Department of Energy and Climate Change

EU Emissions Trading System for emissions from stationary installations emitted before 1 January 2013

Frequently Asked Questions on Annual Verification

Version 2.2

February 2012

This Q and A supplements the published guidance available on the DECC website. It cannot be considered definitive in a legal context. Full Guidance on Annual Verification for stationary installations can be downloaded from:

http://www.decc.gov.uk/en/content/cms/emissions/eu_ets/euets_phase_ii/monitoring/monitoring.aspx

This document has been revised to include new questions since the 2008 version. Where the technical content of the answer has changed, the question is marked as being updated. Answers may also have been updated to reflect the requirements in the UK EU ETS online reporting system, ETSWAP.

Purpose

What and who are these frequently asked questions for?

These FAQs are to assist operators to prepare for, and verifiers to carry out, annual verifications for the EU Emissions Trading System (EU ETS). It contains responses to some questions received by the Department of Energy and Climate Change (DECC) and UK regulators. It is specifically designed to assist with verifying onshore installations in the UK. A separate list of FAQs on monitoring and reporting, and verification for offshore installations is available from the Oil and Gas section of the Department of Energy and Climate Change[1].

In summary, 'annual verification' involves an independent review by an accredited verifier of the annual emissions report prepared by the operator. The verifier checks that the monitoring has been performed in accordance with the requirements in the installation's greenhouse gas permit including the monitoring plan and the European Commission's Monitoring and Reporting Guidelines (MRG 2007)[2], and verifies that the annual emissions figure is free from material errors.

A list of accredited verifiers is posted on DECC's website[3] but is maintained directly by UKAS[4]

Who should I contact to answer further questions?

Further queries about monitoring, reporting and verification should be directed to the appropriate regulator as follows:

England and Wales - Environment Agency
Email: ethelp@environment-agency.gov.uk
Website: http://www.environment-agency.gov.uk/business/topics/pollution/32232.aspx

Scotland - Scottish Environment Protection Agency
Email: emisson.trading@sepa.org.uk
Website: http://www.sepa.org.uk/climate_change/solutions/eu_emissions_trading_scheme.aspx

Northern Ireland - Department of Environment Northern Ireland
Email: emissions.trading@doeni.gov.uk
website: http://www.ni-environment.gov.uk/pollution/emissionstrading.htm

Offshore installations (in the whole of the UK) -

Department of Energy and Climate Change
Email: emt@decc.gsi.gov.uk

website: https://www.og.decc.gov.uk/environment/euetsr.htm

[1] See: https://www.og.decc.gov.uk/environment/euetsr.htm
[2] Commission Decision 2007/589/EC establishing guidelines for the monitoring and reporting of greenhouse gas emissions pursuant to Directive 2003/87/EC, as amended
[3] See: http://www.decc.gov.uk/en/content/cms/emissions/eu_ets/euets_phase_ii/monitoring/monitoring.aspx
[4] See:http://www.ukas.com/library/Technical-Information/Pubs-Technical-Articles/Pubs-List/EU_ETS_Verifiers.pdf

Further questions on verification body **accreditation** should be sent to UK Accreditation Service:

Email: info@ukas.com

Website: www.ukas.com

General monitoring and reporting issues

This section covers:

- Oxidation factors
- Emission factors that can be used where they are not listed or contained in the UK Greenhouse Gas Inventory
- Conversion factors
- When mass rather than energy based calculations can be used
- Whether CO_2 already in natural gas needs to be included in calculations.
- Reporting aspects

Emission, oxidation and conversion factors

1. What oxidation factor should be applied in combustion calculations?(updated January 2012)

The MRG(2007) states that '*An oxidation factor for combustion emissions or a conversion factor for process emissions shall be used to reflect the proportion of the carbon which is not oxidized or converted in the process*'.

Where the emission factor **does not reflect the proportion of carbon that is not oxidised**, then the MRG(2007) requires either:

- a Tier 1 default factor (*An oxidation factor of 1.0 is used)*, or
- a Tier 2 country-specific factor (*The operator applies oxidation factors for the respective fuel as reported by the respective Member State in the latest national inventory submitted to the Secretariat of the United Nations Framework Convention on Climate Change)*, or
- a Tier 3 installation-specific factor *(For fuels activity-specific factors are derived by the operator based on carbon contents of ashes, effluents and other wastes and by-products and other non-fully oxidised gaseous forms of carbon emitted. Composition data shall be determined according to the provisions specified in Section 13 of Annex I*).

The MRG(2007) **waives the highest tier default in the case of oxidation factors**. This means that operators have greater freedom to apply Tier 1 and Tier 2 rather than Tier 3.

<u>Tier 1</u>

Tier 1 in the MRG(2007) now relates simply to a factor of 1.

Tier 2

The UK GHG Inventory emission factors for **solid, liquid and gaseous fuels** (Tier 2 emission factors) already take into account various different oxidation factors for the particular fuel therefore, **no additional oxidation factor**[5] is required when using the UK GHG Inventory emission factors[6] for **solid, liquid or gaseous** fuels. This may need to be highlighted as a required change to the Monitoring Plan in the verifier's verification report, i.e. where an oxidation factor Tier requirement is not applicable.

The UK country-specific factors list is updated each year and is available from DECC's website.[7]

As the Tier 2 emission factor already incorporates the oxidation factor, the operator should report an oxidation factor of 1, reflecting a Tier 1 approach where National Inventory data has been used.

For natural gas, where the LDZ factors are applied, a Tier 2 oxidation factor of 1 should be applied.

Tier 3

Where Monitoring Plans require use of Tier 3 oxidation factors, the oxidation factor should be determined through measurements and analyses performed according to section 13 of Annex 1 of the MRG(2007).

