

# ANNUAL EMISSIONS MONITORING PLAN

## CONTENTS

Sheet names are given in bold font and section names in normal font.

**a Contents**

**b Guidelines and conditions**

**A. Monitoring Plan versions**

- 1 List of monitoring plan versions

**B. Operator & Installation Identification**

- 2 About the operator
- 3 About your installation
- 4 Contact details

**C. Installation Description**

- 5 About the Installation Activities
- 6 About your emissions

**D. Calculation Based Approaches**

- 7 Calculation: Details which are needed for further input in the next sheet

**E. SourceStreams**

- 8 Details on the applied tiers for activity data and calculation factors

**F. Measurement Based Approaches**

- 9 Measurement of CO2 and N2O emissions
- 10 Details for measurement points
- 11 Management and procedures for measurement based approaches

**G. Fall-back Approaches**

- 12 Description of the Fall-back approach

**H. N2O emissions**

- 13 Management and procedures for monitoring N2O emissions

**I. Determination of PFC emissions from production of primary aluminium**

- 14 Determination of PFC emissions
- 15 Monitoring details for source streams of PFC emissions
- 16 Management and written procedures for PFC monitoring

**J. Determination of transferred or inherent CO2**

- 17 Determination of inherent and transferred CO2
- 18 Information relevant for pipeline systems used for transport of CO2
- 19 Information relevant for installations for the geological storage of CO2

**K. Management & Control**

- 20 Management
- 21 Data flow activities
- 22 Control activities
- 23 List of definitions and abbreviations used
- 24 Additional information
- 25 Changes in operation

**L. Member State specific further information**

- 26 Comments

**Information about this file:**

This monitoring plan was submitted by:

Installation name:

Unique installation identifier:

Version Number of this monitoring plan:


**If your competent authority requires you to hand in a signed paper copy of the monitoring plan, please use the space below for signature:**

\_\_\_\_\_

Date

\_\_\_\_\_

Name and Signature of legally responsible person

**Template version information:**

Template provided by:	European Commission
Publication date:	07.05.2012
Language version:	English
Reference filename:	MP P3 Inst_COM_en_070512.xls

## GUIDELINES AND CONDITIONS

- 1 Directive 2003/87/EC as amended by Directive 2009/29/EC (hereinafter "the (revised) EU ETS Directive") requires operators of installations which are included in the European Greenhouse Gas Emission Trading Scheme (the EU ETS) to hold a valid GHG emission permit issued by the relevant Competent Authority and to monitor and report their emissions, and have the reports verified by an independent and accredited verifier.

The Directive can be downloaded from:

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CONSLEG:2003L0087:20090625:EN:PDF>

- 2 The Monitoring and Reporting Regulation (Commission Regulation (2012) xxxx/EU) (hereinafter the "MRR"), defines further requirements for monitoring and reporting. The MRR can be downloaded from:

[http://ec.europa.eu/clima/news/articles/news\\_2011121401\\_en.htm](http://ec.europa.eu/clima/news/articles/news_2011121401_en.htm)

Article 12 of the MRR sets out specific requirements for the content and submission of the monitoring plan and its updates. Article 12 outlines the importance of the Monitoring plan as follows:

*The monitoring plan shall consist of a detailed, complete and transparent documentation of the monitoring methodology of a specific installation [or aircraft operator] and shall contain at least the elements laid down in Annex I.*

Furthermore, Article 74(1) states:

*Member States may require the operator and aircraft operator to use electronic templates or specific file formats for submission of monitoring plans and changes to the monitoring plan, as well as for submission of annual emissions reports, tonne-kilometre data reports, verification reports and improvement reports.*

*Those templates or file format specifications established by the Member States shall, at least, contain the information contained in electronic templates or file format specifications published by the Commission.*

This file constitutes the said template for monitoring plans of installations developed by the European Commission and includes the requirements defined in Annex I as well as further requirements to assist the operator in demonstrating compliance with the MRR.

Under certain conditions as described below, it may have been amended to a limited extent by a Member State's competent authority.

- 3 Furthermore the MRR (Article 13) allows the Member States to develop simplified and standardised monitoring plans for "simple" installations.  
*Member States may allow operators and aircraft operators to use standardised or simplified monitoring plans, without prejudice to Article 12(3). For that purpose, Member States may publish templates for those monitoring plans, including the description of data flow and control procedures referred to in Article 57 and Article 58, based on the templates and guidelines published by the Commission.*

According to the Commission's guidance document No. 1 ("General guidance for installations"), such standardised templates should be provided by adding standard texts where appropriate in this template here.

If your installation is eligible for such simplified and/or standardised monitoring plan in accordance with the requirements laid down in guidance document 1, please check with your competent authority or its website whether your Member State provides such simplified templates.

- 4 All Commission guidance documents on the Monitoring and Reporting Regulation can be found at:

[http://ec.europa.eu/clima/policies/ets/monitoring/index\\_en.htm](http://ec.europa.eu/clima/policies/ets/monitoring/index_en.htm)

- 5 **Before you use this file, please carry out the following steps:**

(a) [Read carefully the instructions below for filling this template.](#)

(b) Identify the Competent Authority (CA) responsible for your installation in the Member State where the installation is situated (there may be more than one CA per Member State). Note that "Member State" here means all States which are participating in the EU ETS, not only EU Member States.

(c) Check the CA's webpage or directly contact the CA in order to find out if you have the correct version of the template. The template version (in particular the reference file name) is clearly indicated on the cover page of this file.

(d) Some Member States may require you to use an alternative system, such as internet-based form instead of a spreadsheet. Check your Member State requirements. In this case the CA will provide further information to you.

- 6 This monitoring plan must be submitted to your competent authority at the following address:

Detail address to be provided by the Member State

- 7 The CA may contact you to discuss modifications to your monitoring plan to ensure the accurate and verifiable monitoring and reporting of annual emissions, according to the general and specific requirements of the MRR. Notwithstanding Article 16(1) of the MRR, upon notification of approval from the CA you will use the latest approved version of the monitoring plan as the methodology to determine annual emissions and implement your data acquisition and handling activities and control activities. It will serve also as a reference for verification of your annual emissions report.

- 8 You must notify any proposals for significant modifications to the monitoring plan to the CA without undue delay. Any significant change in your monitoring methodology shall be subject to approval by the CA, as set in Article 14 and 15 of the MRR. Where you can assume reasonably (in accordance with Article 15) that necessary updates of the monitoring plan are not significant, you may notify the CA of those updates jointly once per year in accordance with the deadline specified in that Article (subject to competent authority agreement).

- 9 You must implement and keep records of all modifications to the monitoring plan in accordance with Article 16 of the MRR.

