

EA Guidance
For Recognition of Verification Bodies Under EU
ETS Directive

Final Draft
For approval

18th January 2005

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 recognition of verification bodies under the EU ETS Directive 2003/87/EC and the Monitoring and Reporting Guideline - Commission Decision of 29.01.2004; 2004/156/EC.

The working group consisted of representatives from European Accreditation Bodies (EA and non EA members), Competent Authorities, IETA, (International Emissions Trading Association consisting of operators and verifiers), 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.

Use of this guidance should enable the Member State to confirm that the verifier has the appropriate organisational controls, independence and impartiality safeguards, and arrangements for ensuring that competent verification teams are deployed to carry out in depth verification of reported emissions in accordance with the processes specified in Annex V of the EU ETS Directive.

The term “shall” is used throughout this document to indicate those provisions which, reflecting the requirements of EU ETS Directive or M&R Decision are mandatory. The term “should” is used to indicate guidance which, although not mandatory, is provided as a recognised means of meeting the requirements.

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1. Introduction.

The document provides guidance for assessment of verification bodies who are seeking accreditation as competent body(s)/organisation(s) to verify GHG emission reports and data which is required to be reported to the Competent Authorities of EU Member States in accordance with EU ETS Directive 2003/87/EC of the European Parliament.

The objective of this guidance is to promote a harmonised consistent approach between member states to the criteria for and the assessment of verification bodies carrying out GHG emissions report and data verification.

In Section 2 of Annex I of the Monitoring and Reporting Guidelines - Commission Decision of the 29.01.2004 a “verifier” is defined as:

“a competent independent, accredited verification body with responsibility for performing and reporting on the verification process, in accordance with the detailed requirements established by the Member States pursuant to annex V of the Directive”

GHG emissions report and data verification 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 a specific guidance for the recognition of verification bodies in the GHG area by member states in either of three ways:

1. Where accreditation via an EA member based on the requirements of EN45011 and EA 6/01 is required.
2. Where accreditation via an EA member based on the requirements in EN 45004 and EA-5/01 related to Type A inspection bodies who can demonstrate the independency safeguards as specified in section 4, is required.
3. Where member states undertake assessment of verification bodies without specifying conformity with EN 45011 or EN 45004.

According to EC replies to frequently asked questions on EU ETS:

‘Some countries have already set national accreditation requirements for verifiers. Other countries have set general requirements, in line with the monitoring guidelines. There is no European accreditation system. A foreign verifier will thus need to seek national accreditation in each other Member State unless the State has accepted a general recognition of other accreditation schemes in its national legislation.’

2. Definitions

2.1 Control environment: - The control environment means the overall actions of management regarding the internal control system and its importance to the installation in question. Factors reflected in the control environment include:

1. the installation's organisational structure and methods of assigning authority and responsibility
2. the management's control system, including the internal audit function, personnel policies and procedures and segregation of duties.
3. the degree and effectiveness of the management control pertaining to the upkeep of the permit and the implementation of monitoring and reporting guidelines

2.2 Level of assurance: Definition in section 2 in Annex I of the M&R Decision - ***“the degree to which the verifier is confident in the verification conclusions that it has been***

proved whether or not the information reported for an installation taken as a whole is free from material misstatement”

2.3 Materiality: Definition in section 2 in Annex I of the M&R Decision. - *“the professional judgment of the verifier as to whether an individual or aggregation of omissions, misrepresentations or errors that affects the information reported for an installation will reasonably influence the intended users’ decisions. As a broad guide, a verifier will tend to class a misstatement in the total emissions figure as being material if it leads to aggregate omissions, misrepresentations or errors in the total emissions figure being greater than 5 percent”*

Note 1 – The concept of materiality is also used when designing the verification plan in determining the type of substantive processes to use to ensure that the detection risk is minimized.

Note 2 – A quantitative value (material threshold,) established by EU ETS M&R Decision is a part of verification criteria.

Note 3– Further requirements on Materiality and Uncertainty see Annex A

The following is an EC answer in frequent asked questions on materiality:

The M&R Decision *defines ‘Materiality’ as the professional judgment of the verifier as to whether an individual or aggregation of omissions, misrepresentations or errors that affects the information reported for an installation will reasonably influence the intended users decisions. As a broad guide, a verifier will tend to class a misstatement in the total emissions figure as being material if it leads to aggregate omissions, misrepresentations or errors in the total emissions figure being greater than 5 percent;” However, the level of materiality has to be established by the verifier in a case by case manner. Under many circumstances a level of misstatement above 1% of annual emissions of an installation can qualify as material.*

2.4 Material Discrepancy: individual or the aggregate of all errors, omissions and misrepresentations in the GHG emission report that will affect the decisions of the intended user

2.5 M&R Decision: The EU Monitoring and Reporting Guidelines – Commission Decision 29/01/2004 – 2004/156/EC.

2.6 Monitoring methodology: The requirements with respect to monitoring and reporting of the GHG emissions as proposed by the installation and approved by the Competent Authority pursuant of requirements in the M&R Decision and article 4-6 of the EU ETS Directive.

2.7 Non-conformity: The absence of, or the failure to implement and maintain, one or more requirements from the GHG permit or its associated monitoring methodology or other relevant requirements (see 2.8).

2.8 Other relevant requirements – (when used in conjunction with the term its associated monitoring methodology) – those requirements related to M&R Decision Annex I; definitions (section 2), principles (section 3), QA/QC procedures (section 7.1, 7.2 and 7.3), reporting format (section 5 and as applicable 11) and reporting categories (section 12) as well as any National legal requirements applicable to the EU ETS Directive not included in the GHG permit and its associated monitoring methodology.

2.9 Verifier Definition in section 2 in Annex I of the M&R Decision

“a competent, independent, accredited verification body 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 to the Directive.”

Note 1 - In order for there to be no confusion about the terminology “verifier” versus “verification body”, for the purposes of this EA Guidance, the following apply:

- “Verification Body” is an accredited organisation, with appropriate capabilities and structures to safeguard competence, independence and impartiality, and to take on the responsibility to perform GHG emissions report and data verification. Among others this includes the availability of sufficient qualified staff to undertake verification
- “GHG auditor” and “GHG lead auditor” are the terms used for individual members of the verification body’s verification team.

