review of quotation

Prior to submission to the client the quotation should be internally reviewed and approved by competent personnel as referred to in section 6.3.4.

5.2.7 Contract conditions for verification

The verifier should specify the conditions for verification in a clear and transparent manner.

The verifier shall require its client to disclose all relevant information and data to enable the verifier to carry out the verification activities.

The verifier shall require in its verification contract that the client:

1. makes all necessary arrangements for the conduct of the verification and on-site assessment, including provision for examining documentation and access to all relevant areas, records and personnel for the purposes of verification and resolution of complaints;
2. ensures that the verification report, or any part thereof is not used in a misleading manner; and;
3. at the end of the verification provides written confirmation that all required data and information have been disclosed.

5.2.8 Time allocation

The verifier shall determine the necessary time allocation for each verification engagement quoted for and shall justify and record its decision. The time allocation shall be recorded in the verifier's internal documentation. Any reduction in days as a result of negotiation with the operator shall be recorded and justified.

The contract with the operator shall allow for the provision of additional days to be charged if, for example, the need for additional time e.g. time for travelling has been determined as a result of the strategic and risk analyses, or as a result of the verification, non-conformities are reported, or if insufficient data, or errors in data sets have been identified.

When determining time allocation the verifier shall take into account:

1. the complexity of the installation or aircraft operator's activities and fleet;
2. the complexity of the monitoring plan, the monitoring methodology for GHG sources and any changes;
3. the applicable materiality threshold;
4. the installation or aircraft operator's internal control system;
5. the location of information and data related to the GHG emissions or tonne-kilometre data;
6. the complexity of the data flow.

If an installation is applying the fall-back approach according to MRG Annex I, section 5.3, the verifier shall also take into account when determining the time allocation, that the verification has to include the annual update of the uncertainty analysis.

Further information on the determining factors for time allocation can be found in Annex E.

The verification activities should be planned to ensure that sufficient time is allowed to:

1. carry out all the verification activities;
2. allow the operator to address issues identified by the verifier if needed;
3. enable the verification report to be produced and made available by the operator to the competent authority, by 31st March of each year; and
4. develop and complete the internal verification documentation, reporting and review.

5.2.9 Documentary evidence

The verifier shall retain documentary evidence of the pre-contract processes.

5.3 Verification assessment

The verifier shall carry out the following activities at the verification assessment stage:

1. Strategic analysis (section 5.3.1);
2. Risk analysis (section 5.3.2);
3. Verification plan (section 5.3.3);
4. Process analysis (main part of verification) (section 5.3.4);
5. Completing the verification and findings (section 5.3.5).

Verification of GHG emissions and tonne-kilometre data does not include the concept of on-going surveillance as used in management system certification.

For guidance on the verification effort carried out by the same verifier for repeated years and the balance between simple and complex installation or aircraft operator's activities, see Annex D. Please note this annex does not relate to sampling between installations or aircraft operators but to sampling within an installation or aircraft operator's activities and its data set.

5.3.1 Strategic analysis

The strategic analysis provides the verifier with the basis for the development of the risk analysis and verification plan. Based on the EU ETS permit and the approved monitoring plan, the verifier shall assess the likely nature, scale and complexity of the verification activity by document review and interviews. All elements of the scope of the work shall be considered. Strategic analysis is not an assessment/evaluation of the installation or aircraft operator's strategic plans or approach to its business. Its focus is strictly on the system as identified above.

The verifier shall take the legal requirements in MRG Annex I, section 10.4.2(a) into account.

Before the strategic analysis is carried out the verifier shall check whether the monitoring plan has been approved by the competent authority and whether it is the right version.

The verifier has to check whether:

1. the monitoring plan has been changed during the reporting period;
2. these changes have been approved by the competent authority (if required);
3. these changes led to an amendment to the EU ETS permit or monitoring plan, if required;
4. they have been received as notifications by the competent authority.

If the monitoring plan or changes requiring approval have not been approved by the competent authority, the verifier should in principle not continue and refer the operator to the competent authority. Any changes to emissions sources or flights by aircraft operators have to meet the requirement in the approved monitoring procedures as agreed with the monitoring plan. The verifier may still carry out verification activities as mentioned in section

5.1 and related to an installation or aircraft operator as long as the installation or aircraft operator is aware that some verification activities may need to be repeated based on any approval from the Competent Authority and the opinion of the verifier may change as the verification progresses.

Note - *Continuing the verification activities can be relevant in view of officially determining the emission figure by the competent authority for the purpose of article 51 second paragraph of the Registry Regulation or article 16 third paragraph of the EU ETS Directive.*

The strategic analysis should consider the following inputs:

1. the approved monitoring plan;
2. changes to the approved monitoring plan (this could be changes to the monitoring methodology, organizational structure of an installation or aircraft operator, control activities mentioned in the monitoring plan etc.);
3. changes to the approved monitoring plan notified to or approved by the competent authority;
4. the nature, scale and complexity of equipment and processes that have resulted in emissions, or tonne-kilometre data, including the measurement and recording of GHG emissions, energy flows, flue gas flows and materials, calculation methods and external influences, over the range of operating conditions during the reporting period;
5. the data acquisition and handling activities which encompass all operational activities within the installation or carried out by the aircraft operator that are necessary to produce an emissions report or tonne-kilometre report from primary measurement data (from the measurement and recording of parameters through to the aggregation and archiving of data & compilation of emissions or tonne-kilometre information). For aviation, this means the verifier also needs to take into account requirements in MRG Annex XIV section 9, Annex XV section 8 and for N₂O Annex XIII section 8.
6. the control system of an installation or aircraft operator which consists of:
 - a. a risk assessment carried out by an operator to identify inherent and control risks in the data flow activities that could lead to misstatements in the annual emissions report or tonne-kilometre report and non-conformities against the approved monitoring plan, the permit, where applicable, and the MRG;
 - b. control activities that mitigate the identified risks, including quality assurance of the measuring equipment and information technology used, internal reviews of reported data, outsourced processes, corrections and corrective action and records and documentation.
7. for aviation - availability and complexity of the additional procedures required under the monitoring plan according to MRG Annex XIV, Section 6; and Annex XV, section 3;
8. for N₂O – the specific reporting requirements of the MRG Annex XIII, section 9;
9. whether accredited laboratories or non-accredited laboratories have been used in determining activity-specific factors according to MRG Annex I, section 13.
10. the existence of a control environment and/or an environmental management system/ audit system according to ISO 14001/EMAS, ISO 9001 or equivalent system that covers the data management and recording system.
11. the organisational environment including the structure of the organisation that manages the operational, maintenance and data accounting systems, within which the emissions or tonne-kilometre information is derived;
12. the required materiality threshold to be applied;
13. the availability of information from databases, including those from Eurocontrol, other similar organisations and the operator, and the need for site visits for verification of the data acquisition and handling activities;
14. annual update of uncertainty analysis if the fall-back approach is applied according to MRG Annex I, section 5.3. for installations;
15. for aviation annual emissions, whether the approach for small emitters is used (MRG Annex XIV Section 4).

The verification process should not proceed until the verifier has obtained and evaluated sufficient relevant information on which to base the strategic analysis.

5.3.1.1 Outcome of the strategic analysis

The strategic analysis should look at all the above mentioned inputs and subsequently apply conventional strategic analysis tools such as strength /weakness assessment to identify issues and concerns.

The conclusion from the strategic analysis, including commentary on the inputs listed above, provides information and effective input to:

1. the risk analysis;
2. the verification plan being drawn up at the end of the risk analysis;
3. the findings and conclusions of the verification to be submitted in the verification report.

5.3.1.2 Documentation of strategic analysis

The results of the strategic analysis and other information assembled during strategic analysis shall be recorded by the verifier in the internal verification documentation.

5.3.2 Risk analysis

The aim of the risk analysis is to assess the likely level of risk of a material misstatement or material non-conformity in the emissions report or tonne-kilometre report, to enable an effective verification to be designed, including the appointment of competent and appropriately qualified personnel.

The verifier shall analyse information available to determine where the greatest levels of risks to misstatements are. The verifier identifies the control risks, detection risks and inherent risks and ensures that the testing of controls to support the operator's statement regarding their emissions and operation in the relevant period reflect the identified risks. The actual testing of the controls however is part of the verification activities laid down in section 5.3.4. If the verifier concludes that processes, controls and control activities in place to mitigate inherent risks, control risks and detection risks are not adequately designed or implemented, the verifier shall consider the implications for the risk analysis, the verification plan and the verification report. The incorrect implementation of control activities laid down in the approved monitoring plan can lead to non-conformities. Further information on non-conformities is to be found in Annex I.

In evaluating the risk of material misstatements in the emissions report or tonne-kilometre report and non-conformities related to conformance with the monitoring plan, the verifier shall at least consider:

1. the relevance and proportional size of the emissions or tonne-kilometre data from that source stream or emission source;
2. the adequacy of the management systems, the data flow activities and control systems as well as the control environment in which the data are collected and handled;
3. the complexity of operations;
4. the approved monitoring plan;
5. relevant evidence from previous verification engagements;
6. for installations - in cases where the fall-back approach is applied the requirement for an annual update of the uncertainty analysis according to MRG Annex I, section 5.3;
7. for aircraft operators – the additional reliance on procedures, as defined in Annex XIV and XV of the MRG.

The risk analysis shall consider the inherent and control risks involved when a site visit would be waived for installations or aircraft operators according to section 5.3.4.1 and Annex J.

