CIS 5

EDITION 2 | November 2006

UKAS Guidance for the Application of ISO/IEC Guide 65 (EN45011), EA-6/01 and EA-6/03, for verification of greenhouse gas emissions for the purpose of the UK's various emissions accounting and trading schemes

CONTENTS

CHANGES SINCE LAST EDITION

This document has been updated and generalised to allow for its application to a range of emissions accounting and trading schemes. Requirements in relation to specific schemes are outlined in the Annexes. In addition, Annex 3 in relation to the EUETS has been consolidated into this one document.

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1.0 INTRODUCTION

This UKAS Guidance covers the verification of 'Greenhouse' gas emissions for installations that are 'Direct Participants' in the UK Emissions Trading Scheme and/or are participants in the Climate Change Levy Agreements (CCA Participants) wishing to trade their credits from over-achievement within the scope of the UKETS, or are installations permitted under the EU Emissions Trading Scheme . Specific guidance for aspects of these schemes is provided in the separate annexes following the main text that deals with common aspects.

NOTE: This guidance document has been produced against the principles contained within various scheme documents as outlined below. Users of this guidance must ensure they consult the detail on specific requirements for the relevant scheme, the most up to date versions of which are available at : http://www.defra.gov.uk/environment/climatechange/trading/index.htm.

1. Section headings make reference to ISO/IEC Guide 65[1] to facilitate linkage between ISO/IEC Guide 65 and this document. This document complements ISO/IEC Guide 65, IAF Guidance to Application of Guide 65 (EA Guidelines to EN45011), EA -6/01[2] and EA-6/03. In this guidance document, ISO/IEC Guide 65 will hereafter be referred to as Guide 65
2. The UK Greenhouse Gas Emissions Trading Scheme may also be referred to as the UKETS. The UKETS requirements, as relevant to the verification of GHG emissions data, are set out in the UK Emissions Trading Scheme documents as at June 2003, these comprise the legal rules for the UKETS, the UKETS Framework and Guidelines for Measurement and Reporting of Emissions documents which provide further requirements and guidance for Direct Participants; see Annex I, and the DEFRA guidance publications for CCA Participants are referred to in Annex II.
3. The EU Emissions Trading Scheme may also be referred to as the EU ETS. The EUETS requirements, as relevant to the verification of GHG emissions data are set out in EU Directive 2003/87/EC, Commission Decision 2004/156/EC (29/1/04) (Monitoring & Reporting Guidelines), and DEFRA Guidance on Annual Verification (V2 18/4/06).; see Annex III.
3. Requirements related to measurement and reporting of emissions may also be referred to as reporting protocols (UKETS) or monitoring and reporting plans (EUETS).
4. Definitions for the UKETS and EU ETS are provided in the legal rules and guidance outlined above.
5. The term "shall" is used throughout this document to indicate those provisions which, reflecting the requirements of Guide 65, are mandatory. The term "should" is used to indicate those provisions, which, although they constitute guidance for the application of the requirements, are expected to be adopted by a Verification Body. Any variation from the guidance shall be by exception. Such variations shall only be permitted on a case by case basis after the Verification Body has demonstrated to UKAS that the exception meets the requirements of the relevant clause of Guide 65 and the intent of this guidance in some equivalent way.
6. A verifier is defined as the 'Verification Body' undertaking the data verification. A "GHG Lead Verifier" in the UK is an individual leading a verification team in undertaking a data verification assignment.

WARNING

UKAS specifically reminds all people involved in the monitoring, reporting and verification of GHG emissions that the ultimate purpose of this work is, in general, to enable the trading of emissions rights in a commercial carbon market.

The ultimate purpose of verification is therefore to ***PREVENT FRAUD***.

It should be with this purpose in mind therefore that verification and accreditation systems are designed and delivered. Failure to do so carries legal and financial liabilities for all organisations involved.

[1] *ISO/IEC Guide 65 General Requirements for bodies operating product certification systems*
[2] *IAF Guidance on the application of ISO/IEC Guide 65.1966…(EA Guidelines on the application of EN45011)*

2.0 VERIFICATION BODY (GUIDE 65 – SECTION 4)

2.1 General provisions
No further comments.

2.2 Organisation - Scopes of Accreditation
Scopes of accreditation for Direct Participants, CCA Participants and EU ETS Permitted Installations are defined in Annexes 1,2, and 3 respectively

IAF Guidance (G.4.25) explains that each decision on verification is taken by a person(s) different from those who carry out the evaluation. Verification, like inspection, is an evaluation task. Therefore members of the team that undertook verification evaluation or audits and associated work shall not take the verification decision. In setting up the organisation's capabilities for verification activities, Verification Bodies are reminded of the necessity of ensuring that sufficient expertise is available to cater for the requirements of both audit/evaluation and the decision making processes (see 5.1 Competence).

2.3 Operations
Guide 65 requires that verification be undertaken in conformance with the rules of the relevant scheme. It must be noted that there are significant differences between the rules for each of the UK's emissions accounting/trading schemes. However, the purpose of GHG verification is to provide a common standard of probity and limitation of the uncertainty of emission estimates to give a 'level playing field' across each of the emissions trading schemes (as appropriate to the rules) and ensure that mis-statement that could potentially lead to fraud is eliminated.

The EUETS has a distinct set of rules and requirements in relation to accounting principles, monitoring and reporting and verification. However there are overlaps between the UKETS and CCLA Agreements where elements of rules are less clear and where UKAS has specific expectations as outlined below :

- The DEFRA 'UK ETS Framework', Clause 4.12, defines 'Materiality' and paragraph 4.15 further expands for the scheme as follows, "***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 uncertainty in the total emissions figure being greater than 5***%."
- The 'Framework' provides guidance on how this criterion should be applied for Direct Participants. In order to achieve equivalence between the different aspects of the UKETS Scheme, UKAS will expect Verification Bodies to apply the same requirements to CCA participants.
- Similarly, the DEFRA Guidelines for Measurement and Reporting set out the 'UKETS Key Principles' underpinning the emission estimation and requires Verification Bodies to check that emissions have been measured and reported against these principles. The rules (Part D and Schedule 6) make similar but less specific requirements for CCA participants. The Measurement and Reporting Guidelines provide guidance for CCA participants in this respect. Section 3.8 explains that Verification Bodies will need to be satisfied that the data has been compiled in accordance with the UKETS Key Principles. Therefore UKAS will expect Verification Bodies to check that CCA participants wishing to trade their over-achievements have applied the 'UKETS Key Principles' in the measurement and reporting of their emissions.
- Verification Bodies are reminded that for Direct Participants, they shall not take into account any uncertainty inherent in accurately following the protocols appended to the Measurement and Reporting Guidelines. Similarly, for CCA participants, Verification Bodies shall not take into account any uncertainty inherent in the protocols or method stipulated in the relevant Agreements and supporting correspondence.
- Further guidance is provided in Section 7. Evaluation -Verification Process.

2.4 Subcontracting
Verification Bodies are reminded of the requirements of Guide 65, Clause 4.4 regarding the issue of a verification opinion based on evaluation work carried out by another body. They are also reminded of the further guidance provided in the IAF Guidance, Clauses G.4.32 to 4.36. These clauses may be of particular relevance to verification of CCA participants and further specific guidance is provided in Annex 2.

2.5 Quality System
UKAS recognises that the work of GHG verification requires both technical competence and experience in the fields of the processes producing emissions, the handling of data and the verification of measurements and records. The requirements of Guide 65 for documented verification procedures may be achieved through the documentation of the verification process placing greater reliance on the competence requirements for verification personnel.

The verification procedures/process documentation shall explain the methods used by the Verification Body to ensure that the verification decision takers remain independent of the team undertaking the evaluation work, and to ensure adequate competence in both functions.

IAF Guidance Clause G.4.37 requires Verification Bodies to monitor the performance of their own personnel. UKAS recognises that in GHG emissions verification the performance of a Verification Body's evaluation team can be effectively monitored by:

a) the records of the verification evaluation and associated working papers,

b) feedback from clients and third parties

c) internal audit of records

d) periodic witnessing of verification activities. Frequency of witnessing (including any reduction) shall be determined and justified in the light of other monitoring activities

2.6 Conditions and Procedures for granting, maintaining, extending, suspending and withdrawing certification
No further guidance is necessary.

2.7 Internal audits and management reviews
It is recommended that Management Review should ensure that the 'business risks' inherent within the implementation of the quality management system for GHG verification services are fully understood and accepted by management with executive responsibility.

2.8 Documentation
No further guidance is necessary.

2.9 Records
Guide 65 requires that the Verification Bodies shall manage and maintain a record system to demonstrate both compliance with the rules, and that the verification procedures have been effectively fulfilled.

Records should include;

- Application forms and contract review
- Competence analysis for team selection
- Justification for determination of sample size and risk
- The strategic review reports or documentation
- The working papers, work books etc, from on-site and off-site verification activities
- The documentation of any objective evidence required to support the conclusions reported or opinions
- The report of the verification assessment team to the Verification Body, including the draft opinion
- Evidence to demonstrate that the report of the verification assessment team has been reviewed by the Verification Body in the decision making processes
- The reports or opinions issued by the Verification Body to the client.

2.10 Confidentiality
No further guidance is necessary**.**

3.0 VERIFICATION BODY PERSONNEL (GUIDE 65 – SECTION 5)

.1 General
Guide 65 requires that the personnel involved in verification shall be competent for the functions they perform. In the verification of greenhouse gas emissions the personnel involved are likely to include those who:

- Manage the verification process
- Select and confirm the competence of assessors/auditors (members of verification team)
- Brief assessors/auditors (members of verification team) and arrange any necessary training
- Assess applications and conduct contract reviews
- Implement the assessments
- Review the assessment reports, working papers and other evidence from the assessments
- Make the decisions on verification and statements of opinion
- Manage the storage of records and information
- Set up and operate a procedure for complaints, disputes and appeals.

The competence requirements cover both the management and assessment functions.

The Lead Verifier should have an active role in establishing the scope of the verification work, planning and identifying team competency requirements.

The selection of the verification team and provision of adequate audit time and resource should be independently reviewed/confirmed prior to any verification activities taking place.

In GHG verification the selection of the independent decision-maker(s) of the assessment documentation for the decision-making aspect is especially important and the competence criteria for the decision-makers must include relevant technical expertise. Where corporate decision makers do not have such expertise, a technical reviewer, independent of the assessment team shall be used.

IAF Guidance to Clause 5, G.5.1 requires that records should show which personnel are designated as competent and the date of validation. This applies to the records to demonstrate the competence for the roles undertaken in the GHG emission verification process. The records must be maintained up to date.

3.2 Qualification criteria – Verification Body personnel

The competence and qualification/experience criteria must be defined and documented for Verification Body's personnel and will depend on the tasks they are required to perform.

3.2.1 Competence Analysis

This guidance places emphasis on the competence of the Verification Body to manage the GHG emission data verification process. The Verification Body should have an effective system for the analysis of the competencies in GHG verification assessments that it needs to have available with respect to all the technical areas in which it operates (scopes of accreditation) and must have a process in place for the selection, appointment and management of individuals whose collective competence is appropriate to the activities that have generated the data that is to be verified.

The Verification Body should be able to demonstrate that it has performed a competence analysis (assessment of skills in response to evaluated needs) of the requirements of each relevant area as part of the enquiry/contract review and prior to accepting the engagement for each client. In particular, the Verification Body should be able to demonstrate that it has the competence to complete the following activities:

- identify the typical GHG sources and issues relevant to the areas of activity undertaken by the verification team, to include boundary, scope, direct/indirect emissions, outsourcing and baselines;
- define the competencies needed by the Verification Body to verify GHG emissions data and information in relation to the identified areas, see also team competency below.

The verification of emissions data requires the ability to understand the client's systems and organisation and to be able to obtain, analyse and verify the relevant data. This requires competence in three distinct areas:

a) in management and internal control/assurance systems and their assessment

b) in the activities, processes, plant and equipment either using energy or producing GHG emissions, and the monitoring or measurement equipment and methodologies used to quantify the emissions

c) in the accounting, handling and aggregation of data, particularly in a computer information system environment, and the associated analysis of accounting principles and materiality,.

Different clients' activities may require different degrees of expertise in these three areas. For example, a client with simple energy related emissions may have a complex data handling and aggregation system because of the scale of its operations. The verification activities may demand particular skills in systems analysis and information technology. Alternatively, clients with complex fuel or hydrocarbon measurement and metering systems might need very different levels of technical expertise. It is expected that the competence demands will vary from client to client. This will impose special requirements on the functions of contract review in the selection of teams and the estimation of time and resources for verification.

3.2.2 Verification Teams

A verification assessment team should consist of one or more Lead Verifier(s), together with an appropriate combination of Verifiers and/or third party experts. All personnel involved in GHG emissions verification must be familiar with:

- the subject matter of GHG emissions, or energy usage, as applicable to the scope of accreditation and participants' needs
- the relevant scheme rules, guidance and other requirements (such as may be specified by individual Competent Authorities)
- ISO/IEC Guide 65, EA-6/01 and EA-6/03 and the related UKAS Guidance for Verifiers
- Industrial processes that generate GHG emissions, and the technical issues associated with their measurement and reporting
- data and information auditing methods.
- At least one member of the team shall have detailed knowledge of each of the above areas, based on relevant working experience.

The verification team composition and competence should take account of the scope of the participant's GHG emissions and the nature of the GHG reporting system. Key considerations should include:

- whether the scope is restricted to CO_2 or includes all the GHG covered by the relevant scheme
- the complexity of the GHG data under consideration (i.e. is it based solely on fuel/energy use metered by electricity and fuel bills or are the emissions largely process based)
- the nature of the information system used to collect and report GHG data (i.e. is it a complex database system requiring knowledge of IT systems or is it a more simple spreadsheet system), and
- the complexity of the participant's operations (i.e. is the participant a single company or a complex group).

In addition to the above, the team should collectively have experience, training and up to date knowledge of the following:

- Techniques relevant to the monitoring, measurement (including calibration), and calculation of GHG emissions. In particular this should include the ability to identify all relevant sources of emissions
- The activities required to identify failures in the participant's GHG emissions reporting system and decide on its impact on the company's emissions report, and
- The types of emissions, points of emission, and levels of emission expected from the company's activities and processes to air (including risk of incidents such as accidental emissions).

Where the participant has in place complex computer information systems, the verification team should include a member with the ability to test the security and functionality of this system and its impact on the integrity of the GHG emissions data. If specialised

skills are needed, the Verification Body should seek the assistance of a professional possessing such skills, who may be either on the Verification Body's staff or an outside professional.

Where the participant has complex GHG reporting systems and/or a complex operational structure, the team should include an individual(s) with knowledge of complex organisation structures and/or business processes and systems, and related reporting systems.