- 10 Contact your CA if you need assistance to complete your Monitoring Plan. Some Member States have produced guidance documents which you may find useful.

- 11 **Confidentiality statement-** The information submitted in respect of this application may be subject to public access to information requirements, including Directive 2003/4/EC on public access to environmental information. If you consider that any information you provide in connection with your application should be treated as commercially confidential, please let your CA know. You should be aware that under the provisions Directive 2003/4/EC, the CA may be obliged to disclose information even where the applicant requests that it is kept confidential.

- 12 **Information sources:**

**EU Websites:**

EU-Legislation: <http://eur-lex.europa.eu/en/index.htm>

EU ETS general: [http://ec.europa.eu/clima/policies/ets/index\\_en.htm](http://ec.europa.eu/clima/policies/ets/index_en.htm)

Monitoring and Reporting in the EU ETS:

[http://ec.europa.eu/clima/policies/ets/monitoring/index\\_en.htm](http://ec.europa.eu/clima/policies/ets/monitoring/index_en.htm)

**Other Websites:**

<to be provided by Member State>

**Helpdesk:**

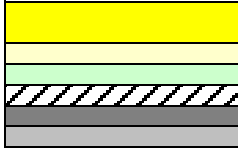
<to be provided by Member State, if relevant>

**13 How to use this file:**

This template has been developed to accommodate the minimum content of a monitoring plan required by the MRR. Operators should therefore refer to the MRR and additional Member State requirements (if any) when completing.

It is recommended that you go through the file from start to end. There are a few functions which will guide you through the form which depend on previous input, such as cells changing colour if an input is not needed (see colour codes below).

In several fields you can choose from predefined inputs. For selecting from such a "drop-down list" either click with the mouse on the small arrow appearing at the right border of the cell, or press "Alt-CursorDown" when you have selected the cell. Some fields allow you to input your own text even if such drop-down list exists. This is the case when drop-down lists contain empty list entries.

Colour codes and fonts:**Black bold text:***Smaller italic text:*

This is text provided by the Commission template. It should be kept as it is.

This text gives further explanations. Member States may add further explanations in MS specific versions of the template.

**Yellow fields indicate mandatory inputs. However, if the topic is not relevant for the installation, no input is required.**

Light yellow fields indicate that an input is optional.

Green fields show automatically calculated results. Red text indicates error messages (missing data etc).

Shaded fields indicate that an input in another field makes the input here irrelevant.

Grey shaded areas should be filled by Member States before publishing customized version of the template.

Light grey areas are dedicated for navigation and hyperlinks.

- 14 Navigation panels on top of each sheet provide hyperlinks for quick jumps to individual input sections. The first line ("Table of contents", "Previous sheet", "next sheet") and the points "Top of sheet" and "End of sheet" are the same for all sheets. Depending on the sheet, further menu items are added.
- 15 This template has been locked against data entry except for yellow fields. However, for transparency reasons, no password has been set. This allows for complete viewing of all formulae. When using this file for data entry, it is recommended to keep the protection in force. The sheets should only be unprotected for checking the validity of formulae. It is recommended to do this in a separate file.
- 16 **In order to protect formulae against unintended modifications, which usually lead to wrong and misleading results, it is of utmost importance NOT TO USE the CUT & PASTE function. If you want to move data, first COPY and PASTE them, and thereafter delete the unwanted data in the old (wrong) place.**
- 17 Data fields have not been optimized for specific numerical and other formats. However, sheet protection has been limited so as to allow you to use your own formats. In particular, you may decide about the number of decimal places displayed. The number of places is in principle independent from the precision of the calculation. In principle the option "Precision as displayed" of MS Excel should be deactivated. For more details, consult MS Excel's "Help" function on this topic.
- 18 **DISCLAIMER: All formulae have been developed carefully and thoroughly. However, mistakes cannot be fully excluded. As described above, full transparency for checking the validity of calculations is ensured. Neither the authors of this file nor the European Commission can be held liable for eventual damages resulting from wrong or misleading results of the provided calculations. It is the full responsibility of the user of this file (i.e. the operator of an EU ETS installation) to ensure that correct data is reported to the competent authority.**
- 19 In many cases in this template you are required to fill in descriptions of the installation, its functioning, and specific methods which you apply for monitoring. In such situations text fields are provided for your input, which may be sometimes insufficient for the information you want to enter.
- 20 In such cases please attach your information (text, formulae, reference data, diagrams and drawings) as separate files when sending them to the competent authority. You are then requested to provide a reference to that file. Please indicate in such situations the filename of the attachment. It is furthermore advisable to add the date of the last change of the document to the reference, and to include a clearly readable indicator for that date directly in the (printable) file.
- 21 The competent authority may restrict the acceptable file formats. Please ensure that you use only standard office file types such as .doc, .xls, .pdf. For further acceptable file types contact your competent authority or its website.
- 22 **This file contains macros for a few functions (adding items to lists, and showing/hiding examples). If macros are disabled on your computer, you will still be able to use the template, but without those functions. For ensuring that the macros don't contain a virus, they have been electronically signed. Please check on the Commission's or the competent authority's website for instructions on checking the authenticity of the template file.**

**23 Member State-specific guidance is listed here:**



## B. Operator & Installation Identification

### 2 About the operator

- (a) Competent Authority
- (b) Member State
- (c) Emissions trading permit number  member state/CA prefix
- (d) Operator Name
- (e) Actual version number of the monitoring plan

*Note: This number will also be displayed on the cover page of this file.*

### 3 About your installation

- (a) Name of the installation and the site on which it is located:
  - i. Installation name:
  - ii. Site name:
  - iii. Unique ID of the installation (as in NIMs):
  - iv. EPRTR (optional):

*Include any Member State specific guidance on naming of installations.*

- (b) Address / location of the site of the installation:
  - i. Address Line 1:
  - ii. Address Line 2:
  - iii. City:
  - iv. State/Province/Region:
  - v. Postcode/ZIP:
  - vi. Country:
  - vii. Grid reference of site main entrance (optional):

*Include any Member State specific guidance regarding grid references.*

### 4 Contact details

**Who can we contact about your monitoring plan?**

*It will help us to have someone who we can contact directly with any questions about your monitoring plan. The person you name should have the authority to act on behalf of the operator.*

- (a) Primary contact:
  - Title:
  - First Name:
  - Surname:
  - Job title:
  - Organisation name (if different from the operator):
  - Telephone number:
  - Email address:
- (b) Alternative contact:
  - Title:
  - First Name:
  - Surname:
  - Job title:
  - Organisation name (if different from the operator):
  - Telephone number:
  - Email address:

## C. Installation Description

### 5 About the Installation Activities

Please use this sheet for describing your installation. The information entered here prepares the necessary detailed inputs in the following sheets. In particular, source streams will be described in more detail in sheet E\_SourceStreams, and measurement points in sheet F\_MeasurementBasedApproaches.