3 Principles

3.1 Role of verification body

According to EU ETS Directive Article 15(1): ***Member States shall ensure that reports submitted by operators pursuant to Article 14(3) are verified in accordance with the criteria set out in Annex V and that the Competent Authority is informed thereof.***

According to EU ETS Directive Annex V points 2 and 3 under General Principles: ***The verification process shall include consideration of the report pursuant of Article 14 (3) and of the monitoring during the preceding year. It shall address the reliability, credibility, and accuracy of monitoring systems and the reported data and information relating to emissions, in particular,***

- a) the reported activity data and related measurements and calculations.***
- b) the choice and the employment of emissions factors***
- c) the calculations leading to the determinations of the overall emissions ; and***
- d) if measurement is used, the appropriateness of the choice and the employment of measuring methods***

Reported emissions may only be validated¹ if reliable and credible data and information allow the emissions to be determined with a high degree of certainty. A high degree of certainty requires the operator to show that:

- a) the reported data is free of inconsistencies:***
- b) the collection of the data has been carried out in accordance with the applicable scientific standards; and***
- c) the relevant records of the installation are complete and consistent***

According to M&R Decision Annex I section 7.4 first paragraph: ***The verifier shall assess whether the monitoring methodology applied by the operator complies with the installation’s monitoring methodology as approved by the competent authority, the principle for monitoring and reporting presented in section 3, and the guidelines. On the basis of this assessment the verifier shall conclude as to whether the data***

¹ The legal text states ‘validated’. In the context of this document this is to be read as ‘verified’

within the emissions report contains omissions, misrepresentations or errors that lead to material misstatement of the reported information.

The scope of the verification process will depend upon the extent to which the associated monitoring methodology as proposed by the operator and approved by the Competent Authority (CA) has covered all elements of the M&R Decision. The procedure and extent of this approval process may differ from one country to the other and within one country from one CA to the other. The verifier will therefore assess what elements of the M&R Decision have been taken into account during the validation and permitting procedure by the CA and which elements were not part of that validation and permitting process. On the basis of this assessment the verifier will then design its Strategic Analysis and Risk Analysis and subsequently carry out its verification plan and verification programme.

During the verification processes the GHG emission report and data will be verified against the GHG permit, its associated monitoring methodology and other relevant requirements (see definition). The verification statement of the verification body will state whether the GHG emissions report is satisfactory and whether the installation is in conformity with the agreed GHG permit, its associated monitoring methodology and the other relevant requirements. This is based on the risk based sampling relevant to the GHG emission for the actual period. If agreed with the installation and outside the required scope of the EU ETS a verification body may also sample against other requirements of the M&R Decision as applicable to the installation.

In its verification assignment, the verification body assesses the evidence collected as a result of the verification process and expresses a conclusion in the verification statement or as a part of a verification report.

The verification body is required to undertake the verification work to a reasonable level of assurance rather than a limited level of assurance. There are two levels of assurance as defined by International Federation of Accountants (IFAC) in the International Standard on Assurance Engagements ISAE 3000 December 2003, either as reasonable² or limited, which result in a positive form of or a negative form of statement in the verification statement. The terms positive and negative form is not a reflection about the verification findings but describes the way in which the verification is carried out regarding depth, detail and wording.

The verification body is therefore required to provide a reasonable, but not absolute, level of assurance that the operator's GHG assertion is free of material discrepancy. This must be confirmed via a positive form of a verification statement which confirms that the verification body has established reasonable assurance that the GHG emissions report is free from material discrepancies, rather than a negative form of a verification statement which states that nothing has been identified to indicate that the GHG emission report is not, in all material respects, in accordance with the specified requirements.

3.2 Sufficiency of verification evidence

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

1. obtaining an understanding of the circumstances;

² IFAC in the original ISAE 3000, the used terminology is high and moderate assurance. High in its definition referred to reasonable certainty.

2. continual assessing the risk that the GHG emission report and data may be materially misstated;
3. obtaining an understanding of the control environment;
4. assessing the risks that the control environment and system do not meet the requirements of the verification criteria;
5. determining the programme to carry out further assessment processes;
6. performing this further assessment process using a combination of inspection, observation, confirmation, re-calculation, re-performance, analytical procedures and inquiry;
7. finally evaluating the sufficiency and appropriateness of evidence.

3.3 Verification Risk Analysis

Verification risk is the risk that the verification body expresses an inappropriate conclusion. The verification body reduces verification risk through the design and implementation of a verification process, which will lead to the reasonable expectation of identification of material discrepancy. Verification risk should be reduced to an acceptably low level to obtain reasonable assurance as the basis for a positive form of a verification statement.

Risk assessment directs verification effort to areas of the installation's data generation, control environment, control system, management and reporting processes that give rise to a higher level of misstatement risk. This risk in turn consists of:

- **Inherent risk** – is the susceptibility of a parameter in the emission report to misstatements that could be material, individually or when aggregated with misstatements in other parameters, assuming that there were no related internal controls. For example inherent risk has to do with complexity of the installation, the number of people involved and the steps to be taken to arrive at an aggregated emission figure.
- **Control risk** - risk that the internal control system does not prevent or detect or correct in a timely manner a misstatement, which individually or when aggregated with other parameters, could be material. Risk that the internal control system does not detect, prevent or correct in a timely manner non-conformity(ies) with the agreed GHG permit, its associated monitoring methodology and other relevant requirements.
- **Detection risk** - the risk that the verification body will not address a material discrepancy or a non- conformity that exists.

The degree to which the verification body considers each of these components is affected by the materiality as defined in the M&R Decision.

4. Organisational requirements

4.1 Organisation

Accredited verification bodies should demonstrate:

1. An organisational structure and procedures that safeguards their independence and impartiality refer to Annex B;
2. A quality control programme that ensures consistent implementation of the relevant verification procedures;
3. Competence and process understanding that supports their verification activities;
4. Procedures to ensure appropriate confidential treatment of all data verified.

4.2 Documents to be made available by the verification body:

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

1. information about the verification body's accreditation(s) under which it operates;
2. a description of its verification process including its rules and procedures for issuing or refusing a verification statement;
3. a description of the means by which the verification body obtains financial support and general information on the fees charged to operators and installations for verification;
4. information on procedures for handling complaints, appeals and disputes;

Note - For EU Emissions Trading Scheme verification bodies are not required to have available a public directory of validated statements or clients,

5. Verification Process

5.1 Overview

According to M&R Decision Annex I section 7.4 first to sixth paragraph: *'The operator shall submit the emissions report, a copy of its permit for each of its installations, plus any other relevant information to the verifier. The verifier shall assess whether the monitoring methodology applied by the operator complies with the installation's monitoring methodology as approved by the competent authority, the principle for monitoring and reporting presented in section 3, and the guidelines. On the basis of this assessment the verifier shall conclude as to whether the data within the emissions report contains omissions, misrepresentations or errors that lead to material misstatement of the reported information.'*

As part of the verification process, the verifier shall in particular:

