

EU Emissions Trading Scheme Monitoring, Reporting and Verification for Offshore Operators

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Reporting Principles

- Completeness
- Accuracy
- Consistency
- Transparency
- Cost effectiveness

General Combustion Activities

Based on Draft M&R Guidelines (Rev 24/11/03)

Activity Data

Fuel Consumed:

1. Metered consumption, uncertainty $\pm 7\%$
2. a) Metered consumption, uncertainty $\pm 5\%$
b) Metered purchase, uncertainty $\pm 4.5\%$, mass balance
3. a) Metered consumption, uncertainty $\pm 2.5\%$
b) Metered purchase, uncertainty $\pm 2\%$, mass balance
4. a) Metered consumption, uncertainty $\pm 1.5\%$
b) Metered purchase, uncertainty $\pm 1\%$, mass balance

Net CV:

1. Country specific net CV from IPCC
2. Latest country specific net CV
3. Measured for each batch of fuel

General Combustion Activities

Based on Draft M&R Guidelines (Rev 24/11/03)

Emission Factor

1. Reference factor from Section 8 of Annex 1
2. a) Latest country specific factor
b) Density measurement and empirical correlation
3. Calculated from representative carbon content

Oxidation Factor

1. 0.99 for solid fuels and 0.995 for all other fuels
2. Activity specific factors for solid fuels based on carbon content of uncombusted products.

Flaring (likely to be excluded?)

Based on Draft M&R Guidelines (Rev 24/11/03)

Includes routine, operational and emergency flaring

Activity Data

Flared gas:

1. Metered volumes, uncertainty +/- 12.5%
2. Metered volumes, uncertainty +/- 7.5%
3. Metered volumes, uncertainty +/- 2%

Emission Factor

1. Reference factor (assumes pure butane)
2. Calculated from representative carbon content

Oxidation Factor

1. Rate of 0.995

Application of Tiers

Based on Draft M&R Guidelines (Rev 24/11/03)

Annex/Activity	Activity Data			Net Calorific Value			Emission Factor			Oxidation Factor		
	A	B	C	A	B	C	A	B	C	A	B	C
II: Combustion												
Combustion (gaseous, liquid)	2a/2b	3a/3b	4a/4b	2	2	3	2a/2b	2a/2b	3	1	1	1
Combustion (solid)	1	2a/2b	3a/3b	2	3	3	2a/2b	3	3	1	2	2
Flares	2	3	3	n.a.	n.a.	n.a.	1	2	2	1	1	1
Scrubbing Carbonate	1	1	1	n.a.	n.a.	n.a.	1	1	1	n.a.	n.a.	n.a.
 Gypsum	1	1	1	n.a.	n.a.	n.a.	1	1	1	n.a.	n.a.	n.a.

Column A: total annual emissions ≤ 50 ktonnes

Column B: 50 ktonnes < total annual emissions ≤ 500 ktonnes

Column C: total annual emissions > 500 ktonnes

MANAGING RISK



Determination of CV and Factors

Based on Draft M&R Guidelines (Rev 24/11/03)

- CEN/ISO/National standards shall be used in determining net CV and carbon content.
- Laboratories shall be accredited to EN ISO 17025 (General requirements for the competence of testing and calibration laboratories)
- Sampling needs to be representative for the fuel type
- Document the procedure for determining the emission factors and retain records of underlying data
- Procedures are agreed with the CA and form part of the permit.

‘Permissible uncertainty’

Based on Draft M&R Guidelines (Rev 24/11/03)

- 95% confidence interval around the measured value
- Includes specified uncertainty for equipment, associated calibration and additional uncertainty around how the equipment is used in practice
- Uncertainty is addressed within the permit based on the combination of tiers which are authorised by the CA
- Remaining uncertainties around emissions data will be managed via the QA/QC process, which will subject to verification.

QA/QC Requirements

Establish a data management system (can be part of EMAS/ISO system)

- Map out information flow (from meter points to final emissions)
- Use simplified fuel flow diagrams and record the location/reference for meter points
- Determine/document control measures for each step in the data flow (e.g. planned maintenance, checks/reviews)
- Assign/document responsibilities for each step in the data flow.
- Document the justification for assumptions

Managing Reporting Risks

Risks:

- Reliability of metering systems
- Non-transparent underlying data sources
- Representativeness of emission factors
- Significant manual transfer of data

Controls:

- Defined planned maintenance requirements
- Clear documentation/ understanding of information sources and assumptions
- Defined process for assessing/updating factors and retaining supporting information
- Secondary cross checks/ rigorous data review processes

Lessons from the UK ETS

- A two staged verification process relieves the pressure at year end
- Good data management systems reduce the demands on time and personnel
- Clear communication of the verifiers expectations and requirements
- Good preparation on both sides leads to a more efficient verification process

Where to now ?

- Permit applications
- Establish systems and procedures to monitor, measure, manage data and report
- External review by verifier of above systems and procedures in 2004 to ensure suitability of approach
- Address gaps/issues as a result of this review
- First compliance period in 2005 including mid term verification and final verification at year end 2005 or early 2006