Verification personnel should maintain their competence by ensuring their knowledge of GHG emission data verification is updated periodically.

Underpinning all work of verification teams should be an attitude of "*professional scepticism*" which recognises that circumstances may exist that cause the declared data to be materially mis-stated. Such an attitude means that members of the verification team make a critical assessment, with a questioning mind, of the validity of evidence obtained; are alert to evidence that contradicts or brings into question the reliability of documents or representations made by the participant; and are alert to the possibilities of failure of impartiality and potential for fraud.

3.3.3 Responsible person - Contract Review

The manager responsible for contract review should have sufficient experience of verification and the specialist areas that might be involved to appreciate the problems likely to be encountered by the verification team, select the team and estimate the assessment time required. This function shall be undertaken by an individual with Lead Verifier' status or equivalent.

The Verification Body should be able to demonstrate that the manager responsible for contract review has the competence, for each participant whose GHG emissions it verifies to:

- define the areas of activity of the participant
- check that eligibility criteria are met
- confirm that the typical GHG emission data areas (sources, processes, methodologies etc.) arising from the complete range of the participant's activities within the specific industry sector are as per the requirements of the relevant scheme
- confirm that the typical boundary, scope, direct/indirect emissions, outsourcing, JV (joint ventures) identified in the above competence analysis apply and, if not, to amend the competence analysis accordingly
- confirm that the members of the verification team possess or can obtain the requisite skills and knowledge to perform the engagement.

3.3.4 Lead Verifier

Key responsibilities include:

- Checking that the verification team meets the necessary competency requirements
- Leading the team and managing the verification process
- Understanding the client's request and the nature of the verification in relation to the relevant scheme
- Determining the relevant verification objectives and ensuring that they are adequately addressed in planning
- Resolving issues related to the verification, in particular those associated with materiality and compliance;
- Directing the drafting of the verification opinion and report to the Verification Body's management
- Ensuring that the documentation including the recommendation, the draft opinion, report working papers and other evidence is complete;
- Providing assistance to the 'decision makers', and report reviewer in the completion of the project.

It is expected that Lead Verifiers should be able to demonstrate competencies relevant to the specific verification, and play an active leading role within the verification process.

The requirements for verification experience may be satisfied by the demonstration of equivalent experience in verifying non-financial data and information. It is for the Verification Body to justify the relevance of the experience gained.

3.3.4 Responsible person - Decision Making

The entity, which may be an individual, who makes the decision on the statement of opinion within the Verification Body should incorporate a level of knowledge and experience sufficient to evaluate the verification processes, working papers and associated evidence and recommendations made by the team. The 'decision maker' must be independent of the team undertaking and reporting the verification work.

As outlined above, it is expected that this level of competence will be equivalent to that of a Lead Verifier.

3.3.5 Responsible person - Dispute Resolution

Guide 65 Clause 7 requires that appeals, complaints and disputes brought before the Verification Body shall be subject to the procedures of the Verification Body. The Verification Body should be able to demonstrate that, in the functioning of its procedures, the personnel involved in the resolution of such disputes are competent to do so.

3.3.6 Use of external personnel

If the expertise required for the engagement is not available within the Verification Body, third party specialists may be commissioned to assist in the engagement, either to give advice remotely or to work with the verification team on site.

The potential need for specialist advisers should be identified at contract review, if not before.

In selecting the third party specialists consideration should be given to their independence from the client and the level of skills required, specific to the assignment needs.

Formal agreements over requirements for confidentiality and declarations of freedom from conflicts of interest should be documented before the assignments start.

4.0 CHANGES IN CERTIFICATION REQUIREMENTS (Guide 65 - Section 6)

No additional guidance

5.0 APPEALS, COMPLAINTS AND DISPUTES (Guide 65 - Section 7)

No additional guidance

6.0 APPLICATION & PREPARING FOR VERIFICATION (Guide 65 – Sections 8 & 9

6.1 Accepting the engagement/contract review

Guide 65 Clause 8 requires that the applicant shall complete an official application form providing basic details about the organisation and the services required. This application forms the basis of the contract. Clause 9 covers the subject of the review of the application, the contract, before proceeding with the evaluation. Neither clause makes specific requirements covering the development of the commercial arrangements.

Clause 9.1 requires that before proceeding with the contract, the Verification Body conducts, and maintains records of, a review of the application/contract to ensure that,

a) the requirements for verification are clearly defined, documented and understood

b) any differences of understanding are resolved and

c) the Verification Body has the capability and resources to perform the specific services required.

In contract review, the Verification Body must obtain sufficient information from the participant to complete these requirements including the information already submitted/agreed with DEFRA/Competent Authority. For example the Verification Body should ensure that their client's documentation confirms any targets that have been set, any changes in targets and the relevant change dates.

6.2 Verification Programme

Guide 65 Clause 9.2 requires the Verification Body to prepare a programme for its evaluation of activities to allow the arrangements to be managed. A copy of this programme must be made available to the participant to enable arrangements to be made.

The verification programme may be developed for uses other than the management of arrangements, for example, estimating the time and manpower requirements for the verification. It is anticipated that the programme at contract review stage will be developed into the main verification and data sampling plan following the strategic review/analysis.

At contract review stage the content of the verification process programme should be consistent with established standards and guidelines for auditing. It should as a minimum cover:

- verification scope and objectives, including the standards used
- verification team, including external experts, and their roles and responsibilities, sub-contract personnel should be identified as non-staff members
- verification time and resources plan
- sites to be visited (as allowable under each scheme) and activities to be carried out in each case
- methods to be used for reporting verification findings.

Guide 65 Clause 9.3 requires the Verification Body to assign personnel appropriately qualified to perform the tasks for the specific evaluation. It also requires that personnel should not be assigned if they have been involved with the participant in any matters, or within a time period, that could compromise impartiality.

6.3 Risk to the Verification Body resulting from the Verification Assignment

At the contract review stage the Verification Body should make an assessment of the potential risks to itself from undertaking the particular assignment. The risk assessment at contract review should not only cover the risks of material misstatement of the data to be verified (verification risks) but also any risks to the Verification Body itself (business risks). Any risks should be managed according to the assessment.

Where the Verification Body has policy commitments within its own quality system to examine the potential risks arising from such assignments, the risk assessment and management actions required should be recorded.

In 'business risk' management Verification Bodies should consider taking precautions in their contractual relationships with their clients to ensure that they, the Verification Bodies, are informed without delay of the discovery of any errors in information provided that could influence the accuracy of verification opinions that have been issued or are in preparation.

In the management of business risk Verification Bodies should ensure that their clients have the procedures for the measurement and monitoring of GHG critical data that reflect the reliability required by the key monitoring and reporting principles. For example Verification Bodies should ensure that the participant's systems include procedures to prevent un-authorised changes to the settings of GHG-critical meters and instruments etc.

7.0 EVALUATION – VERIFICATION PROCESS (Guide 65 – Section 10)

7.1 Verification Process - Aims

By review of objective evidence, the aims of the verification process are to establish that:

- the GHG emission data comply with the rules and requirements of the relevant scheme.
- For UK ETS - in preparing the emission estimates Direct Participants/Permitted Installations are in strict compliance with approved GHG protocols/ monitoring & reporting plans; and for CCA participants, in strict agreement with the CCA rules as specified in the Umbrella and Underlying agreements;
- For EU ETS – installations are in compliance with requirements in Permit, M&R plan and MRG/MRV
- there are no outstanding materiality issues or non-allowable uncertainties with the GHG emission data.
- records of the verification activity and objective evidence reviewed support the conclusions and the verification opinion.

7.2 Materiality

The purpose of the risk assessment approach is to enable the Verification Body to design a verification process, which will lead to reasonable expectation of identification of material misstatement (as a result of aggregate uncertainty, error and/or omission).

Verification Bodies should make reference to the guidance on materiality provided in the relevant scheme rules and guidance.

For the UKETS :

- Materiality is defined at Clause 4.12 of the UKETS Framework;
- Clause 4.13 requires Verification Bodies to assess both the amount and nature of misstatement. "***The verifier will assess the materiality both of any individual misstatement and of the aggregate of uncorrected misstatements***";
- Clause 4.14 reminds Verification Bodies to take into account any omission or error that that could lead to misstatement, for example a poor reporting system that produces non-transparent biased or inconsistent figures (see the UK ETS Key Principles stated in Section 2 of the Guidelines for the Measurement and Reporting of UKETS Emissions,)
- Clause 4.15, explains ***"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 uncertainty in the total emissions figure being greater than 5 percent".***

For EUETS :

- Materiality is defined in section 2 of Commission Decision 2004/156/EC (29.1.04) which reminds Verification Bodies that it is a professional judgement of the Verification Body before giving guidance that ***"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";*** and section 7.4 requires that ***"the verifier shall in particular:……. establish an acceptable materiality level in the context of the nature and complexity of the installations activities and sources".*** Verification Bodies are reminded that the exercise of professional judgement should apply to the evaluation of compliance with scheme rules and conformance to key monitoring and reporting principles, as well as data mis-statements when undertaking the Materiality Analysis.
- DEFRA's Guidance on Annual Verification for the EUETS and the supplementary FAQ documents provide further guidance and examples of situations that might be considered material for the purposes of verification.

In guiding Verification Bodies to use an aggregate uncertainty of ± 5% as a criterion for material misstatement the DEFRA Guideline is directing the Verification Body to apply the disciplines of metrology (see UKAS Publication M3003, 1997: 'The Expression of Uncertainty and Confidence in Measurement).

Materiality must therefore be considered in the context of aggregate uncertainty in relation to the total declared emissions, or of the individual sources that make up this total, including any qualitative factors (eg compliance and principles etc).

Verification Bodies should aim to identify other types of mis-statement that may not be identified by consideration only of quantitative errors; such as failure to construct an Emissions Report in accordance with the mandatory requirements of the Scheme.

7.3 Inherent Uncertainty

Verification Bodies are reminded that they are not required to take account of any uncertainty inherent in accurately following the protocols appended to the UKETS reporting guidelines or as agreed by virtue of installation permits (encompassing monitoring and reporting plans) for the EUETS (for both methodologies and approved Tier uncertainties for measurement equipment). Similarly, Verification Bodies should not be concerned about any uncertainty inherent within climate change agreements and supporting DEFRA letters of explanation. While these protocols might include specific emissions factors that could greatly simplify the emission estimation process they could introduce sources of uncertainty exceeding the ± 5% guideline. Verification Bodies have to exercise great care in ensuring that such sources of uncertainty within the protocols are not included in the aggregate uncertainty under assessment in the verification process.

Verification Bodies should be concerned about uncertainty resulting from the techniques of measurement for example from:

- the types of meters
- the loading with respect to design characteristics
- their state of calibration and maintenance
- whether they were in service for the relevant period
- the appropriateness of their installation

This type of uncertainty cannot be described as 'inherent' or 'fundamental' and must be evaluated. This is why Verification Bodies should have competence in the assessment of measurement as well as in the assessment of data produced from such measurements.

For the EUETS, Section 4.3.1 of Commission Decision 2004/156/EC (29.1.04) states that ***"The operator….. shall manage and reduce the remaining uncertainties of the emissions data…. During the verification process the verifier shall check…….. and assess the management and reduction of remaining uncertainties…."***, and section 7.4 states ***"…If the verifier concludes that the emissions report contains a material mis-statement, the operator's report has not been verified as satisfactory"***.

For the UKETS, Clause 4.15 of the Framework also states that: ***"If aggregate uncertainty is thought to be material, the verifier will not be able to sign off the direct participant's verification statement. In this situation, the direct participant should adjust its emissions data until the verifier judges any misstatement to be immaterial. If the direct participant does not adjust its emission data, it will not have verified emissions data, and will therefore not be in compliance with the rules of the scheme."***

In both cases, if the participants fail to adjust their emissions data, Verification Bodies should disclose this within their verification report. UKETS Direct participants are also required by the UKETS rules to inform DEFRA of a refusal by a Verification Body to give an unqualified verification opinion (Schedule 2 paragraph 16).

On the basis of equivalence between Direct and CCA participants UKAS expects Verification Bodies to adopt similar practices with CCA participants.

In designing the verification process, the Verification Body should establish an acceptable materiality level in the context of the nature and complexity of the participants operations. Verification Bodies should justify how they have arrived at the materiality level to be used for an individual verification audit; and document that justification in the work papers. Verification Bodies should consider materiality when determining the nature, timing and extent of verification procedures. Materiality considerations should be discussed at the planning stage of the verification and communicated clearly to all team members.

7.4 Risk Analysis

In the assessment of 'materiality', the need to consider qualitative factors, errors and omissions as well as the aggregation of the known levels of uncertainty associated with measurements requires the Verification Body to assess the risk of material misstatement. The Verification Body has to make a professional judgement of these risks based on the information available from the participant as well as from the Verification Body's wider knowledge relating to GHG management and reporting. The objective of the risk analysis is to identify potential risks to the reported GHG data that could lead to material misstatement. The output from the process is used to direct and plan the detailed verification process.

In analysing risk(s) the Verification Body shall consider the Key Principles of accounting defined for each relevant scheme and in particular take account of :

- Management's approach and commitment to GHG monitoring and reporting.
- The organisational structure and approach to assigning responsibility to monitoring and reporting GHG data. This includes defining responsibilities, confirming competence of individuals in delivering on the responsibilities and confirming adequate time and resource is available for effective monitoring and reporting.
- Development and implementation of policies and procedures for monitoring and reporting GHG data (including documented methodologies indicating clearly how the data is evaluated and assured).
- Processes for checking and reviewing data calculation methods.
- Monitoring and calibration processes (includes addressing maintenance of measurement and analytical equipment used).
- Other assurance processes relevant to GHG monitoring and reporting, e.g. internal audits, external audits and reviews etc.
- The complexity and nature of operations.
- The complexity and nature of the accounting and reporting process(es).

- Reliability and availability of input data required in calculating reported GHG emissions.

In assessing risk the Verification Body must ensure that the participant does not gain the impression that the relevant scheme requires formal management systems such as those that may be necessary for certification to ISO 14001 or ISO 9001. Where the participant has management systems such as ISO 9001, ISO 14001 or EMAS in place these may make the gathering of material for verification within the ETS simpler. However, the Verification Body should not place reliance upon that system before obtaining objective evidence to support such reliance.

Verification Bodies are advised that they cannot rely on GHG emissions data from EMAS registered operators unless GHG accounting processes in accordance with the relevant scheme are proven to be fully embedded within the operator's EMAS accounting and verification activities; and that the verification has been carried out by a Lead Verifier recognised as competent for the relevant GHG scheme, and to the standards required by the relevant GHG scheme; and that the data relates to the required reporting period for the relevant scheme. The acceptance of data verified under EMAS should be considered in the risk assessment and documented in the report or working papers.