5.3.2.1 Outcome of the risk analysis

Evaluation of the risks involved providing information and effective input to:

1. the verification plan being drawn up at the end of the risk analysis;
2. the assessment of the risk of misstatements or non-conformities and whether this risk is likely to have a material effect;
3. the findings and conclusions of the verification to be submitted in the verification report.

5.3.2.2 Documentation of the risk analysis

The results of the risk analysis and other information assembled during the risk analysis shall be recorded by the verifier in the internal verification documentation.

Documentation of the strategic analysis and the risk analysis can be combined.

5.3.3 Verification plan

Based on the risk analysis the verifier shall draft a verification plan which comprises:

1. a verification program that includes the nature of the verification activities, when they shall be carried out and their scope;
2. a data sampling plan which sets out the data to be tested in order to reach a verification opinion;
3. the site visit(s);
4. an assessment of whether the installation or aircraft operator's boundaries (emission sources, source streams) are correctly defined in the approved monitoring plan;
5. an assessment of conformance with the approved monitoring plan;
6. the specific aspects of continuous monitoring of emissions, where applicable.

Annex C sets out the factors to be considered in developing a verification plan.

5.3.3.1 Verification programme

The *verification programme* covers the activities that pave the way for the execution of the verification. These activities relate to **how** the verification will take place appropriate for the risks identified.

The verification programme serves as a means of monitoring and recording progress of the verification activities and the scope of such activities.

5.3.3.2 Data sampling plan

The data sampling plan is part of the verification plan and consists of **what** the verification will involve: the data sampling strategy as well as the data to be tested in order to assess whether the data in the emissions or tonne-kilometre report are free from material misstatements. The development of a sound and appropriate data sampling strategy is a culmination of the strategic analysis and the risk analysis. The data sampling strategy is based on sampling of various areas and elements within an individual installation or aircraft operator's activities consistent with:

1. prioritisation of areas and data identified within the strategic and risk analyses;
2. data sets and how they relate to the monitoring plan;
3. key aspects of conformity with the approved monitoring plan;
4. optimisation of the breadth and depth of sampling in order to deliver reasonable assurance.
5. additionally for aircraft operator's activities – the potential changes of the GHG sources over the reporting period.

Reasonable assurance also determines the depth of detail that a verifier includes in their verification plan to assess if the emissions report or tonne-kilometre report is free from material misstatements and if there are material non-conformities. The verifier uses data sampling as part of detailed verification and this shall:

1. be representative of the full data universe including data that have not been processed for use (and going back to such data);
2. include horizontal and/or vertical data checks carried out by verifier;
3. take account of the sampling regime of prior year audits such that over a number of verification cycles all data streams and source streams or emission sources are included within substantive testing; and
4. be justified and detailed in the verification plan.

Significant failure of the selected data sample to meet the principles of trueness, completeness, consistency and faithfulness shall result in the testing of additional data samples until such time as the verifier understands the full extent of any potential or actual misstatement. Justification of the samples selected and the outcome of substantive testing including details of additional samples undertaken shall be documented.

In determining data sampling the issues as referred to in Annex E shall be considered.

5.3.3.3 Site visit and assessment of source streams and emission sources

The verification plan shall indicate which activities are to be carried out on site and which remotely. The verification plan shall contain the activities related to: checking the installation or aircraft operator's boundaries; assessing the conformance to and implementation of the approved monitoring plan, including material emission sources and source streams; assessing the presence and functioning of the monitoring and measurement system/instruments as described in the approved monitoring plan; and verifying data trails. The verification plan shall include the system elements that will be checked during the site visit(s) and the operator's functions/personnel to be interviewed.

In relation to aircraft operators, completeness checks shall include use of air traffic data such as that from Eurocontrol (see reference in MRG Annex XIV section 9, Annex XV section 8).

5.3.3.4 Modifications to the verification plan

If the verification shows that the strategic analysis and risk analysis or elements of the verification plan need to be changed, the verification plan should be amended.

5.3.3.5 Documentation of verification plan

The verification plan, including modifications and reasons for modifications in the verification plan, shall be documented in the internal verification documentation and shall subsequently be used during the process analysis.

5.3.4 Process Analysis (main part of verification)

The verifier shall implement the verification plan using the standard auditing processes of document review, interview, observation and corroboration as well as using data and information from external information sources, where relevant information is provided. The aim of process analysis is to collect and document evidence to substantiate the verification opinion reached by the verifier.

The process analysis phase consists of two elements:

1. assessment of whether the approved monitoring plan is implemented and whether it is up to date;
2. verification of the monitoring data (data verification) including confirmation of the validity of the information used by the operator to calculate the uncertainty level as set in the approved monitoring plan.

The verifier shall take the legal requirements in MRG Annex I, section 10.4.2 (c) into account.

5.3.4.1 Site visits

The verification shall normally be performed on-site(s) to assess monitoring systems including the operation of meters, conduct interviews, and collect sufficient information and evidence.

As all installations or aircraft operators have to submit their verified emissions or tonne-kilometre report by March 31st of the following year (or earlier if required by the Competent Authority), the verifiers should spread their verification work over the year to avoid pressure on completing the verification and formulating the verification report. The final data verification cannot take place until all data are available, which will normally be the case as from January of the following year. However, data verification can be started as soon as some data are available. The strategic analysis and risk analysis provide input into the planning of the verification and will be laid down in the verification plan in accordance with section 5.3.3.

The verifier may decide between:

1. assessing separately and in advance whether the approved monitoring plan has been implemented correctly by the installation or aircraft operator and is up to date followed by a separate data verification; or
2. doing a combined verification (implementation of monitoring plan verification and data verification at the same time).

This decision shall be based upon a risk analysis, in which last year's verification results and actual information of the installation or aircraft operator activities are taken into account.

If the installation uses a central database management system that is kept separate from the installation, the verifier shall take this into account in the risk analysis and in drafting the verification plan and, if appropriate, shall visit the location where the central database system is stored as well as the installation site itself.

In relation to aircraft operators, site visits shall be undertaken in connection with the definition of 'site' for aviation, section 2 (i).

In exceptional circumstances site visits can only be waived under national legislation or by the Competent Authority. The verifier may only waive a site visit if:

1. the operator has obtained approval from the competent authority for that year, or;
2. the competent authority has determined and approved a list of criteria and the verifier has assessed that these criteria for waiving the site visit apply.

Suggested criteria for waiving site visits are described in Annex J.

A waiver shall be justified by the verifier's risk analysis for that year, carried out for that installation taking into account:

1. the need to deliver a verification conclusion with reasonable assurance; and
2. consideration of whether any changes within the installation have occurred.

The waiving of site visits shall be justified and recorded in the internal verification documentation.

If the risk analysis or the process analysis indicates questions or problems that can only be solved by a visit, the verifier shall conduct a visit to resolve the matter.

5.3.4.2 Other verification activities

The verifier may use spot-checks to sample individual records and emissions during specific time periods of activities. Throughout the process analysis, the verifier should gather records that form part of an audit trail of objective evidence to support the findings.

For installations - sampling of data is permitted within the records of emissions from individual source streams or emission sources within the boundary of an installation and the approved monitoring plan. Only where a common mass balance is permitted to cover more than one installation at the same site under one EU ETS permit according to MRG Annex II, IV, V and VI, is sampling within the whole mass balance allowed. All other sampling approaches do not extend to a data universe covering several installations, EU ETS permits or sites. An individual verification exercise is required in accordance with each EU ETS permit and the associated monitoring plan.

For aircraft operators - sampling of data is permitted within the records of emissions or tonne kilometre data from individual GHG sources within the boundary of an aircraft operator's activities and the approved monitoring plan. An individual verification exercise is required in accordance with each monitoring plan.

The process analysis includes verification against all the elements of the verification plan including but not limited to those listed in Annex C. Where the verifier's findings indicate a lack of control or unexpected misstatements or non-conformities, the verifier should review the need to re-direct the process analysis to establish the extent and impact of the errors or breakdown in the control environment and systems and document any changes and the reason for them.

In second and subsequent verification engagements, the findings from previous engagements should be taken into consideration in order to increase or decrease the level of verification effort afforded to individual sources or data or system, see Annex D.

The process analysis and supporting working documentation should ensure that any issues are identified that may impact on:

1. the materiality threshold;
2. a decision that there are misstatements and non-conformities.

These issues should be logged in internal verification documentation and fully resolved (e.g. by further sampling, re-calculation, reconciliation, reporting, document reviews, interviews etc). Non-conformities and misstatements that have been corrected shall be closed and marked as such in the internal verification documentation.

5.3.5 Completing the verification and findings

The verifier shall:

1. check final data from the installation or aircraft operator, including data that have been adjusted as a result of the verification process;
2. if relevant, review the installation or aircraft operator's rationale and explanations for differences between the final data and data previously provided;
3. review the outcome of the conformity assessment of the implementation of the approved monitoring plan, and any amendments or developments that have occurred to the monitoring plan since the verification started, e.g. to make sure that later amendments have no impact on earlier findings. This includes the data flow activities and the control system which are described or referred to in the monitoring plan;
4. ensure that the notes, diagrams, calculations and spreadsheets, etc. for the verification working papers and supporting evidence are complete;
5. ensure that the audit trails followed and issues closed can be demonstrated, and that the verification process is ready for the final decision process;

6. complete the risk analysis to confirm whether the distribution of verification effort was appropriate and conclude on the impacts that this may have on the verification decision.