**(a) Description of the installation and its activities:**

Please provide here a brief outline description of the site and the installation, and describe the location of the installation on the site. The description should also include a non-technical summary of the activities carried out at the installation, briefly describing each activity performed and the technical units used within each activity. In particular, the description should also identify and explain any part(s) of the installation which are not operated by the applicant, or parts which are not deemed to fall under the scope of the EU ETS.

This description should provide the linking information which is needed to understand, how the information given in other parts of this template are used together for calculating the emissions. It may be as short as the given example in sheet D\_CalculationBasedApproaches, section 7(a).

**(b) Source Stream Diagram document title and reference:**

It may aid the description of activities to provide a simple diagram showing emissions sources, source streams, sampling points and metering/measurement equipment. If such a diagram is available please provide here a reference (filename, date) and attach a copy when submitting this monitoring plan to your competent authority. Note in some cases this may be specifically requested by the competent authority as mandatory.

**(c) List of activities pursuant to Annex I of the EU ETS Directive carried out at the installation:**

Please provide the following technical details for each activity pursuant to Annex I of the EU ETS Directive carried out at your installation. Please also provide the capacity of each Annex I activity relevant at your installation.

Please note that 'capacity' in this context means:

- Rated thermal input (for activities whose inclusion in the EU ETS depends on the 20MW threshold), which is the rate at which fuel can be burned at the maximum continuous rating of the installation multiplied by the calorific value of the fuel and expressed as megawatts thermal.
- Production capacity for those specified Annex I activities for which production capacity determines the inclusion in the EU ETS.

Please make sure that the installation boundaries are correct and in line with Annex I of the EU ETS Directive. For further information please consult the relevant sections of the Commission's Guidance on Interpretation of Annex I. This document can be found under the following link:

[http://ec.europa.eu/clima/policies/ets/docs/guidance\\_interpretation\\_en.pdf](http://ec.europa.eu/clima/policies/ets/docs/guidance_interpretation_en.pdf)

The list entered here will be available as a drop-down list in the tables below where a reference to the activity is required for the installation description.

For showing/hiding examples, press the "Examples" button in the navigation area.

Activity Ref. (A1, A2...)	Annex I Activity	Total Activity Capacity	Capacity units	GHG emitted
A01	Production of cement clinker	1500	tonnes per day	CO2
A02	Combustion of fuels	120	MW(th)	CO2
A1				
A2				
A3				
A4				
A5				

**(d) Estimated annual emissions:**

Please enter here the average annual emissions of your installation. This information is required for categorisation of the installation in accordance with Article 19 of the MRR. Use the average verified annual emissions of the previous trading period data OR if this data is not available, or is inappropriate, a conservative estimate of annual average emissions, including transferred CO<sub>2</sub>, but excluding CO<sub>2</sub> from biomass.

The resulting category is used for identifying minimum tier requirements in section 8 (Source streams).

Estimated annual emissions		t CO <sub>2</sub> e
Installation category in accordance with Article 19		

**(e) Installation with low emissions?**

Entering "TRUE" here means that the installation satisfies the criteria for installations with low emissions as defined by Article 47.

According to that Article, the operator may submit a simplified monitoring plan for an installation where no nitrous oxide emitting activities are carried out and it can be demonstrated that:

- the average verified annual emissions of the installation during the previous trading period were less than 25 000 tonnes CO<sub>2</sub>(e) per year, or
- a conservative estimate shows that emissions for the next 5 years will be less than 25 000 tonnes CO<sub>2</sub>(e) per year, where the verified emissions are not available or inappropriate.

Note: the above data shall include transferred CO<sub>2</sub>, but exclude CO<sub>2</sub> stemming from biomass.

If your selection here contradicts the number for estimated emissions under point (d) above, a message will highlight this fact. Please give an appropriate justification below.

If your installation is an installation with low emissions as defined by Article 47, several simplifications for the monitoring plan apply.

**(f) Justification for estimation value**

If your input regarding being an installation with low emissions contradicts your entry in point (d), or if that figure is not based on verified emissions, but on a conservative estimate, please give a short justification below.

### 6 About your emissions

**(a) Monitoring approaches proposed to apply:**

Please confirm which of the following monitoring approaches you propose to apply:

In accordance with Article 21, emissions may be determined using either a calculation based methodology ("calculation") or measurement based methodology ("measurement") except where the use of a specific methodology is mandatory according to the provisions of the MRR.

Note: the operator may, subject to competent authority approval, combine measurement and calculation for different sources. The operator is required to ensure and demonstrate that neither gaps nor double counting of reportable emissions occurs.

Please make sure that you don't leave these fields empty, because inputs here will trigger conditional formatting, which guides you through the document.

Calculation approach for CO2:	WAHR	Relevant sections: 6 (except d), 7, 8
Measurement approach for CO2:	WAHR	Relevant sections: 6 (except e), 9, 10, 11
Fallback approach (Article 22):	WAHR	Relevant sections: 12
Monitoring of N2O emissions:	WAHR	Relevant sections: 6 (except e), 9, 10, 11, 13
Monitoring of PFC emissions:	WAHR	Relevant sections: 6 (except d), 7, 14, 15, 16
Monitoring of transferred/inherent CO2 and CCS:	WAHR	Relevant sections: 6 (except e), 9, 10, 11, 17, 18, 19

Please ensure you have completed the rest of this sheet, the relevant sections for each approach selected above, before you continue to sheet "K\_ManagementControl" (sections 20 to 25), which is mandatory for all installations.

**(b) Emissions sources:**

Annex I requires that monitoring plans include a description of the installation and activities to be carried out and monitored, including a list of emission sources and source streams. The information you provide in this template should relate to the Annex I activity(ies) comprised in the installation in question, and should relate to a single installation. Include in this section any activities carried out at your installation and exclude related activities carried out by other operators.

The activity reference in the last column relates to the activity reference in section 5(c) above. Where an emission source belongs to more than one activity, please enter "A1, A2" or "A1 - A3" or similar, as appropriate.

The list here will be available as a drop-down list at the following points below (c, d and e) where a reference to the relevant emission sources is needed.

For showing/hiding examples, press the "Examples" button in the navigation area.

Emission source ref. S1, S2,...	Emission source (name, description)	Activity Ref.
S01	Cement clinker kiln (decarbonatisation of raw meal, combustion of fuels)	A1
S02	Coal fired boiler (combustion of fuels)	A2
S03	Coal fired boiler (decomposition of limestone for flue gas scrubbing)	A2
S1		
S2		
S3		
S4		
S5		
S6		
S7		
S8		
S9		
S10		



Click "+" to add more emissions sources

**(c) Emission points and emitted GHGs:**

Please list and briefly describe all relevant emission points (including diffuse emission sources).