Verification Bodies are reminded that the principle of transparency applies to the EUETS and that UKETS Framework Clause 4.22 requires direct participants to record in a systematic manner both the data and the methods that underpin the declared emissions. The relevant scheme rules require that Verification Bodies will check that participants have measured and reported emission figures against the relevant Key Principles; in particular, DEFRA Guidelines for Measurement and Reporting, Section 3.8, states that Verification Bodies will need to be satisfied that CCA participants have also compiled their data in accordance with the UKETS Key Principles.

Risk should be evaluated throughout the verification process, particularly in response to evidence gathered and verification findings. The Verification Body should ensure that risk analysis is carried out according to a defined process, and that the results are adequately documented throughout the verification.

7.5 Verification in a Computer Information System (CIS) Environment

The overall objective and scope of verification does not change in a computerised information systems ("CIS") environment. However, the use of a computer changes the processing, storage and communication of GHG emissions data and may affect the monitoring, recording and internal control systems employed by the Participant. Accordingly, a CIS environment may affect:

- The process followed by the Verification Body in obtaining a sufficient understanding of the monitoring, reporting and internal control systems.
- The consideration of inherent risk and control risk through which the Verification Body arrives at the risk analysis.
- The Verification Body's design and implementation of tests of control and substantive procedures, appropriate to meet the verification objective.

Therefore, when the CIS is complex, the Verification Body should obtain a detailed understanding of the CIS environment and should determine whether it may influence the analysis of risks and the detailed verification process. Verification Bodies should note that additional specialised competencies may be required for the team (see Section 3).

7.6 Emissions from Process Sources and Non-Process Sources

In most cases it is expected that all participants will be able to provide records of direct measurements of data to support the estimates of emissions based on agreed methodologies/protocols or agreements. However in some cases, particularly in the process sources of CO_2 and with sources of other greenhouse gases, the emission estimates may have been based on other techniques. Such techniques may be based on mass or energy balance calculations, process stoichiometry, and other process engineering techniques.

As with the complex CIS environments, the Verification Body should obtain a detailed understanding of how the emission estimates were made and whether the techniques involved could influence the analysis of uncertainty and risks in the verification process. Verification Bodies should note that additional specialised competencies may be required for the team (see Section 3).

7.7 Verification Process – Methodology

It is for the Verification Body to design the verification programme that is to be applied to each participant, to cover all the required elements (as set out below) in sufficient detail and commensurate with the participants' scope of GHG emissions sources and relevant scheme requirements. The Verification Body shall record the rationale and objective evidence for its decision on the verification programme, including data sampling methods and sites to be visited. The records should document the verification strategy based on the participant's GHG sources, data and the identified risks of material mis-statement of the data.

A Verification Body should perform the verification programme on a participant's GHG emission data at the participant's site(s). For UKETS, in cases where a participant has more than one site the verification should be performed at a sufficient number of sites to enable an opinion on materiality, completeness and reliability of the GHG emission data to be formed by the Verification Body (see Section 6). The Verification Body should take into account any methodologies used by the participant for the control of data quality and/or for data consolidation.

Verification Bodies should define the sampling methods used, to ensure that a representative sample of GHG sources and GHG records have been verified. For the UKETS, this should relate to sites as well as to GHG sources and GHG data sets within each site. Samples should only be partly selective and should include a random element.

Where verification tasks are conducted by more than one person, the Verification Body should be able to demonstrate how the activities of the team members were co-ordinated.

The verification report and opinion must at least meet the requirements of the relevant scheme.

The verification process should include the following stages:

- Strategic review/analysis (incorporating any required compliance assessment)
- Risk analysis (see also section 7.4)
- Detailed testing, sampling and analysis
- Verification Assessment Close-Out

It is accepted that much of the sampling and analysis and reporting of the evaluation of minor sources may be completed within the strategic review. Therefore, in some cases, for some sources, these three stages need not be sequential.

The verification process should take into account the results of risk assessment that identify any areas of concern regarding materiality related to the GHG emission data. The Verification Body shall aim, within a reasonable level of expectation, to identify areas of potential misstatement from aggregate uncertainty, errors and/or omission.

7.8 Strategic Review/Analysis

The strategic review/analysis completes the work started in contract review of producing a complete overview of the whole of the emission verification process, enabling the development of a verification programme that meets the objectives stated above. It is essential that this programme should evaluate the interactions between the four dimensions of:

a) 'Process plant and equipment' that have created the emissions including the measurement and recording of flows of energy and materials, (including the accuracy of instrumentation and analysis facilities influencing the uncertainty of measurements produced), over the range of operating conditions that occurred in the period of concern.

b) Data' dimension starting from the initial measurement and recording of energy and material flows, the recording and totalising of flows, the calculation and manipulation of data, the aggregation and archiving of data and compilation of emission estimates within the protocols agreed.

c) The 'Management' dimension including the structure of the organisation that manages the operational, maintenance, data accounting systems and financial/administrative management systems.

d) The 'Assurance' dimensions including the internal review, audit, data checks, QA/QC and authorisation of data

The following elements should encompassed within the strategic review/analysis:

- An understanding of the participant's products and operations
- An understanding of the participant's GHG targets and allocations (commitments etc.)
- An understanding of the key changes to the participant's structure throughout the year (e.g. acquisitions, disposals, product changes, process changes, system changes)
- An understanding and review of the participant's identification and evaluation of its GHG sources and emission data
- An understanding of how the participant has treated data from specific GHG sources
- An analysis of risk taking into account the nature of the entity and the control environment
- An understanding of the GHG information system sufficient to identify and understand
  a) the events, transactions and practices that may have a significant effect on the information upon which the Verification Body will have an opinion, and
  b) how such information is processed from inception through to its final inclusion in the GHG report.
- An initial evaluation of the installation's compliance with relevant rules, requirements, permitting etc
- Determination of the verification process for the participant based on the information gathered, including the analysis of risk.

The Verification Body should obtain prior to, or during strategic review/analysis, at least, the following information from the participant :

- a description of the participant and its on-site(s) and off-site(s) processes
- a description of the participant's selected scope of its GHG sources
- identification of the on-site and off-site processes that generate GHG emissions and which types of GHG they generate
- where relevant, the legal permits etc associated with emissions accounting and trading
- the means by which the GHG emission data have been determined including GHG emission data records, calculation protocols, measurement and monitoring protocols, methodologies and records
- the information required in the relevant Guidelines for Measurement/Monitoring and Reporting.

The Verification Body may choose to complete the strategic review stage by preparing an 'Interim Report' documenting the findings and explaining the logic for the detailed verification programme and sampling strategy.

7.9 Detailed testing, sampling and analysis

Verification Bodies should develop processes and defined methods for carrying out substantive testing and gathering evidence on which to sufficiently base the verification conclusion. Audit evidence should comprise source documents and monitoring records underlying the emissions data, and corroborating information from other sources.

Verification evidence will be gathered using appropriate sampling and other selective testing procedures.

The strategy for sampling will have to be developed from an understanding of the participant's needs established in the strategic review/analysis. The sampling strategies are thus expected to be situational and can be expected to be different in almost every verification commission.

Where sampling has to be used the Verification Body should draw up a data sampling plan and ensure that this is optimised to deliver an acceptable level of 'uncertainty' and risk in emissions estimation. This sampling plan should be documented in the working papers to the extent that the logic involved is evident.

The following items should be considered when applying audit - sampling procedures:

- risk consideration in obtaining evidence
- selection of items for testing to gather audit evidence
- selection of all items (100% examination), selection of specific items; and audit sampling
- design of the sample: When designing an audit sample, the Lead Verifier should consider the objectives of the test and the attributes of the population from which the sample will be drawn
- sample size: in determining the sample size, the Lead Verifier should consider whether sampling risk is reduced to an acceptably low level
- selection of the sample

The Lead Verifier should select items for the sample with the expectation that all sampling units in the population have a chance of selection.

The Verification Body should develop and apply an analytical process for all elements of the verification. The section on strategic review/analysis (above) in effect requires the use of an analytical process at the planning stage to assist in understanding the business and in identifying areas of potential risk of material misstatement. A similar process should also be applied at or near the end of the audit when forming an overall conclusion as to whether the GHG emissions data and statement as a whole are consistent with the Verification Body's knowledge of the business. When significant fluctuations or relationships are identified (as 'movements' in the data) that are inconsistent with other relevant information, or that deviate from predicted amounts, the Verification Body should investigate and obtain adequate explanations and appropriate corroborative evidence.

The following elements should be encompassed in the final stages of verification assessment:

- Additional testing as identified from application of the analytical processes
- Identification and request for missing data
- Completion of verification, including close out of outstanding verification trails
- Close-out of any outstanding issues, uncertainties or missing information
- An understanding of any movement in data since previous period, where feasible and required
- Production of notes, diagrams, calculations, and spreadsheets etc for the verification working papers.

7.10 Verification Evaluation /Assessment Close out

The following elements should be encompassed in the close out review. As explained above, for some minor component sources this work may be completed in the strategic review/analysis at the initial verification visit. However, for more major sources this stage may require a follow up visit or a desk-based review of the additional data requested and forwarded, following the final site visit.

The close-out review should:

- Obtain final data from participant for its total GHG emission data relevant to the scope of the verification, including data that have been adjusted for reasons of materiality as a result of the verification process.
- Assess the participant's rationale/explanations for difference between the final data and data previously verified.
- Finalise the evaluation of compliance with relevant rules, requirements, permitting etc
- Identify inconsistencies that the participant needs to resolve.
- Finalise the risk analysis and materiality analysis
- Close out any outstanding verification trails, or inconsistencies.
- Ensure that the notes, diagrams, calculations and spread sheets etc for the verification working papers and supporting evidence are complete, are in order and are ready for review by the decision making entity.

Where the final sign off of the data is at a later date than the close out review of the data, a subsequent review should be performed to make sure that the verification conclusions and opinion remain unchanged.

Where agreement cannot be reached regarding the GHG data that can be verified according to materiality guidelines, then the Verification Body should issue only the verification report and not the verification opinion, unless otherwise specified in the relevant scheme rules or guidance.

The Lead Verifier in conjunction with the verification assessment team have to prepare the verification assessment report to the Verification Body, which should include the detail specified in Section 8 below.

8.0 VERIFICATION REPORT, WORKING PAPERS & EVIDENCE (Guide 65 – Section 11)

8.1 General

Guide 65 requires that:

- The verification team shall provide the Verification Body with a report of the findings of their assessment – the verification report (see section 8.2)
- The Verification Body shall provide a full report on the outcome of the evaluation, identifying any non-conformity that have to be discharged in order to allow completion of the verification process. As Guide 65 does not specify the detail to be included in this second report the minimum requirements are thus those of the statement of opinion.

However it is recognised that the Verification Body may undertake to supply participants with a report designed to present other verification findings and to add value in making recommendations addressing generic solutions to the problems encountered within the assessment. The Verification Body shall not provide specific advice that would conflict with requirements in Guide 65 Clause 4.2(o), except as specifically permitted within the rules of the relevant scheme.

8.2 The Verification Report

The verification report from the verification team must contain sufficient information to enable the Verification Body, at independent review, to evaluate the verification process, and supporting documentary evidence to confirm the conclusions of the verification team and the recommendations on the draft verification opinion. The verification report will thus describe the activities undertaken, changes that have occurred during the verification process, decision of data quality and materiality with regard to approval of the declared GHG emission data.

8.3 Supporting Documentation and Evidence (Working Papers)

The records of the assessment supporting the verification report shall show the clear audit trail(s), which will be important for comparative purposes in future periods, so as to ensure consistency in data verification. The verification report package will include:

- An account of the verification including verification risk evaluation and significant decision, sampling trails and decision, verification days used, etc.
- Results of the strategic review/analysis and risk analysis, at all appropriate levels
- results of compliance assessment
- Verification plan, including the basis for sampling participants' sites (where relevant and allowed by the scheme rules) and data
- Methodologies used by participants for gathering data and calculating GHG emissions
- Verification enquiries which have been followed including the rationale for their selection and the methodology used
- Report on any improvement necessary before the verification opinion can be signed (where this is the case)
- The reported data that was verified, whether for baseline or subsequent years, including any relevant supporting information that may be required to verify consistency in future verifications
- Conclusion on data quality and analysis of, and decision on materiality
- Management representation letter signed by the participant and confirming that all relevant information has been disclosed to the verification team
- Recommendation by the verification team to the Verification Body on granting or not the verification
- Confidentiality statement.

9.0 DECISIONS ON VERIFICATION (Guide 65 – Section 12)

Verification opinion

Following completion of the independent review by the Verification Body of the verification team's assessment of the participant's GHG emission data, the Verification Body shall issue a final verification opinion. As a minimum the verification opinion shall contain the following:

- Name and address of the participant
- Scope of verification
- The appropriate scheme and accreditation references
- Total GHG emission data verified (as an aggregate not broken down per source – unless otherwise specified by the applicable scheme rules); or baselines where applicable
- GHG protocol(s)/methodology(ies) used for verification
- Verification opinion with regard to data quality and materiality in the form of an affirmative statement (with or without qualifying comments, as appropriate).
- Applicable year

- Dated and signed on behalf of the Verification Body by authorised signature.

Verification Bodies are reminded to ensure that the wording adopted for their verification opinions presents an accurate picture of the uncertainty involved in their work in terms of numerical value of aggregate uncertainty and conformity with the relevant Key Principles of GHG accounting.

Verification Bodies are also reminded that in providing a verification opinion they are also confirming their opinion that the participant is in conformance with the rules of the relevant scheme and that emissions subsequently submitted for trading are not fraudulent.

ANNEX I DIRECT PARTICIPANTS OF THE UK EMISSIONS TRADING SCHEME

AI.1 Scopes of Accreditation

The scopes of accreditation for direct participants follow the general schema:

- Energy related CO_2 emissions, for either single participants/sites or groups of participants/multi-site entities
- CO_2 and non-CO_2 process emissions, for either single participants/sites or groups of participants/multi-site entities.

AI.2 Contract Review for Direct Participants

In contract review, the Verification Body must obtain sufficient information from the direct participant to complete these requirements including the information already submitted/agreed with DEFRA. The minimum information that needs to be reported by direct participants to the Verification Body for verification is detailed in the Rules Schedules 2 and 3 and the DEFRA Framework Sections 4.18 and 4.19.

It is anticipated that, for contract review, the Verification Body will also require information about:

- the locations where the emissions are produced and where the emission data has been analysed, aggregated and managed
- any interactions with other organisations contributing to the emissions
- the way in which the data has been obtained
- the methods underpinning the data
- the accuracy and transparency of the management system generating the data
- the protocols used by the direct participant
- the relevant correspondence with DEFRA.

It is for the participant to justify and demonstrate

- their selection of their GHG sources and demonstrate that they are compliant with the requirements of the Scheme
- any exclusion from their GHG sources within a sector
- their compliance with the approved protocol [participants can only use approved protocols].

