

EU ETS Revised MRG 2



October 11 2007

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Overview of Presentation

- Commission Decision of 18 July 2007 establishing guidelines for the monitoring and reporting of greenhouse gas emissions pursuant to Directive 2003/87/EC of the European Parliament and of the Council. (2007/589/EC). Referred to as MRG 2.
- MRG 2 overview of main changes
- Detailed discussion of certain changes
- Questions/clarifications.

MRG 2 Overview of changes

- Improved/new definitions (Section 2). Focus on source streams not sources, trueness replaces accuracy, materiality defined
- Monitoring plan requirements “clarified and made more stringent”. Substantial change EPA approval. (Section 4.3)
- Uncertainty requirements clarified (Section 7.1)
- Table 1 specifying minimum monitoring requirements is for permanent use
- Wider scope for minor and *de-minimis* sources

MRG 2 Overview of changes

- Determination of fuel /material properties clarified
 - Representative sampling
 - Derogations for use of non-accredited labs
 - Explicit ISO 17025 requirements for on-line GCs
- Highest tier default retained for Category B&C sites
- Fallback approach with minimum uncertainty thresholds
- Reduced requirements for pure biomass
- Reduced requirements for installations <25,000 t fossil CO₂ p.a.

MRG 2 Overview of changes

- Optional oxidation factors
- Standard conditions for volume correction (temperature 273.15 K pressure 101,325 Pa)(e.g. cubic meters NG). Advisable to report in mass terms
- Provisions on inherent and transferred CO₂ clarified
- Changes to Annexes including, combustion, cement, glass and ceramics.

The Monitoring Plan (Section 4.3)

New Requirements:

- A list of emission sources and source streams to be monitored
- A description of calculation/measurement based methodology
- Evidence demonstrating compliance with uncertainty thresholds for activity data and other parameters (where relevant) for each source stream
- If applicable a description of sampling approach for fuels/materials (NCV, EF, C, oxidation, biomass) (see section 13.6 also)

The Monitoring Plan (Section 4.3)

- If applicable a list and description of non-accredited labs., analytical procedures and QA
- If applicable comprehensive description of fall back approach and uncertainty
- A description of procedures for data acquisition and handling and control activities and description of activities.

Substantial changes to agreed Monitoring Plan

- Substantial change to monitoring plan requires EPA approval e.g. category changes, change from calculation to measurement, increased uncertainty implying different tier.
- Note permit conditions 2 and 3.1 relate to this and also require EPA approval.

Tiers of approaches (Section 5.2)

- Highest tier approach (detailed in Annexes) shall be used by all operators for all variables for all source streams for Cat. B and C sites. Only if shown to satisfaction of EPA, technically not feasible or lead to unreasonable costs may next lowest tier be used.
- Operators apply for all major source streams, as a minimum, tiers in Table 1 unless technically not feasible (Exemptions for installations with low emissions <25,000 tCO₂)
- Subject to EPA approval operator as a minimum may select tier 1 for minor source streams and no-tier estimation for *De-minimis* source streams.
- Pure biomass (>97%) no-tier approach
- Highest tier temporarily not feasible apply highest achievable tier emissions reported separately

Tiers of approaches (Section 5.2)

- Table 1 various changes including:
 - Thresholds relate to fossil CO₂ (previously related to total CO₂)
 - Addition of commercial standard fuels
 - Default tiers for category A in Table 1
- Definition changes Major, Minor, *De-minimis*
 - (Section 2(4)c) "*De-minimis* source streams" group minor source streams jointly emit 1 ktonne or less than 2% (maximum contribution 20 ktonnes fossil CO₂/year)

Tiers of approaches (Definition changes)

- Definition changes Major, Minor, *De-minimis*
 - (Section 2(4)d) “Major source streams” means a group of source streams that do not belong to the group “minor source streams”
 - (Section 2(4)e) “Minor source streams” source streams jointly emit 5 ktonnes or less than 10%(maximum contribution 100 ktonnes fossil CO₂/year)
- Thresholds have doubled but tonnage caps introduced on *De-minimis* and minor streams.

Fall-Back Approaches (Section 2.4.E)

- EPA discourages its use, may be approved as temporary solution in exceptional circumstances, decision reviewed annually.
- Allowable, subject to EPA approval, if technically not feasible or leads to unreasonable costs to apply at least tier 1 for all source streams (except *De-Minimis*)
- Allows fully customised monitoring methodology
- Requires annual (verified) detailed overall uncertainty assessment (A \pm 7.5%, B \pm 5%, C \pm 2.5%)
- Notify EPA in advance of submitting M+R Plan.

Emission factors (Section 5.5)

- *“use of emission factors for a fuel expressed as tCO₂/t rather than tCO₂/TJ for combustion emissions is restricted to cases where unreasonable costs would otherwise be incurred”* Operators will be required to monitor NCV and report EF as tCO₂/TJ.
- *“for the conversion of carbon into...CO₂ the factor of 3.664 (tCO₂/t C) shall be used.”*
- *“Inherent CO₂ which is transferred into an installation....as part of a fuel (e.g..... natural gas) shall be included in the emission factor for that fuel.”*

Oxidation and Conversion Factors (Section 5.6)

- “For oxidation factors the requirement to apply the highest tier is waived”
- Annex II, section 2.1.1.1 c Oxidation Factor.
 - Tier 1 applies factor of 1.
 - Tier 2 applies the factor as reported by MS in latest inventory. Ireland currently do not report a separate oxidation factor.
 - Tier 3 oxidation factor determined by detailed sampling and analysis in accordance with Section 13 Annex 1.
- The current MRG factors of 0.99 solid, 0.995 other fuels have been removed.