Please also select the Annex I activities, the emission sources and the GHGs emitted from the drop-down lists (relating to data entered in section 5(c) above). If more than one activity or emission source is concerned, please enter e.g. "A1, A2".

The list here will be available as a drop-down list at the following points below (d and e) where a reference to the relevant emission point is needed.

For showing/hiding examples, press the "Examples" button in the navigation area.

Emission point ref. EP1, EP2,...	Emission point description	Activity Ref.	Emission source ref.	GHG emitted
EP01	Stack 1 (coal fired boiler)	A02	S102, S03	CO2
EP02	Stack 2 (cement kiln)	A01	S01	CO2
EP1				
EP2				
EP3				
EP4				
EP5				
EP6				
EP7				
EP8				
EP9				
EP10				



Click "+" to add more emission points

**(d) Measurement points, where continuous measurement systems are installed:**

**relevant**  
Please enter data in this section

In order to allow this template to automatically propose emission source categories, it is necessary to define first any emission sources for which measurement based methods are applied.

Please list and describe here all measurements points at which GHGs are measured by continuous emission monitoring systems (CEMS). This includes measurement points in pipeline systems used for the transfer of CO2 with the aim of geological storage of CO2.

No entries are required if you have defined that no measurement based methods are used in section 6(a) above.

For each measurement point, please also enter the estimated annual emissions measured. This information is required for determining the applicable tier.

Pursuant to Article 41(1) a lower tier requirement may be allowed for each emission source which emits less than 5 000 tonnes of CO2(e) per year, or which contributes less than 10% of the total annual emissions of the installation, whichever is higher in terms of absolute emissions ("minor" emission source).

All other emission sources will be categorised as "major" emission source.

Those estimated emissions are also relevant to categorise the calculated-based source streams under point (f) below, if calculation based approaches are applied.

For showing/hiding examples, press the "Examples" button in the navigation area.

measurement point ref. M1, M2,...	Description	Emission point ref.	Estimated emissions [t CO2e / year]	Possible category	GHG measured
M01	Stack of coal fired boiler, measurement platform A	EP01	150.000	Major	CO2
M1					
M2					
M3					
M4					
M5					





### D. Calculation Based Approaches

relevant

Please enter data in this section

**7 Calculation: Details which are needed for further input in the next sheet**

Please use this sheet for providing information necessary for calculation based approaches. The information entered here is used as reference for the detailed inputs in the following sheet (E\_SourceStreams). In particular, the list of measuring instruments is required for the monitoring of activity data, the list of information sources is required for default values for calculation factors in accordance with Article 31, and the analytical methods will be referenced in case analyses are required for calculation factors.

**(a) Description of the calculation based approach for monitoring CO2 emissions at your installation, if applicable:**

*Please provide a concise description of the calculation approach, including formulae, used to determine your annual CO2 emissions in the text box below.*

*If the description is too complex, e.g. complex formulas are applied, you may provide the description in a separate document using a file format acceptable for the CA. In this case please reference this file here, by using the file name and date.*

*This description should provide the linking information which is needed to understand, how the information given in other parts of this template are used together for calculating the emissions. It may be as short as the given example.*

In principle, the calculation approach used at this installation is done according to the following sequence:

a) for each source stream, where default values for calculation factors are used (natural gas, heavy fuel oil, and all minor source streams), the activity data is first summed up, then the calculation formula according to Article 24(1) is used.

b) for each source stream, where analyses results are used for calculation factors (coal, raw meal), the activity data and calculation factors of each batch, to which the analyses relate, are first used for the calculation formula according to Article 24(1). The resulting emissions for each batch are then summed up to the annual emissions value of the source stream.

c) In cases b), weighted average calculation factors are determined for reporting.

d) the emissions of all source streams are added up to give the annual emissions of the installation.

For solid fuels, batch metering in accordance with Article 27(2) is used. All other source streams are monitored using continual metering.

All details on source streams (determination of activity data, determination of calculation factors) are outlined in other sections of this monitoring plan.

**(b) Specification and location of measurement systems for determining the activity data for source streams:**

*Please describe the specification and location of the measurement systems to be used for each source stream where emissions are determined by calculation.*

*Under "Location" you should specify where the meter is found in the installation, and how it is identified in the process flow chart.*

*For each measuring instrument please enter the specified uncertainty, including the range this uncertainty is related to, as given in the manufacturer's specification. In some cases an uncertainty may be specified for two different ranges. In that case please enter both of them.*

*The typical use range refers to the range the relevant measuring instrument is usually used in your installation.*

*A description should be provided for all measurement devices which are relevant for emissions monitoring, including sub-meters and meters used to deduct quantities which are used outside the installation boundaries. Measurement devices used for continuous emissions measurement (CEMS) are to be specified in sheet F\_MeasurementBasedApproaches, section 9.c.*

*"Type of measuring instrument": Please select the appropriate type from the drop-down list, or enter a more appropriate type.*

*The list of instruments entered here will be available as a drop-down list for each source stream in sheet E\_SourceStreams (point b), where the relevant measuring instruments used are to be referenced.*

*In case of gas flow meters please refer to Nm³/h if the p/T compensation is implemented into the instrument and relate to m³ in operating state if the p/T compensation is done by a separate instrument. In the latter case please also list those separate instruments.*

*All instruments used must be clearly identifiable using a unique ID (such as the serial number of the instrument). However, exchange of instruments (e.g. necessary as consequence of a damage) will not constitute a significant change of the monitoring plan within the meaning of Article 15(3). The unique identification should therefore be documented separately from the monitoring plan. Please make sure that you establish an appropriate written procedure for this purpose.*

**For showing/hiding examples, press the "Examples" button in the navigation area.**

Ref	Type of measuring instrument	location (internal ID)	Measurement range			Specified uncertainty (+/-%)	Typical use range	
			unit	lower end	upper end		lower end	upper end
MI01	Rotary meter	UBA RM-27	Nm³/h	0	250	3	500	750
				250	1.000	1,5		
MI02	Weigh bridge	WB-342	Kg	3.000	40.000	0,6	7500	40000
MI1								
MI2								
MI3								
MI4								
MI5								
MI6								
MI7								

MI8								
MI9								
MI10								



Click "+" to add more measurement instruments

**(c) Uncertainty calculations assessment document title and reference:**

You must provide evidence to demonstrate compliance with the applied tiers, in accordance with Article 12. Please list references to uncertainty calculations and/or schematics in the box above. Note that in accordance with Article 47(3), installation with low emissions do not have to submit this document to the CA.