2. What emission factors should be used for ethane, propane and butane?

Emission factors required for these fuels should be stated in the installation's Monitoring Plan. Emissions of carbon dioxide from combustion of commercial ethane or simple pure alkanes can be calculated stoichiometrically, where a default emission factor is not available.

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5 Annex IV of the EU ETS Directive states *"if activity specific emission factors have been calculated and already take oxidation into account, then an oxidation factor need not be applied."*

6 In 2009 the UK country specific factors spreadsheet was amended. The main change to the spreadsheet removed the need for additional oxidation factors to be applied for liquid and gaseous fuels "*Column N in the national factors spreadsheet is provided for information, and identifies the oxidation factor used in the development of the emission factors used in the UK inventory. The carbon emission factors should be used as presented here, and no further correction for unburnt carbon should be applied".*

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http://www.decc.gov.uk/en/content/cms/what_we_do/change_energy/tackling_clima/emissions/eu_ets/euets_phase_ii/monitoring/monitoring.aspx

The emission factor for liquefied petroleum gas (LPG) can be used for commercial propane and butane, or emissions can be calculated stoichiometrically.

3. What emission factors should be used for light fuel oil, diesel and heavy fuel oil?

The factor for **fuel oil** in the emission factor spreadsheet should be used for **heavy fuel oil**.

The factor for **gas oil** should be used for calculating emission from **light fuel oil** and **diesel** combustion.

If in doubt about which emission factor to use for a particular fuel, because the monitoring and reporting plan is unclear, operators should seek clarification from their regulator who may liaise with AEA.

4. What is the emission factor for sour gas?

A Tier 2 emission factor for sour gas can be found in the latest table of emission factors on DECC's website[8]

5. What emission factor should be used for scrap tyres? (NEW January 2012)

A Tier 2 emission factor for scrap tyres can be found in the latest table of emission factors on DECC's website[8].

The emission factor has been adjusted to take into account the biomass element of the tyres.

6. Are there conversion factors to convert from Gross Calorific Value (GCV) to Net Calorific Value (NCV)?

The emission factor spreadsheet available on DECC's website[9] contains factors for converting from GCV to NCV. Please use these factors if a conversion is required. N.B. Where an operator is permitted in accordance with Tier 3 installation-specific determination of CV, the NCV should be calculated direct from component analyses, e.g. for natural gas using BS EN ISO 6976:2005 Natural gas – Calculation of calorific values, density, relative density and Wobbe index from composition.

8 http://www.decc.gov.uk/en/content/cms/what_we_do/change_energy/tackling_clima/emissions/eu_ets/euets_phase_ii/monitoring/monitoring.aspx

9 http://www.decc.gov.uk/en/content/cms/what_we_do/change_energy/tackling_clima/emissions/eu_ets/euets_phase_ii/monitoring/monitoring.aspx

7. Is DECC going to produce CVs for energy content per tonne of natural gas?

No. However, units of quantity can be converted using the conversions available in the latest Digest of United Kingdom Energy Statistics (DUKES) on DECC's website[10] (also see next question below):

8. Are there conversion factors for fuels to convert from tonnes to cubic metres etc.?

A table of conversion factors for fuels to convert between different units of quantity is available on DECC's website.

This table comes from DECC's Digest of United Kingdom Energy Statistics (DUKES) and is based on standard temperature (15 degrees Celsius) and pressure conditions. The most up to date version of the DUKES data should be applied (currently DUKES 2010, as linked).

9. Can calculations be carried out in terms of tCO_2/t fuel rather than tCO_2/TJ?

In some cases, yes. Section 5.5 of the MRG(2007) states:

'*In order to achieve highest transparency and widest possible consistency with national greenhouse gas inventories, the use of emission factors for a fuel expressed as tCO_2/t rather than tCO_2/TJ for combustion emissions is restricted to cases where unreasonable costs would otherwise be incurred by the operator*'.

Therefore, an operator can use tCO_2/t provided this is accepted by the regulator through the approved Monitoring Plan.

If the Monitoring Plan currently specifies an energy-based approach, but the verifier is satisfied that the mass-based approach actually used is more accurate and likely to be acceptable regarding costs, then the operator will need to seek a permit variation (see question 34 on variations). The recommended improvement should be noted in the verification report.

Operators should be aware that they are still required to report the net calorific value of the fuels used in their annual emissions report even if they are calculating emissions on a mass or volume (rather than energy) basis.

[10] http://www.decc.gov.uk/assets/decc/Statistics/publications/dukes/314-dukes-2010-ann-a.pdf

10. Does the same Tier 2 emission factor need to be used for the entire reporting year?

Yes. The same Tier 2 factors from the UK spreadsheet of emission factors (extracted from the UK Greenhouse Gas Inventory) should be used for the whole reporting year.

11. With respect to fuel gas analysis, should the CO_2 concentration in the gas be included or excluded?

CO_2 already existing in the gas being combusted should be **included** in the emissions calculation for the site. The EU ETS requires total emissions of CO_2 to be monitored and reported from an installation covered by EU ETS from the emission sources listed in the GHG Permit.

The Tier 2 UK Greenhouse Gas Inventory and Local Distribution Zone (LDZ) emission factors include CO_2 concentrations already existing in natural gas.

Reporting

12. Who completes the Annual Emissions Report?(UPDATED January 2012)

The operator must complete the annual emissions report **not** the verifier. The verifier then checks the annual emissions report, the monitoring, any calculations made, and the data and information used by the operator following the process outline in the UK's Guidance on Annual Verification, and any other requirements of the MRG(2007) and their accreditation.

Any misstatements (be they errors, omissions, misrepresentations) should always be corrected at the earliest opportunity. Operators and verifiers should be mindful that misstatements that result in emissions being understated, leading to insufficient allowances being surrendered by the 30 April deadline date, will make the operator liable for a civil penalty.