It is for the Verification Body to review and assess the evidence presented in support of the participants' GHG reporting scope, including any exclusion from the GHG emission data and its compliance with Scheme requirements, including approved protocols.

The boundaries (e.g. mergers/acquisitions, de-mergers/divestment, outsourcing) to the scope of the participants' GHG sources should be defined by the participants. Some participants may have several sites/locations. The boundaries should comply with requirements in the Scheme rules and GHG protocols. Interfaces with services or activities or joint ventures, that are not completely within the scope of the verification, should nevertheless be addressed by the participants in determining the scope of its GHG emissions data.

AI.3 Multi-site Sampling

Where a participant' source list of GHG emissions covers more than one or many sites it is likely that the Verification Body would aim to visit only the central offices and a sample of sites. The Verification Body should have a procedure that defines the criteria and process for the selection of sites to be visited.

The Verification Body should retain clear records of the contract review that show how the procedure was applied to determine site sampling in each verification.

In all cases sampling should take into account:

- the nature of GHG sources at each site
- the scale of GHG emissions and CO_2 equivalent
- the potential verification risks in particular whether the methods used for data collection and calculation vary between sites, and the effectiveness of internal data controls
- the results of previous independent audits that have taken place within the previous 12 months and that have specifically covered GHG emissions.

AI.4 Changes to Operation and Source List Errors

Verification Bodies have a role to play where companies have made changes in operation, for example closure (divestments), acquisitions, substitutions, or substantial closure during their participation in the scheme. The provisions in Schedule 3 of the rules dealing with Changes to Operation and Error in Source Lists presents three challenges to Verification Bodies:

a) technical verification difficulties

b) commercial risks – in the additional time and resources required to resolve the issues

c) competence in handling the 'Change' rules.

Verification Bodies are advised to pay special regard to the change process:

i) The triggering of the cumulative 'Change Thresholds' (25,000 TCO_2E or 2.5%) is for the participant to determine and the Verification Body to verify.

ii) Where the Change Thresholds are exceeded and changes to the source lists, baselines and targets are required, the organisation will in general apply to DEFRA with an explanation. DEFRA will make a ruling setting out what changes are to be made.

Iii) Depending on the situation, the Verification Body may be commissioned to verify elements of the case submitted by the participant to DEFRA.

iv) The Verification Body issues the verification opinion based on the ruling DEFRA have made. No opinion is required on the qualitative aspects of the accepted explanation or on how DEFRA have applied the rules.

Verification Bodies should remember that these changes can occur in both large and small facilities. Within small facilities the 2.5% Change Threshold Value can be onerous and can make verification technically difficult.

Verification Bodies should also remember that Change verification may require significant amounts of additional time during very busy verification periods. It is important that the Verification Body builds in the possibility of change verification into their Contract Review process and their risk assessments.

Verification Bodies should also remember that the Change Threshold is cumulative over the five years of the scheme (See DEFRA 'Framework', 2.22).

AI.5 Verification Records

In addition to the general requirements for 'Records' specified in Section 2.9,of the main document, the verification records, the report or working papers, must show:

- how the aggregate materiality was evaluated
- how conformity to the Key Principles of the Measurement and Reporting Guidelines was assessed and reported in the verification opinion
- that the documentation kept by direct participants includes all the records required by the 'Framework' including decisions at each stage of the processes in identifying the source list and calculating the baseline
- how any changes in structure etc, resulting in changes in the baseline have been assessed and verified.

ANNEX 2 CLIMATE CHANGE AGREEMENT PARTICIPANTS

A2.1 Introduction - Scopes of Accreditation

The arrangements for verification of the over achievements of CCA participants are described in the Annex to CCA06, 'The interface between Climate Change Agreements and emissions trading'. CCA target holders and their respective sector associations are responsible for deciding how to approach emissions trading.

Scopes of accreditation for the verification of the over achievements of CCA participants will be based on the management models described by DEFRA:

- Model 1 'Independent emission trading' and Model 3 for 'independent and first refusal trading'
- Model 2 'sector emission trading'
- Coordinated Model 1 for group, or coordinated, verification of independent CCA participants.

UKAS recognises that the need for the capability to handle coordinated verification produces close similarities between Model 2 and Coordinated Model 1. Therefore, where a Verification Body can demonstrate a sufficiently high standard of competence in coordinated verification UKAS might agree that both scopes may be awarded on the basis of a single assessment.

UKAS also recognises that in some cases Model 1 clients, with multiple complex sites, can involve a level of coordination that is similar to that of Model 2 and Coordinated Model 1. It is possible that UKAS might agree in advance that Verification Bodies may use such cases to demonstrate competence in handling the coordinated scopes.

In the above cases Verification Bodies are reminded that in making decisions on the assessment for new scopes UKAS will take into consideration:

- the track-record of the Verification Body especially in verification competence
- the complexity of the verification activities, and
- the preparation undertaken by the Verification Body.

A2.2 Model 1 and Model 3 Independent and First Refusal Operator Verification.

Models 1 & 3 are described in the Annex to CCA06, 'The interface between Climate Change Agreements and Emissions Trading'. In terms of verification Model 3 "First refusal trading", where ET transfers would be made only after the sector CCA has achieved compliance, is equivalent to the requirements for Model 1.

The resource/competence requirements for UKAS accreditation for the Model 1/3 scope accreditation is similar to that for direct participants Annex A – Energy related CO_2 Emissions, as described in the main guidance.

For Verification Bodies with accredited scopes for direct participants the main additional requirements for CCA Model 1/3 scope will be the demonstration of knowledge and understanding of the CCA rules and guidance. The importance of these requirements must not be understated because of the extensive breadth of the guidance. Knowledge of the application of the guidance can best be gained through verification experience.

For accreditation in the Model 1/3 scope Verification Bodies will need to demonstrate:

a) knowledge and understanding of the application of the DEFRA CCA and ETS rules (D4 and Schedule 6 in particular) and guidance publications

b) competence in the analysis and verification of energy usage and GHG emissions, as described in section 3 of the main document, that can be allowed to be included as over-achievement contributions,

c) experience of the operational and organisational culture of the sector

d) the documentation defining their verification processes and procedures

Verification of over-achievement of reductions achieved by Agreement participants will in general require the Verification Body to visit the operator's site(s). With multiple sites the Verification Body will have to demonstrate the sampling strategy devised to test reliance on the participants coordinating function, as described for Model 2 below.

The need for the witnessing of verification activities on site will depend on the accreditations already held and the complexity of the verification work planned. However the importance of the standard of the records and working papers is such that UKAS is likely to require a post verification review in all cases.

A2.3 Model 2 Sector Emission Trading

In this scope the sector association coordinating the collection and validation of the participant's energy consumption or emission information would be responsible for organising the independent verification and would be the Verification Body's client. The contract for verification would be between the sector association, the umbrella target holder, and the Verification Body, who would issue a single verification opinion.

Individual target holders at underlying agreement level would be free to stay outside the Model 2 system if they wished and trade independently under any other Model. Verification Bodies will have to verify that the group's data excludes that of the independent target holders opting out of the group.

In addition to the resource/competence requirements for the Model 1/3 scope, accreditation for Model 2 Sector Emission Trading will need to have the competence and processes for the verification of group over-achievement against group target as identified in an umbrella agreement. Therefore the reliability and transparency of the trade association's/agent's own system will be critical and the demands placed on such a system will be crucial to the risk assessment/sample selection and the confidence overall. The confidence in the Group's verified figure (and therefore the opinion) must remain the same as for other traders.

For accreditation in the Model 2 scope Verification Bodies will have to demonstrate:

a) the resource/competence requirements for the Model 1/3 scope

b) resource/competence in the verification of coordinated groups of participants, especially including:
- contract review, the acquisition of information about the group, size, similarities, competence etc and the group's coordinator
- the risk assessment and sampling strategies for site visits
- strategic review in the planning of the verification within the necessary time scale
- close-out of the verification process.

c) documentation defining their verification processes and procedures.

With the Model 2 scope there is a greater likelihood that witnessed assessment will be required for on-site work. The need for the witnessing of verification activities on site will still depend on the accreditations already held and the complexity of the verification work planned. Post verification review will be necessary in all cases.

A2.4 Coordinated Models 1 and 3 Emission Trading "Coordinated verification of a group of Models 1 & 3 participants"

This approach is essentially the same as the conventional Model 1. A group of individual participants within an umbrella agreement, or group of similar umbrella agreements, can choose to engage a Verification Body to work with them as a group to reduce the cost of verification. Each member of the group would have a contract with the Verification Body who would issue verification opinions to each member of the group.

The principle advantage of using this coordinated verification approach is to gain the benefit of scale in reducing the work the Verification Body is required to perform by:

- The use of multi-site sampling, where similarities exist, to reduce the time and cost of site-visits
- To avoid the need for the Verification Body to have to repeat or duplicate the coordination assessment work already being undertaken by the sector association or their supporting advisers, agents, consultants, contractors etc in the management of the umbrella agreements (the term agent will be used for this function).
- To enable the use of the sector's agents to undertake as much as possible of the data aggregation, handling and analysis work combining it with direct advice and guidance in energy efficiency, which is a function that Verification Bodies cannot perform because of the accreditation requirements for objectivity and impartiality.

A third party acting as an agent to the coordinator, sector association or group may perform much of the specialist coordination role. This could involve the Verification Body working with an agent in the verification of the group. This also introduces the risk that the third party 'consultant' might become involved in the verification process as an agent, undertaking work on behalf of the Verification Body in the manner of a 'sub-contractor' (see Guide 65 Clause 4.4).

The group coordinator, or their agent, can quite properly be expected to prepare the energy usage, or GHG emission, and production data. They can also be expected to resolve all the problems likely to be found in verification, before the data is presented to the Verification Body. It is for the Verification Body to determine:

a) where the data collection handling and activities stop and where verification starts

b) the reliance that can be placed in the coordinator and

c) the level of risk that can be accepted by the Verification Body for errors made by the coordinator.

The principle difficulty arising out of Coordinated Sector 1/3 verification is that of managing the potential conflicts of interest between the verification work undertaken by the group coordinator and that of the Verification Body. This is a matter of risk assessment and Verification Bodies are reminded that these aspects of the risk assessment must be fully documented in the relevant working papers from contract review stage to enable contractual arrangements to reflect the requirements of Guide 65 Clause 4.4, before work actually starts.

It is assumed that Verification Bodies will recognise the benefits resulting in working with the groups and their coordinators to develop working relationships and methods that can fully optimise the benefits of coordinated group verification without compromising impartiality. This is most likely to be achieved where the development work starts early in the milestone programme.

For accreditation in the Coordinated Model 1/3 scope Verification Bodies will have to demonstrate:

a) the resource/competence requirements for the Model 1/3 scope

b) resource/competence in the verification of coordinated groups of participants, especially including:
- in contract review the acquisition of information about the group, size, similarities, competence etc and the group's coordinator
- the risk assessment in contract review for retaining impartiality including the risk management strategies adopted
- the risk assessment and sampling strategies for site visits
- strategic review in the planning of the verification within the necessary time scale
- close-out of the verification process.

c) documentation defining their verification processes and procedures

d) the application of their processes in the evaluation/review of the evidence submitted by each participant to whom verification opinions are provided.

With the Coordinated Model 1/3 scope there is a greater likelihood that witnessed assessment will be required for on-site work. The need for the witnessing of verification activities on site will still depend on the accreditations already held and the complexity of the verification work planned. Post verification review will be necessary in all cases.

A2.5 Verification Activities

The Rules, Schedule 6, 4(1) requires that a CCA participant must have its compliance with the minimum requirements of Rule D4 and paragraphs 2, and 3 of Schedule 6 verified by a Verification Body in accordance with paragraph 4.

The processes of the verification of CCA overachievements are similar to those of direct participants within the ETS and can be considered in four stages:

a) Applications for verification and contract review

b) Strategic review

c) Evaluation (including the report preparation and compilation of the working papers)

d) Technical review/Decision making

Experience has shown that the main differences between verification for direct participants and CCA participants occur in the stages of application/contract review and strategic review. These arise out of the differences in the CCA requirements as defined by the agreements and DEFRA published guidance. The potentially greater complexity of contract review with CCA Model 2 and Coordinated Model 2 and Coordinated Model 1 participants makes greater demand on the 'head office' verification management function. This can also be reflected in the verification decision-making review process

Provided that problems have been successfully identified and resolved at contract and strategic review the remaining processes should be very similar to those for direct participants.

A2.6 Applications for Verification and Contract Review

The attention of Verification Bodies is drawn to the DEFRA publication CCA 3 on the guidance on:

- Part A: Performance data requirements for sector associations
- Part B: performance data requirements for operators
- Part C: Notes for sector association an operators on producing accurate data and preparing for audit.

Verification Bodies are reminded that the information in Part 'C' related to the information to be contained in an 'Evidence Pack' is only a suggestion and is not a requirement of the UKETS. The suggested information for the evidence pack provides an excellent data set for the start of the verification process.

The Verification Body should also hold copies of the CCL umbrella and underlying agreements. The identification, and marking up, of the critical parts of these agreements at contract review, or later at Strategic Review, can ensure that members of the team are alerted to all the requirements.

Verification Bodies are reminded that agreements may have been completed by correspondence from DEFRA to the sector associations and/or operators that define the interpretation of the agreements. Verification Bodies should ensure that the existence of DEFRA supporting letters is identified and copies are held with the agreements. Consistency with the PP4s and PP11s should also be verified. It should be noted that CCA eligible energy using processes may extend beyond the limits of the IPPC and IPC processes. Boundaries must be defined between agreement and direct participation on any part of the same site to avoid the double counting of energy/emissions.

DEFRA guidance CCA 13 differentiates participant's sites into two categories: simple and complex. This categorisation may be used to assist the planning of the verification process. Where this classification is used, Verification Bodies are reminded that where data for a site remains incomplete that site should be classified as 'complex'. While the concept of 'Simple' or 'Complex' Energy Users has been introduced to assist the planning of verification work Verification Bodies are reminded that the classification system is not infallible. It is the experience of several Verification Bodies that 'Complex' Energy Users have provided relatively straightforward verification exercises whilst some of the most difficult and protracted verifications have been found in 'Simple' Energy Users participants. Verification Bodies are cautioned that the classification 'simple' does not mean 'uncomplicated'.