**(d) List of information sources for default values of calculation factors:**

Please list all relevant information sources, from which you derive default values for calculation factors according to Article 31. These are usually static sources such as e.g. National Inventory, IPCC, MRR Annex VI, Handbook of Chemistry & Physics... Only where the default values change on an annual basis, the operator shall specify the authoritative applicable source of that value by means of a dynamic source, such as the CA's Website. This list will be available as a drop-down in sheet E\_SourceStreams (table g2) to reference the information sources to the relevant calculation factors of each source stream. For showing/hiding examples, press the "Examples" button in the navigation area.

Information Source Ref.	Description of Information source
IS01	National GHG Inventory, annually updated (see http://Dummy.address.test). Most actual value published in 2011 is used.
IS02	Handbook of Chemistry and Physics, 92nd ed., http://www.hbcpnetbase.com/
IS03	NCV and EF analysis of source stream "waste fuel oil" from August 2011
IS1	
IS2	
IS3	
IS4	
IS5	
IS6	
IS7	
IS8	
IS9	
IS10	
IS11	
IS12	
IS13	
IS14	
IS15	



Click "+" to add more information sources

**(e) Laboratories and methods used for analyses for calculation factors:**

Please list the methods to be used for analysing fuels and materials for the determination of all calculation factors where applicable due to the selected tier. Where the laboratory is not accredited according to EN ISO/IEC 17025, you have to provide evidence that the laboratory is technically competent in accordance with Article 34. For this purpose please provide reference to an attached document.

Where online gas chromatographs or extractive or non extractive gas analysers are used, the requirements of Article 32 shall be met. This list will be available as a drop-down in sheet E\_SourceStreams (table (g)) to reference the analytical methods to the relevant calculation factors of each source stream. For showing/hiding examples, press the "Examples" button in the navigation area.

Lab Ref	Name of laboratory	Parameter	Method of analysis (include procedure reference and brief description of method)	Is lab EN ISO/IEC 17025 accredited for this analysis?	If no, reference the evidence to be submitted
L01	Example lab	C-Content	EN 15104:2011. See procedure ANA-1233/UBA	WAHR	
L02	Example lab 2	Biomass content	EN 15440:2011 - some deviations regarding sample size and treatment. See procedure ANA-1234/UBA	FALSCH	Lab_competence.pdf, 2/3/2012
L1					
L2					
L3					
L4					
L5					
L6					
L7					
L8					
L9					
L10					
L11					
L12					
L13					
L14					
L15					



Click "+" to add more methods & laboratories

**(f) Description of the written procedures for analyses:**

Please provide details about the written procedures for the analyses listed above in table 7(e). The description should cover the essential parameters and operations performed. Where a number of procedures are used for a similar purpose but for different source streams or parameters, please provide details of an overarching procedure which covers the common elements and quality assurance of the applied methods.

You may then either give here references to individual "sub-procedures", or you may provide details of each relevant procedure separately. For the latter, please use the "add procedure" button at the end of this sheet. However, please ensure that clear reference to the appropriate (sub-)procedure can be given in section 8, table g.

For showing/hiding examples, press the "Examples" button in the navigation area.

Title of procedure	Analysis of NCV of solid and liquid fuels.
Reference for procedure	Solid fuels: ANA 1-1/UBA; Liquid fuels: ANA 1-2/UBA; Comparison by external (accredited lab): ANA 1-3/ext
Diagram reference (where applicable)	N.A.
Brief description of procedure	Bomb calorimeter method is used. Appropriate amount of sample is based on experience from earlier measurements of similar materials. Samples are used in dry state (dried at 120°C for at least 6h). NCV is corrected for moisture content by calculation. Solid fuels: as in standard. Liquid fuels: Only slightly adapted from standard; samples are not dried.

Post or department responsible for the procedure and for any data generated	Company's Laboratory - Head of department. Deputy: HSEQ manager.
Location where records are kept	Hardcopy: Laboratory Office, shelf 27/9, Folder identified "ETS 01-ANA-yyyy" (where yyyy is the current year). Electronically: "P:\ETS_MRW\abs\ETS_01-ANA-yyyy.xls"
Name of IT system used (where applicable).	Internal log of the lab (MS Access database): sample numbers and origin/name of sample are tracked together with the results.
List of EN or other standards applied (where relevant)	EN 14918:2009 with modifications for using also for non-biomass and liquid fuels.
Title of procedure	
Reference for procedure	
Diagram reference (where applicable)	
Brief description of procedure	
Post or department responsible for the procedure and for any data generated	
Location where records are kept	
Name of IT system used (where applicable).	
List of EN or other standards applied (where relevant)	

**(g) Description of the procedure for the sampling plans for the analyses:**

The procedures below should cover the elements of a sampling plan as required by Article 33. A copy of the procedure should be submitted to the competent authority with the monitoring plan.

Where a number of procedures are used for a similar purpose but for different source streams or parameters, please provide details of an overarching procedure which covers the common elements and quality assurance of the applied methods.

You may then either give here references to individual "sub-procedures", or you may provide details of each relevant procedure separately. For the latter, please use the "add procedure" button at the end of this sheet. However, please ensure that clear reference to the appropriate (sub-)procedure can be given in section 8, table g.

Title of procedure	
Reference for procedure	
Diagram reference (where applicable)	
Brief description of procedure	
Post or department responsible for the procedure and for any data generated	
Location where records are kept	
Name of IT system used (where applicable).	
List of EN or other standards applied (where relevant)	

**(h) Description of the procedure to be used to revise the appropriateness of the sampling plan:**

Title of procedure	
Reference for procedure	
Diagram reference (where applicable)	
Brief description of procedure	
Post or department responsible for the procedure and for any data generated	
Location where records are kept	
Name of IT system used (where applicable).	
List of EN or other standards applied (where relevant)	

**(i) Description of the procedure to be used to estimate stocks at the beginning/end of the reporting year (if applicable):**

Please describe the procedure to be used to estimate stock changes of any source streams which are monitored using batch metering, e.g. where invoices are used.

Title of procedure	
Reference for procedure	
Diagram reference (where applicable)	
Brief description of procedure	
Post or department responsible for the procedure and for any data generated	
Location where records are kept	
Name of IT system used (where applicable).	
List of EN or other standards applied (where relevant)	

**(j) Description of the procedure used to keep track of instruments installed in the installation used for determining activity data.**

This procedure is only relevant where the operator uses measuring instruments under his own control.