13. Must process and combustion emissions be reported separately in the annual emissions report?

Yes, process and combustion emissions must be reported separately and verified. Part of the verification includes checking that the right emissions have been reported as 'process' emissions as opposed to 'combustion' emissions according to Monitoring Plan and MRG(2007) definitions. The Annual Emissions Report and the verification report contain fields for separating the two figures.

Permit and monitoring plan issues

This section covers:

- What verifiers should do if the tier requirements appear incorrect or unusual
- The process to be followed where lack of meter checks and calibrations significantly affect the materiality of the data
- EN ISO/IEC 17025 accreditation requirements for laboratories performing analysis for Tier 3 factors
- Monitoring plans
- Change to scope of permits
- What to do when variations are required and have not yet been granted by the regulator.

Tier requirements

14. Where tiers in a permit are below those required by the MRG(2007), should the verifier accept the lower tiers, even if the installation could meet a higher tier?

The main role of the verifier is to check that the monitoring has been performed in accordance with the installation's Monitoring Plan. However, there may at times when the tier requirement in the Monitoring Plan appears to be unusual or potentially in error. This situation should be approached in two stages:

1. If the discrepancy in the tier requirement looks significant (particularly if the installation could actually meet a higher tier requirement) and in following the Monitoring Plan leads to material misstatement in the data, the verifier should raise this with the operator and obtain records of any communications with the regulators confirming that the tier value stated in the Monitoring Plan is actually correct. If there are no records of correspondence, then verifiers should ask the operator to liaise with the regulator to check whether the tier specified in the Monitoring Plan might be an error.

2. If the discrepancy is not significant and unlikely to seriously affect the materiality of the data, the verifier can continue with the verification. The ability to move to a higher tier should be listed with reasons in the 'improvements' section of the verification report. This recommendation will then be considered by the regulator when determining any improvements proposed in the operator's annual improvement report.

In all cases, if the verifier considers that a higher tier can technically be achieved by the installation, this should be highlighted in the 'improvements' section of the verification report.

15. Should the verifier question the Tier levels set in a Monitoring Plan where they require more accurate monitoring than those

indicated in Table 1 of the MRG(2007) or an allowed minor or de minimis source status requirement?

The verifier can bring the matter to the operator's attention where the required tier is higher than required in the MRG(2007), but should not assume that the tier level was set by mistake. Table 1 identifies the minimum tiers that may be required by a Competent Authority. Similarly, the use of lower tiers for de minimis or minor sources is also at the Competent Authorities' discretion.

The default required by the Commission's MRG(2007) in the case of Category B and C installations, and applied in determining the permit is that monitoring should be carried out according to the **highest tier** subject to this being technically feasible and not likely to result in unreasonable costs.

Calibrations and meter checks

16. How can the verification proceed where the meter has not been properly calibrated?

Advice on this is found in section 4.3.3 of the Guidance on Annual Verification. The paragraphs below provide further explanation.

In the first instance, the verifier should check that calibrations and maintenance checks have been performed in accordance with Monitoring Plan requirements. However, where the frequency and nature of the checks is not specified in the Monitoring Plan, or there are no specific appropriate international standards, the verifier should review documentation describing any checks performed on the meter in recent years, particularly the reporting year. Based on the information provided by the operator, the verifier should consider whether the operator has demonstrated that the relevant metering equipment has been calibrated, adjusted and checked at regular intervals including prior to use, and checked against appropriate calibration standards traceable to international measurement standards (if available), and that the operator has promptly taken necessary remedial action when the equipment is found not to conform to requirements. If appropriate international standards are not available, the operator shall follow draft standards, industry best practice guidelines or onsite procedures, and provide evidence that the techniques used are appropriate. These will then be checked by the verifier. This element of the verification should be seen as the verifier working to meet obligations under Section 10.4 of the MRG(2007) to check operator obligations under Section 10.3.2 are being met satisfactorily.

Further useful information on requirements may be found in the UK Competent Authority Interpretation of the 'Main Uncertainty Analysis Requirements resulting from the Revised Monitoring & Reporting

Guidelines (MRG 2007)'[11], especially Annex I: 'Standard Measurement Uncertainties for the Most Common Measurement Instruments'; and also in the guidance on UK supply of natural gas.

If the verifier considers that the checks and calibrations are inadequate compared with the Monitoring Plan requirements or internal procedures, non-compliance should be noted and required improvements should be clearly described in the verification report. The verifier will also need to consider whether the lack of meter calibration and checking could lead to material misstatement in the emissions figure, and whether a 'not verified' opinion needs to be proposed.

If the verifier intends to issue a 'not verified' opinion, they should advise the operator to bring such a position to the immediate attention of the regulator, with a view to resolving any issues before the 31 March deadline for submission of a verified annual emissions report.

The regulator will then consider whether to accept that the proper checks and calibrations could not be performed for the particular reporting year (but not future years). If the regulator accepts that the operator could not comply with certain requirements of the Monitoring Plan or MRG(2007), they will notify the operator and the verifier can proceed with the verification and issue a 'verified with comments' opinion, clearly stating the communication between the regulator and the operator.

Where no response has been obtained from the regulator by mid March, as a last resort (following demonstrated chasing of the regulator by the operator) the verification should proceed and the verified emissions report should be completed as a 'verified with comments' opinion and submitted as usual by the operator. The operator, and verifier (on the verification report), must ensure that the regulator is clear that the issue has not yet been resolved. In these circumstances the verifier cannot approve the annual emissions figure in the registry until the operator has received confirmation that the lack of compliance is accepted by the regulator.

If the regulator does not accept the non-compliance, the verification report must be submitted as a 'not-verified report' to operator and then to the regulator. The regulator will then determine the annual emissions for the installation, and inform the registry of their determination. The verifier cannot accept the proposed annual emissions figure in the registry in these situations.