- *Understand each activity undertaken by the installation, the sources of emissions within the installation, the metering equipment used to monitor or measure activity data, the origin and application of emissions factor and oxidation/conversion factors, and the environment in which the installation operates;*
- *Understand the operator's data management systems and overall organisation with respect to monitoring and reporting, and obtain, analyse and check the data contained within the data management systems;*
- *Establish an acceptable materiality level in the context of the nature and complexity of the installation's activities and sources;*
- *Analyse the data risks which could lead to a material misstatement within the emissions report, based on the verifier's professional knowledge and the information submitted by the operator;*
- *Draw up a verification plan which is commensurate with this risk analysis and the scope and complexity of the operator's activities and sources, and which defines the sampling methods to be used with respect to that operator's installations;*
- *Carry out the verification plan by gathering data in accordance with the defined sampling methods, plus all relevant additional evidence, upon which the verifier's verification conclusion will be based;*
- *Check that the application of the monitoring methodology specified in the permit has delivered an accuracy level consistent with the defined tiers.*
- *Request the operator to provide any missing data or complete missing sections of audit trails, explain variations in the emissions data, or revise calculations, before reaching a final verification conclusion.*

Throughout the verification process, the verifier shall determine misstatements by assessing whether:

- ***The quality assurance and control processes described in 7.1, 7.2 and 7.3 of the M & R guidelines have been implemented;***
- ***There is clear and objective evidence obtained through the gathering of data to support the determination of misstatements.***

The verifier shall assess the materiality both of any individual misstatements and of the aggregate of uncorrected misstatements, taking into account any omission, misrepresentation or error that could lead to misstatement, for example a data management system that produces non-transparent, biased or inconsistent figures. The level of assurance shall be commensurate with the materiality threshold determined for that installation.

At the end of the verification process, the verifier shall make a judgement with respect to whether the emissions report contains any material misstatement. If the verifier concludes that the emissions report does not contain any material misstatement, the operator can submit the emissions report to the competent authority in accordance with Article 14(3) to the Directive. If the verifier concludes that the emissions report contains a material misstatement, the operator's report has not been verified as satisfactory.'

5.2 Introduction

The required components of the verification methodology, as outlined in Annex V of the EU ETS Directive, are detailed below.

5.2.1

It is the verification body's responsibility to design the verification activities that are to be applied to each installation in sufficient detail and commensurate with the Risk Analysis. The verification body should record the rationale and objective evidence for its decision on the verification process.

5.2.2

As each installation is required to submit verified emissions information, the verification body should perform the verification process on GHG emission report at each and every installation. Sampling within a group of installations, even when the group is under common management, will in general not provide sufficient, appropriate evidence on which to issue verification statements at an installation level.

5.2.3

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

1. carry out all the verification activities
2. if necessary for the operator to address issues identified by the verification body
3. enable the verification statement to be produced and made available by the operator to the competent authority, by the annual deadline date

5.3 Pre contract stage

5.3.1 Information needed

The verification body 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 should as a minimum include:

1. Organisation details/boundaries;
2. Installation GHG permits and GHG its associated monitoring methodology;

3. GHG sources/types;
4. Processes, technologies.

5.3.2 Evaluation of business risk

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

5.3.3 Competency needs analysis

The verification body should undertake a competency needs analysis in order to select the verification team.

5.3.4 Review of quotation

The quotation should be internally reviewed and approved prior to submission to the client.

5.3.5 Conditions for verification

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

The verification body should require its client to demonstrate conformity with the GHG permit, its associated monitoring methodology and other relevant requirements.

The verification body should 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 the access to all relevant areas, records and personnel for the purposes of verification and resolution of complaints;
2. at the end of the verification provides written confirmation that all required data and information has been disclosed;
3. ensures that the verification statement, or verification report, or any part thereof is not used in a misleading manner.

5.3.6 Documentary evidence

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

5.4 Verification assessment

Verification in the GHG area does not include surveillance by the verification body. For balance between simple and complex installations and between years with same verifier see annex D on detail of verification effort in such cases. Please note this does not relate to sampling between installations but to sampling within an installation and its data set

5.4.1 Strategic analysis²

According to the EU ETS Directive Annex V point 6 under strategic analysis: *“The verification shall be based on a strategic analysis of all the activities carried out by the installation. This requires the verifier to have an overview of all the activities and their significance for emissions”*

² Strategic analysis is not an assessment / evaluation of the installation’s strategic plans or approach to its business. Its focus is strictly the GHG system as identified above.

Prior to developing the verification plan and commencing the process analysis with the installation, the verification body should conduct a strategic analysis of the installation's permitted activities and the GHG data. The strategic analysis comprises document reviews and interviews to assess the likely nature, scale and complexity of the verification activity to be undertaken on the installation's behalf. All elements of the scope of the work should be considered.

The strategic analysis should consider the following three perspectives:

- The **nature, scale and complexity** of equipment and processes that have resulted in emissions, including the measurement and recording of energy flows and materials and external influences, over the range of operating conditions during the reporting period;
- The data **management system** from the measurement and recording of material and emission flows through to the aggregation and archiving of data and compilation of emissions information; including the existence of control environment and/or an Environmental Management System/ Audit System according to ISO 14001/EMAS or equivalent that covers the data management and recording system;
- The **organisational environment** including the structure of the organisation that manages the operational, maintenance, data accounting systems, within which the emissions information is derived.

The following elements should be encompassed within the strategic analysis:

1. The GHG permit and the its associated monitoring methodology approved by the regulator as part of the permit
2. General information on products and operations
3. Figures according the NAP (National Allocation Plan)
4. Changes to organisational structure throughout the year (e.g. acquisitions, disposals, product changes, process changes)
5. Changes to monitoring methodology and reporting requirements notified to the Competent Authority, or if not the reasons for not notifying
6. Identification and evaluation of its GHG sources and emission data
7. The existence of an Environmental or other Management System or control environment that includes the appropriate GHG data management systems
8. Treatment of data from specific GHG sources
9. The GHG information system sufficient to identify and understand:
 - a) the events, transactions and practices that may have a significant effect on the environmental information upon which the verification body will have an opinion, and
 - b) how such information is processed through to its inclusion in the installation's GHG emission report.

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

5.4.2 Preliminary risk analysis

The strategic analysis provides the verification body with the basis for the development of the preliminary risk analysis and verification plan, including detailed processes and methods for carrying out substantive testing and gathering evidence on which to sufficiently base the verification conclusion. Note the level of assurance is also used to determine the depth of

detail that a verification body designs in their verification plan to determine if there any material errors, omissions and/or misrepresentations

The aim of the preliminary risk analysis is to assess the likely level of risk of a material discrepancy or error in the installation's GHG data to enable an effective verification plan to be designed, including the appointment of competent and appropriately qualified team personnel.