The completion, effectiveness and adequacy of corrective action or new information should be verified.

The process analysis is completed when all activities described in the verification plan have been carried out.

Having assessed the emissions report or tonne-kilometre report and the supporting data, the control environment and implementation of the approved monitoring plan, the verifier shall consider the findings of the verification and determine whether the verified data support the emissions report or tonne-kilometre report.

In developing its conclusion the verifier shall meet the requirements of EU ETS Directive Annex V point 11 and MRG Annex I, section 10.4.2 (e).

The findings and evidence obtained during the verification process will enable the verifier to make a judgment with respect to whether the annual emissions report or tonne-kilometre report contains any material misstatements and whether there are material non-conformities or other issues relevant for the verification report. For an explanation on what constitutes a material misstatement and a material non-conformity see Annex I.

5.3.6 Misstatements and non-conformities

In cases where the verifier identifies misstatements in the data and emissions report or additionally for aircraft operator's, the tonne-kilometre report, the verifier should require additional information from the operator to resolve the matter. If additional information does not resolve the outstanding data queries and the outstanding misstatements and non-conformities result (either individually or in aggregate) in material misstatements or material non-conformities, then the verifier shall state that the emissions report or tonne-kilometre report was not verified as satisfactory. The operator will have to progress this issue with the relevant competent authority.

For example:

If an otherwise adequate meter has drifted out of calibration during the reporting period, then the verifier may form an opinion as to whether this may have had a material impact upon the data. If so, the installation or aircraft operator may propose an adjustment for the drift and if the proposed adjustment is considered adequate by the competent authority, the verifier may then consider any remaining error to be immaterial and proceed to issue a satisfactory verification report.

According to MRG Annex I, section 10.4.2 (c) the verifier should report all non-conformities and misstatements to the operator during the verification process (whether material or not).

When reporting during the verification process, the verifier shall recommend and allow the operator to correct rectifiable misstatements and non-conformities that have or could have an effect on the data in the emissions report or for aircraft operator's tonne-kilometre report. This should be done as soon as possible so that the verifier is able to review the final changes before the 31st of March.

Misstatements and non-conformities that are solved by the 31st March shall be logged and documented in the internal verification documentation.

If misstatements or non-conformities cannot be rectified at the latest by the 31st March (subject to the date of signing off the verification report), the verifier shall assess whether these misstatements or non-conformities are material. Material misstatements or material non-conformities in the emissions report or for aircraft operators tonne-kilometre report shall lead to a refusal to verify the emissions report or tonne-kilometre report or to a verification opinion in the verification report that the emissions report or tonne-kilometre report is not satisfactory.

Non-material non-conformities and non-material misstatements that are outstanding after the 31st March should be addressed by the operator in accordance with national legislation and within a timeframe to be set by the competent authority.

The non-material non-conformities and non-material misstatements should be followed up at the next verification to check that:

1. the installation or aircraft operator has taken corrective action;
2. if no action has been taken, the verifier shall assess whether this leads to a material non-conformity or material misstatement related to the next emissions report;
3. in cases of a non-material non-conformity or non-material misstatement the verifier shall report the non-conformity or misstatement to the installation or aircraft operator for onward report to the competent authority.

Note: *If there has been no action by the operator, any sanction is the responsibility of the competent authority, and not that of the verifier.*

The verifier should inform the operator regularly on the progress of the verification and the potential for any material misstatements or material non-conformities that may result in an unsatisfactory verification opinion.

5.4 Verifier reporting

At the end of the verification process the verifier shall prepare:

- internal verification documentation; (section 5.4.1); and
- a verification report (section 5.4.2) addressed to the operator who is required to submit it along with the annual emissions report or tonne-kilometre report to the competent authority by 31st March of each year, (or earlier if required by the competent authority) in accordance with MRG Annex I, section 10.4.2 (d) and (e).

5.4.1 Internal verification documentation

The internal verification documentation shall at least contain evidence that the strategic analysis, the risk analysis and the verification plan has been performed in full and shall provide sufficient information to evaluate the verification process and to support the conclusions on verification.

The internal verification documentation should be drafted such that it enables an informed third person (reviewer, Competent Authority or Accreditation Body) to obtain insight into whether the verification process has been performed in accordance with the EU ETS Directive, the MRG, the national legislation and other relevant requirement and whether its results support the decision of the verifier to compile a verification opinion with reasonable assurance.

This information in the internal verification documentation shall contain the justification for judgements made by the verifier related to the decision on what constitutes material misstatements and material non-conformities and to substantiate that the verification process has been carried out effectively. The internal verification documentation shall provide the evidence upon which the verification report is based, as well as the basis for comments to

the operator, related to improvements in the operators' performance in monitoring and reporting emissions.

Annex G to this document describes what should at least form part of the internal verification documentation.

5.4.2 Verification report

The verification report is a mandatory component of the EU ETS verification process. The content of the verification report shall at least comply with Annex V point 11 of the EU ETS Directive, MRG Annex I, section 10.4.2 (e) and with any specific member state requirements. The verification report shall at least contain the elements that are described in Annex H.

The verification report shall refer to the exact emissions report or tonne-kilometre report that has been verified (i.e. date and version number).

The verifier shall in addition to other reporting requirements also report any discrepancies that come to its attention between the approved monitoring plan and actual emission sources, sources streams and installation or aircraft operator's boundaries based on the requirements in the MRG.

5.4.2.1 Preparation of the verification report

According to Annex V of the EU ETS Directive and MRG Annex I, section 10.4.2 (e) an emissions report or tonne-kilometre report can be verified as satisfactory when the data in the emissions report or tonne-kilometre report are free from material misstatements and when there are no material non-conformities (refer to section 5.3.6 and Annex I of this document).

Limitations of scope include:

1. the approved monitoring plan does not provide sufficient scope or clarity to conclude on the verification process;
2. data are missing that prevent a verifier from obtaining evidence required to reduce the verification risk to a reasonable level;
3. the operator has failed to make sufficient information available to enable the verifier to carry out the verification assessment.

5.4.2.2 Comments in the verification report

Misstatements and non-conformities that are outstanding after the verification process and have no material effect shall be reported by the verifier to the operator taking into account MRG Annex I, section 10.4.2 (e).

The verifier should report non-material misstatements and non-material non-conformities in the verification report unless this is regulated differently in the national legislation.

If non-conformities and misstatements have been corrected before or at the latest on 31st March (subject to the date of signing of the verification report) their submission in the verification report is not necessary. They shall be closed in the internal verification documentation.

When submitting the non-material misstatements and non-material non-conformities in the verification report the verifier shall describe them. In addition the verifier can make recommendations regarding the misstatements and non-conformities.

The verification report should clearly express any circumstances where:

1. the verifier is of the opinion that one, some or all aspects of the data determination do not comply with the approved monitoring plan;
2. the emissions report or tonne-kilometre report prepared by the operator does not comply with MRG Annex I, section 14 and the information listed in MRG Annex I, section 8, and, as applicable, Annex XIII, section 9, Annex XIV, section 8, and Annex XV, section 7;
3. the verifier is unable to obtain sufficient evidence to evaluate one or more aspects of the data conformity with the approved monitoring plan or misstatements in the data and other relevant requirements.
4. material misstatements are present in the emissions report or tonne-kilometre report and material non-conformities have been detected;
5. non-material misstatements are present in the emissions report or tonne-kilometre report and non-material non-conformities have been detected;
6. the verifier has recommendations to the operator to improve the monitoring and reporting of emissions in accordance with the MRG.

Note *Recommendations to the operator to improve the monitoring and reporting of emissions in accordance with the MRG, as far as these are not resulting from material non-conformities, may be communicated in a management letter.*

5.5 The review process

The draft verification report shall be subject to a review prior to a decision being made to issue the verification report, unless regulated differently in national legislation. The reviewer should be a competent person who has not taken part in the verification process of the annual emissions report or tonne-kilometre report and possesses, or has access to, an appropriate level of knowledge and experience sufficient to evaluate the verification processes and the justification for the verification decision.

The scope of the review should encompass the complete verification process. The objective of the review is to ensure that the verification process is conducted in accordance with the verifier's documented procedures as referred to in section 5.1.2, due professional care and judgment and that any verification risks are minimised.

The process of review serves four different functions:

1. the review function (to look for technical errors or omissions and to concur with the opinion reached, which requires comparable technical expertise to that of the EU ETS Lead Verifier who is responsible for the final verification report);
2. a final check that the verifier has acted with due diligence and is cognisant of their duty of care to their client, including ensuring that the scope of work activities is consistent with the installation or aircraft operator's activities, control arrangements and the reasonable assurance requirements;
3. a final check to confirm whether the verifier has carried out the verification in accordance with the relevant requirements (EU ETS Directive, the MRG, national regulations, internal requirements, accreditation requirements); and
4. the proof reading function (to correct simple errors, number reversals, typographical mistakes and omissions).