The verifier is at liberty to recommend improvements to a calibration regime even where the installation is in full compliance with the currently

[11] http://www.environment-agency.gov.uk/static/documents/Business/uncertainty_mrg_1807595.pdf

approved Monitoring Plan (during the verification to the operator, and in the 'improvements' section of the verification report).

17. Do on-line analysers and GCs for top tier reporting require calibration by an EN ISO/IEC 17025 accredited company as well as the use of EN ISO/IEC 17025 accredited reference gases?

Yes, under section 13.5.3 of the MRG(2007), such instruments require use of calibration services and calibration gases accredited against EN ISO/IEC 17025:2005, and also annual inter-comparisons that are also executed by an EN ISO/IEC 17025:2005 accredited laboratory. The operator should be applying conservative adjustments where an annual inter-comparison suggests that emissions may be being under-estimated, and statistically significant differences in results (2σ) notified to the regulator and resolved. Infringement of any of these EN ISO/IEC17025 accreditation requirements should be noted in the verification report as non-conformity requiring address on the part of the operator. It does **not** mean that the monitoring performed by the operator needs to drop to a lower tier involving default emission factors. Provided the lack of accreditation is unlikely to lead to a material error, a 'verified with comments' opinion can be issued. If material error is likely, this should be raised with the regulator (see question above, 17).

The position as regards gas supplier GCs associated with natural gas supplies to bespoke large installations is explained in our guidance on UK supply of natural gas. The gas supply industry routinely calibrate their fiscal GCs according to EN ISO 10723 (*Natural gas. Performance evaluation for on-line analytical systems*) requirement. Further calibration to EN ISO/IEC 17025 requirements is a relatively straightforward matter of minor recalculation and can be requested subject to the EU ETS operator recompensing the expense of the extra service.

Letters from gas suppliers confirming the associated uncertainty of meters, and manufacturers' specifications should be accepted as evidence that the meter meets the uncertainty requirements in the first year of reporting. However, improvements required to obtain more robust evidence of meter accuracy (such as calibrations) must be noted by the verifier in the improvements section of the verification report, and acted upon by the operator within a reasonable timeframe where technically feasible and they do not entail unreasonable costs. Any actions will then be checked in subsequent years' verifications and through regulator inspections of the operator's improvement reports.

18. To what level of alkane should an operator go to when using an on-line GC to determine carbon content?

This may depend of particular circumstances, but in general the regulator accepts determination of C_1 to C_5 with everything longer being assumed as C_6 (i.e. C_6+ all assumed to be hexane). This is based on assumption

that the longer chain alkanes are only present in very small quantities, and constitute negligible contribution.

19. Installations burning gas that are required to have their gas tested in a laboratory (Tier 3 for NCV and EF) may need to take a sample using a 'gas sampling cylinder'. Is there any defined standard for these gas cylinders (in terms of their make, design, etc.) and/or the manner in which a sample of gas should be acquired?

Suppliers of gas sampling cylinders can be found by searching the internet. Any cylinders used should comply with Directive 1999/36/EC, the Transportable Pressure Equipment Directive (also known as the TPED), implemented in the UK as The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009[12].

Operators should be able to obtain good advice from their laboratory on choice of sampling cylinder and (if required) training in taking samples. There is an EN/ISO standard which gives general advice on sampling (BS EN ISO 10715:2001). The laboratory may be able to take the sample using their own sample cylinders, if required.

20. Monitoring Plans do not seem to be dated, so it's difficult to ascertain which is the current/approved version. How can verifiers/operators be sure of which version is the most current?

The Monitoring Plan forms part of the permit which is dated and has a version number. If in doubt, the date of the last revision is available from the status log of the associated permit, or the signed off date of the permit itself which can be obtained from ETSWAP. Further dates should be apparent from the listed record of notifications held in the change log in ETSWAP.

Monitoring Plan requirements

21. Where the EU ETS permit refers to particular standards – should the latest standard available be used or the version referred to in the Monitoring Plan?

The version stated in the Monitoring Plan should be used, but the verifier should note that a more recent version is now available in the improvements section of the verification report. This will ensure that the regulator is aware of the updated version and can consider whether it is appropriate to amend the Monitoring Plan going forward. Provided use of the new standard does not significantly affect the materiality of the data, a 'verified with comments' opinion can be issued.

[12] The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009

22. Should verifiers request evidence that the Monitoring Plan is fully approved by the regulator?

Yes – if it not clear whether the plan has been formally approved by the regulator this should be highlighted to the operator and the operator must contact the regulator to check full approval.

23. What written procedures are required of an operator?

It is important that operators and verifiers understand the responsibilities stated in section 4.4.1 of the Annual Verification Guidance (especially paragraph 169). The required written procedures underpin the operator's data handling, identification of risks to accuracy of their reported emissions, and controls they put in place to mitigate the identified risks. The requirements specifically relate to sections 10.1, section 10.2 and sections 10.3.1 to 10.3.6 of the MRG(2007). Section 10.3.1 includes the minimum requirement for the operator to hold and act on written procedures covering:

- *the sequence and interaction of data acquisition and handling activities according to 10.1, including the methods of calculations or measurement which are used,*
- *risk assessment of the definition and evaluations of the control system according to 10.2,*
- *management of the necessary competences for the responsibilities assigned according to 10.3.1,*
- *quality assurance of the measuring equipment and information technology used (if applicable) according to 10.3.2,*
- *internal reviews of reported data according to 10.3.3,*
- *outsourced processes according to 10.3.4,*
- *corrections and corrective action according to 10.3.5,*
- *records and documentation according to 10.3.6.*

24. How long do an operator's written procedures need to be?

It should be appreciated that written procedures need to be no longer than necessary to show effective understanding and control of the issues at hand. Procedure quality in terms of meeting the stated MRG(2007) section requirements (as reproduced above), as well as completeness, transparency, trueness (and the other MRG(2007) section 3 M&R principles), is likely to be more relevant than length. Where a requirement such as 'outsourced processes' (the use of external laboratories/other services outside the direct control of the operator) is currently not relevant to the installation's monitoring methodology, the procedure needs to say little more than confirm this situation and that the operator will re-evaluate risks to data quality and required controls before any such services are considered/employed in the future. Straightforward installation activities

may involve somewhat shorter and more straightforward written procedures than installations involving more complex activities.