The verification body should analyse all findings to determine where the greatest levels of risk or error or omission arise. The verification body should carry out sufficient testing of controls to support management statement regarding their emissions and operation in the relevant period. If the verification body concludes that processes and controls in place to mitigate inherent risks, control risks and detection risks are not adequately designed or implemented, the verification body should consider the implications for the risk analysis, the verification plan, and the verification statement.

In evaluating the risk of material discrepancy in the GHG emission report from a source, the verification body should consider the relevance and proportional size of the emissions from that source, the adequacy of the management systems and control environment in which the data are collected and handled, the complexity of operations and the monitoring methodology and relevant evidence from previous verification engagements.

In evaluating the risk of a non conformity with the GHG permit, its associated monitoring methodology and other relevant requirements, the verification body should consider the adequacy of the control environment, the complexity of the data management system and the requirements in the GHG permit, its associated monitoring methodology and other relevant requirements and relevant evidence from previous verification engagements.

5.4.3 Data and Information Sampling Strategy and Planning

The development of a sound and appropriate data and information sampling strategy is a culmination of the strategic analysis and the preliminary risk analysis.

The data and information sampling strategy is based on sampling of various areas and elements within an individual installation commensurate with:

1. Prioritisation of areas, data and information identified within the strategic analysis
2. Elements of GHG sources as being material to the verification
3. Data sets and how they relate to the permit
4. Key aspects of conformity with the its associated monitoring methodology and other relevant requirements
5. Optimisation of the breadth of sampling in order to deliver a high degree of certainty

5.4.4 Development of a verification plan

The verification body shall establish a verification plan based on the findings of the strategic analysis and preliminary risk analysis that shows what needs to be verified and how that verification will take place. This includes a data sampling plan. The verification plan must also address conformity with the monitoring methodology and other relevant requirements and particularly the tiers defined in the GHG permit.

Annex C sets out the factors to be considered in developing a verification plan which should be documented and which is then used during the process analysis. The verification plan comprises the:

1. data and information sampling plan
2. interviews,
3. site visit and assessment of GHG sources
4. document and data reviews.

5.4.5 Process Analysis

According to EU ETS Directive Annex V point 7 under process analysis – *“The verification of the information submitted shall, where appropriate, be carried out on the site of the installation. The verifier shall use spot-checks to determine the reliability of the reported data and information”*

The verification body should implement the verification plan using the standard auditing processes of document review, interview, observation and corroboration using data and information from external sources. The verification body may use spot-checks to sample individual records and emissions during specific time periods of activities. Throughout the process analysis, the team should gather records that form part of an audit trail of objective evidence to support their findings.

Sampling of data is permitted within the records of emissions from individual sources and between sources within the boundary of a GHG permit, but does not extend to sampling of facilities within a group of permits. Each GHG permit requires an individual verification exercise that is limited to the scope of that GHG permit.

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 team’s findings indicate a lack of control or unexpected errors or non conformity, the verification body should review the need to re-direct the process analysis to establish the extent and impact of the errors or breakdown in control environment and systems.

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

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

1. the materiality threshold are logged and fully resolved (e.g. by further sampling, re-calculation, reconciliation etc;
2. non-conformity decision are logged and fully resolved (e.g. by further document reviews, interviews etc)

5.4.6 Completing the verification and findings

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

1. Check final data from the installation, including data that have been adjusted as a result of the verification process;
2. Review the installation’s rationale and explanations for differences between the final data and data previously provided;

3. Review the outcome of the conformity assessment of the GHG permit, its associated monitoring methodology and other relevant requirements and any amendments or developments that have occurred to the data management system and the since the verification started;
4. Ensure that the notes, diagrams, calculations and spreadsheets, etc. for the verification working papers and supporting evidence are complete and can demonstrate the audit trails followed and issues closed, and that they are ready for the final decision process.

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

At the end of the process analysis, the verification body should complete the risk analysis to confirm whether the distribution of verification effort was appropriate and the impacts that this may have on the final decision and to conclude on the following:

According to EU ETS Directive Annex V points 8-10 under Risk Analysis.:

- *“The verifier shall submit all the sources of emissions in the installation to an evaluation with regard to the reliability of the data of each source contributing to the overall emissions of the installation*
- *On the basis of this analysis the verifier shall explicitly indemnify those sources with a high risk of error and other aspects of the monitoring and reporting procedure which are likely to contribute to errors in the determination of the overall emissions. This especially involves the choice of emissions factors and the calculation necessary to determine the level of the emissions from individual sources. Particular attention shall be given to those sources with a high risk of error and the abovementioned aspects of the monitoring procedure*
- *The verifier shall take into consideration any effective risk control methods applied by the operator with a view to minimising the degree of uncertainty”*

Having assessed the GHG data and GHG emission report, the control environment, implementation of the monitoring methodology and conformity with the GHG permit and its associated monitoring methodology and other relevant requirements, the verification body should consider the findings of the verification and determine whether the verified GHG data reflects the GHG emission report being made and whether the installation is in conformity with the GHG permit, its associated monitoring methodology and other relevant requirements.

In developing its conclusion the verification body should be able to meet the requirements of EU ETS Directive Annex V point 11 and as such be able to report on all relevant issues to the work carried out and whether the total emissions do not contain material mistakes.

5.5 Verification Body Reporting

There may be three types of ‘reports’ as an outcome of the verification process:

- **The internal verification process report from the verification GHG Lead Auditor.** It is used by the verification body in reviewing its verification process carried out for that installation. The report should contain sufficient information to enable the verification body, through review, to evaluate the verification process, and supporting documentary evidence to confirm the conclusions of the GHG Lead Auditor and the recommendations on the draft verification statement. The internal verification process report will thus describe the result of the strategic analysis, risk analysis and process analysis as well as the verification plan, activities undertaken, changes that have occurred during the verification process and decisions on the data quality and materiality with regard to the approval of the installation’s GHG data and proof of the installation’s GHG emission report. The internal verification process

report presents a transparent logical flow of information including the rationale for increase/decrease of sampling and identification resolution of all issues identified which required further investigations and their eventual outcome.

- **The verification report as provided for in Annex V point 11.** The verification body should issue a verification report to the installation. The content of the verification report should be agreed between the verification body and the operator but it should at least comply with Annex V point 11 and with any specific member state requirements. Non- conformity (ies) should be included in the report to the client and their existence mentioned in the verification statement. The Competent Authority may specify the contents of a verification report and require a copy to be submitted to the Competent Authority.
- **The verification statement as provide for in Annex V point 11.** This verification statement may be part of or separate from the verification report above. It is addressed to the Competent Authority and the operator. This verification statement is sent to the operator unless otherwise provided for by the Member State. Further details are set out in 5.5.1.