Verification Bodies are advised that UKAS will require the recording of detailed information on contract review and the planning of verification in the working papers. This is likely to be scrutinised in UKAS accreditation assessments and in surveillance. The important additional information to the agreements, absolute and relative targets, DEFRA letters, PP4s, and PP11, in this respect are:

- The IPPC/IPC requirements and boundaries
- The 90/10 rule
- Boundaries with direct participants either on the same site or in the same plants
- Errors in supplier invoices
- Verification of production and product mix
- Fuel/Energy features
  - coal and coal storage

- fuel oils and storage
- waste materials, tyres, solvents etc
- reactants
- CHP
- small boilers
- renewable energy
- import and export of energy
- steam
- electrolysis
- gases used for cooling

A2.7 Application and Contract Review - Group or Coordinated Verification

In addition to the resource/competence requirements for the Model 1/3 scope, accreditation for Model 2 Sector Emission Trading will need to have the competence and processes for the verification of Group over-achievement against the group targets as identified in the umbrella agreement.

The reliability and transparency of the trade association's/agent's own system will be critical and the demands placed on such a system will be crucial to the risk assessment/sample selection and the confidence overall.

Verification Bodies will have to assess the strength and competence of the group coordinator and the degree of cooperation that will be provided by the participants within the group. The degree of reliance that a Verification Body decides to place on the association's systems must be fully explored by the Verification Body and confirmation of the robustness of the systems to meet the demands of the Verification Body must be transparently confirmed, with records to fully support this.

It is accepted that the Verification Body may not be directly involved with every stage of the verification chain, and reliance will have to be placed to some degree on the association's systems, personnel and processes for some of the work. Therefore the Verification Body must ensure the integrity of the work and of the arrangements to such an extent that there is the same confidence as if the Verification Body was carrying out the work.

The Guide 65 Clause 4.4 on use of sub-contractors, and relevant IAF guidance, is directly applicable here and it is the Verification Body's responsibility to ensure that there are no conflicts of interest, which might influence the impartiality or objectivity of verification. Where the sub contractor becomes involved in direct verification evaluation activities the requirements of Guide 65 (and other applicable guidance) will apply. Any work carried out on behalf of the Verification Body must be the subject of formal agreement between the sub contractor and the Verification Body.

Furthermore Verification Bodies are reminded that the CCA rules do not require individual CCA participants to conform to the ETS Measurement and Reporting 'Key Principles'. Therefore, the greatest likelihood of finding such participants is within the Model 2 scope where some members of the group might have less enthusiasm than other fellow members.

As part of the initial risk assessment Verification Bodies will need to consider the size of the membership and the role that the sector association is able to provide, this will influence the number of site visits they will need to carry out, and/ or the additional information they will need to request either directly or via the association.

A2.8 Strategic Review

Strategic review with Model 1 participants follows the same processes as that for ETS direct participants, taking account of the factors mentioned in contract review, above. The differences in strategic review become significant in coordinated group CCA verification where both verification and business risks can increase substantially.

In CCA verification one of the most important objectives of strategic review is to complete the Verification Body's understanding of the data systems of the group of participants and the coordinator. This should result in the development of the risk assessment for both business and verification risks.

In Model 2 the Verification Body's risk assessments have to be based around the activities of the sector association as coordinator. The strategy for the on-site assessment at the group member's sites has to be based around the establishment of the degree of reliance that can be placed on the work of the coordinator. There are many factors that can be involved in this, arising from the membership of the group as well as the experience of the coordinator and the extent of checking within the coordination activity.

Verification Bodies should be prepared to recognise other forms of auditing, where carried out by independent professionals and where specifically designed to attest to data that are required for reporting on energy use/emissions and production data, in relation to climate change agreements. Such recognition should apply both at sector association and individual operator levels.

Where the coordinators have not been involved in a high degree of checking, or auditing, the submissions of the group members or where evidence packs have not been completed, Verification Bodies may have to increase the level of on-site sampling. In this case the sampling strategy may be based on the relative size of the members contributions, similarities in activities etc and the completeness of data.

Where if is found in contract review that a high degree of reliance can be placed on the activities of the coordinator the level of on-site sampling can be reduced. In this case Verification Bodies will have to justify their sampling strategy in their strategic review by demonstrating that their reliance on the coordinator is well founded. In this case it is likely that the site sampling strategy could be predicated on audit of the coordinator rather than the group member.

Verification Bodies are also cautioned about the possibility of the occurrence of common mode errors within the coordinating organisation. If a coordinator has made a similar error in the checking of more than one participant's data there is an increased probability that the same type of error could be occurring in the data from the other participants. Unfortunately, such common mode failures are not usually discovered until the evaluation stage of the verification, usually where the programme has lost its flexibility. The likelihood of encountering common mode error must be considered in the risk assessment for deciding upon the sampling strategies for:

- checking the coordinators systems, and
- the validation of the participants data.

The possibility of common mode errors in the coordination activity is particularly important because of possible delays and additional resources that could be needed, and the associated impact on business risk. Verification Bodies are advised to develop a strategy for the management of such risk as a contingency measure.

Strategic Review for Coordinated Model 1 group participants is more complex than that for Model 2 because the risk assessment becomes more complicated. In theory, a 'low-risk' approach can always be adopted with a high level of on-site sampling. In practice groups of participants and their coordinating organisations will be seeking to maximise the financial benefits as discussed above. The optimum compromise can be justified through documentation of the results of the business and verification risk assessments.

In Strategic review, Verification Bodies will have to review the decisions made in contract review and develop the risk assessments to ensure that the relevant verification aspects have been identified and are planned to be addressed within the verification programme.

The risk of the involvement of the coordinator becoming involved in the verification process, undertaking work on behalf of the Verification Body in the manner of a 'Sub-contractor' will have to be addressed and documented. As suggested above this risk is best managed in the earliest stages of involvement. Verification Bodies are encouraged to work with sector associations and coordinators to develop an approach that meets the requirements of Guide 65 as well as providing the benefits of scale.

A2.9 Evaluation & Report Preparation

The process of evaluation should be consistent with the guidance in Section 7 of the main document.

In verification for Model 2, on-site activities have to be planned to meet the objectives of the group verification. However, experience has shown that it is prudent for Verification Bodies to undertake 'mini' strategic reviews for the group member for that visit. This will enable the Verification Bodies to identify and concentrate on the key issues for that site as well as on any 'critical' issues for the group as a whole.

Reporting should be consistent with Section 8 of the main document. Verification Bodies are reminded that as CCA verification may be a biennial activity the existence of good records, with easily retrievable information, is likely to be essential in the planning for future verifications.

Upon completion of the Verification Body's internal independent review a verification opinion document should be provided to the sector association or company with whom the contract is held. In addition to the information required under Section 8 of the main document, the opinion should state the number of allowances that should be allocated by the ETA.

In the case of group verification, related to Models 1 and 3, Verification Bodies should issue a separate document for each company within the group. Where a company is in a Model 1 arrangement the Verification Body should, where possible, verify that the claimed over achievement has been notified to the relevant sector association (i.e. it has been "ringfenced") in accordance with the rules of the UKETS.

A2.10 Technical Review/Decision Making

The technical decision making should be consistent with Section 9 of the main document.

Verification Bodies are reminded that with coordinated group verification the technical review process, independent of the assessment team, can be undertaken at the contract review stage to ensure that the resource planning is sound. In the more complicated group verifications the business risk may justify review of the main strategic review stage as well.

A2.11 Verification Opinion

Verification Bodies are requested to ensure that the verification opinion states the Target Unit ID, and where the target unit comprises more than one facility, the unique facility numbers. It would be helpful if Verification Bodies could remind participants of their responsibility to provide DEFRA with the statement of overachievement required in the Rules Schedule 6 paragraph 3.

ANNEX 3 EU ETS PERMITTED INSTALLATIONS

UKAS Guidance on the Verification of EU Emissions Trading Scheme (ETS) Phase 1 Annual Returns and Verification for New Entrants and Related Submissions.

Application of ISO/IEC Guide 65 (EN45011), EA-6/01 and European Co-operation for Accreditation (EA) Guidance for Recognition of Verification Bodies under EU ETS Directive (EA-6/03)

CONTENTS

1 Introduction

This Annex updates earlier versions of Annex 3 to take account of learning and issues arising from the first year of annual verification for Phase 1 of the EU ETS which commenced on 01 January 2005. It has been prepared to consolidate the advice provided to operators and Verification Bodies regarding the verification of data for trading purposes.

This Issue of Annex 3 supersedes all previous versions of Annex 3 and remains compatible with CIS 5 ANNEX 3A: Special Guidance for the EU ETS Baseline Period, which remains unchanged.

[Note: a Verifier is defined as the 'Verification Body' undertaking the data verification. A 'EUETS (Lead) Verifier' in the UK is an individual leading a verification team in undertaking an EUETS data verification assignment.

This Guidance relates to the monitoring and reporting of emissions by operators and the verification of carbon dioxide emissions data by Verification Bodies generally for the purpose of supporting Emissions Trading. This guidance should be read in conjunction with:

- the EU ETS Directive (2003/87/EC) (the Directive), (with particular reference to the Annexes of this Directive);
- the European Commission's Decision for the Monitoring and Reporting of Greenhouse Gas Emissions (CEC 29/01/2004) (the M&R Decision) ***[Note – version 2 of the M&R Decision is NOT applicable until Phase 2 commences];***
- Defra's EU Emissions Trading Scheme Guidance on Annual Verification – Version 2 (UK Department for Environment, Food and Rural Affairs, 18 April 2006);
- the Greenhouse Gas Emissions Trading Scheme Regulations (2005); and
- the European Co-operation for Accreditation Guidance for Recognition of Verification Bodies under EU ETS Directive (the EA Guidance) (EA-6/03, March 2005).

This UKAS Guidance should not be seen as a substitute for any of the above documents.

It should also be read in conjunction with the Institute of Environmental Management and Assessment's (IEMA) practitioner guide on data management which aims to provide guidance to operators on data management and related issues that might affect the reliability and verifiability of data used for emissions trading, (IEMA 2005).

Candidate Verification Bodies seeking UKAS accreditation for EU ETS annual verification will need to apply to UKAS specifically for the scope to cover EU ETS Annual verification in relation to the relevant Decision Annexes and Emissions.

Accreditation of Verification Bodies for the verification of New Entrants etc., under DTI Guidance (June 2005), will be operated on a case-by-case basis(see Section 3 below).

WARNING

UKAS specifically reminds all people involved in the monitoring, reporting and verification of GHG emissions that the ultimate purpose of this work is, in general, to enable the trading of emissions rights in a commercial carbon market. The ultimate purpose of verification is therefore to ***PREVENT FRAUD***. It should be with this purpose in mind therefore that verification and accreditation systems are designed and delivered. Failure to do so carries legal and financial liabilities for all organisations involved.

2 Accreditation for Annual Verification

2.1 Scopes of Accreditation

The UKAS risk-based assessment methodology will continue to be applied for the accreditation of Verification Bodies with the use of Risk Letters to Senior Management where required.

The scopes of accreditation will follow the Commission's M&R Decision (based on activities listed in Annex 1 of the Directive), and relating to the complexity of an installation's emissions which may involve:

- activities with only combustion emissions;
- activities with combined combustion and process emissions;
- activities with only process emissions; and
- activities involving the use of mass balance verification techniques or those using direct measurement.

The size of the emissions from an installation is also considered to be important in terms of financial risk involved, although the complexity of the GHG accounting process may be a significant risk factor too.

For Annual Verification there will be seven scopes, the activities described in EA-6/03 Annex F and outlined below. These may variously cover only combustion or combustion with process emissions.

Scope	Description
1a	Combustion emissions (liquid, gas and biomass fuels)
1b	Combustion emissions (solid fuels)
2	Mineral oil refineries
3	Coke ovens Metal ore roasting and sintering Production of pig iron and steel (including continuous casting)
4	Production of cement clinker Production of lime Manufacture of glass Manufacture of ceramic products
5	Pulp and paper producing installations
6	Combustion emissions (fossil fuels only, <20,000 t CO^2/year)

2.2 Applications for Accreditation (Annual Verification)

2.2.1 UKAS Assessments and Monitoring

For UK Verification Bodies holding accreditation for EU ETS Baseline, accreditation for EU ETS Annual Verification is based on an assessment of the management systems at head offices followed by demonstration of completion of the management system documentation and competence of Verifiers 'in the field'. UKAS will undertake a minimum of 3 stages of monitoring of the Verification Body's activities during its first year operating under the scheme to demonstrate verification competence; and periodic risk based monitoring thereafter.

Stage 1: Competence Analysis and Documentation

This monitoring involves assessment of:

- conformity with the development of the competence arrangements for GHG audit teams;
- conformity of management system documentation with the latest international and national guidance; and
- follow-up of outstanding matters from any previous head office accreditation visit.

This monitoring will take place initially at head offices during the early summer period.

Stage 2: M&R Compliance Auditing

This monitoring will involve the demonstration of adequacy of the systems and competency in the auditing of M&R compliance and other verification elements associated with strategic review and risk assessment. This will include witnessing of on-site verification and audit work, in particular that undertaken by Lead EUETS Verifiers. The objective is to demonstrate competence in Permit and M&R Plan auditing, application of the Monitoring and Reporting Principles and the duty of care to the Regulator[3].

Verification Bodies are reminded that compliance checks should also include operator's Improvement Plans as submitted to Regulators, variations to permits and M&R plan applications, and also record retention requirements.

This monitoring will take place in the summer/autumn period.

[3] *Note: in this UKAS Guidance, the term 'Regulator' is used for the respective Regulator and/or Competent Authority.*

Stage 3: Technical Review and Verification Completion

The final part of the monitoring process is required to ensure satisfactory performance in the final verification activity of the Technical Review, especially the element of peer review and concurring with the opinion reached by the verification team.

These monitoring assessments will include examination of the completed verification packs and audit trails, including business risk assessments; strategic reviews and initial risk analysis; verification plans; working papers; issues logs; draft opinions and verification reports; review reports; and other relevant documents.

These final monitoring assessments are likely to be undertaken at the Verification Body's head office during the first quarter of the year, following completion of the relevant reporting year.

Dependent upon findings of monitoring, further witnessed assessments for UKAS registration of EUETS Lead Verifiers may also be required (see section 2.3 below).

UKAS reserves the right to undertake additional monitoring and post-verification assessment if this is deemed necessary.

For organisations not already holding UKAS GHG accreditation there will be other elements of conformity with Guide 65 and EA-6/01 that will have to be assessed and completed (particularly the 'governance requirements'), before UKAS accreditation. These organisations will also have to demonstrate competence in auditing of both 'measurement and reporting' and 'data verification processes' before accreditation can be granted.

2.2.2 UKAS Documentation Requirements

All applicants for the Annual Verification Scope must submit a completed UKAS application form accompanied with, or followed by, documentation presenting a Verification Body's management system for their GHG verification process. This may take the form of written text, annotated flow sheets, tables and spreadsheets, etc. The structure of the management system should reflect the requirements of EA Guidance EA-6/03 and is expected to cover the following points:

1. A flow sheet that maps out the verification process. It is expected that elements in the process will include at least:
    a. Enquiries and Business Risk Assessment (or Contract Review), including selection of the whole verification team, time allocation and resource availability planning etc;
    b. Strategic Analysis and Risk Analysis;
    c. Process Analysis (detailed verification and substantive testing);
    d. Report and draft opinion preparation;
    e. Technical Review;
    f. Verification opinion and report completion and issue, and Registry data entry; and
    g. Archiving and records security.