25. What is meant by 'risk assessment of the definition and evaluation of the control system'?

An effective **control system** is intended to ensure that the annual emissions report, resulting from the data flow activities (the various data inputs and calculations involved under the approved monitoring plan), does not result in misstatements (errors, omissions or misrepresentations) or non-conformities that contravene the monitoring plan, the permit or the MRG(2007). Section 10.2 of the MRG(2007) explains that **the control system consists of the operator's own assessment of the risks to misstatements and non-conformities occurring, and then the so called 'control activities' that are to be put in place to negate those identified risks**. The risk assessment is not dissimilar to the aspects and impacts assessment that may be carried out as part of an EMS, or the approach to some Health & Safety assessments. The written procedure requires the operator's risk assessment and control system evaluation to be documented. Commitment to re-evaluate and improve the control system as appropriate should also be acknowledged in the procedure. It is reasonable for the main focus to be apportioned to the greatest risks and avoidance of material misstatement and material non-conformity.

26. What approach should be taken where a CEMs approach is being used for only one part of an installation's methodology?

Where calculation and measurement methodologies are applied to different sources within an installation, operators and verifiers should ensure that neither gaps nor double counting of emissions occurs.

27. What are the verification requirements for use of CEMs?(NEW January 2012)

Section 8.2 of Annex XIII of the MRG(2007) lists the verification requirements for nitrous oxide emissions. Verifiers should be particularly looking for evidence that the EN 14181 work has been correctly carried out by a company[13] accredited by UKAS to the MCERTs standard[14].

Annexes XII and XIII of the MRG(2007) require GHG concentrations and flow to be determined from a representative point. This can be demonstrated through compliance with EN 15259.

[13] At the time of writing, only test houses can be accredited for EN 14181; the MCERTs personnel competency scheme does not cover this scope of work.

[14] See Environment Agency MCERTs website: http://www.environment-agency.gov.uk/business/regulation/31847.aspx

Emission sources

28. Should gas used in canteens for cooking be included?

With the exception of "expansion activities" (see paragraph 106 in section 4.3.1 of the Annual Verification Guidance) no, because the end product is cooked food rather than an energy product. However, if such emissions have been included and they are insignificant in terms of materiality, this should be noted in the verification report, but should not affect the ability to verify the data.

29. Should propane gas used to ignite burners on HFO/Tallow fuelled boilers be included?(UPDATED January 2012)

Yes, because all fossil fuels or materials used in a Schedule 1 Activity should be reported. Not including the use of propane gas in annual report generates the possibility of under-reporting. Verifiers should be mindful that if the use of propane gas results in one tonne or more CO_2 increase in the installation emissions, the operator would be at risk of incurring a civil penalty. Verifiers should make it clear in their report if the additional CO_2 emissions are less than one tonne.

See Q31 for what to do where it has not been included in the permit and monitoring plan.

30. Where can further guidance be found on emission sources that should or should not be included?

The UK's main source of guidance for Phase 2 is the Government's EU ETS Guidance Note 1 (Guidance on Inclusion) that can be found on DECC's EU ETS Operators web-page[15]:

Specific enquiries may also be directed to the appropriate regulator EU ETS helpdesk.

31. What happens where a verifier identifies emission sources or source streams on a site missing from the Permit, but which appear should be included – how and when should the permit be amended?(UPDATED January 2012)

Verifiers should raise any missing or ineligible emission sources and source streams with the operator.

Where eligible emission sources or source streams are missing and should be included in the GHG Permit, these should be included as quickly as possible through a permit variation approved by the regulator.

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http://www.decc.gov.uk/en/content/cms/what_we_do/change_energy/tackling_clima/emissions/eu_ets/euets_phase_ii/operators_guid/operators_guid.aspx

Where particular emission sources or source streams should not have been included in the permit because they are not eligible under the EU ETS, a permit variation is required to remove these sources from the permit. Where these sources were included in baseline emissions reported by the installation to determine the installation's allocation for Phase 2, the operator must inform the regulator and DECC about the discrepancy and what the actual baseline emissions should have been.

Where particular emission sources or sources streams, such as domestic boilers, have been identified during verification but not accounted for in the reported emissions for that year, emissions from those missed sources for that reporting year only should be included in the annual emissions report to avoid the risk of civil penalties. This applies whether the emissions are material or not.

Eligible emissions sources that have been identified during verification but not accounted for in previous Phase II reporting years must be reported separately to the regulator.

32. When is a small emitter a small emitter? MRG(2007) Section 16 sets up various potential dispensations for installations permitted as emitting less than 25kt CO_2/a. A number of small emitters are permitted as tier 1* to take data from invoices/supplier data. In this case it is obvious that the regulator has classified a site as a small emitter. However, in other cases the regulator may agree to an installation's small emitter status but have permitted them according to "normal" monitoring methodology tiers. Is it apparent from such permits whether the installation is deemed a small emitter or not?

Section 16 states a small emitter is one with *"average verified reported emissions of less than 25 000 tonnes of CO2 per year during the previous trading period. If the reported emission data are no longer applicable because of changes to the operating conditions or the installation itself or if a history of verified emissions is missing, the exemptions apply if the competent authority has approved a conservative projection of emissions for the next five years with less than 25,000 tonnes of fossil CO2 for each year."* A verifier may need to recommend improvements in relation to a Section 16 permitted installation if it finds them reporting emissions at or above 25,000 tonnes CO_2 for the given year.