The review should focus in particular on the following verification activities:

1. Appointment of the EU ETS Lead Verifier and/or team – including competency evaluation;
2. Business risk evaluation – in particular the decision to accept the engagement and time allocation;
3. Strategic Analysis,
4. Risk Analysis;
5. Verification plan including data sample design where appropriate;
6. Verification assessment (process analysis) including modifications to the verification activities;
7. Completion of the internal verification documentation and the verification report ensuring the consistency of both, including the verification findings and conclusions;
8. Any issues raised by the verifier, particularly those that prohibit a satisfactory verification report;
9. Misstatements and non-conformities that have been corrected by 31st March (subject to signing off the verification report) have been logged in the internal verification documentation and misstatements and non-conformities that are outstanding after 31st March have been put in the verification report.
10. Review of any remaining non-corrected misstatements and non-conformities, and the decision on whether they are material;
11. The justification for the decision to issue the verification report or to give a verification opinion that the emissions report or tonne-kilometre report is either satisfactory or non-satisfactory.

5.6 Issuing of the verification report

The verifier shall submit a verification report to the installation or aircraft operator for them to submit to the Competent Authority, accompanied by a copy of the verified emissions report or tonne-kilometre report.

5.7 Entry of emission figure in registry

According to article 51 of the registry regulation the verifier shall input or approve the relevant entries into the EU ETS registry related to the final verified GHG emissions for the period in question and for the relevant activities. The option to input or to approve the entry depends on the way this has been regulated in national legislation.

5.8 Re-issue of the verification report

If the verification report requires revision, as requested by the competent authority, the verifier shall implement processes to issue a revised verification report.

6. COMPETENCE OF VERIFIERS

6.1 General

The verifier shall establish, document, implement and maintain a competence process that demonstrates through records that all personnel are competent for the tasks allocated. This process includes the determination and implementation of:

1. competence criteria for each verification activity related to the;
 - a. technical scope; and
 - b. competence areas identified in section 6.2, 6.3 and 6.4.
2. a method for initial competence evaluation of available individuals to carry out EU ETS verification (this would occur before work had been contracted so normally at the stage of applying for accreditation);
3. a method to ensure continued competence and regular evaluation thereof including monitoring of individuals involved in EU ETS;
4. a competence needs analysis and contract review process – see section 5.2.3, 5.2.4 and 5.2.5 – which based on the evaluation carried out in 2 above and an evaluation of the

client needs would determine the required competence for that verification and select a competent team for each verification;

5. regular evaluation of the overall competence process to ensure it is updated and maintained; and
6. a system for recording the results of 1 - 5.

The competence process shall provide for sufficient identified resource to meet the demands of the business and to enable the verifier to select a competent team (EU ETS Lead Verifiers / Verifiers, independent reviewers, and experts as applicable) to undertake a specific contracted assignment for a client/installation or aircraft operator based on the verification assessment needs, see section 6.1, and section 5.2.3, 5.2.4 and 5.2.5 as applicable to the operator's installation or aircraft operator's activities and scope of emissions or tonne-kilometres to be verified.

For each of the functions in the verification process, the verifier shall determine the method for competence evaluation, based on ISO 19011, clause 7.6.

6.1.1 General - Technical competence

The verifier shall be able to demonstrate an understanding and the technical ability to manage the EU ETS verification work for the sectors in which they offer accredited services. The understanding and technical ability includes demonstrating the technical knowledge of the verification requirements, the scopes as listed in Annex F, including any unique industry process parameters, testing techniques, measuring/monitoring arrangements, calculation methodologies and relevant legislative requirements etc.

The verifier shall develop relevant competence criteria (e.g. sales/quotation staff, planners/schedulers, EU ETS Lead Verifiers / Verifiers, independent reviewers undertaking activities associated with verification within the EU ETS) for all industry activities in which they wish to operate. The competence criteria determined for all the tasks shall be documented.

6.1.2 General – Generic competence

Based on generic competence criteria set out in Section 6.3.1 and 6.3.2 related to EU ETS Verifiers and EU ETS Lead Verifiers, the verifier shall develop specific competence criteria taking account of specific technical and organisational issues including the countries the verifier operates in.

For EU ETS Verifiers and Lead Verifiers, the verifier should, prior to allowing an individual to be designated as competent, use a competent evaluator to observe the EU ETS Verifier and EU ETS Lead Verifier in practice.

6.1.3 General - competence evaluation

For personnel undertaking the activities in the verification process the verifier shall determine the method of evaluating their competence against the competence criteria established and shall maintain records that demonstrate how an individual demonstrated achievement of the competence to a competent evaluator.

Note: *Experience and training do not demonstrate an individual is competent, but provide the appropriate routes to acquire competence. A formal qualification (when obtained by passing an examination) can be demonstration of knowledge. This may demonstrate compliance with a part of the competence criteria.*

Where an individual fails to demonstrate fully that the competence criteria have been met for a particular task, additional training or supervised/mentored work experience should be identified and individuals monitored accordingly until full demonstration of competence is achieved. An individual's internal qualification shall be restricted accordingly during the

timeframe where additional training/mentoring is taking place.

Any further restrictions affecting an individual's competence, and therefore ability to fully undertake a task should be recorded. This should include, for example, a restricted scope activity, and where necessary any additional arrangements required, (e.g. support with technical expert, or specified interim approval stages to be applied, etc) to negate the deficiency in the event that the individual may be required to undertake an activity requiring full competence.

This approach should also be taken where an individual is deployed as part of further training/mentoring until full competence has been demonstrated.

6.1.4 General - Monitoring of personnel

All competent personnel shall be subject to routine monitoring of performance to confirm ongoing competence. The verifier shall establish the most appropriate means of monitoring applicable to the tasks being undertaken and the risks of unsatisfactory outcomes influencing the final verification opinion. For EU ETS Lead Verifiers / Verifiers this shall include on site witness as appropriate, as well as taking into account the independent review of all internal documentation for each completed verification.

In addition the verifier shall have a process for ensuring on-going training to ensure the EU ETS Lead Verifiers / Verifiers and all personnel involved are aware of any changes in regulations and other legislative requirements (EU and National) as appropriate.

EU ETS Lead Verifiers / Verifiers should maintain their own competence by ensuring that their knowledge of data verification is updated periodically to reflect current best practice in the field.

The verifiers internal control system should ensure that the performance of EU ETS Lead Verifiers / Verifiers and reviewers is regularly reviewed, including on-site witnessing of verification activities.

6.1.5 General - Evaluation of the competence process (continual improvement)

The verifier should at regular intervals review its competence process to ensure that criteria meet requirements (including any amendments) and to address any issues that may be identified related to the setting of competence criteria as an outcome of the monitoring process.

6.2 Technical sector competence

The technical sector competence criteria should include at least knowledge of the following aspects:

1. Sectoral aspects of monitoring plans, procedures, data flow and control systems including the overall organization with respect to monitoring and reporting as well as the environment in which the installation or aircraft operator operates;
2. The installation or aircraft operator's typical activities, equipment and relevant processes, emission sources and source streams;
3. Production inputs and outputs where relevant for GHG emissions;
4. Information for each type of GHG emission (i.e. combustion, process) or tonne-kilometre data;
5. The origin and application of emission factors or oxidation/conversion factors, where relevant, and any other parameter or method used to calculate or measure the emissions;
6. Techniques relevant to monitoring, measurement (including device calibration and verification), calculation, analysis and reporting of the GHG emissions and tonne/kilometre data;

7. Where applicable the techniques for chemical analysis, sampling and sample preparation especially for measuring net calorific value, elemental analyses and the determination of the biomass fraction of fuels and wastes;
8. In addition:
 - i. *For Continuous Emissions Measurement Systems (CEMS)* - the systems and elements for continuous emission measurement, i.e. the standards applied, the measurement principle/measurement points/measuring frequencies, the parameters used for determining emissions, the equipment used, the calibration procedures, the application of EN 14181 and EN ISO 14956, the procedures for data management and storage, the sampling rates, the procedures for determining missing data and the method used to check the results of the continuous measurements. It is important that the verifiers understand the standards, regulations and practices that support continuous emission monitoring and that during the preparation and execution of the verification due attention is paid to them.
 - ii. *For installations* - where applicable, annual uncertainty analysis update and requirements on the fall-back approach (if the operator uses a fall-back approach) according to MRG Annex I, section 5.3.
 - iii. *For aircraft operators* - including tonne/kilometre data, verifiers are required to have additional knowledge and understanding of the requirements of Directive 2008/101/EC, Commission Decision 2009/450/EC on the detailed interpretation of the aviation activities listed in Annex I to Directive 2003/87/EC and Annexes XIV and XV of the MRG. In particular, they are required to understand how to interpret the data from Eurocontrol (flight data) and other data sources; integrity of data obtained from external sources; understanding of exclusions; fuelling systems; maintenance of metering instruments and estimation techniques; use of approved tools for estimating fuel consumption for small emitters; understanding of calculation methods and interpretation of tonne-kilometre data and relevant legislative requirements.
 - iv. *For nitrous oxide emissions* - knowledge and understanding of the requirements of Decision 2009/73/EC (Amendment to Decision 2007/589/EC). In particular: continuous measurement of N₂O emissions (measurement of N₂O, O₂ and flue gas flow) including monitoring systems to process the output into annual emission data expressed as N₂O and CO₂, and abatement technologies for N₂O emissions.

6.3 Generic competence

6.3.1 Generic competence - EU ETS Verifier

An EU ETS Verifier should generically meet the following competence criteria, this is not an absolute list and there may be additions due to developments in requirements or scopes.

6.3.1.1 EU ETS Directive and MRG

Knowledge of the EU ETS Directive and the MRG, and its requirements.