5.5.1 Verification statement

5.5.1.1 Preparation of the Verification Statement

According to EU ETS Directive Annex V point 11 under Report: *‘The verifier shall prepare a report on the validation process stating whether the report pursuant to Article 14 (3) is satisfactory. This report shall specify all issues relevant to the work carried out. A statement that the report pursuant of Article 14(3) is satisfactory may be made if, in the opinion of the verifier, the total emissions are not materiality misstated’*

According to EU ETS Directive a GHG emission report can be verified as satisfactory when there are no materiality issues with the GHG data and GHG emission report.

In cases where the verification body identifies errors, omissions or misstatements with the GHG data and GHG emission report, the verification body should require additional information from the operator to resolve the matter. If additional information does not resolve the outstanding data queries then the verification body should state that the GHG emission report was not verified as satisfactory. The operator will have to progress this issue with the Competent Authority.

For examples:

If installed meters are different or the information about installed meters is different from the information provided in the monitoring methodology then the installation cannot be considered in conformity with the monitoring methodology and the verification body cannot provide a satisfactory verification statement.

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

The verification body should inform the installation at the earliest possible opportunity if the verification results give rise to them having to issue a non satisfactory verification statement.

The verification statement is a mandatory component to the EU ETS GHG verification process. The verification body is responsible for preparing the verification statement. The verification statement must refer to the exact GHG Emission Report that has been verified (i.e. date and version number). As a minimum, the verification statement must include the following elements, ordinarily in the following layout:

1. Name and address of the installation;
2. Scope of verification, including a reference to the GHG Permit and specific exclusions;
3. Respective roles and responsibilities of the installation, the verification body and the Competent Authority;
4. Reference to the exact version of the GHG Emission Report that has been verified;
5. Basis of statement (verification procedures followed and the GHG permit, its associated monitoring methodology and other relevant requirements);
6. Confirmation of accuracy and (effective) implementation of monitoring systems in accordance with the GHG permit, and any conditions applied, and the monitoring methodology;
7. Total GHG emission data per activity verified (as an aggregate not broken down per source);
8. Verification statement with regard to data quality, completeness and materiality in the form of an positive form verification statement;
9. Applicable year;
10. Address and accreditation reference for verification body;
11. Date and sign on behalf of the verification body by authorised signature.

If the verification statement is the result of work from two or more verification bodies, the contract and final verification statement should be the responsibility of one of the verification bodies.

5.5.1.2 Comments in the verification statement

The verification statement should clearly express any circumstances where the:

1. Verification body is of the view that one, some or all aspects of the GHG data do not comply with the agreed monitoring methodology;
2. Report prepared by the responsible party does not comply with the format of the emissions report as specified in the national regulation on ETS or the M&R Decision Annex I section 11;
3. Verification body is unable to obtain sufficient evidence to evaluate one or more aspects of the GHG data conformity with the monitoring methodology and other relevant requirements
4. Aggregate errors and omissions in the GHG emission report exceed the defined materiality.

5.5.1.3 The review process

Verification recommendations should be subjected to a review within the verification body prior to a decision being made to issue the verification statement. The person(s) undertaken the review should be independent of the team carrying out the verification activity.

The scope of the review should encompass the complete verification process. The objective of review is to ensure that the verification process is conducted in accordance with the accredited

procedures, due professional care and judgment and that any verification risks are minimised. The review should focus in particular on the following verification activities:

1. Appointment of the GHG lead auditor and team – including competency evaluation
2. Strategic Analysis, including preliminary Risk Analysis;
3. Business Risk Evaluation – in particular the decision to accept the engagement;
4. Verification planning
5. Sample design where appropriate;
6. Process analysis including final risk analysis;
7. The internal verification process report, verification report and verification statement – including the verification findings and conclusions;
8. Any issues raised by the verification body, particularly those that prohibit a satisfactory verification statement;
9. The decision to issue the verification statement.

The reviewer should be an internal independent reviewer within the verification body's organisation who does not take part in the verification itself and should possess or have access to an appropriate level of knowledge and experience sufficient to evaluate the verification processes and the justification for the recommendation. The review process may be carried out at stages consistent with (1) to (9) above.

5.5.1.4 Issuing of the verification report and statement

The verification body will submit a Verification Statement to the installation for them to submit to the Competent Authority accompanied by a copy of the verified GHG Emission Report.

The verification body may input 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.

6. Competence of Verifiers

6.1 Overview

6.1.1 According to the EU ETS Directive Annex V point 12 the minimum competency of the verifiers is as follows:

The verifier shall, carry out his activities in a sound and objective professional manner, and understand:

- a) The provisions of this Directive, as well as relevant standards and guidance adopted by the Commission pursuant to Article 14(1);*
- b) The legislative, regulatory, and administrative requirements relevant to the activities being verified; and*
- c) The generation of all information related to each source of emissions in the installation, in particular, relating to the collection, measurement, calculation and reporting of data.*

6.1.2 General competence requirements

The verification body is required to demonstrate that it has available sufficient qualified personnel.

The verification body is required to have effective procedures for the training and recruitment of competent staff, and monitoring their performance, whether employees or external team members (contracted- in hired staff). See annex E for guidance on working knowledge.

Verification bodies should maintain their own competence by ensuring that their knowledge of GHG data verification is updated periodically to reflect current best practice in the field. Verification Bodies' internal control system should ensure that the performance of GHG auditors and reviewers is regularly reviewed, including on-site witnessing of verification activities.

6.1.3 Documentation of competence

The verification body should establish and maintain personnel records, which demonstrate that the verification body personnel are qualified in accordance with the requirements of the national legislation on ETS and its related regulations and the EU ETS Directive, the M&R Decision and this guidance.

The personnel records should indicate the qualification for verification, including for which types of industry sectors, as set out in Annex I of the EU ETS Directive or as defined in national requirements. (annex E)

6.2 Verification Personnel

6.2.1 Qualification and Competence

The verification body should ensure that personnel involved in verification work should be competent for the functions they perform. In the verification of GHG data the personnel involved in the verification work are likely to include those who:

1. Manage the verification process;
2. Act as GHG team leaders
3. Select and verify the competence of team members to conduct the verification;
4. Brief team members and arrange any necessary training;
5. Assess applications from installations including making the decision to accept or decline the contract;
6. Conduct the Strategic Analysis and the preliminary risk analysis;
7. Undertake the verification activities including the process analysis and complete the risk analysis;
8. Review verification reports, working papers and associated supported evidence from the verification process;
9. Make the decisions on verification and the verification statement;
10. Manage the storage of records and information;
11. Set-up and operate a procedure for complaints, disputes and appeals.

The activities 3, 4, 5, 7, 8 and 9 require the competence of a GHG auditor. The activities 2 and 6 require the competence of a GHG lead auditor. Personnel involved in activity 1, 10 and 11 should be able to demonstrate training and awareness of the specific requirements set by the EU ETS Directive on these functions.