2. Documentation should show how business risk assessment is used throughout the verification process, and how it is reported. It is expected that this will include the identification of the 'Critical Control Points' in the various verification stages and the critical periods created by verification deadlines.
3. The methods used for the management of each Critical Control Point identified in (2) above should be specified.
4. Documentation of the competence requirements of all relevant staff against each scope in the Commission Decision Annex, identifying annex-specific requirements. It is expected that this will involve knowledge and experience of the practice and culture of the specific activities, both technology and business, in which Verification Bodies will be working. It is also expected that reference will be made to specific expertise in measurement, data management and emissions accounting for those activities.
5. Identification of key personnel, including those at head office, Technical Reviewers, EUETS Lead Verifiers, EUETS Verifiers and specialists/experts, showing how they meet the appropriate competence requirements. CVs should be provided for all technical staff, with details of their previous UKAS witnessing (see section 2.3 below).
6. Details of methods and secure practices for the handling and storage of documentation and records and means of ensuring the 10 year retention requirement is met.

2.2.3 UKAS Annual Surveillance Monitoring.

UKAS will undertake ongoing monitoring of accredited verification bodies annually to an extent appropriate to the level of activity of the verification body and their approach to verification with their clients. Where staged verification is taking place with clients over the reporting year UKAS will similarly carry out the surveillance in stages as appropriate. The purpose of surveillance will be to examine the following

- revisions to procedures and methodology to reflect the annual reporting requirements,
- familiarisation training and update for verifiers before commencing annual activity.
- resource availability for committed work, including technical review requirements.
- compliance audit results
- interim technical reviews
- witness assessments (where considered necessary)
- final technical review and issue of opinion statement.

In order for UKAS to implement a risk based approach to determining surveillance requirements, all verification bodies are required to provide information to UKAS when requested regarding their client base and EUETS Lead Verifiers, Verifiers and independent Technical Reviewers allocated. In addition, the information provided should include details of GHG verification contracts for installations in other Member States and the corresponding details regarding the UKAS accredited management controls applied by the organisation. The UKAS accredited Verification Body will be expected to demonstrate how overseas offices which may not be part of their direct management control, are advising them of work being carried out under their UKAS accreditation. This information will not be required if the local office has used local accreditation.

Any verification work undertaken by a local office in a Member State will be viewed as a UKAS critical location and monitored accordingly, unless subsequent investigation confirms that the Competent Authority within the Member State is monitoring the local office to their own satisfaction. (see also Section 4.4).

The above surveillance activity is in addition to monitoring/approval of all EUETS Lead Verifiers.

2.2.4 Activity Reporting to UKAS

Verification Bodies are required to submit an activity report to UKAS at the end of each annual emissions verification cycle, to allow UKAS to manage the EUETS accreditation through the assessment of accreditation risk. As a minimum, this should include details for each site (name and GHG permit number); names of EUETS Lead Verifier, Technical Reviewer and team members; accreditation scope/sector; group size (A/B/C); tonnes of CO2 verified; number of days actually taken for the entire verification process; confirmation that the installation was visited; and country (to cover overseas sites).

2.3 Competence and Impartiality Requirements

2.3.1 Competence

EN 45011 Clause 5 requires that the Verification Body's personnel be competent for the functions they perform. EU ETS verification is a team process so the collective competency of the team is the main focus of accreditation assessment, rather than solely the individual competence of the EUETS Lead Verifier and Technical Reviewer. The team also includes any managers who control the verification resources, as it is well known that the competence of any work performed by individual verifiers is influenced by the resources made available to them.

Competence resources required for EU ETS Annual verification include the capability to:

- resolve problems arising from the client's activities and data management (including lack of understanding, readiness for assessment, organisational complexity and the resulting errors etc);
- work in cooperation with the client in the processes of verification;
- effective communication;
- diagnostic abilities particularly in relation to data and IT systems;
- tenacity, patience and persistence;
- the ability to foster improvement;
- ensure the availability of the resources required to deliver the verification work programme within the annual deadline, avoiding the risk of errors resulting from work overload at critical periods; and
- ensure that resources assigned to verification projects are appropriate for the scope of work to be undertaken, including the nature and scale of the activities at the installation .

Experience has shown that there are seven aspects that contribute to potential verification error:

1. poor verification planning in either team selection, resource allocation, or failure to make use of information acquired during prior year audits;
2. inadequate training, for example in the rules & guidance, systems or spreadsheet usage, or in the quality and competence of the trainers used;
3. inadequate experience (e.g. process knowledge, measurement or analytical knowledge of IT);
4. over familiarity and assumptions based on prior year experience;
5. inability to work with the client;
6. inability to maintain adequate records; and
7. failures of Technical Review.

All these aspects are related to team competence and resource management in the context of the Verification Body's own management system.

UKAS has established an equivalent scheme to that used in EMAS verification. For individual team members UKAS will recognise two levels of individual competence within the systems of a Verification Body:

- EUETS Lead Verifiers and
- EUETS Verifiers

EUETS Lead Verifiers are responsible for planning and conducting verifications, as the key person in the audit they will have to be witnessed in action by UKAS as they conduct audit work with operators and demonstrate satisfactory competence. The names of EUETS Lead Verifiers will be held on a list by UKAS; UKAS will confirm the list as current at each monitoring visit..

It is acknowledged that international guidance allows a transitional period for EU ETS verifiers to achieve adequate competence. However, the UK already has extensive experience in this field and the UKAS approach will be operational with effect from 2005.

Verification Bodies are required to submit to UKAS the names of their EUETS Lead Verifiers, showing how they meet the international and UK competence requirements, together with a relevant justification and a *CV*. The Verification Body should also state where and when the individual has already been witnessed by UKAS in GHG work; EMAS verification; and/or ISO 14001 certification assessment.

Where a Verification Body finds that there may be difficulties in arranging the witnessing of EUETS Lead Verifiers (e.g. in off-shore work), alternative arrangements may be possible, including post-verification review. In such cases it is important that the names and *CVs* are submitted to UKAS as early as possible.

As this field is rapidly evolving, UKAS expects Verification Bodies to be able to demonstrate how they ensure that Verifiers obtain updated information, refresher training and CPD in a regular and timely manner for continuing competency and ongoing use. For many Verification Bodies the updating of information and refresher training will be paramount before Verifiers are deployed on the annual verification work which, due to the client base and timing, will not be a large part of their routine activity.

2.3.2 Impartiality

The ongoing and cyclical nature of verification work gives rise over time to risks to the impartiality of the verification. Given the use to which the final product of verification is put – essentially confirming that the tonnes of CO_2 declared (and possibly traded) are not fraudulent – it is essential that the verification process is impartial, and is seen to be impartial Threats to impartiality include :

- ***Self-interest threats*** – that may arise from a person or body acting in their own interests. Of particular concern is financial self interest;
- ***Self-review threats*** – that may arise from a person or body reviewing work undertaken by themselves;
- ***Intimidation threats*** – that may arise from a person or body having the perception of being coerced (openly or secretively) such as in relation to being replaced or reported to a superior; and
- ***Familiarity threats*** – that may arise from a person or body being too familiar with, or trusting of, another person or system such that it impairs their ability to seek objective evidence.

Verification bodies are required to demonstrate, and document, how they manage risks to the actual or perceived impartiality of GHG verifications, in particular for familiarity threats; this may include for example, how they might manage rotation of their individual verifiers between clients/installations over the course of an ETS Phase.

2.4 Management System Documentation

As discussed above, the potential causes of verification error involve the interactions of different issues including:

- failure to anticipate the problems of the operators, particularly lack of preparedness for verification;
- verification planning. Failure in awareness of the extent of the verification errors that can result from simple errors during critical periods of heavy work loadings, due to a lack of resources for assessment and technical review;
- competence, especially in knowledge of the rules of the scheme and Guidance requirements; and
- failure to conform to verification system requirements, especially in periods of work overload.

Verification Bodies are expected to develop their own systems to prevent errors arising from these types of problems. Where prevention is not always possible it is expected that effective controls will be included at the critical control points, especially with respect to the Technical Review process.

It is important that documented systems of the Verification Bodies reflect the verification risks. Some of the more important elements include:

- the key four duties of care to:
  - the client;
  - the Regulator (particularly regarding rules, permit and M&R Plan compliance);
  - the Carbon Market, successful trading is dependent upon the avoidance of fraud or mis-statement; and
  - the public image of the scheme, including the success that is expected of it.
    (Note: other duties of care may include the UK Government, an insurer etc.)
- the handling of possible errors in the Regulator's permits and M&R Plans (see Section 2.5.5.i);
- delayed changes to rules, permits, M&R Plans etc. (see Section 2.5.5.vi);
- failure to implement agreed or required improvement actions
- the discovery of latent errors by the client following verification;
- up-dating verification staff and internal communication;
- change of verification bodies (see Section 2.5.4);
- the Registry entry (see Section 2.5.10);

- the early handling of the M&R principles of transparency and completeness (see Section 2.5.6);
- sampling of "pooled installations" if permitted by the Regulator in later years (under the Regulator's use of the M&R principle of cost effectiveness, see Section 2.5.5.v); and
- Technical Review (see Section 2.5.8)

It is recognised that there is still much to be learned in these verification activities. There is an ongoing need to maintain and update management system documentation during the further developments over the next year and into Phase 2. In designing their documentation systems Verification Bodies are advised to adopt a format that is relatively easy to modify. The use of flow diagrams, check lists and graphical representation is recommended and will remain acceptable to UKAS in this accreditation. Verification Bodies are also reminded that there is a need to ensure internal consistency is maintained within their system documentation and control of document versions used by verification teams.

2.5 Specific Guidance on EU ETS Annual Verification Issues

2.5.1 Verification Business Growth

In planning the development and growth of their verification business in Europe, Verification Bodies should be aware of the potential work loading that should be anticipated in the period leading up to reporting year deadlines.

Commercial pressures during the EU ETS Baseline and first annual cycle led some Verification Bodies to adopt the practice of basing their quotations for verification work on the assumption that the client's data systems were sound and operators were in compliance with permit requirements. In other words, that the client would be fully responsible for any additional costs and delays in verification resulting from:

- lack of readiness for assessment;
- incomplete evidence;
- lack of transparency or internal consistency in their systems;
- non-conformity with the rules or permit requirements etc; and
- inadequate accuracy.

While this practice might be contractually acceptable, in practice it has led to some inadequate audits as operators have declined additional days or in other ways limited the audit; Verification Bodies need to take account of the associated risks and also of the problems that resulting delays might produce on other clients' work. (see also audit planning 2.5.4 Change of Verification Body)

Adequate warning should be supplied in the contractual documents if the Verification Body intends to apply the 'go to the back of the queue' principle where compliance or data is not satisfactory.

The practice of splitting the audit requirements, separating permit and M&R Plan compliance auditing from data verification, should prevent adverse consequences. However, especial care should be taken with regard to Technical Review resources at the end of the cycle.

2.5.2 Verification Planning

In this case verification planning refers to the management of the Verification Body's verification business. It involves resource management as well as the management of individual client's verifications (audit planning and the prevention of error due to foreseeable circumstances such as work overload conditions. (See Defra Guidance.)

Verification planning becomes progressively important as the size of the Verification Body's client base increases.

(i) Resource Management

It can be imagined that, left to their own resources, most clients would delay verification until the last possible moment at the end of the first quarter of the following year. This would create a totally unacceptable load for any Verification Body, limiting the volume of work that they could undertake.

It is clearly in the financial interest of the Verification Body to distribute as much of the work as possible over the whole year. Theoretical maximum capacity could only be achieved by undertaking all the on-site Permit/M&R compliance work and the verification of as much as possible of the data before the start of the next reporting year. It has also to be remembered that the EUETS Lead Auditors may have other verification work to do at the end of the reporting year (EMAS, UK ETS, CCA verifications, for example).

It is clear that most Verification Bodies intend to split the verification work into two or three sections:

- Permit/M&R compliance auditing and strategic review;
- third/fourth quarter initial data verification; and
- final data verification, opinion/report preparation and Technical Review completion.

Split verification work is the most acceptable approach for Verification Bodies to adopt if they are able to agree this with their clients, as it should assist planning and reduce workload pressures. The verification risks centre on any features that might delay the verification work programme to the end of the year. The most likely causes of delay may include:

- delays caused by clients; and
- changes in rules, permits and M&R Plans.

It should also be noted that bringing the work of the permit and M&R Plan compliance auditing forward in time has two additional effects in that:

- it increases the scale of the impact of any subsequent changes made by the Regulator to the rules, permits and M&R Plans (and thus may require re-work); alternatively
- it provides an opportunity to correct problems created by permit and M&R Plan errors, rules non-compliance and other errors.

It is accepted that verification business planning is not a subject that can be controlled by procedures. However, a lack of success in managing this would become clearly evident by the UKAS monitoring assessment of verification completion in the first quarter of the year following the reporting year under verification.

(ii) Audit Planning

Planning of individual audits can be subject to a more procedural process. Work and workflow planning are essential from the earliest stages of an audit and should be based on adequate information.

Where a Verification Body has an ongoing contract with a client, each cycle of verification cannot be seen as a separate audit, independent of prior years. As part of initial planning of work and Strategic Analysis, UKAS expects that EUETS Lead Verifiers would make use of prior year learning; in particular through review of prior year workpapers, review of improvements recommended in the prior year opinion and subsequent improvement plans submitted by the operator, and the carry forwards of issues from the prior year's Issues Log, where these have either not been shown to have been (properly) closed out by the installation, or where they are relevant the current (and future) years.

In addition, for all verifications, audit planning should take account of the following :

- changes to the permit, M&R Plans etc
- changes in Tier requirements and/or Tiers that are applicable
- changes in relevant IT infrastructure, hardware and software
- changes in relevant spreadsheets and/or databases
- changes in (or new) assumptions that are made in relation to elements of the calculation/ measurement methodology or its application
- changes in emissions from the prior year, in particular where there is a significant unexplained movement.

In planning the audit the EUETS Verifiers should be cautious of their familiarity with the client and any audit work, sample checks, etc, that they undertook in previous years, that might unduly influence the requirements for impartiality and objectivity of the current annual verification requirements they are to undertake.

Verification Bodies are reminded to take account of the transitional requirements for UK ETS and CCLA participants re-joining the EU ETS.