6.3.1.2 National legislation on emissions trading

Knowledge of the applicable Member State's national legislation on emissions trading and its related regulations in conjunction with the EU ETS Directive, particularly Articles 5 to 7, 14 and 15 and Annex IV and V, the MRG, any relevant guidance and interpretations issued or adopted by the relevant member state in relation to monitoring, reporting and verification and an installation's typical EU ETS permit and its approved monitoring plan or an aircraft operator's approved monitoring plan.

6.3.1.3 Data and information auditing

1. Knowledge of monitoring and reporting principles, materiality threshold, inaccuracy and uncertainty, related statistics, financial/economic accounting tools and practices, assessment in computer information system environment, the data flow activities and control system and sampling in data verification and methods of checking data for errors;
2. General understanding of calibration and what is included in measurement processes;
3. Ability to prepare and implement a verification plan to detect misstatements in reported data and non-conformities, and to determine whether those misstatements and non-conformities are material;
4. Ability to identify the initial effectiveness of the control system as an input to the strategic and risk analysis;
5. Ability to carry out strategic analysis, risk analysis and develop an appropriate verification plan based on level of assurance, materiality and scope.

6.3.1.4 Performing a verification engagement

Ability to perform an assessment of conformity related to the implementation of the approved monitoring plan.

6.3.1.5 Communication skills

Ability to communicate effectively in the language necessary for the clients in the country where the verifier operates. Where necessary, this will involve the ability to communicate effectively using an interpreter.

6.3.2 Generic competence - EU ETS Lead Verifier

EU ETS Lead Verifiers should comply with the competence criteria for an EU ETS Verifier and additionally have demonstrated competence for the activities listed in section 5.2.5 related to an EU ETS Lead Verifier as well as competence to lead and direct a team (if applicable).

6.3.3 Generic competence - Independent Reviewer

The reviewer (see section 5.5.) shall not have been involved in the verification of the annual emissions report or tonne-kilometre report. The reviewer shall have the competence to make an informed decision and have appropriate authority to review and approve the verification report. Where the reviewers do not have this competence, they shall request support from an expert(s) who has appropriate technical expertise and helps the reviewer with their final decision.

The reviewer shall meet the competence criteria relevant to an EU ETS Verifier. In addition they should have the skill set to analyse the information provided to confirm completeness and integrity of information, challenge missing or contradictory information, and audit information trails presented in a logical manner to arrive at a considered conclusion regarding the completeness of the internal verification documentation to support the draft verification report.

6.3.4 Generic competence - Other persons involved in EU ETS

The verifier shall define the competence criteria for others involved in the EU ETS verification process as required in chapter 5.

6.4 Use of technical experts

Technical experts may be identified to support and be part of the verification team undertaking the verification for a particular industry activity, and/or to support an individual EU ETS Lead Verifier / Verifier who does not fully meet all the defined competence criteria under certain circumstances, e.g. for a particular industry sub-sector, or complex verification activity.

The role of the technical expert is to support the EU ETS Lead Verifier / Verifier in a specified area/activity. The technical expert is charged to undertake specified tasks at the discretion/direction and under full responsibility of the EU ETS Lead Verifier / Verifier while reporting any findings (positive and negative), or requests for more information etc, to the EU ETS Lead Verifier / Verifier to enable the EU ETS Lead Verifier / Verifier to fulfil the verification objectives in that particular area. The deployment of the technical expert for specified tasks and the duration is at the discretion of the EU ETS Lead Verifier / Verifier, taking into account the specific technical expertise and experience needed, the demands and duration of the verification tasks to be undertaken, the ability of the EU ETS Lead Verifier / Verifier to manage the expert effectively, and the overall efficiency requirements for completion of the verification as a whole.

6.5 Records

The verifier shall establish and maintain personnel records, which demonstrate that personnel have been determined to be competent prior to having been assigned responsibility for a specific function.

The personnel records should indicate the competence for the various verification activities, including for which types of industry activities, as set out in Annex I of the EU ETS Directive or as defined in national requirements.

Records should also be held to demonstrate that for each verification engagement, a competence analysis was made and a competent verification team was selected.

ANNEX A (INFORMATIVE)

MATERIALITY, UNCERTAINTY AND EXAMPLES OF VERIFICATION OPINION

Materiality is relevant when the verifier determines the nature, timing and extent of evidence-gathering procedures, and when assessing whether the installation or aircraft operator's emissions report or tonne-kilometre report is free from material misstatements and whether there are no material non-conformities.

When considering the materiality threshold, the verifier evaluates and assesses what factors might influence the decisions of the intended users. The concept of material misstatement recognizes that some matters, either individually or in the aggregate form, are important if the emissions report or tonne-kilometre report is to be presented fairly in accordance with requirements of the national legislation on emissions trading and its related national regulations, in conjunction with the EU ETS Directive and MRG. The verifier considers both quantitative errors and qualitative non-conformities, such as: failure to implement the approved monitoring plan and report the emissions or tonne-kilometre data in accordance with the EU ETS Directive and MRG.

Materiality threshold considerations should be confirmed at the planning stage of the verification. The verifier plans and performs work to obtain sufficient appropriate evidence about whether the EU ETS emission and tonne-kilometre report and data are free from material misstatements or whether there are no material non-conformities.

Materiality threshold evaluation interacts with the assessment of risk analysis related to the probability of misstatements in the emissions report or tonne-kilometre report and data. The conclusion on materiality threshold takes into account all the findings from the strategic analysis, risk analysis and verification process.

Outline of the materiality threshold check process: The EU ETS Verifiers should;

1. verify data sets according to the data sampling plan;
2. have any misstatements corrected by the installation or aircraft operator and have the entire population from which the sample was taken corrected by the installation or aircraft operator;
3. if no additional misstatements are identified from a second test and the data sample is sufficiently large to assure no anticipated misstatements, go to point 5;
4. have the whole data set checked by the installation or aircraft operator if there are misstatements in a second data sample;
5. ensure that there are no non-conformities and if there are non-conformities have these corrected if possible;
6. verify all corrections;
7. make a note of the overall misstatements and non-conformities;
8. make a decision about the probability of unidentified misstatements and non-conformities after the correction of the data set. The verifier shall take the materiality threshold as defined in MRG Annex I, section 10.4.2 or Annex XV section 8 into account and assess whether the misstatement and non-conformity have material effect (see also section 5.3.2). The verifier shall record the decision on the individual data sample and the overall data as well as on the non-conformities identified.

Uncertainty

The Competent Authority is responsible for approving the uncertainty level(s) laid down in the monitoring plan.

The verifier shall apply the requirement in MRG Annex I, section 10.4.2 (c) concerning the uncertainty of a quantity measurement or an activity-specific factor.

This means that the verifier shall confirm the continued “validity of the information” used by the operator in uncertainty assessments submitted and approved as part of the monitoring plan.

If the fall-back approach is applied by an installation, the verifier shall verify the annual update of the uncertainty analysis that the operator has to carry out to quantify the uncertainties of all variables and parameters used for the calculation of the annual emissions (MRG Annex I section 5.3).

Verification Opinion

A verification opinion expressing reasonable assurance could be worded as follows:

“Based on the process and procedures conducted, the emissions report or tonne kilometre report:

- *is materially correct and is a fair representation of the (GHG) emissions or tonne-kilometre data of the installation or aircraft operator; and*
- *is in compliance with the requirements set out in the EU ETS permit number [insert number], issued on [date] by [insert name of competent authority], the monitoring plan, approved by [competent authority] on [date], [reference to relevant national legislation] and the monitoring and reporting guidelines pursuant to Article 14 of the ETS Directive.”*

ANNEX B (NORMATIVE)

IMPARTIALITY AND INDEPENDENCE

The verifier and any part of the same legal entity shall not be an operator³, the owner of an operator or owned by an operator, and shall be fully independent from the operators of the activities covered by the Annex 1 of the EU ETS Directive.

The verifier shall not offer its services to operators when the relationship of the verifier and the operator may threaten the impartiality of the verifier or put the verifier in a conflict of interest.

Relationships between the verifier and its client, based on common ownership, governance, management or personnel, shared resources, finances, contracts or marketing, are deemed to threaten impartiality.

The verifier shall have top management commitment to impartiality in verification activities. The verifier shall have a publicly available statement that it understands the strong commercial, financial and other pressures that might influence its judgement and the importance of impartiality in carrying out its verification.

The verifier and any part of the same legal entity shall not offer or provide to any client:

- consulting services to develop monitoring methodologies to comply with the MRG or to help the organization to prepare emissions or tonne-kilometre reports;
- technical assistance to develop or maintain, at any stage, the system implemented to monitor the emissions;
- other consulting services or technical assistance where the financial dependency could compromise the impartiality of the verification activity.

The verifier shall manage and monitor (potential) conflict of interest situations and risks to impartiality. The verifier shall identify, analyse and document the possibilities for conflict of interests arising from verification activities, including any conflicts arising from the relationship with the client or other bodies. Having relationships does not necessarily present a verifier with a conflict of interest. However, if any relationship creates a risk to impartiality, the verifier shall document how it eliminates or minimises such risk. The demonstration shall cover all potential sources of conflicts of interest, whether they arise from within the verifier or from the activities of other bodies.

The verifier shall ensure that activities of other bodies do not affect the confidentiality, objectivity and impartiality of its verification. The verifier shall avoid any situation that would create a conflict of interest arising from the activity of any other body.