Variations

33. When should an Operator apply for a permit variation?(new January 2012)

Any deviations from the permit, including the monitoring plan, should be notified to the regulator in accordance with the conditions in the permit.

Guidance on what operators should do in the event of a change can be found in the following document. You should be aware that while the guidance document reflects the correct requirements, the process of applying for variations etc is now done via ETSWAP

http://www.environment-agency.gov.uk/static/documents/Business/EU_ETS_Compliance_Guidance.pdf

34. May a small emitter who is permitted as tier 1* compile emissions data from their own metering instead?

No, unless the operator acquires a permit variation, demonstrating that the relevant metering meets the necessary uncertainty thresholds of tier 1 or above. The verifier's role includes check that an installation is only using appropriate invoiced data to calculate the emissions they report where they are permitted as Tier 1*. This does not preclude listing of other meters in the operator's monitoring methodology/plan, e.g. for cross-checking, but these must only be used to alert to concerns over the quality of the invoiced data (for resolving if necessary), not to substitute for it.

35. What happens if an operator applies for a permit variation (at the suggestion of a verifier) and the application has not yet been processed by the regulator? Can the verifier perform the verification and issue a verification report, and can the operator submit their annual verified emission report? Will it be accepted?

Yes, the verifier should proceed with the verification, although it should be clearly noted as a 'verified with comments' opinion with information about the variation and confirmation that it had not been approved at the time of completing the verification. Provided the operator has submitted an application to change the permit and paid the appropriate fee, the opinion will be accepted by the regulators.

See also paragraph 203 of the Annual Verification Guidance note.

Verification requirements

This section covers:

- The verification process and
- How to complete the verification process.

Verification process

36. The MRG(2007) does not define "materiality". The definition of "materiality level" is given as "the quantitative threshold or cut-off point to be used to determine the appropriate verification opinion on the emission data reported in the annual emissions report"

[MRG(2007) Section 2(5)(f)]. Should the materiality levels that are specified in MRG(2007) Table 3 just form the basis for deciding the verification plan and award of final opinion, or do they also constitute allowable error bands?

Materiality level sets a benchmark to which verifiers need to verify in order to be able to issue a positive verification opinion with reasonable assurance. It sets the bar for the verifier's risk assessment and deciding a sufficiently thorough "data sampling plan" and "verification programme". Materiality level **must not** be treated as an allowed tolerance for misstatements (omissions, misrepresentations and errors) and non-conformities. The verifier should expect the operator to correct all identified misstatements and non-conformities at the earliest opportunity. Wherever possible this should be before the final verified emissions report is issued. The finally submitted verified emissions report should contain zero or as low known materiality as possible. The materiality level then provides adequate margin for the verifier to provide a positive verification opinion with reasonable assurance and cover potentially unidentified omissions, misrepresentations or errors in records and data that has not been specifically checked (as well as in any residual issues that cannot be precisely assessed and corrected).

37. What constitutes a material non-conformity (as opposed to a material misstatement) and what is the relation to the materiality level?

It is important that verifiers appreciate section 4.5 of the Annual Verification Guidance. Quantitative thresholds including the materiality levels set by the MRG(2007) are not crucial to consideration of non-conformities. Non-conformities are considered to be material if, according to the verifier's professional judgement, they could have a numerical effect (material effect) on the reported emissions. Annex I of EA-6/03 provides further guidance and examples which may be helpful.

38. What is the expectation regarding the MRG(2007) statement in section 10.4.2(c) that the verifier shall 'confirm the validity of the information used to calculate the uncertainty level as set in the approved monitoring plan'?

The verifier's role regarding MRG(2007) Section 10.4.2(c) is to check the on-going "validity of the information used" in terms of discrepancies related to the input data fed into the operator's uncertainty analysis. Except where an installation may be permitted in accordance with a fall-back approach (section 5.3 of the MRG(2007)), the verifier is **not** required to redo or check (or necessarily understand) the operator's overall analysis. An example would be to check that the uncertainty component attributed to a meter's calibration remains appropriate (e.g. through appropriate frequencies of calibration and maintenance).

39. What constitutes a "commercially traded fuel"?

'Commercially traded fuels', 'commercially traded materials' and 'commercially standard fuels' are as defined by MRG(2007) section 2(2)(f), section 2(2)(g) and section 2(2)(h) respectively. Under MRG(2007) section 7.1, some operators may be permitted to determine annual flows of commercially traded fuels and materials based solely on the invoiced amount of fuel or material without further individual proof of associated uncertainties, as long as the provisions covering supplies (legislation, national or international standards) underwrite the required uncertainty threshold of the approved tier. Designation as a 'commercially traded fuel' may also be relevant to the permitted methodology for derivation of NCV (i.e. where an operator is permitted according to MRG(2007), Annex II, section 2.1.1.1(a2), Tier 2b).

40. What is the expectation with regards to checking the accuracy of gas supplier invoices?(NEW January 2012)

If an operator's approved monitoring plan permits the use of supplier invoices to determine fuel use, it is good practice to check that invoices represent the relevant information, such as the correct meter ID; that meter reading values are correct and; that the appropriate correction factor[16] has been applied.

Errors that have been identified must be corrected at the earliest opportunity to avoid the risk of civil penalties.

41. What are the requirements for site visits as part of Phase 2 verifications?

EA-6/03 confirms the need for a site visit(s) as a basic requirement of verification, and suggests waive only in exceptional circumstances based on the verifier's risk analysis for that year and installation, and competent authority approval. See section 4.3.2 of the Annual Verification Guidance for further information.

42. Is the verifier required to confirm the correct completion of the annual emissions report by the operator (e.g. for completeness, accurate transcriptions), as well as the materiality of the reported data and its acquisition in conformance with the approved monitoring plan?

Yes.