Uncertainty Assessment (Section 7)

- Written proof of uncertainty level of activity data for each source stream.
- Uncertainty of the measurement system comprises:
 - Specified uncertainty of the measurement instruments
 - Uncertainty associated with calibration
 - Additional uncertainty associated with the use of the measurement instruments
 - Stated uncertainty values are assessed over a year
- EPA may waive uncertainty assessment for commercially traded fuels or materials provided national legislation or demonstrated application of relevant national or international standards ensures respective uncertainty requirements for activity data are met for commercial transactions.
- Certain exemptions for installations with low emissions (section 16)

Control and Verification (Section 10)

- Operator shall establish, document, implement and maintain:
 - Effective data acquisition and handling activities (Section 10.1) to ensure GHG emissions monitored and reported in accordance with M+RP, the permit and the MRG.
 - A Control system (Operators own assessment process of inherent and control risks to errors, misrepresentations, omissions and non conformances.)
 - Control activities that help mitigate identified risks.

Control and Verification (Section 10)

- Procedures and Responsibilities detailed in section 10.3.1
- QA section 10.3.2. Calibration, adjusting and checking measurement equipment.
- Where measurement instruments cannot be calibrated alternative control activities agreed in advance with EPA.
- Detailed requirements for information technology
- Verification (Section 10.4)
 - Specified materiality levels of 5% for Category A&B installations; 2% for Category C installations.

Verification report and AIER (Section 10.4.e)

- All non-conformances and misstatements should be corrected as they occur or are discovered in accordance with Operators corrective action procedure.
- Verification Opinion statement (VOS) will report outstanding non-conformances and misstatements
- The Operator shall submit with the AIER a work plan and timeframes to close out non-conformances and misstatements unless the Operator can demonstrate that it is technically not feasible for specified non-conformances/misstatements
- The Operator shall also submit with the AIER work plan and timeframes to implement recommendations for improvement (EPA intends to update permits).

Requirements for determination of Fuel and Material Properties (Section 13.5)

- Continued preference for use of laboratories accredited to ISO 17025, but:
- (Section 13.5.2) provision to allow use of non-accredited labs. Subject to onerous requirements such as:
 - demonstrating to the satisfaction of the EPA that equivalent requirements are met. Requires detailed on-site assessment and report by independent suitably qualified personnel.
 - Evidence provided that lab is technically competent and able to generate technically valid results, assessed and reported on by suitably qualified personnel.
 - method validation
 - annual inter-comparison tests with ISO 17025 lab. Statistically significant differences resolved under supervision of ISO 17025 lab.

Online Gas Analysers and Gas Chromatographs (Section 13.5.3)

- Use of on-line gas analysers subject to EPA approval
- Limited to determination of composition data of gaseous fuels and materials
- Operator operating system shall meet requirements of EN ISO 9001:2000. Can be demonstrated by accredited certification of the system.
- Calibration services and suppliers of calibration gases to be accredited against ISO 17025
- Initial and annual validations to ISO 10723 conducted by ISO 17025 accredited lab

Sampling Methods and Frequency of Analysis (section 13.6)

- Hierarchy for representative sampling (only relevant to highest tier compliance)
- Sampling procedure and frequency of analysis shall be designed to meet an annual average maximum uncertainty of less than one third of the maximum uncertainty of the approved activity data tier for the same source stream.
- If the Operator is unable to meet this, the minimum frequency of analysis laid down in table 5 shall be applied (e.g. fuel oil every 20,000 tonnes and at least 6 times a year).

Requirements for installations with low emissions (Section 16)

- Average verified emissions previous trading period $<25,000 \text{ tCO}_2$
- Possible exemptions subject to EPA approval.
- EPA not allowing any exemption on site visits.
- Where necessary Operator may use information specified by instrument supplier irrespective of use conditions to estimate uncertainty (In-house meters)
- Operators continue to maintain calibration records for metering systems.
- Use of lower tiers (minimum tier 1)
- Use of simplified monitoring plans (relates mainly to metering details)
- Waive ISO 17025 lab. accreditation requirements (Where relevant)
- The use of Fuel/material can be determined based on purchasing records and stock changes without further consideration of uncertainties.

Annex II Combustion

- Fuel consumption over the reporting period shall be determined taking into account the effect of stock changes where applicable.
- The separate tiers and different uncertainty values for fuel purchase metering have been removed
- Section 2.1.1.1a NCV tier 2b
 - *“For commercially traded fuels the net calorific value as derived from the purchasing records for the respective fuel provided by the fuel supplier are used, provided they have been derived based on accepted national or international standards”*
 - The highest tier is still tier 3, based on detailed analysis in accordance with Section 13 Annex 1.

Industry Specific Annexes

- Various changes have been made in the industry specific annexes, refer to MRG2 for full details. For example there are numerous changes in the refineries annex, glass annex, cement annex and ceramics annex.

Information sources

Commission Decision of 18 July 2007 establishing guidelines for the monitoring and reporting of greenhouse gas emissions pursuant to Directive 2003/87/EC of the European Parliament and of the Council. (2007/589/EC)

- Available for download from EU Commission and EPA websites.
 - www.epa.ie
 - http://ec.europa.eu/environment/climat/emission/mrg_en.htm
- Refer to Commission FAQ's for clarification on certain aspects.



Thank-You



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