The verifier shall not verify the report for an operator that has received consultancy or technical assistance as described above, where the relationship threatens the impartiality of the verifier.

Relationship between the verifier and a consultancy or technical assistance body based on common ownership, governance, management or personnel, shared resources, finances, contracts or marketing, and payment of a sales commission or other inducement for the referral of new clients, are deemed to threaten impartiality.

³ Including associations of operators

A minimum period of two years following the end of the consultancy or any technical assistance shall be deemed sufficient to reduce the threat to impartiality to an acceptable level.

Consultancy or technical assistance and verification shall not be marketed together. The consultancy or technical assistance body shall not state or imply that the verification would be simpler, easier, faster or less expensive if a specified verifier is used. Similarly, a verifier shall not state or imply that verification would be simpler, easier, faster or less expensive if a specified consultancy or technical assistance body is used. The verifier activities shall not be marketed as linked with the activities of an organization that provides consultancy, engineering or any technical assistance.

All verification personnel, either internal or external, or committees, which could influence the verification activities, shall act impartially and shall not allow commercial, financial or other pressures to compromise impartiality. The verifier shall evaluate finances and sources of income to demonstrate that commercial, financial or other factors do not compromise impartiality. The verifier shall have formal rules and/or contractual conditions to ensure that each team member acts in an impartial manner.

To ensure that there is no conflict of interest, personnel who have provided consultancy or any technical assistance, including those acting in a managerial capacity, shall not be employed to take part in a verification process if they have been involved in those activities towards the organization in question, within the last two years.

Verifiers shall require personnel, internal and external, to reveal any situation known to them that may present them or the verifier with a conflict of interest. Verifiers shall use this information as input to identifying threats to impartiality raised by the activities of such personnel or by the organizations that employ them and shall not use such personnel, internal or external, unless they can demonstrate that there is no conflict of interest.

The fact that the organization employing any of the verification personnel known to have provided consultancy, engineering or any technical assistance under assessment within the last two years is likely to be considered as a high threat to impartiality.

ANNEX C (INFORMATIVE)

VERIFICATION PLAN – DETAILS

The following three factors may have a major influence on the verification plan:

Computerised information systems

Where the verification of data takes place within a computer information system the verifier should consider the following:

1. The operator's inherent risks to the completeness, consistency, reliability and accuracy of reported data from actual or potential failures in the computer information system (e.g. computer system failures resulting in a failure to collect data from automated monitoring equipment during the time of the system failure).
2. Potential software coding or scripting errors that may lead to misstatements or material misstatements in the reported data (e.g. the manual inputting of a function in a spreadsheet or a fundamental high-level programming code error that leads to an incorrect aggregate figure or an incorrect emissions factor/conversion).
3. Human errors in the computer information system (e.g. overwriting a spreadsheet containing last month's data with this month's data before backing up the data).
4. Where the computer information system is bespoke (non-standard) software it may be necessary to include specialist information technology/software engineering expertise within the verification team.
5. The prevailing information security environment within which the data is managed – breaches of information security may lead to failures or increased risk in the collation, transfer, processing, analysis, aggregation (or disaggregation) and storage reporting of data. Failures in information security may also arise from inadequate back-up procedures for data.
6. Proper use of the calculation formula and access control, the possibility of recovering data, continuity planning and security with respect to information technology.

The installation or aircraft operator's control environment:

Verifiers should obtain a sufficient understanding of the control environment and control system to assess management's awareness and actions regarding internal controls and their importance in the generation and reporting of emissions or tonne-kilometre information and conformity with permit, where applicable, and monitoring plan requirements.

When planning the verification, verifiers should make enquiries of management to obtain an understanding of:

1. operator's risk assessment of inherent and control risks, misstatements in the annual emissions report or tonne-kilometre report and non-conformities against the approved monitoring plan and the MRG;
2. the accounting and internal control systems management as well as other control activities referred to in MRG Annex I, section 10.3 the operator has put in place to address such inherent and control risks;
3. management's understanding of the implementation and maintenance of the accounting and internal control systems as well as other control activities as referred to in MRG Annex I, section 10.3 to prevent and detect errors;
4. whether management has discovered any misstatements and non-conformities.

Using techniques such as enquiry, observation, inspection and analytical procedures, together with previous experience, the verifier obtains a sufficient understanding of the installation or aircraft operator's control environment to enable the verification plan to be developed and implemented. The verifier obtains an understanding of the installation or aircraft operator's:

1. business structure;
2. operating processes;
3. personnel policies and practices;
4. communication of information;
5. computer information systems.

In order to be able to develop and implement the verification plan, the verifier should have an understanding of the control systems in the installation or aircraft operator and assess whether the control systems and related activities laid down in the approved monitoring plan have been implemented correctly and are functioning properly, in relation to the data flows and the generation of emission or tonne-kilometre data.

Neither the operator nor the verifier should assume that adaptation and implementation of such systems can on their own merits minimise the various risks associated with the EU ETS verification. However, where the installation or aircraft operator has an environmental management system such as ISO 14001, EMAS or an equivalent system in place, this may make the gathering of material for verification within the EU ETS simpler, provided that the management system addresses all the issues associated with the data and information system for the EU ETS. The adaptation and implementation of a management system can help enhance as well as formalise the management, implementation and continuous improvements of the activities required to support the EU ETS permits, the MRG and other supporting requirements of the EU ETS.

The verifier shall address the procedures needed for monitoring and reporting of greenhouse gases and the correct application of these procedures, as identified in the approved monitoring plan, within the installation or aircraft operator's activities. In view of the control environment and the control system the verification plan shall include at least:

1. data flow activities according to MRG Annex I, section 10.1, including identification of source streams and emission sources covered by the EU ETS permit and the approved monitoring plan;
2. the sequence and interaction of data acquisition and handling activities according to MRG Annex I, section 10.1, including the methods of calculations or measurement which are used;
3. risk assessment of the definition and evaluation of the control system according to MRG Annex I, section 10.2;
4. management of the necessary competences for the responsibilities assigned according to MRG Annex I, section 10.3.1;
5. quality assurance of the measuring equipment and information technology used (if applicable) according to MRG Annex I, section 10.3.2, and other MRG requirements relating to the quality assurance of continuous emission measurements;
6. internal reviews of reported data according to MRG Annex I, section 10.3.3;
7. outsourced processes according to MRG Annex I, section 10.3.4;
8. corrections and corrective action according to MRG Annex I, section 10.3.5;
9. records and documentation according to MRG Annex I, section 10.3.6.

Conformity of the implementation of the approved monitoring plan

The verifier shall check and confirm the correct implementation of the approved monitoring plan and associated EU ETS permit, where applicable, including the correct application of the monitoring methodology.

The verifier should therefore define the verification plan to include:

- 1) spreadsheets and calculation methods to ensure they are accurate and transparent and that they follow the methodology defined in the approved monitoring plan;
- 2) the source of external data such as emission factors and oxidation factors to ensure they are correct and correctly applied;
- 3) the type of metering upon which data gathering relies and whether the meter has:
 - i) been included in the approved monitoring plan;
 - ii) conforms to the requirements (including uncertainty) specified in the approved monitoring plan;
 - iii) current valid calibration status to be in line with the operators procedures on quality assurance of the measurement equipment and information technology used (if applicable) according to MRG Annex I, section 10.3.2. Where components of the measurement equipment cannot be calibrated and alternative control activities have been approved by the competent authority and detailed in the monitoring plan this should also be checked by the verifier;
- 4) the accuracy and applicability of the processing activities applied to primary data flows before they are put into intermediate data storage and processed for submission in the emissions report;
- 5) any changes to equipment maintenance and calibration regimes that may have a material effect on the reported data and emissions reports, and whether these impact upon conformity with the approved monitoring plan;
- 6) the documentation of the installation or aircraft operator's legal and operational structure and boundaries, including issues of ownership, mergers and acquisitions, outsourcing, dominant management control (over GHG emissions or removals) and contractual requirements and how they relate to the scope of the approved monitoring plan, reported data and emissions reports.

ANNEX D (INFORMATIVE)

VERIFICATION EFFORT ON REPEAT VERIFICATIONS

Do the same verification activities apply for every installation or aircraft operator?

Every installation or aircraft operator will monitor its GHG emissions on the basis of the approved monitoring plan. The approved monitoring plan is specific to each installation or aircraft operator and will, as required, be amended to reflect changing circumstances in accordance with MRG Annex I, section 4.3, Annex XIII, section 5, Annex XIV, section 6 and Annex XV, section 3.

To prevent relatively simple installations or aircraft operators from being subjected to a verification plan that is too rigorous, two safety provisions have been incorporated into this document:

1. The verifier will check whether the approved monitoring plan, was applied in the development of the emission or tonne-kilometre report. Relatively simple installations or aircraft operators will have a more limited monitoring plan than complex installations or aircraft operators, resulting in a simpler verification process.
2. The verifier will establish a verification plan for each installation or aircraft operator. This verification plan is drawn up on the basis of the strategic analysis and the risk analysis. In this way the verification process will fit the specific circumstances that apply to that installation or aircraft operator and will be carried out in an efficient and effective way.

Do the same verification activities apply for repeated years?

Verification processes within the same installation or for the same aircraft operator will vary from year to year dependent on factors such as:

1. Changes to the approved monitoring plan;
2. Changes at the installation or regarding an aircraft operator whether associated with its emission sources, source streams or data management system. This would include changes in personnel;
3. Strengthening or weakening of the data management system and other control activities to be implemented according to MRG Annex I, section 10.3;
4. Findings from previous years.