<u>Title of procedure</u>	
<u>Reference for procedure</u>	
<u>Diagram reference</u> (where applicable)	
<u>Brief description of procedure</u>	
<u>Post or department</u> responsible for the procedure and for any data generated	
<u>Location</u> where records are kept	
<u>Name of IT system</u> used (where applicable).	
List of <u>EN</u> or other <u>standards</u> applied (where relevant)	

Click "+" to add more procedures

**E. Source Streams**

relevant

Please enter data in this section

**8 Details on the applied tiers for activity data and calculation factors**

Please note that the guiding text is only displayed for the first source stream.  
 If you have not attributed the source stream to an applicable category (major, minor, de-minimis) there, the category which is automatically displayed in that section will be used. If this is the case, the template cannot correctly indicate below which tiers are to be applied. Therefore please make sure to select an applicable category correctly in the section mentioned above.

**F1 Source Stream 1:**

Source stream type:  
 Method applicable according to MRR:  
 Parameter to which uncertainty applies:


**Example Source Stream:**

Source stream type:  
 Method applicable according to MRR:  
 Parameter to which uncertainty applies:

<b>Heavy fuel oil</b>	<b>Major</b>
Combustion: Other gaseous & liquid fuels	
Standard method: Fuel, Article 24(1)	
Amount of fuel [t] or [Nm3]	

The source stream name, the source stream type, and the category will be displayed automatically based on your entries in section 6.e in sheet C\_InstallationDescription.  
 If you have not attributed the source stream to an applicable category (major, minor, de-minimis) there, the category which is automatically displayed in that section will be used. If this is the case, the template cannot correctly indicate below which tiers are to be applied. Therefore please make sure to select an applicable category correctly in the section mentioned above.

As the source stream type can be clearly assigned to a monitoring method applicable according to the MRR (Articles 24 and 25) and the parameters to which the uncertainty of the activity data applies (Annex II), this information is provided automatically based on the MRR.

**Automatic guidance on applicable tiers:**

Below in sections (c) and (f) the required tiers for activity data and calculation factors are displayed in the green fields based on your inputs in section 5(d) and (e), and 6(e) and 6(f). Those are the minimum tiers for major source streams in category C installations. However, lower requirements may be allowed. An appropriate guidance is displayed in the green text box below, depending on the following points:

- Reduced requirements apply to installations with low emissions in accordance with Article 47(2);
- The installation category (A, B or C) in accordance with Article 19;
- Reduced requirements apply to minor source streams and de-minimis source streams as classified pursuant to Article 19(3).

**This message on applicable tiers is relevant for the activity data and for all calculation factors.**

**Example data:**

Art. 26(1): The minimum tiers displayed below shall at least apply.  
 However, you may apply a tier up to two levels lower, with a minimum of tier 1, where you can show to the satisfaction of the competent authority that the tier required in accordance with the first subparagraph is technically not feasible or incurs unreasonable costs.

**Activity Data:**

**(a) Activity data determination method:**

i. Determination method:

Continual

Pursuant to Article 27(1) the activity data of a source stream can be determined (a) by continual metering at the process which causes the emissions, or (b) based on aggregation of metering of the amount separately delivered taking into account relevant stock changes (batch metering).

Reference to procedure used for determining stock piles at end of year:


This is only relevant if you selected "Batch" as determination method. Please refer to the procedure described under section 7(i).

**Installations with low emissions (section 5(e)) are not required to determine stocks, if the storage facilities are not capable of storing more than 5% of the annual consumption of the fuel or material (Article 47(5)).**

ii. Instrument under control of:

Operator

Please choose "operator" if the measurement instrument is under your own control and "Trade partner" if it is outside your own control.

If more than one instrument is relevant, please choose "trade partner" if this is the case for at least one of the instruments used for this source streams. In this case use the comment box under point (b) below to identify which instruments are under the operator's control and which ones are under the trading partner's control.

a. Please confirm that the conditions of Article 29(1) are satisfied:


This point is only relevant if you are not the owner of the measurement instrument.

Pursuant to Article 29(1) you are only allowed to rely on instruments that are not under your own control if the instruments comply at least with as high a tier as own instruments, give more reliable results, and are less prone to control risks.

b. Do you use invoices for determining the amount of this fuel or material?


This point is only relevant if you are not the owner of the measurement instrument.

c. Please confirm that the trade partner and the operator are independent:


This point is only relevant if you are not the owner of the measurement instrument

Pursuant to Article 29(1) point (a) you may only rely on invoices if the trade partners are independent.

**(b) Measurement instruments used:**

MI01	MI03			

Please select here one or more from the instruments which you have defined in section 7(b).

If more than 5 measurement instruments are used for this source stream, e.g. if the p/T compensation is done using separate instruments, please use the comment box below for further description.

Comment / Description of approach, if several instruments used:

Please explain why and how more than one instrument are relevant, if applicable. E.g it may be the case that one instrument is needed for subtracting a non-ETS part of the fuel. Weighing instruments might be used alternatively, or for corroboration purposes, etc.



- (c) Activity data tier level required:
- (d) Activity data tier used:
- (e) Uncertainty achieved:

	<b>Comment:</b>

**Example data:**

- (c) Activity data tier level required:
- (d) Activity data tier used:
- (e) Uncertainty achieved:

2	Uncertainty shall not be more than ± 5.0%
3	Uncertainty shall not be more than ± 2.5%
2,25%	<b>Comment:</b> Covered by national legal metrological control --> MPE in service

With regard to the tier level required and the tier level used, please provide here the uncertainty achieved in service over the whole reporting period.

In general, this value should be the result of an uncertainty assessment (see section 7(c)). However, Articles 28(2), (3) and 29(2) allow to apply several simplifications:

- You may assume that the maximum permissible errors specified for the measuring instrument in service, or where lower, the uncertainty obtained by calibration, multiplied by a conservative adjustment factor for taking into account the effect of uncertainty in service, provided that measuring instruments are installed in an environment appropriate for their use specifications, or
- You may use the maximum permissible error in service as the uncertainty achieved provided that the measuring instrument is subject to national legal metrological control.

Please use the comment box (point (h) below) to describe how the uncertainty achieved over the whole period is determined.

For further guidance please consult Articles 28 and 29 of the MRR and section 5.3 of Guidance Document 1.

**Calculation factors:**

According to Article 30(1) calculation factors can be determined either as default values or by laboratory analyses. Which of these options is used is determined by the applicable tier.