(iii) Level of Assurance

Verification bodies are reminded that verification for the purposes of the EU ETS requires to be conducted to enable a high degree of certainty in the final reported emissions figures and the issue of a statement of opinion in a positive format (eg the data are correct). Such verification is conducted with a "reasonable level of assurance" and requires that sufficient work has been undertaken to support certainty and a positive opinion. UKAS expects Verification Bodies to be able to demonstrate how their processes achieve such "Reasonable Assurance" as opposed to "Limited Assurance" which is not acceptable for EU ETS. Where limitations appear to have been imposed upon work, Verification Bodies are required to be able to clearly justify this and demonstrate how it has not affected their ability to deliver a "positive opinion".

2.5.3 Use of EUETS Verifiers

Prior experience suggests that Verification Bodies will use any available group work to give EUETS Verifiers the experience of doing verification work on their own but under the remote supervision of an EUETS Lead Verifier. While this practice is in principle acceptable, it is liable to abuse. UKAS is prepared to allow EUETS Verifiers to be used working on their own at the client's offices or sites, provided that the work is directly overseen and approved by the EUETS Lead Verifier and does not involve critical compliance aspects or strategic analysis or data sampling decisions. UKAS defines "directly overseen" as meaning that the EUETS Verifier is at the same location as the Lead EUETS Verifier undertaking separate tasks as defined and agreed with the Lead Verifier. Where remote supervision of EUETS Verifiers is undertaken, evidence of detailed planning, review and approval of their work by the EUETS Lead Verifier will need to be demonstrated.

Where appropriate an experienced, EUETS Verifier may undertake the role of an EUETS Lead Verifier in order to consolidate the necessary practical experience. However, in these circumstances they must be directly supervised and mentored by an approved EUETS Lead Verifier qualified to approve them for upgrade, and subsequently submitted to UKAS for witnessing.

Over the course of a series of verifications it may be possible to rotate a Verifier through the stages of learning such that they commence working as a Verifier in the first cycle; act as Lead Verifier under supervision in the next cycle and are witnessed and approved by UKAS to work independently as a Lead Verifier in a subsequent cycle.

Verification Bodies are expected to maintain appropriate records to demonstrate that such an approach to Verifier training is appropriately controlled such that no verification risks arise as a result.

2.5.4 Change of Verification Body

The risks inherent in taking over the verification role from another Verification Body usually centre on Permit/M&R compliance, Risk Analysis and agreement (or lack of agreement), particularly regarding the reporting and implementation of modifications and proposed

improvements. Verification Bodies proposing to take over the verification work from another accredited Verification Body should ensure that the full circumstances of compliance, verification risks and the reporting of modifications have been established in contractual documents.

New Verification Bodies are advised not to make assumptions about the current compliance status of a newly acquired client, nor the current quality of its internal control and GHG accounting processes, unless provided with sufficient information and evidence that enables them to justify the:

- decision on audit planning
- team selection
- decisions on strategic analysis
- decision on compliance assessment
- decision on risk analysis
- decision on verification planning and data sampling.

The above should be considered as part of a business risk assessment process.

2.5.5 M & R Compliance Auditing

[Note – version 2 of the M&R Decision is NOT applicable until Phase 2 commences]

Compliance auditing is to be undertaken and reported on a positive basis. Verification Bodies are reminded in particular that they are expected to document in their workpapers plans, justifications and outcomes in relation to the following :

(i) Changes/ errors/ non-compliances in relation to Permits and M&R Plans

Permit/M&R Plan compliance auditing, along with the duty of care to the Regulator, will involve the Verification Bodies with the significant risks of identification of errors in the permit and the M&R Plans themselves, and of non-compliances on the installation.

Errors could have arisen from errors/mis-statements in the submissions (including requests for variation) made by the operator to the Regulator or they could have resulted from misunderstandings. Non-compliances may result from changed circumstances on the installation or failure to implement requirements/improvements. The Verification Body may have to play a role in resolving these errors/ non-compliances by reporting them to their client. (The installation however, is responsible for reporting them to and resolving them with the Regulator).

It should be noted that there are differences in the way in which M&R Plan applications (ETS2) are dealt with between the different UK regulators; in some cases the whole application is appended to the permit and becomes a statutory document, in other cases selective extracts are incorporated into the permit. In the latter case, where an installation's management systems include no clear documentary evidence of an overall M&R Plan, the M&R Plan application form is considered to form part of the evidence of compliance with EU Decision CEC 29/01/2004, in particular section 7 requirements, and the Verification Body is expected to include the document as part of positive compliance inspections.

Similarly, there are differences in terms of what is deemed an eligible technical unit/ source, the interpretation of de-minimus, regulatory dispensations, responses to FAQs and other issues. Verification Bodies need to ensure that Verifiers are aware of these differences and make appropriate checks during their work.

Positive compliance assessment is required during EVERY verification cycle; even where an operator states that there have been no changes the Verification Body is required to document how they have satisfied themselves that this is the case.

Verification Bodies are expected to have procedures for positive compliance inspection/ evaluation and for requesting improvements or corrective actions.

It is expected that most permit and M&R Plan problems may be resolved in the first cycle of reporting and verification. Should problems persist into further cycles the Verification Body may be forced to take a more robust view about an installation's conformity with the M&R principles.

It should be noted that Regulator's have allowed a degree of leniency in the first cycle of reporting/verification of Phase 1 but have made it clear that such leniency will not be a feature of future cycles.

(ii) Site Visits and Compliance Inspections

Verification Bodies are required to positively confirm compliance of the installation, in particular in relation to :

- the inclusion of all eligible technical units and fuel sources (however minor or deminimus and including discussion of 'temporary technical units') and exclusion of the non-eligible.
- the scope of the permit in terms of current status and configuration of the installation, taking account of any changes since the prior inspection and the need for permits to be updated and M&R Plans to be updated in line with any revisions of permit conditions/ installation changes.
- the presence of all metering, measurement and analytical equipment etc detailed in permit/M&R Plans.
- that stated actions in relation to sampling, testing, inspections, calibrations, quality controls and record retention etc are actually undertaken.
- that improvement actions required from prior years and those agreed with Regulators (ETS5 & 6) have been implemented by due dates.

- that prior year emissions reports and associated underlying information and records have been retained for the required 10 year period (UKAS notes that in the early year's of the scheme, this may take the form of reminding clients of their obligations and potentially a spot check on archive and retention mechanisms).

In general, positive compliance confirmation would normally be undertaken by independent inspection, witnessing, interview and/or obtaining of independent corroborating evidence in situ at the installation. Thereby implying that a visit has been made to the installation and any other relevant locations.

Although UKAS expects that not conducting a site visit will be the exception rather than the rule, where a Verification Body determines that a visit to the installation (and/or any other relevant sites) is not necessary, the justification for this will be formally documented as part of the business risk assessment, taking account of the risks of:

- failure to appropriately state compliance status;
- resultant data mis-statement;
- liabilities that might accrue to the Verification Body; and
- resulting consequences of issuing a misleading opinion to Regulators and the Carbon Markets

Justifications are expected to be consistent across all installation types, there are no special circumstances that might expect one installation to be treated more favourably than another.

Failure to undertake a site visit to the permitted installation only on the basis that the operator does not want (or expect) a site visit to be undertaken will not be deemed to have been an adequate evaluation of the risks to the Verification Body.

UKAS expects that this justification will be made available in writing to Regulators by the due date (see Defra Guidance) and will be formally accepted in writing by them; these to be included in the evidence pack of the relevant verification documentation. UKAS will also look favourably, during its own risk assessment, at those Verification Bodies that have instituted an Interim Technical Review process and that have included a review of decisions on site visits as part of each Interim Technical Review.

(iii) Improvements

Problems with the reporting of improvements are also likely to prove contentious. Verification Bodies may find it advisable to differentiate between those improvements that are essential for conformity to a Permit/M&R Plan, those that improve accuracy and tier level, and those which only represent advice on general improvements in the robustness of GHG accounting. It is advised that Verification Bodies should reach agreement with their clients over improvements and produce the appropriate and agreed schedules or lists of improvements. Where problems are experienced in reaching agreement, it is suggested that the Verification Body should examine the situation from the viewpoint of the M&R principles and the stated expectations of Regulators.

The Verification Body is expected to have procedures for dealing with improvements whether as improvement reports or non-conformity reports.

Verification bodies are reminded that they should check that improvements recommended in prior years have been included in subsequent year's improvement reports (ETS5 & 6). In addition, where improvements relate to tier changes, Verification Bodies should check that such changes have been accounted for in permits and M&R Plans etc, and that the operator has agreed with the Regulator from when such tier changes are to become effective.

(iv) Representative Fuel Sampling and Cost Effectiveness

Where there are no clear Industry Standard Practices or guidance on representative sampling, Verification Bodies are expected to encourage their clients to define the requirements for 'representative sampling' of fuels with their Regulator (if this is appropriate and can be justified) and to reach a suitable compromise on cost effectiveness. This should also take account of the approach to be taken to determine the figure(s) to be used in factor calculations (eg average, weighted average, worst case scenario etc). This should be confirmed in writing, becoming part of the methodology for fuel sampling and factor calculation (see Defra Guidance).

Verifiers are reminded that the 'cost effectiveness' principle applies only to the methodology and to the Regulator. Its application is not within the remit of the Verification Body. If representative sampling is specified then it should be fully implemented; where this may not be the case, the consequences of missing data should be accounted for in the Materiality Analysis.

(v) Regulator Permitted Pool Sampling

Where the Regulator permits the use of sampling in future years within a trading pool of installations, the Verification Body is expected to ensure that, in signing a verification opinion (confirming compliance and an absence of mis-statements in the emissions from all installations in that pool), there is sufficient evidence to support their position in respect of their potential liabilities. All pool installations are expected to require individual verification.

(vi) Handling Change of Rules etc. – Mid-year Changes

Where changes in the rules, Permits or M&R Plans occur during the year, verifiers should ensure that the full implications are understood and that the requisite data can be obtained. Verification Bodies are advised to ensure all the possibilities for such changes are covered within their agreements with their clients.

(vii) Uncertainty Analysis

Verification Bodies are reminded that Section 4.3.1 of the MRG(V1) requires that operators shall have an understanding of the impact of uncertainty on the overall accuracy of reported emissions. Therefore, with the exception of Natural Gas meters supplied from the National Grid, Verification Bodies are expected to confirm that all operators have undertaken an appropriate Uncertainty Analysis to demonstrate that their meters and measurement systems fall within the allowable range defined by the Tiers; guidance on uncertainty analysis has been provided by the Regulators (it should be noted that that this is likely to be updated in response to the tightening of uncertainty requirements in MRG(V2)). Where any changes have been made that may impact upon overall accuracy etc (eg new meter, significant changes to measurement systems or components, significant recalibration etc), Verification Bodies are expected to

confirm that this analysis has been updated and that the updated outcomes match permitted uncertainties. [Note – this includes weighbridges as well as flow meters etc].

Where analysis has been done on an "overall uncertainty" basis (rather than for individual meters etc) Verification Bodies are expected to check that this has been agreed with the Regulator.

Unless otherwise agreed with the Regulator, for Natural Gas meters supplied from the National Grid, Verification Bodies are expected to confirm that the operator has obtained the relevant information from Transco.

(viii) ISO17025 Accreditation

Where ISO17025 accreditation is required (or claimed), Verification Bodies are expected to confirm that the scope of the accreditation is appropriate for the tests required for GHG emissions accounting, and that the certificate/supporting schedule of tests is still valid **(ix) Entry of NER units/installations, closures and rationalisations**

Where the current verification cycle incorporates the entry of an NER unit/ installation, Verification Bodies are reminded that they should check that the NER has been taken account of in permit and M&R Plan variations and that the start date is as expected from the NER application.

Similarly, specific aspects associated with closures and rationalisations will also be expected to be checked. (see also Section 3.6)

2.5.6 Application of the M&R Principles

Verification bodies are reminded that M&R Principles of 'transparency', 'completeness' and 'consistency' cover all aspects of a client's full data set. For completeness, this includes data both across and within sources.

Verification Bodies are reminded that they are expected to document in their workpapers plans, justifications and outcomes in relation to their approach and in particular for the following :

(i) Data and information sampling

For accuracy, the use of justified and agreed sampling is accepted as being essential in order to reduce the work required for the assessment of error and materiality to practicable proportions. However, sampling is only appropriate if the data sets were previously judged to be transparent, complete and consistent (see Section 2.5.6.ii). (A Verification Body should not hope to prove 'completeness' by sampling.)

At the stages of strategic review and risk analysis it is expected that the assessment of the emissions data for these key principles will be documented.

Where the operator conducts adequate and effective internal audits of its GHG accounting process (including vertical/horizontal data checks) (see Section 2.5.6(vi)), the results of these may be taken into account when determining the nature and amount of substantive testing that may be required during the verification.

(ii) Representative Data Sampling and Cost Effectiveness

Where the Verification Body uses data sampling as part of detailed verification this must :

- be representative of the full data universe;
- take account of the sampling regime of prior year audits such that over a number of verification cycles all data streams and sources are included within substantive testing; and
- justified in the verification plan.

Significant failure of the selected data sample to meet the principles of accuracy, completeness and consistency must result in the testing of additional samples until such time as the Verifier is satisfied that they understand the full extent of any mis-statement. Justification of the samples selected and the outcome of substantive testing must be documented.

Verifiers are reminded that the 'cost effectiveness' principle applies only to the methodology and to the Regulator. Its application is not within the remit of the Verification Body. Representative data sampling should be undertaken as planned, and extended where issues arise.

(iii) Stock checks

Where a mass balance method is being used to determine fuel consumptions (in particular for liquid and solid fuels) for significant fuel sources, Verification Bodies are required to confirm that the stock check undertaken to determine the opening and closing balances for the reporting period has been undertaken with appropriate rigour, independence and subject to recognised standards.

(iv) Accruals over period ends

Where data in relation to fuel consumption spans the ends of the reporting period, Verification Bodies are required to confirm that the installation has made the appropriate accrual adjustment to apportion consumption data to the relevant reporting period and that the accruals method is consistent year on year and applied conservatively. In particular this affects gas invoices etc.

(v) Software validation

Verification Bodies are required to confirm that, where the installation uses software / databases to calculate GHG emissions or to process key data streams, the installation has subject these to appropriate software validation to ensure that there are no 'bugs' in the software. This is particularly important where new systems are being brought on stream and data processes are being migrated between two (or more) systems) and validation tests such as parallel running should be in place. In relation to this, Verification Bodies are expected to consider whether they need the support of an Information Risk Management expert, and document the reasoning and outcome(s) of this consideration.

(vi) Environmental and Quality Management Systems etc

Verification Bodies are advised that they cannot rely on ISO 14001 and ISO 9001 accredited certification to demonstrate compliance with Permit, M &R plan and MRG unless GHG accounting processes are **proven** to be fully embedded within them; and the assessment process has been carried out by an EUETS Lead Verifier; and to the standards required by EUETS. Without this proof, the relevant elements of an ISO14001/9001 system will require full re-audit before reliance can be placed upon them.