6.2.2 Qualification Criteria for a Verification team

As a minimum, the verification team's knowledge related to verification activities should consist of the working knowledge of:

1. The applicable Member States national legislation on emissions trading and its related regulations in conjunction with the EU ETS Directive, particularly Articles 12 to 14 inclusive and Annex V, The EU ETS Monitoring and Reporting Guidelines, and an installations' typical GHG permit and monitoring methodologies;
2. Differences in interpretation by National Competent Authorities, within a country, of the coverage of the Directive e.g. scope of combustion installations;
3. The specific activity or the industrial sub-sector in which the installation is engaged including the types of GHG emissions, points of emission and levels of emissions expected from the installation's activities; processes that emit to the atmosphere (including the risk of incidents such as accidental emissions or infrequent safety flaring of process gases); and techniques relevant to monitoring, measurement, calibration, and calculation of GHG emissions;
4. Data and information auditing methods including data risk analysis (particularly with electronic spreadsheets); knowledge related to assessing data management and QA/QC systems specified in the national ETS regulations on monitoring in conjunction with EU ETS Monitoring and Reporting Decision, the activities required to identify failures in the GHG reporting systems and the assessment of the impact of failures on the installation's Emission Report; application of materiality thresholds to GHG emission verification under data and information auditing
5. Conformity assessment processes and associated reporting procedures related to the GHG permit, its associated monitoring methodology and other relevant requirements.

6.2.3 Selection and management of the verification team

Where the verifier uses teams to carry out the verification each Team Member should have a knowledge of data auditing and the national legislation on emissions trading, its related regulations in conjunction with the EU ETS Directive and the EU ETS Monitoring and Reporting Decision.

Teams should be made up such that:

1. a person should be designated as competent to lead on each area of the qualification criteria above. It is up to each verification body to designate the qualification requirements to meet the above criteria.
2. each team member should have a clear understanding of their individual role in the verification process and knowledge of the related requirements and applicable procedures and documents;
3. each team member should be able to communicate effectively, both in writing and verbally, in the language(s) required for the execution of their specific tasks;
4. each team member should be selected on the basis of knowledge, experience and skills in such a way that the knowledge, experience and skill of the team as a whole meet the requirements of the verification.

The verification body should demonstrate that the team as a whole (through records demonstrating a combination of relevant work experience, training and/or education) covers all required knowledge, experience and skills as required by the EU ETS verification engagement,

The team selection procedures should include:

1. that all verification team members are qualified as an GHG Auditor or a technical expert;
2. that each verification team includes at least one person complying with all requirements for a GHG Lead Auditor;
3. that all verification team members operating independently are qualified at least in accordance with all requirements for a GHG Auditor.

The GHG Lead Auditor will clearly divide tasks within the team and will assure that the team as a whole reviews all EU ETS requirements as per the verification plan.

6.2.4 Minimum requirements experience, training and education

6.2.4.1 Formal education

GHG Auditors should, as a minimum, hold a science and technology or business qualification from a tertiary institution [minimum 3 years program]

GHG auditors who do not have the above mentioned education may be considered if they are able to demonstrate completion of work experience and other personal development activities which provide communication, technical and/or business as well as analytical skills necessary to conduct verification.

6.2.4.2 Workplace experience

GHG auditors, who have completed the above mentioned formal education, should have a minimum of four (4) years full time work place experience as a manager, or other professional role involved in;

1. EMS auditing and verification of environmental data
2. emissions related management and technology

6.2.4.3 Formal training for GHG auditors.

The verification body should maintain records and other documents that demonstrate GHG lead auditors and auditors have the required knowledge and expertise through satisfactorily completing formal training covering the following types of knowledge, skills and competence:

Specific expertise:

EU ETS

- Knowledge of EU ETS Directive, the Linking Directive and the M&R Decision, and requirements thereof.
- Ability to perform an assessment of conformity with the requirements of the EU ETS Directives and M&R Decision.
- Awareness of Party's commitments under the Kyoto Protocol, the broader role of emissions trading and the rules and mechanisms required to make it operational.

National legislation on emissions trading

- Knowledge of the national legislation on emissions trading and related regulations, specifically that on the monitoring of GHG emissions and other emissions subject to national schemes of emissions trading
- Ability to perform an assessment of conformity with the requirements of the national legislative requirements in conjunction with those of the EU ETS Directives and M&R Decision.
- Awareness of national commitments to international agreements and the broader role of emissions trading and the rules and mechanisms required to make it operational

Data and information auditing

- Knowledge of monitoring and reporting principles, materiality, inaccuracy and uncertainty; financial / economic accounting tools and practices; assessment in computer information system environment, the roles of quality assurance, quality control and sampling in data verification and methods of checking data for errors.
- Ability to prepare and implement a sampling plan to detect errors in reported data, and to determine whether those errors are material.

Performing a verification engagement

- Knowledge of the verification process including reporting procedures, the role played by different team members and Lead Auditor's role and responsibilities when undertaking a GHG verification engagement.
- Ability to act as a Lead Auditor and complete a verification engagement.
- Awareness of the role of third party verifiers in the scheme.

This may be achieved by successfully completing a GHG Lead Auditor Training Course approved by a recognised third party that covers the above topics as a minimum. Successful candidates at such a course will have passed an examination on the 'knowledge objectives' and completed practical exercises on the 'skills objectives':

6.2.4.4 Additional requirement for GHG lead auditors

In addition to the above skills and competencies, verification bodies need to ensure that GHG Lead Auditor has the appropriate skills and competencies to fulfil the following key responsibilities:

1. Leading and managing the verification process;
2. Understanding the agreed scope of the verification;
3. Ensuring that the verification objectives are addressed in the verification planning;
4. Resolving issues relating to verification, in particular those associated with materiality and conformity issues and shifts in the risk profile of the reported GHG data;
5. Directing the issuing of the internal verification process report, and the drafting of the verification report and verification statement and communicated/distributing them to the reviewer;
6. Ensuring all verification documentation, including working papers, supporting evidence, recommendations and the draft verification report and verification statement are complete;
7. Providing assistance to reviewers in order to complete the verification.

6.2.5 Verification experience

6.2.5.1 GHG auditor

To fulfil the requirements for GHG assessment experience, a GHG auditor is required to have completed at least twenty equivalent (20) days of verification audits within greenhouse gas verification acting as an auditor under supervision and guidance of a qualified GHG Lead Auditor (functioning as a tutor and assessor). These should also have involved the GHG auditor in actively making judgement on the data and emissions report and GHG permit, its associated monitoring methodology and other relevant requirements as relevant to the requirements.