[16] Under The Gas (Calculation of Thermal Energy) Regulations 1996 a correction factor of 1.02264 is used where gas is conveyed to the meter at a rate which is reasonably expected not to exceed 25,000 therms or 732,000 kilowatt hours a year. See: http://www.legislation.gov.uk/uksi/1996/439/contents/made

43. What requirements are there in relation to reporting emissions to standard conditions?

The M&R Decision requires annual reporting of gas related activity, CV and emission factor data in terms of normal cubic meters (Nm^3) which it defines as meaning a temperature of 273.15K (0°C) and a pressure of 101,325 Pa. A verifier should confirm that relevant reported values duly comply with this requirement. It is also important that they confirm that the operator has carried out their emission calculations with various factors on a like for like basis (i.e. on the same T&P basis). Further Competent Authority guidance is available on how to correct to standard conditions.

44. What are the registry and verification requirements for installations in Gibraltar?

The Environment Agency (UK) performs the functions of the Registry on behalf of Gibraltar's Minister for the Environment and Gibraltar's regulator. United Kingdom Accreditation Service (UKAS) accredited verifiers undertake work in Gibraltar to DECC's guidelines.

45. What does the verifier do once they have the final emissions report from the operator? (UPDATED January 2012)

By this time, the verifier will have performed most of the verification process and raised any issues with the operator that should be taken on board in compiling their final annual emission report. The verifier will then complete their verification assessment based on the information in the final annual emission report, and complete their verification report via ETSWAP.

The operator will receive notification through an ETSWAP workflow task that they may now submit their now 'verified' annual emission report, inclusive of the verifier's verification report to the regulator by **31 March** following the calendar year covered by the annual emission report. The total annual emissions reported in the annual emissions report, must be the same as the verified annual emissions confirmed in the verification report.

Verification report

46. Why is the 'Pool' section in the Verification Opinion Statement page of the template retained when no installations have formed pools?

Pooling (in accordance with Article 28 of the Directive) has been retained in the ETSWAP verification report in case installations wished to form pools in phase 2. Verifiers should simply state 'No' where it does not apply. Pooling is not the same as 'grouping and sampling', because each installation within a pool still requires verification.

47. What comments should be made in the section about 'calculation methodology'?

Verifiers should state any particular standard methods used in the monitoring/calculations (for example such as those protocols listed in Annexes to the UK ETS and MRG(2007)), and/or any other standard methods approved for use by the regulator.

If the calculation methodology is NOT contained in the Monitoring Plan or M&R Decision, the name of the methodology and date of regulator approval should be stated. If no approval has been given, this should be noted as an area for improvement and confirmation with the regulator and be considered in the determining materiality of the data.

A standard response for this cell would be '*The calculation methodology has been performed in accordance with requirements of the Monitoring Plan and ISO standards X, Y and Z*'.

48. What comments should be inserted into the 'approved methodology used' part of the Verification Opinion Statement?

The verifier should confirm that the approved monitoring methodology as outlined in the Monitoring Plan (and any sector specific methods referred to in the Plan) has been used or an alternative. If the alternative used has not been approved by the competent authority, then the installation would not be compliant with its permitted Monitoring Plan. If an updated method has been used, this should be noted here with its full title and further discussed in Annex 1 of the VOS.

The verifier should raise any inconsistencies with the operator and require them to confirm with the regulator that the alternative methodology is acceptable. If a variation is required, see question 33.

49. What's the Compliance Account Number and is it mandatory to insert this number into the verification report?

The compliance account number is the same as the operator's registry account number. Where the operator can provide a registry account number is it desirable to include it in the verification report, however, this is not mandatory.

50. The Verification Opinion Statement refers to 'Competent Authority - Guidance on the M&R' - which Guidance does this refer to?

This refers to any additional formal guidance published by the competent authority that applies to all installations.

51. What sort of information should be inserted into Annex 3 of the verification report (Summary of conditions/changes/ clarification/variations approved by the Competent Authority but which have NOT been incorporated within a re-issued Permit at completion of verification)?

In this section, the verifier should note any correspondence between the operator and the regulator and/or DECC regarding how the monitoring and reporting should be performed and consequently how it should be verified. It may include information on whether or not minor changes to the monitoring plan have been noted and accepted by the regulator. It may also include brief reference to, or recognition of, correspondence from the regulator confirming the scope of the site and the sources that should be included in the permit.

52. What should be entered into Annex 2 – 'Objectives and scope of the Verification'?

The verifier's legal representatives may wish to agree appropriate text for this section. The following text is recommended: '*To verify the installation's annual emissions for {insert the year of the emissions being verified} under the EU Emissions Trading Scheme and to confirm compliance with monitoring requirements*'.

53. What sort of documents should be entered in the 'Reference Documents Cited section in Annex 2? (NEW January 2012)

These are the documents that have been used by the verifier and may include:

1) CIS5 - 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. Annex 3: Permitted Installations in the EU Emissions Trading Scheme (November 2006).

2) EA-6/03 European Co-operation for Accreditation Guidance For the Recognition of Verifiers under EU ETS Directive (January 2010 rev03)

3) ISO/IEC Guide 65: 1996(E) (EN45011) General Requirements for Bodies Operating Product Certification Systems

4) ISO 14064-3:2006 Specification with guidance for the validation and verification of GHG assertions

5) ISO 14065:2007 Requirements for greenhouse gas validation and verification bodies for use in accreditation or other forms of recognition.

6) IAF MD 6:2009 International Accreditation Forum (IAF) Mandatory Document for the Application of ISO 14065:2007 (Issue 1, February 2010)

7) International Standard on Assurance Engagements 3000: Assurance Engagements other than Audits or Reviews of Historical Information, issued by the International Auditing and Assurance Standards Board.