Statements by the installation that its GHG accounting system is covered by its EMS or QMS needs verification to confirm the proof requirements outlined above . In particular, experience suggests that the following should be reviewed :

- Do control procedures cover the full scope of the GHG accounting process?
- Do internal audits include separate compliance evaluation and data/factor etc testing (both horizontal and vertical checks)?
- Do roles and responsibilities stated match those in GHG permits and M&R Plans?
- Do records include those that might be expected for full external GHG verification?
- Do internal assurance/QA checks include sense checks to analyse emissions movements year on year and also comparisons of emissions to appropriate proxies (eg production)?

2.5.7 Verification Documentation, Issues Logs and Workbooks

Based on prior experience, the consensus view appears to be that the ideal approach to verification documentation is to adopt a practice that:

- minimises difficulties in document handling;
- provides a highly operable reference system to ensure rapid recovery of the relevant working papers and evidence; and
- saves valuable time in document searches.

It is evident that the most important customer for verification reports and working papers is the Technical Reviewer. Important audit tools and work papers should be designed not only to aid the EUETS Lead Verifier but also to assist the process of Technical Review by providing clear audit trails.

UKAS considers that key documentation will include :

- *Issues log* – that outlines all key verification issues, issues carried forwards from prior year verification where they require proper closure, and issues that should be carried forwards into future verification cycles.
- *Meter matrix* – outlining the key information and status of all permitted meters.(Note, it is not a UK requirement that the installation completes a meter matrix, but where the client is encouraged to produce one, this should result in a considerable saving on time (and cost) of verification)
- *Risk Analysis* – outlining in a consistent manner the key verification risk criteria to be considered in a verification and the outcome of applying the criteria to the particular verification.
- *Materiality Analysis* – outlining the outcome of the analysis of materiality in relation to compliance, principles and data; for the latter demonstrating how the assessment of "within the 5% guide threshold[4]" has been determined.
- *Verification and data sampling plan* – outlining the planned activities that form part of the process of substantive testing; including what will be tested, data sampling plans, justification of selection and sampling, and in particular for data sampling, what will be done if the sample proves defective. [Note – a verification plan is NOT the agenda for a site visit or meeting.]

Reporting of the verification, in particular compliance checking and substantive testing, is required to be done on a positive basis, such that it is clear to the Technical Reviewer what has been undertaken and what the outcome was.

Verification bodies are reminded that they need to retain with the verification documentation sufficient objective evidence to support the conclusion arrived at in the Opinion Statement. It is insufficiently rigorous to rely upon a client holding copies of relevant documents etc. (see Section 2.5.11)

2.5.8 Technical Review

Prior experience has demonstrated the importance of Technical Review. Besides the normal review functions the Technical Reviewer should look at the draft Verification Opinion Statement from the viewpoint of the customer, to minimise any risk of misinterpretation.

The process of Technical Review contains three different types of functions:

- the proof reading function (to correct simple errors, number reversals, typographical mistakes and omissions);
- the peer review function (to look for technical errors of omission and to concur with the opinion reached, which requires comparable technical expertise to that of the EUETS Lead Verifier who wrote the Verification Opinion Statement); and
- the directorial liability review function.

Of these three functions, the most technically demanding is that of the peer review. For this reason UKAS requires that Technical Reviews should be undertaken by EUETS Lead Verifiers who are still actively engaged in verification (unless an exception can be fully justified and agreed by UKAS).

Problems most likely to cause verification errors at the Technical Review stage are foreseeable, namely that:

[4] *Note – the 5% threshold relates to 5% of the emissions figure declared in the annual report subject to verification.*

- all three functions may have to be combined into one reviewer; and
- the review may have to be undertaken at a period of heavy work load towards the deadline for submission.

And in the event of a centralised/cross border Technical Review function that :

- Technical Review (and in particular Peer Review) may need to be conducted in a non-native language since local guidance, evidence and client documentation may be in a different language.
- Additional competence in local guidance and local legal requirements will be required

This represents a human error risk situation at a critical control point in the verification process. These matters can be eliminated or at least minimised by up-stream work resulting from greater attention at the initial planning stages, attention to detail with respect to verification documentation and (where possible), by involving the Technical Reviewer earlier in the process through an Interim Technical Review (although with the ongoing need to remain independent).

It is also anticipated that Verification Bodies will produce procedures of assessment review tools to assist in the documentation of the review process.

2.5.9 Opinion Statement Template

A template to standardise Verification Opinion Statements (VOS) was found to be necessary by Defra, to promote clarity of reporting and allow comparability between opinions. It is not anticipated that this situation will change but Verification Bodies are reminded that they should ensure they are working with the most up to date version of the Opinion Template.

The VOS template requires two forms of comments :

- ***Qualification comments*** – these comments are attached to the opinions statement itself and outline anomalies that affect the opinion. Such comments are in effect caveats to the opinion warning a user of issues that they should be aware of, but which are not material enough to warrant the issue of a 'Not Verified' opinion. Defra's guidance and subsequent FAQs provide further advice.
- ***Improvement comments*** – these recommendations are to be provided in order that the Regulator can cross check information provided by operators in ETS 5 & ETS6 improvement reports. The relevant Annex of the VOS template outlines three categories of improvement, verifiers should ensure that they have placed comments in the correct categories in order that operators can distinguish between mandatory improvements in relation to tiers etc and other recommended improvements.

Verification bodies are reminded that they must ensure that comments are worded appropriately and located in the correct area of the VOS.

2.5.10 Registry

Concerns have been expressed by Verification Bodies over the potential for problems arising from the confirmation of Registry entries. UKAS will monitor how Verification Bodies manage any risks, real or perceived, in relation to work they undertake to confirm their clients data entered into the Registry.

2.5.11 Document Security

Document security and confidentiality must be assured throughout the required ten year document retention period. This includes all verification documents and evidence required to support the conclusion arrived at in the Opinion Statement – EVEN IF THE CLIENT IS SUBSEQUENTLY LOST TO ANOTHER VERIFICATION BODY.

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3 Accreditation for New Entrants etc.

3.1 Introduction

This activity covers the verification under DTI Guidance of changes in emissions produced as a result of New Entrant, Closure, Auction and Rationalisation applications. It should be remembered that not all of these activities will require accredited verification of the application data.

[Note: In this section of this UKAS Guidance, New Entrants should be taken to mean New Entrants and Rationalisation applications as considered in the DTI Guidance on New Entrant Verification. Closure and Auction applications not considered as yet by the DTI are discussed below in Section 3.6.]

3.2 New Entrant Scopes of Accreditation

UKAS will provide accreditation for six New Entrant verification scopes in the categories set out in the DTI's Guidance.

- iron and steel;
- mineral oil refineries;
- onshore gas distribution;
- offshore tie-backs and platform modifications;
- rationalisation applications; and

- some CHP applications.

There are differences in the verification requirements for each category.

3.3 New Entrant Applications for Accreditation

Applicants for New Entrant scopes must hold relevant UKAS GHG Verification accreditation.

The accreditation process will be determined on a case by case basis because of the variation in requirements and time scales. The documentation accompanying the UKAS application form must include the changes that will be made to the Verification Body's management system for their GHG verification process to enable work in these scopes.

The management system to be used for all New Entrant verifications will be broadly similar to that for EU ETS annual verification, but will be expected to include an additional independent Technical/Peer Review stage to be completed before the process (verification) analysis in particular for complex projects, i.e.:

1. Enquiry and Business Risk Assessment
2. Strategic Review and Risk Analysis.
3. Interim Technical Review/Peer review
4. Process Analysis (detailed verification and substantive testing);
5. Report Preparation
6. Technical Review
7. Verification Opinion Statement Preparation and Submission
8. Archiving and records security

Verification Bodies considering applying for accreditation in any of the New Entrant scopes should complete the appropriate UKAS application form with a brief description of:

- the scope required;
- their client and installation(s);
- the date of starting operations involving the New Entrant allowance;
- the approximate size of the allocations involved;
- progress on the completion of the required Design Report (if a copy cannot yet be provided);
- an outline verification plan; and
- any problems that may be foreseen.

UKAS will not be able to provide a budget estimate of the number of days required for the accreditation process until this data has been provided and analysed. UKAS will then be able to enter into discussions on how the accreditation process can be scheduled to minimise any delays in verification.

UKAS will endeavour to assist the Verification Body in clarifying their requirements in the light of DTI Guidance and to progress the accreditation as usual. It is suggested that Verification Bodies might find it prudent to ensure that agreements between the DTI, (other Regulators if required) and the New Entrant have been finalised before completing their business risk assessments and developing their applications for submission to UKAS.

3.4 The New Entrant Verification Process

The following points elaborate on the DTI Guidance on New Entrant Verification.

- New Entrant allowances for the EU ETS scheme are based on the FES spread-sheet calculation. The DTI intends that the spreadsheet projected ***input*** data should be verified for certain situations to provide assurance that they are realistic, on the basis of the evidence made available at the time that the application is made.
- Verifiers are not required to verify the aggregate uncertainty of results of the FES spreadsheet as being free of material error.
- The Design Report should conform to the M&R principles of transparency, consistency, completeness, accuracy and faithfulness and also provide all the relevant information about the developments including:
  - an explanation of the development;
  - the assumptions used in the design;
  - the details of agreements between DTI and the new entrant operators;
  - the relevant FES spreadsheet input data for the Regulator;
  - an estimate of the size of the allowances that would result; and
  - the best level of assurance practicable in that situation, taking account of the factors such as:
    - the size of the resulting allowances;
    - the complexity influencing the competency and resources required in verification;
    - the uncertainties within the design projections;

- the time required for verification in relation to any time constraints imposed by the Regulator;
- the cost of the verification work; and
- the availability of any specialist expertise required for verification with minimal conflict of interest.

- It is expected that the process of the design review would involve the Verification Body in working closely with the New Entrant organisation to ensure a full understanding of the projected data. The Verification Body would use the same general verification procedures to produce the 'Verification Report' as for Annual EU ETS, which should:
  - set out the verifiers findings;
  - state their opinion on the reasonableness of the assumptions made; and
  - indicate the level of assurance that can be ascribed to the input data.
  - (See also the DTI Guidance.)

- The Regulator makes the decision on the acceptability of the Verification Body's recommendations and confirms the appropriate interpretation of the M&R principle of 'cost effectiveness'. If the Regulator is not convinced that the case for the best practicable level of assurance had been made, further information will have to be provided before the recommendations could be accepted and the application considered to have been 'duly made'.

3.5 New Entrant Applications – General Comments

3.5.1 Possible Delays

It should be recognised that, for the more complex installations, the time delays in this process might still be significant. Even following the preparation of the Design Report, time should be allowed for:

- the mobilisation of their verification teams, as most of their teams may already be fully committed for several months;
- the Verification Bodies to undertake the review of the Design Report; and
- delays in verification will delay the processing of the New Entrant application. The operator will neither know, nor receive, any New Entrant allowances until the verification has been submitted (with time for it to be processed). This factor should play a part in the agreement between the operator and Regulator regarding the time period within which this work is required to be completed.

3.5.2 Queue

It is the responsibility of the New Entrant applicants to ensure that they maintain their place in the allowance queue. As a result early planning of, and readiness for, the NER verification are essential, including preparation of the Design Report without which verification cannot be commenced.

3.5.3 Technical Experts

It is expected that some Verification Bodies (and operators of installations) may experience problems in finding the independent expert advice needed for the verification review work. In some cases it may not be possible to avoid some measure of conflict of interest. However, with the flexibility that this approach offers, it might be possible to explain this within the Design and Verification Reports and to seek the agreement of the Regulator on the methodology applied in the review process.

3.6 Closure, Auction and Rationalisation Applications

It should be noted that the need for verification of data for Closures and Auctions has not yet been considered in detail. Any queries should be addressed in the first instance to the DTI.

Verification Bodies should ensure that a site visit is made when a site (or part of a site), is known to be closing. This is essential to obtain as much emissions data as are available and to check existing M&R Plans.

4 General Guidance Aspects

4.1 Internal Audit and Management Review

Verification Bodies are reminded that their accreditation to EN 45011 involves meeting the requirements of Clauses 4.7 for internal audit and management reviews; and that internal audits are required to be independent.

UKAS appreciates that the Technical Review requirements of GHG auditing produce a 100% sample of verification work. However, the principle of independent internal audit of the verification system is still valid to ensure that the full documented system is operating as designed.

In Management Review the Verification Body should be able to demonstrate the financial impact of their verification work. One performance indicator that can be used to demonstrate the financial implication is the value of the CO_2 emissions verified, possibly in the order of several million Pounds/Euros per verification man day.

UKAS also believes that the adequacy of the extent of insurance cover should be an important discussion at Management Review. Verification Bodies are reminded of the business risks associated with EU ETS emissions data verification. UKAS expects all Verification Bodies to be able to demonstrate that they hold adequate and relevant professional indemnity insurance cover (in addition to other insurances relating to undertaking site visits); and that cover is periodically reviewed.

4.2 EN 45011 Clause 4.2 (e), Impartiality Committee

This committee should be made fully aware of the Verification Body's four duties of care, especially to the general public and to the politicians, for whom the success of the scheme is of some considerable importance.

4.3 Potential Partnerships or Joint Ventures

Verification Bodies are expected to ensure that they comply with the requirements of EN 45011 Clause 4.4.

4.4 International EUETS Verification

Verification Bodies accredited by UKAS for Annual and/or New Entrant EU ETS emissions data verification in the UK may wish to operate in other EU Member States. This can only be with the agreement of the Competent Authority in that Member State (and also the relevant Accreditation Body, where required), as no international agreements apply as yet to this situation. Discussions with the relevant Competent Authority/Accreditation Body must not give the impression that UKAS is monitoring all overseas verification activity where this has not yet been agreed by UKAS as being under control and incorporated within the UKAS monitoring programme.

Verification bodies are reminded that where UKAS accreditation is used outside the UK, they will be required to demonstrate to UKAS that they have control over the activities that are being undertaken in their name. As part of its risk based assessment, UKAS will monitor such verification activities in other Member States where these are deemed to be critical locations, including the witnessing of EU ETS Lead Verifiers. UKAS accreditation may be withdrawn where it is found to be being abused in other Member States.

Alternatively, Verification Bodies and/or individuals accredited in other EU Member States may wish to operate in the UK. Again, agreement needs to be provided by the appropriate Competent Authority in England/Wales, Scotland or Northern Ireland who will specify their requirements for acceptance. Where a Verification Body with EU ETS (Lead) verifiers has EN 45011 accreditation from a European Accreditation member, the Competent Authority may grant recognition, subject to a witnessed assessment by UKAS to confirm that EUETS Verifiers have understood and correctly applied the UK EUETS requirements and M&R Decision interpretation provided in the Defra Guidelines.