All training and experience relevant to the grade of auditor should be gained in the three (3) years immediately prior to the application for this grade.

Transitional arrangement

For the initial period of the EU ETS verifications, it is expected that few people will be available who comply with verification experience requirements above. For this period,

related verification experience, such as EMS certification auditing, EMAS validation or other types of verification and validation of environmental statements may be acceptable as well

This transitional arrangement should be re-evaluated by 31 March 2006.

6.2.5.2 GHG Lead Auditors

A GHG lead auditor should firstly comply with the requirements for a GHG auditor and meet requirements in ISO19011 section 7.3.2.

In addition the GHG lead auditor should have participated in the entire assessment processes, as acting GHG lead auditor for a minimum of three (3) complete GHG verifications. For a minimum of two (2) verifications, a positive evaluation by the GHG lead auditor in charge of verifying the assessment experience is required.

Experience needed to fulfil the requirements for GHG Lead auditor must be gained in the three (3) years immediately prior to the application for this grade.

Transitional arrangement

For the initial period of the EU ETS verification, it is expected that few people will be available who comply with all requirements above. For this period, related GHG lead auditor experience, such as with EMS certification auditing or EMAS validation or other types of verification and validation of environmental statements may be acceptable as well.

This transitional arrangement should be re-evaluated by 31 March 2006.

6.2.6 Competence definition and maintenance

Verification bodies should define means of achieving, assessing and maintaining the necessary competencies as defined above. This includes for any GHG Auditor, GHG Lead Auditor, leader or other staff they employ or hire as an external resource.

6.2.7 Reviewer

The reviewer should be a person not involved in the actual verification of the installation. The reviewer should have the technical expertise to make an informed decision (normally expected to be a person who complies with the qualification criteria for a GHG Auditor) and have appropriate authority to sign of the verification statement. Where the reviewer does not have enough technical expertise he/she may request support from an expert(s) who have the appropriate technical expertise and help the reviewer with his/her final decision.

Annex A (normative)

Materiality

According to M&R Decision Annex I section 2 definitions - Materiality is - “the professional judgment of the verifier as to whether an individual or aggregation of omissions, misrepresentations or errors that affects the information reported for an installation will reasonably influence the intended user’s decision. As a broad guide, a verifier will tend to class a misstatement in the total emissions figure as being material if it leads to aggregate omissions, misrepresentations or errors in the total emissions figure being greater than 5 percent”

Materiality is relevant when the verification body determines the nature, timing and extent of evidence-gathering procedures, and when assessing whether the installation’s GHG emission report is free of errors, omissions or misstatements. When considering materiality, the verification body evaluates and assesses what factors might influence the decisions of the intended users. The concept of materiality recognizes that some matters, either individually or in the aggregate form, are important if the GHG emission 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 EU ETS Directive and M&R Decision. The verification body considers both quantitative errors and qualitative non-conformities, such as failure to construct and report the emissions data in accordance with the GHG permit, its associated its associated monitoring methodology and other relevant requirements. As a result of the interaction of these considerations, discrepancies of relatively small amounts could have a material effect on the GHG emission report.

Materiality considerations should be discussed at the planning stage of the verification and communicated clearly within the verification body. The verification body plans and performs work to obtain sufficient appropriate evidence about whether the GHG emission report and data is free of material discrepancy.

Materiality evaluation interacts with the assessment of risk of errors, omission and misstatements in the GHG emission report and data. This evaluation of risk is based on the findings of the review of the control environment and control systems. The conclusion on materiality takes into account all the findings from the strategic analysis, risk analysis and process analysis.

Uncertainty

The Competent Authority is responsible for approving monitoring methodologies. Standardised methods for the various activities falling within Annex 1 of the Directive are provided in the national legislation and its related regulations and/or the Monitoring and Reporting Guidelines. The verification body therefore does not take account of uncertainty inherent in following the permit and its associated monitoring methodology.

Note *according to the M&R Decision “... the verifier shall in particular - check that the application of the monitoring methodology specified in the permit has delivered an accuracy level consistent with the defined tiers“.*

Verification bodies should be concerned about uncertainty resulting from non-conformity with the requirements of the monitoring methodology and other related requirements.

According to the M&R Decision - *“Permissible uncertainty” within these Guidelines shall be expressed as the 95% confidence interval around the measured value, e.g. when*

characterising metering equipment for the tier system or the accuracy of a continuous measurement system”.

Annex B (normative)

Impartiality and independence

1.1 The verification body and any part of the same legal entity shall not be an operator³, 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 verification body shall not offer its services to operators when the relationships of the Verification body and the operator may threaten the impartiality of the verifier or put the verification body in a conflict of interest.

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

1.2 The verification body shall have top management commitment to impartiality in verification activities. The verification body shall have a publicly available statement that it understands the strong commercial and financial and other pressures which might influence its judgement and the importance of impartiality in carrying out its verification, and manages conflict of interest and ensures objectivity of its verification.

1.3 The verification body 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 Monitoring and Reporting Guidelines or to help the organization to prepare emission reports;
- technical assistance to develop or maintain, at any stage, the system implemented to monitor the emissions.

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

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

1.6 The verification body shall not verify the report for an operator that has received consultancy or technical assistance as described above, where the relationship between the consultancy or engineering body and the verification body threatens the impartiality of the verification body.

1.7 Relationship between the verification body and the consultancy or technical assistance body based on common ownership, governance, management or personnel, shared resources,

³ Including associations of operators

finances, contracts or marketing, and payment of a sales commission or other inducement for the referral of new clients, are deemed to threaten impartiality.

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

1.8 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 verification body is used. Similarly, a verification body 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 verification body activities shall not be marketed as linked with the activities of an organization that provides consultancy, engineering or any technical assistance.

1.9 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.

1.10 To ensure that there is no conflict of interests, 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.

1.11 Verification bodies shall require personnel, internal and external, to reveal any situation known to them that may present them or the verification body with a conflict of interests. Verification bodies 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 interests.

1.12 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 (normative)

Verification plan – details

The following three factors may influence the verification plan:

Computerised information systems

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

1. Any risks to the completeness, consistency, reliability and accuracy of reported GHG data from actual or potential failures in the computer information system (e.g., computer system failures resulting in a failure to collect GHG emissions data from automated monitoring equipment during the time of the system failure).
2. Potential software coding or scripting errors that may lead to significant errors, omissions or material misstatements in the reported GHG 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 emissions figure or an incorrect emissions factor/conversion).
3. Human errors in the computer information system (e.g., overwriting a spreadsheet containing last month's GHG data with this month's GHG 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 body.
5. The prevailing information security environment within which the GHG 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 GHG data. Failures in information security may also arise from inadequate back-up procedures for GHG data.