The following categories of tiers are used for your guidance (in accordance with guidance document 1):

<b>Type I default</b>	Type I default values: Either standard factors listed in Annex VI (i.e. in principle IPCC values) or other constant values in accordance with points (d) or (e) of Article 31(1), i.e. values guaranteed by the supplier or analyses carried out in the past but still valid.
<b>Type II default</b>	Type II default values: Country specific emission factors in accordance with points (b) and (c) of Article 31(1), i.e. values used for the national GHG inventory, more values published by the CA for more disaggregated fuel types, or other literature values which are agreed by the competent authority.
<b>Established</b>	These are methods based on empirical correlations as determined at least once per year in accordance with the requirements applicable for laboratory analyses (see explanation below). However, these analyses are only carried out once per year, therefore this tier is considered a lower level than full analyses. The proxy correlations may be based on: <ul style="list-style-type: none"> <li>- density measurement of specific oils or gases, including those common to the refinery or steel industry, or</li> <li>- net calorific value for specific coal types.</li> </ul>
<b>Purchasing</b>	The net calorific value may be derived from the purchasing records provided by the fuel supplier, provided it has been derived based on accepted national or international records: standards. (Applicable only in case of commercially traded fuels).
<b>Laboratory analyses:</b>	In this case the requirements of Article 32 to 35 on analyses are fully applicable.
<b>Type I biomass fraction</b>	One of the following methods is applied, which are considered equivalent: <ul style="list-style-type: none"> <li>- Use of a default value or an estimation method published by the Commission in accordance with Article 39(2);</li> <li>- Use of a value determined in accordance with the second subparagraph of Article 39(2), i.e. assume the material fully fossil (BF=0), or use an estimation method approved by the competent authority;</li> <li>- Application of Article 39(3) in case of natural gas grids, into which biogas is injected, i.e. use a guarantee of origin scheme established in accordance with Articles 2(j) and 15 of Directive 2009/28/EC [Renewable Energy Sources Directive], where such scheme has been set up.</li> </ul>
<b>Type II biomass fraction</b>	The biomass fraction is determined in accordance with Article 39(1), i.e. by laboratory analyses. In that case the relevant standard and the analytical methods therein to be used require the explicit approval by the competent authority.

**Note:**

The required tiers in the table below always refer to major source streams. Please refer to the information in the message box in the header area of this source stream whether lower requirements are allowed.

In accordance with Article 26(4), for the oxidation factor and conversion factor, the operator shall, as a minimum, apply the lowest tiers listed in Annex II.

**(f) Applied tiers for calculation factors:**

calculation factor	required tier	applied tier	full text for applied tier
i. Net calorific value (NCV)			
ii. Emission factor (preliminary)			
iii. Oxidation factor			
iv. Conversion factor			
v. Carbon content			
vi. Biomass fraction (if applicable)			

**Example data:**

calculation factor	required tier	applied tier	full text tier
i. Net calorific value (NCV)	2a/2b	3	Laboratory analyses
ii. Emission factor (preliminary)	2a/2b	2a	Type II default values
iii. Oxidation factor	1	1	Default value OF=1
iv. Conversion factor	n.a.		
v. Carbon content	n.a.		
vi. Biomass fraction (if applicable)		n.a.	

Depending on the tier selected (default values or laboratory analysis), you are required to enter the following information for each calculation factor as applicable:

Where a default value is used, please enter the value, the unit and the literature source by reference to table 7(d) on the previous sheet. The value should reflect the constant value at the time of notification of the monitoring plan.

Where a laboratory analysis is required, please enter analytical method/laboratory by reference to table 7(e) on the previous sheet, a reference to your sampling plan, and the analysis frequency to be applied.

**(g) Details for calculation factors:**

calculation factor	applied tier	default value	Unit	source ref	analysis ref	sampling ref	Analysis frequency
i. Net calorific value (NCV)							
ii. Emission factor (preliminary)							
iii. Oxidation factor							
iv. Conversion factor							
v. Carbon content							
vi. Biomass fraction (if applicable)							

**Example data:**

calculation factor	applied tier	default value	Unit	source ref	analysis ref	sampling ref	Analysis frequency
i. Net calorific value (NCV)	3				L1	NCV_Sample	Weekly
ii. Emission factor (preliminary)	2a	74.1	t CO <sub>2</sub> / TJ	IS5: IPCC			
iii. Oxidation factor	1	100	%	IS1: MRR			

iv.	Conversion factor								
v.	Carbon content								
vi.	Biomass fraction (if applicable)								

**Comments and explanations:**

**(h) Comments:**

*Please provide any relevant comments below. Explanations may in particular be required for e.g. the biomass estimation method, the proxy method (correlation), etc.*

**(i) Justification if required tiers are not applied:**

*If any of the tiers required pursuant to Article 26 is not applied for activity data or any of the applicable calculation factors, please give a justification here.*

*Where an improvement plan is required in accordance with Article 26, this should be submitted with this monitoring plan and referenced below. Where justification is based upon unreasonable costs, in accordance with Article 18, this calculation should be submitted with this monitoring plan and referenced within the justification below.*

**F2 Source Stream 2:**

Source stream type:

**F3 Source Stream 3:**

Source stream type:

**F4 Source Stream 4:**

Source stream type:

**F5 Source Stream 5:**

Source stream type:

**F6 Source Stream 6:**

Source stream type:

**F7 Source Stream 7:**

Source stream type:

**F8 Source Stream 8:**

Source stream type:

**F9 Source Stream 9:**

Source stream type:

**F10 Source Stream 10:**

Source stream type:

**F. Measurement Based Approaches**

relevant

Please enter data in this section

**9 Measurement of CO<sub>2</sub> and N<sub>2</sub>O emissions**

*Note: This section is to be completed for continuous measurement of CO<sub>2</sub> emissions as well as N<sub>2</sub>O emissions. Furthermore some of the information required for the monitoring of transferred CO<sub>2</sub> and inherent CO<sub>2</sub> is to be reported here.*

**(a) Description of the measurement based approach**

*Please provide a concise description of the measurement approach used to determine your annual CO<sub>2</sub> or N<sub>2</sub>O emissions in the text box below. If N<sub>2</sub>O is measured, include the approach for converting these emissions into CO<sub>2</sub>(e) data.*

*Your description should include the type of instrument(s) used, whether measurements are carried out under wet or dry conditions; the formulae for applying correction factors (p, T, O<sub>2</sub> and H<sub>2</sub>O). Where EN 14181 is applied, the calibration factors required for QAL2 procedures should be given. If flue gas volume is calculated, please describe briefly the method for determination of the flue gas volume.*

*Please describe how annual emissions are determined based on concentration and flue gas flow data, taking into account time units for determination of concentration and flue gas flow. Include also how data is substituted where no valid hour of data can be determined.*

*If applicable, please describe also the methodology by which emissions from biomass are determined (using a calculation approach) for subtraction from the total emissions.*

*This description should provide the linking information which is needed to understand, how the information given in other parts of this template are used together for calculating the emissions. It may be as short as the given example in sheet D\_CalculationBasedApproaches, section 7(a).*