8) The UK Government's Guidance on EU ETS Annual Verification, December 2008 (updated February 2012) <amend as appropriate>

9) The Greenhouse Gas Emissions Trading Scheme Regulations 2005 (as amended)

10) Commission Decision of 18/07/07 - establishing guidelines for the monitoring and reporting of greenhouse gas emissions pursuant to Directive 2003/87/EC (as amended)

Verifiers may copy and paste as many references into a single row in ETSWAP, rather than enter a new row for each reference.

Verifiers should check that they cite the correct version of the documents and amend the list as appropriate.

Using the registry

54. Once a verifier has obtained accreditation or approval from UKAS how can they arrange to access the Registry?

In order to access the Registry as a verifier, the accredited/approved verification body will need to complete an online application form and supply appropriate documentation. The address for the online application is http://emissionsregistry.gov.uk.

The link to the documentation requirements is http://www.environment-agency.gov.uk/business/topics/pollution/32250.aspx

And the address to send the completed documentation is: -

EU ETS Registry Administrator
Environment Agency
Richard Fairclough House
Knutsford Road
Warrington
Cheshire
WA4 1HG

Verifiers do not have multiple access accounts in the Registry. Therefore the individual chosen to represent a Verifier will be the only person able to approve verified emissions within the secure area of the Registry.

Queries regarding operation of the registry should be emailed to etregistryhelp@environment-agency.gov.uk.

55. I have heard that there are going to be changes to the Registry. Where do I find out more information? (NEW January 2012)

During 2012, UK Registry accounts are expected to migrate to a single European Registry. More and up-to-date information can be found on the DECC[17] and Environment Agency[18] websites

56. Who inserts the annual emissions figure into the Registry?

The operator can propose the annual emissions figure and insert it into the registry which is then checked and approved by the verifier. Alternatively, the operator can delegate responsibility for inserting the 'verified emissions figure' directly to the verifier.

All entries of verified emissions figures should be made by **31 March each year**. If a verified emissions report is not received and the verified final emission figure is not approved by the verifier in the registry by **31 March**, then the operator account will be blocked. This means that no allowances will be allowed out of the account, other than to surrender them, until such time that the figure is approved in the registry, when the account will no longer be blocked. Allowances can still be transferred into the account.

Allowances equal to the annual reportable emissions must be surrendered from the operator's account by **30 April** to avoid civil penalties.

57. When entering data into the registry, how should data be rounded?

Data will need to be rounded to the nearest whole number. Figures are rounded up if above 0.5 and rounded down if below.

Closures

58. What are the verification requirements for installations that close permanently?

Permanent closure is when:

- all Schedule I activities at the installation have permanently ceased; or,
- the capacity of the Schedule I activities at the installation have permanently dropped below the thresholds given in Schedule I.

[17] See: http://www.decc.gov.uk/en/content/cms/emissions/eu_ets/euets_phase_ii/registry/registry.aspx
[18] See: http://www.environment-agency.gov.uk/business/topics/pollution/32250.aspx

The operator must apply to surrender their permit for the installation **within 1 month of closure**. A correction will then be made so that no future allowances will be issued to that site after the year of closure.

Section 4.9 in the *Guidance on Annual Verification* provides information about the process for verifying installations that are about to close or cease to become a Schedule 1 activity, e.g. they drop below the 20MW threshold for combustion activities.

Where possible, emissions and monitoring and reporting during the period in which they were operating should be verified in exactly the same way as other EU ETS installations. Verifiers must also confirm the date on which the installation ceased operation or fell below the relevant threshold. In the latter case, verifiers will need to confirm that the maximum capacity has fallen below the threshold due to units being closed down or the fitting of interlock systems. In cases of installations that become insolvent, the operator must continue to comply with permit conditions and regulations relating to permit surrender, and to ensure that the emissions occurring during the year in which the installation was operating are properly verified.

59. What are the verification requirements for installations that close temporarily?

"Temporary Closure" in operator permits means any cessation of all Schedule 1 activities carried out at an installation which is not permanent.

Operators are required to notify the regulator of any temporary closure on or before the day that the period of cessation becomes 50 days in length. The regulator will consider the information submitted by the operator to determine whether the closure can be considered a temporary closure in accordance with the provisions of Appendix D of the National Allocation Plan. If the closure cannot be considered temporary, it will be treated as a permanent closure and the operator must apply to surrender the permit.

Verifiers should confirm that the appropriate information was provided to the regulator where there has been a notifiable temporary closure. The information to check includes the date on which the temporary closure occurred and the date on which the unit is due to recommence operation, or did commence operation. Verifiers should check that a Notification has been submitted to the regulator.

60. What are the verification requirements for installations that partially close?

Partial closure is where part of an installation ceases operation, but there is still a Schedule 1 activity carried out at the installation. In these cases, operators retain their full allowances for the activity throughout the EU ETS Phase. Even after the year of partial site closure, the full number of allowances previously allocated will be issued.

Verifiers checking sites where partial closure has occurred should confirm the date on which the particular unit ceased operation. If possible, the verifier's site visit should be undertaken before the unit is closed down. If this is not possible and the unit's fuel meter had not previously been checked by the verifier, photographic information about the unit and meter should be compiled and provided to the verifier. If the operator has not yet been granted a permit variation for the change in scope, this should also be noted in the verification report.

ETSWAP

61. PERMIT METER TABLE ISSUE: The metering table in the consolidated permits incorrectly groups sources together alongside each meter so it is not clear which meter serves which individual source. (new February 2012)

This is an issue that is affecting many of the permits on ETSWAP, which we hope to address as an improvement to the system but this will not be completed to correct this in time for annual verification.

We are therefore recommending that operators keep their own correct and specific list of metering devices and which sources they serve for any affected installations. Verifiers should use this to assist them during verification.

In some cases, where no changes have been made to the permit since the migration to ETSWAP in December 2011, it is acceptable to refer back to the version of the permit issued prior to ETSWAP. If in any doubt the operator should contact the regulator for confirmation.