The installation's control environment:

Verification bodies should obtain an understanding of the control environment sufficient to assess management's awareness and actions regarding internal controls and their importance in the generation and reporting of GHG emissions information and conformity with permit requirements.

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

1. management's assessment of the risk that the emissions information may be materially misstated as a result of error, fraud or bias; and
2. the accounting and internal control systems management has put in place to address such risk;
3. management's understanding regarding the accounting and internal control systems in place to prevent and detect error;
4. whether management has discovered any material errors.

Using techniques such as enquiry, observation, inspection and analytical procedures, together with previous experience, the verification body obtains an understanding of the installation's control environment sufficient to enable the verification plan to be

developed and implemented. The verification body obtains an understanding of the installations:

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

According to the M&R Decision, the required quality assurance and control procedures may be implemented by the installation in the context of the EU Eco-Management and Audit Scheme (EMAS) or other environmental management systems, including ISO 14001.

Neither the installations nor the verification body should automatically assume that adaptation and implementation of such management systems can on their own merits, minimise the various risks associated with the EU ETS verification. However, where the installation has a management systems such as ISO 14001 or EMAS in place these may make the gathering of material for verification within the EU ETS simpler subject to the management systems addressing 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, M&R Decision and other supporting requirements of the EU ETS.

The verification body should address the procedures needed for monitoring and reporting of greenhouse gases and the application of these procedures within the installation and should include inter alia:

1. identification of greenhouse gas sources covered by the scheme under Annex I of the EU ETS Directive;
2. the sequence and interaction of monitoring and reporting processes;
3. responsibilities and competence;
4. the methods of calculations or measurement which are used;
5. the measuring equipment used (if applicable);
6. reporting and records;
7. internal reviews of both reported data and the quality system;
8. corrective and preventive action.

Conformity with the GHG Permit and its associated monitoring methodology and other relevant requirements

The verification body should check and confirm the application of the approved GHG permit, its associated monitoring methodology, use of correct emission and oxidation factors, fuel compositions, calorific values etc, and fulfillment of reporting criteria with respect to accuracy tiers.

The verification body 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 permit
- 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 GHG data gathering relies and whether the meter has
 - i) been approved by the competent authority
 - ii) conforms to the requirements (including uncertainty) specified in the its associated monitoring methodology

- iii) current valid calibration status to be in line with calibration requirements in the its associated monitoring methodology.
- 4) Any changes to equipment maintenance and calibration regimes that may have a material effect on the reported GHG data and Emission Reports, and whether these impact upon conformity with the its associated monitoring methodology;
- 5) The documentation of the installation'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 their permits, reported GHG data and Emission Reports.

Annex D (informative)

Verification effort on repeat verifications within the same installation

Do the same verification activities apply for every installation?

Every installation will monitor its CO₂ emissions on the basis of an agreed GHG permit with its associated monitoring methodology. The GHG permit is specific to each installation.

To prevent relatively simple installations from being subjected to a verification programme that is too rigorous, two safety provisions have been incorporated into this guidance document

1. The verifier will check whether the agreed GHG permit with its associated monitoring methodology, was applied in the development of the emission report. Relatively simple installations will have a more limited GHG permit and its associated monitoring methodology than complex installations, resulting in a simpler verification process.
2. The verifier will establish a verification programme for each installation. This verification programme 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 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 will vary from year to year dependent on factors such as:

1. Changes to the GHG permit, its associated monitoring methodology and other relevant requirements
2. Changes at the installation whether associated with its GHG sources or data management system. This would include changes in personnel.

To avoid duplicate work between years the following safety provisions have been built in to this guidance document, this is only applicable when the same verifier carries out the verification assessment for the same installation.

- For both strategic analysis and risk analysis for subsequent years' attention should be focused on changes and developments not repeating the activities. 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 will establish a verification programme for each year. This verification programme 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 and will be carried out in an efficient and effective way

Annex E (informative).

Working Knowledge.

Working knowledge enables a GHG auditor to manage/lead specific aspects of the verification in a professional and comprehensive manner. This means having the technical knowledge and capacity to ;

1. understand the scope of the engagement, ensure the verification body/d processes for review/planning and conducting/reporting the verification are applied correctly at all times in a professional and competent manner at all times and in accordance with the applicable Rules.
2. understand the complexity of the installation and likely error sources/problems and to question IN DEPTH, the client's internal controls and data management arrangements.
3. apply good communication and IT skills with a tenacity that focuses on areas of control weaknesses and potential errors, and to ascertain to his/her satisfaction that data presented is correct, and make recommendations accordingly.

The adequacy of working knowledge can be confirmed through monitoring/review of the verification working papers and the correct implementation of the processes and procedures of the verifier, in accordance with the applicable Rules.

On site monitoring of the verification activity will enable an assessment of the overall competence of the verification team and individual members of the team, which will confirm or otherwise the adequacy of the team selection processes. The on site monitoring will enable an evaluation of individual team member's working knowledge and professionalism in the areas of ;

- understanding the clients controls.
- questioning the controls, and data accuracy,
- the effective use of IT and communication skill
- establishing the correct tone and relationship with the client.

Annex F Scope of Accreditation

Scope related to:

- Activities – see below
- Type of determination e.g. either calculation based or measurement based as defined by M&R Decision

SCOPE Cluster of Activities	Activities
1a	<ul style="list-style-type: none"> • Combustion emissions from activities listed in Annex I of the Directive – liquid, gas and biomass fuels
1b	<ul style="list-style-type: none"> • Combustion emissions from activities listed in Annex I of the Directive – solid fuels
2	<ul style="list-style-type: none"> • Mineral Oil Refineries as listed in Annex I to the Directive
3	<ul style="list-style-type: none"> • Coke Ovens as listed in Annex I to the Directive • Metal Ore Roasting and Sintering Installations as listed in Annex I to the Directive • Installations for the Production of Pig Iron and Steel including Continuous Casting as listed in Annex I to the Directive
4	<ul style="list-style-type: none"> • Installations for the Production of Cement Clinker as listed in Annex I to the Directive • Installations for the Production of Lime as listed in Annex I to the Directive • Installations for the Manufacture of Glass as listed in Annex I to the Directive • Installations for the Manufacture of Ceramic Products as listed in Annex I to the Directive
5	<ul style="list-style-type: none"> • Pulp and Paper producing Installations as listed in Annex I to the Directive
6	<ul style="list-style-type: none"> • Combustion activities - emitting less than 20,000 t CO₂ per year and only fossil fuels burnt (no biomass, no waste)

Bibliography.

EU ETS Directive

M&R Decision

Linking Directive

ISO Guide 65

ISO17021

EA 6/01

EA 5/01

ISO19011