To avoid duplicate work between years the following safety provisions have been built in to this document. They are only applicable when the same verifier carries out the verification assessment for the same installation or aircraft operator:

1. For both strategic analysis and risk analysis, the subsequent year's attention should be focused on changes and developments. This will depend on the changes and their impact. It may become necessary to repeat the full strategic analysis and risk analysis as the changes build up. The verifier should assess and justify whether last year's strategic analysis and risk analysis still apply or will need amending based on new circumstances.
2. The verifier will establish a verification plan for each year. This verification plan is drawn up on the basis of the reviewed and changed strategic analysis and risk analysis. In this way the verification process will fit the specific circumstances that apply to that installation or aircraft operator and will be carried out in an efficient and effective way.
3. The verifier will consider documented evidence and processes related to:
 - a. strengthening of data management system and other control activities to be implemented according to MRG Annex I, section 10.3;

- b. positive evidence that no changes have occurred.

These may reduce the sample size and if so the rationale for these changes should be documented clearly to facilitate internal and external review.

What happens if the verification is made by a new verifier - take over?

In cases where a verification contract is taken over during the phase the considerations as listed above do not apply. The new verifier should carry out the verification as if it was the first verification.

ANNEX E (INFORMATIVE)

FACTORS TO CONSIDER WHEN ALLOCATING TIME AND DETERMINING DATA SAMPLING

The verifier should take the following factors into account in determining time allocation. The same factors shall at least apply when determining the extent of data sampling.

The following factors shall at least be taken into account:

1. the installation or aircraft operator's activities complexity;
2. the approved monitoring plan and its complexity;
3. the types and number of GHG sources and source streams;
4. number of data parameters;
5. size of the total data universe and the quantity of data to be checked including data that have not been processed for use (and going back to such data);
6. accuracy of the procedures for data management and storage, validity of the sampling rates and whether emission data are missing due to equipment failure or malfunctioning;
7. accounting system and its complexity;
8. accuracy and completeness of the data acquisition and handling activities;
9. robustness of the control activities as part of the control system that are implemented to mitigate inherent and control risks identified in the risk assessment to be performed by the operator;
10. sampling size based on materiality, reasonable assurance, inherent risk, control risk and detection risk;
11. competence of verifier personnel and the way they will be used during the verification engagement;
12. transparency of the control system and the number of times humans have to handle the data;
13. the organization culture related to management and adherence to internal procedures and their correction;
14. validation of computer managed interfaces and system related to data;
15. record keeping;
16. internal verification (horizontal and vertical checks);
17. whether activity-specific factors are determined (emission factors, net calorific value, oxidation factor etc.), by the operator or by third parties (suppliers, external accredited/ non-accredited laboratories), or whether they have been based on standard factors.

For installations the following additional factors shall be taken into account:

1. application of a calculation method or measurement method for determining the GHG emissions;
2. the types and number of emission sources where continuous measurement methods are applied;
3. the way the quantity of the source stream is determined (through assessment via stock changes or direct metered usage), the operator's own measurement or relying on supplier's data;
4. if the installation applies a fall back approach an assessment of the annual update of the uncertainty analysis that is part of verification according to MRG Annex I, section 5.3;
5. the way in which the EU ETS emissions have been determined by continuous emission measurement if applied, including standards applicable, the measurement principle and parameters used;
6. the application of EN 14181 and other calibration requirements in case of CEMS.

For aviation the following additional factors shall be taken into account:

1. completeness of the GHG sources;
2. if that aircraft operator has any data gaps;
3. completeness of flight, emissions and tonne-kilometre data;
4. complexity of data for mass and balance;
5. complexity of data for fuel consumption and purchased fuel;
6. availability of external data sources to support the above.

ANNEX F (NORMATIVE)

SCOPE OF ACCREDITATION

Scope related to:

- Activities – see below
- Type of determination e.g. either calculation based or measurement based as defined by MRG.

The scope may be defined as covering one or more of the clusters, or specified activities within one or more of the clusters of activities.

SCOPE Cluster of Activities	Activities
1a	<ul style="list-style-type: none"> • Combustion installations from activities listed in Annex I of the EU ETS Directive –liquid, gas
1b	<ul style="list-style-type: none"> • Combustion installations from activities listed in Annex I of the EU ETS Directive – solid fuels and biomass fuels
2	<ul style="list-style-type: none"> • Mineral Oil Refineries as listed in Annex I to the EU ETS Directive
3	<ul style="list-style-type: none"> • Coke Ovens as listed in Annex I to the EU ETS Directive • Metal Ore Roasting and Sintering installations as listed in Annex I to the EU ETS Directive • Installations for the Production of Pig Iron and Steel including Continuous Casting as listed in Annex I to the EU ETS Directive
4	<ul style="list-style-type: none"> • Installations for the Production of Cement Clinker as listed in Annex I to the EU ETS Directive • Installations for the Production of Lime as listed in Annex I to the EU ETS Directive • Installations for the Manufacture of Glass as listed in Annex I to the EU ETS Directive • Installations for the Manufacture of Ceramic Products as listed in Annex I to the EU ETS Directive
5	<ul style="list-style-type: none"> • Pulp and Paper producing installations as listed in Annex I to the EU ETS Directive
6	<ul style="list-style-type: none"> • Combustion installations - emitting less than 25,000 t CO₂ per year and only fossil fuels burnt (no biomass, no waste)
7	<ul style="list-style-type: none"> • In cases where for one of the scopes above the installations uses continuous emission measurement to determine the GHG emissions from activities listed in Annex I to Directive 2003/87/EC EU ETS of the European Parliament and of the Council, amended by the Directive 2008/101/EC as well as GHG gases included by a Member State pursuant to Article 24 of EU ETS Directive. NOTE in such case the accreditation scope includes both one or more of scopes 1 to 6, and 9 as well as 7
8	<ul style="list-style-type: none"> • Aviation - annual emissions • Aviation - tonne kilometres
9	<ul style="list-style-type: none"> • N₂O emissions from the production of nitric acid • N₂O emissions from the production of adipic acid • N₂O emissions from the production of caprolactam • N₂O emissions from the production of glyoxal and glyoxylic acid

ANNEX G (INFORMATIVE)

CONTENT OF VERIFIER'S INTERNAL VERIFICATION DOCUMENTATION

The internal verification documentation of the verifier should at least cover the following elements:

1. Information on the verification team that has performed the verification:
 - a. names of the EU ETS Verifier, EU ETS Lead Verifier and other relevant team members;
 - b. roles and responsibility of each verification team member;
 - c. time spent on verification activities by each team member.
2. Scope of the verification. This should in principle be in line with the scope of the verification activities that have been indicated in the verification plan unless changes have occurred during the verification process;
3. Conclusions on independence and impartiality checks and clearance of independence of reviewers to start the verification;
4. Conclusions on follow up of points/recommendations from previous audits;
5. The verification plan;
6. The client's emissions report or tonne kilometre report;
7. The identification of the criteria against which the emissions report or tonne-kilometre report was verified so that the verifier's technical reviewer, competent authority, the accreditation body and other relevant persons understand the basis for the verifier's verification conclusion;
8. Where appropriate a description of any significant, inherent limitation associated with the verification of the emissions report or tonne-kilometre report against the criteria. It should be clear whether there is a limitation of scope in the verification, when circumstances prevented or a restriction was imposed that prevented the verifier from obtaining evidence required to reduce the verification risk to the reasonable level (MRG Annex I, section 10.4.2. (e));
9. The conclusions of the strategic analysis, risk analysis and process analysis and these analyses in full;
10. The verification activities undertaken. The activities described in the internal verification documentation should in principle be in line with the verification plan unless changes have occurred during the verification process;
11. Changes that have occurred during the verification process;
12. Reasons for increasing or decreasing the sampling size and resolution of all issues identified which required further investigation and their eventual outcome as well as evidence on the rationale for conclusions reached regarding the compliance of the emissions report or tonne-kilometre report;
13. Conclusions on data quality and materiality with regard to the approval of the installation or aircraft operator's data in the emissions report and tonne-kilometre report. This includes the materiality threshold that has been applied;
14. Non-conformities and misstatements that have been identified by the verifier, and indication of resolutions as relevant;
15. The conclusions on the verification of the emissions report or tonne-kilometre report.

The competent authority and the accreditation body evaluating the verification should be allowed full access to the internal verification documentation (file) of the verifier.

ANNEX H (NORMATIVE)

CONTENT OF THE VERIFICATION REPORT

As a minimum the verification report shall at least include the following elements (national law may impose different requirements):

1. Name and address of an installation or aircraft operator;
2. Scope of verification including a reference to the EU ETS permit, where applicable, and approved monitoring plan;
3. Whether the verification included a site visit or not and if not, a justification for waiving such a site visit;
4. Confirmation of the competent authority's approval or, if national regulations provide for it, compliance with criteria in the case of where a site visit is waived;
5. Respective roles and responsibilities of the installation or aircraft operator, the verifier and the competent authority;
6. Reference to the exact version of the emissions report or tonne-kilometre report that has been verified;
7. Basis of the verification opinion (verification procedures followed and the EU ETS permit, where applicable, its monitoring plan and other relevant requirements);
8. Confirmation of effective implementation of approved monitoring plan;
9. GHG emissions per activity verified;
10. Total GHG emissions or tonne-kilometre data per installation or aircraft operator;
11. Verification opinion to a reasonable level of assurance, with regard to data quality, completeness and materiality threshold;
12. Non-conformities and misstatements as laid down in section 5.4.2.2;
13. Applicable year;
14. Address and accreditation/ permit reference for verifier;
15. Date and sign on behalf of the verifier by authorized signature;
16. Name of EU ETS Lead Verifier;
17. Name of the reviewer;
18. Annex I of the EU ETS Directive activity no.(s) for the installation or aircraft operator;
19. List of fuels, process materials used at the installation or aircraft operator;
20. Confirmation that principles of compliance have been met (completeness, consistency, transparency, trueness, faithfulness, improvement of performance);
21. List recommendations for improvement, if any, unless differently regulated in national law.

ANNEX I (INFORMATIVE)

MISSTATEMENTS AND NON-CONFORMITIES

Misstatements and non-conformities

Misstatements relate to all information that an operator is required to submit in the annual emissions report or tonne kilometre report.

As non-conformities can have an effect on the total figures in the reports, non-conformities could have some overlap with misstatements irrespective of whether they have a material effect. A material non-conformity is not dependant on the materiality threshold.

A material misstatement exists at least if the following materiality thresholds have been exceeded:

1. 5% for category A and B installations or for aircraft operators with annual emissions of \leq 500 kilotonnes CO₂;
2. 2 % for category C installations or for aircraft operators with annual emissions of $>$ 500 kilotonnes CO₂;
3. 5% for tonne-kilometre data.

For the production of nitric acid, adipic acid, caprolactam, glyoxal and glyoxylic acid a materiality threshold of 5% applies for installations with an annual emission of \leq 500 kilotonnes CO₂ equivalent per year and a materiality threshold of 2% applies for installations with an annual emission of $>$ 500 kilotonnes CO₂ equivalent per year. The emission levels shall be based on the last year's emissions report.

Material misstatements are not solely linked to the materiality thresholds. In certain cases misstatements below the materiality threshold can be regarded as material misstatements, because they could change the judgement of the competent authority. In cases where this leads to a systematic underestimation of emissions or overestimation of tonne-kilometre data, even such small errors can be considered material. If an operator refuses to correct detected and correctable errors, a verifier may reject the verification report or deliver a verification opinion that the emissions report or tonne-kilometre report is not satisfactory.

The assessment whether a misstatement or a non-conformity has material implication is dependent on circumstances. It is difficult to draw beforehand the exact line on what constitutes a material non-conformity or a non-conformity without a material effect.

Depending on the circumstances, material non-conformities could be:

1. incorrect calibration/failure to carry out calibration or maintenance that would have an impact on the emission data;
2. failure to apply corrections and corrective action when equipment does not function properly;
3. not performing an update of the uncertainty analysis in relation to the fall-back approach;
4. failure to install an appropriate measurement instrument in time;
5. failure to use the correct calculation formula;
6. failure to include sources, source streams and flights;
7. failure to use an accredited laboratory as laid down in the approved monitoring plan;
8. non-representative sampling for analyses.

Factors that can determine whether a misstatement or a non-conformity has material effect:

1. a misstatement exceeds the materiality threshold;
2. the aggregate of misstatements exceeds the materiality threshold;
3. whether the non-conformity or misstatement can be rectified. If the non-conformities and misstatements cannot be rectified in the short term or cannot be rectified at all, a verifier

could consider this as a material non-conformity or a material misstatement especially if this has an impact on the emission or tonne-kilometre data;

4. possibility of reoccurrence together with impact on emission or tonne-kilometre data;
5. duration of existence of that misstatement or non-conformity: i.e. a non-conformity in the quality assurance and control procedures has not been addressed for several years by the operator and has therefore grown into a misstatement or non-conformity that is no longer acceptable for the verifier since this could for example affect the emission or tonne-kilometre data.

Responsibilities of the verifier with respect to misstatements and non-conformities

When verifying the emissions or tonne-kilometre report the verifier has to take the approved monitoring plan as a starting point and has to see whether there is an act or an omission of an act contrary to the approved monitoring plan.

However the verifier's main task is to check whether the data in the emissions or tonne-kilometre report is correct. This derives from MRG Annex I, section 10.4.1 according to which the objective of verification is to ensure that emissions have been monitored in accordance with the guidelines and that reliable and correct emissions data will be reported pursuant to Article 14(3) of the EU ETS Directive.

According to the MRG the verifier has the following responsibilities with respect to misstatements and non-conformities:

1. The verifier shall check whether the data in the reports have been determined as complying with the EU ETS permit, where applicable, the approved monitoring plan, the relevant national legislation and the MRG. The omissions, misrepresentations and errors in the reports shall be considered as misstatements;
2. The verifier has to determine misstatements and non-conformities by assessing whether the monitoring plan has been implemented to support the determination of non-conformities and see whether the monitoring plan is up to date. These could for example be:
 - a. not implementing procedures for the specific control activities (i.e. outsourced procedures);
 - b. not calibrating the measurement equipment.
3. The verifier shall see whether there is an act or an omission of an act contrary to the approved monitoring plan and identify that as a non-conformity regardless of whether this has a material effect. These could for example concern:
 - a. the monitoring methodology used by the operator is not in line with the approved monitoring methodology laid down in the monitoring plan;
 - b. the incorrect implementation of the specific control activities.
4. If the verifier finds a situation which is not in line with the MRG and which has not been described in the approved monitoring plan, and has no impact on the data in the reports, the operator should be informed and recommended to bring that situation in line with the MRG. This could be done by referring the operator to the Competent Authority and would be information upon which the operator can act to improve their monitoring and reporting of emissions or tonne-kilometre data in the future. The responsibility for making those recommendations derive from the improvement of performance principle laid down in MRG Annex I, section 3. Examples of such recommendations concern:
 - a. updating the monitoring plan as a result of a possible improvement to the approved tier level;
 - b. increased frequency of calibration of measurement equipment.

ANNEX J (INFORMATIVE)

SITE VISITS

Site visits may include the following:

- visually checking that emission sources etc. are there;
- adhering to the completeness principle;
- sampling at the site of an installation or aircraft operator to audit conformance of the implementation of the approved monitoring plan;
- sampling at an installation's head or regional office if this is where the emissions or tonne-kilometre data is held or processed (in most cases the actual installation should always be visited); and
- sampling at any other location (e.g. suppliers' facilities) where data verification work may be necessary.

It is not generally adequate to visit only an installation operator's head office. Justification for such an approach (e.g. head office visit, on the grounds of central data management including calibration, or if all data is based on fiscal metering and invoicing), shall be required in accordance with section 5.3.4.1.

Situations in which a site visit may not be required in relation to installations could possibly include:

- Where there is an un-manned site with telemetered data sent to another location; and the same person is responsible for all the data management and recording for the site.
- The site is in a remote or inaccessible location and there is high centralisation of the data collated from the site at another location with good quality assurance.
- Meters have already been inspected on site and a signed meter matrix document and/or photographic evidence from the operator demonstrates that no metering or operational changes have occurred at the installation.

In such cases, verifiers can consider whether site visits are required based on a risk assessment and consideration of whether any changes on site have occurred.

If national legislation or the Competent Authority allows, the verifier may consider waiving site visits according to section 5.3.4.1 of this document.

In commenting on whether or not a site visit is required, the verifier should take into account the potential risks to the verification of not visiting the site. Potential risks for both the verifier and operator include:

- The verifier not being able to confirm the scope for the approved monitoring plan because they cannot verify all the emission sources or source streams on the site.
- Inability of the verifier to confirm tier requirements in relation to metering etc. since they will not be able to confirm that the physical meters meet the description in the approved monitoring plan and maintenance system.
- The verifier not being able to check whether changes have occurred which have not been approved by or notified to the regulator.
- The verifier not being able to check that the control activities described or referred to in the monitoring plan have been fully implemented and adhered to (as required under the MRG).
- An incorrect verification report being based on an incorrect emissions report resulting in an inaccurate number of allowances being surrendered in April.
- Inability of the verifier to check that the monitoring and reporting on site complies with the conditions of the approved monitoring plan.

In cases where site visits have been waived, the verifier should use alternative means of verification to reduce the potential for the above risks to result in misstatements or non-conformities.

ANNEX K (INFORMATIVE)
REFERENCES

ISO 14065:2007

Greenhouse gases -- Requirements for greenhouse gas validation and verification bodies for use in accreditation or other forms of recognition

EN 45011:1998 General requirements for bodies operating product certification systems (ISO/IEC Guide 65:1996)

EN ISO/IEC 17020:2004 General criteria for the operation of various types of bodies performing inspection (ISO/IEC 17020:1998)

EN ISO 9001:2008 Quality management systems — Requirements (ISO 9001:2008)

EN ISO 14001:2004 Environmental management systems — Requirements with guidance for use (ISO 14001:2004)

REGULATION (EC) No 761/2001 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 19 March 2001 allowing voluntary participation by organisations in a Community eco-management and audit scheme (EMAS)

EN ISO 19011:2002 Guidelines for quality and/or environmental management systems auditing (ISO 19011:2002)

EN 14181:2004

Stationary source emissions. Quality assurance of automated measuring systems

ISO 14956:2002

Air quality -- Evaluation of the suitability of a measurement procedure by comparison with a required measurement uncertainty