**(b) Process diagram where requested by the Competent Authority:**

*Please provide a process diagram containing all relevant emission points during typical operation and during 'non-typical' operations, i.e. restrictive and transition phases, including breakdown periods or commissioning phases.*

**(c) Specification and location of measurement systems for measurement points:**

*Please describe the specification and location of the measurement systems to be used for each emission source where emissions are determined by measurement, and for measurement points for transfer of CO<sub>2</sub>.*

*Include also instruments for auxiliary parameters, such as e.g. O<sub>2</sub> content and moisture, and in case of indirect measurements, also concentration measurement instruments for other constituents of the gas than CO<sub>2</sub>.*

*Under "Location" you should specify where the meter is found in the installation, and how it is identified in the process flow chart.*

*All instruments used must be clearly identifiable using a unique ID (such as the serial number of the instrument). However, exchange of instruments (e.g. necessary as consequence of a damage) will not constitute a significant change of the monitoring plan within the meaning of Article 15(3). The unique identification should therefore be documented separately from the monitoring plan. Please make sure that you establish an appropriate written procedure for this purpose.*

*For each measuring instrument please enter the specified uncertainty, including the range this uncertainty is related to, as given in the manufacturer's specification. In some cases an uncertainty may be specified for two different ranges. In that case please enter both of them.*

*The typical use range refers to the range the relevant measuring instrument is usually used in your installation.*

*"Type of measuring instrument": Please select the appropriate type from the drop-down list, or enter a more appropriate type.*

*The list of instruments entered here will be available as a drop-down list for each emission source in section 10 below, where the relevant measuring instruments used are to be referenced.*


*In case of gas flow meters please refer to Nm<sup>3</sup>/h if the p/T compensation is implemented into the instrument and relate to m<sup>3</sup> in operating state if the p/T compensation is done by a separate instrument. In the latter case please also list those separate instruments.*

*The measurement frequency should indicate the frequency of data points produced by the instrument before the data is aggregated to give hourly averages or averages of shorter periods.*

Ref	Type of measuring instrument	location (internal ID)	Measurement range			Specified uncertainty (+/-%)	Typical use range		Measurement frequency
			unit	lower end	upper end		lower end	upper end	
MM01	CO <sub>2</sub> concentration (NDIR)	Stack 1 platform A (chart: St.1-A)	g CO <sub>2</sub> /m <sup>2</sup>	0	250	5,5	25	200	1 per second
MM02	Flow measurement (averaging pitot tube)	Stack 1 platform A (chart: St.1-A)	m <sup>3</sup> /h	10	10.000	4,0	1.000	8.000	1 per second
MM1									
MM2									
MM3									
MM4									
MM5									
MM6									
MM7									
MM8									
MM9									



MM10									
------	--	--	--	--	--	--	--	--	--

 Click "+" to add more measurement instruments


(d) **Uncertainty calculations assessment document title and reference:**   
 You must provide evidence to demonstrate compliance with the applied tiers, in accordance with Article 12. Please list references to uncertainty calculations and/or schematics in the box above.

Note that in accordance with Article 47(3), installation with low emissions do not have to submit this document to the CA.

(e) **Laboratories and methods used for application f continuous measurement methods:**  
 Please list the methods to be used for analysing fuels and materials for the determination of all calculation factors where applicable due to the selected tier. Where the laboratory is not accredited according to EN ISO/IEC 17025, you have to provide evidence that the laboratory is technically competent in accordance with Article 34. For this purpose please provide reference to an attached document.

This list will be available as a drop-down below in section 10 for referencing the analytical methods to the relevant measurement points.  
 For showing/hiding examples, press the "Examples" button in the navigation area.

Lab Ref	Name of laboratory	Parameter	Method of analysis (include procedure reference and brief description of method)	Is lab EN ISO/IEC 17025 accredited for this analysis?	If no, reference the evidence to be submitted
LC01	Example lab	QAL procedures	EN 14181	WAHR	
LC02	Example lab 2	CO2 concentration	ISO 12039	FALSCH	Lab_competence.pdf, 2/3/2012
LC1					
LC2					
LC3					
LC4					
LC5					
LC6					
LC7					
LC8					
LC9					
LC10					
LC11					
LC12					
LC13					
LC14					
LC15					

 Click "+" to add more methods & laboratories

**10 Details for measurement points**

Please note that the guiding text is only displayed for the first measurement point. If you want to display data for further measurement points, please click on the "+" signs at the left (data grouping function). For adding further measurement points, please go to section 6.d in sheet C\_InstallationDescription, and use the macro there. For showing/hiding examples, press the "Examples" button in the navigation area. The example is integrated in the first measurement point.

**M1 Measurement Point 1:**

(a) **Operation type:**

Example data:

Stack of coal fired boiler, measurement platform A	CO2
Typical and non-typical operation	Major

Please select here if this measurement point is an emission/measurement point during typical operation or non-typical operation (during restrictive and transition phases, including breakdown periods or commissioning phases).

The information in the green fields is taken automatically from point 6(d) in sheet C\_InstallationDescription.

**Automatic guidance on applicable tiers:**

Below in the green fields the required tiers for measurement based approaches are displayed based on your inputs in sections 5(d), and 6(d). Those are the minimum tiers for major emission sources. However, lower requirements may be allowed. An appropriate guidance will be displayed in the green text box below, depending on the following points:

- Reduced requirements apply to emission sources which emit less than 5 000 tonnes of CO2(e) per year, or which contributes less than 10% of the total annual emissions of the installation, whichever is higher pursuant to Article 41(1).

Article 41: The minimum tier displayed below shall apply.  
 Only where you can demonstrate to the satisfaction of the competent authority that application of the tier required is technically not feasible or incurs unreasonable costs, and application of a calculation methodology using the tier levels required by Article 26 is technically not feasible or incurs unreasonable costs, a next lower tier may be used, with a minimum of tier 1.

**Instruments and tier levels:**

(b) **Measurement instruments used:**

MM1: CO2	MM2: Flow			
----------	-----------	--	--	--

Please select here one or more from the instruments which you have defined in section 9(c) above.

If more than 5 measurement instruments are used for this measurement point, please use the comment box below for further explanation.

Comment / Description of approach, if several instruments used:

(c) Tier level required:		
(d) Tier used:		
(e) Uncertainty achieved:		Comment:

**Example data:**

(c) Tier level required:	4	Uncertainty shall not be more than $\pm 2.5\%$
(d) Tier used:	3	Uncertainty shall not be more than $\pm 5.0\%$
(e) Uncertainty achieved:	3,60%	Comment:

*With regard to the tier level required and the tier level used, please provide here the overall uncertainty achieved for over the whole reporting period.*

*In general, this value should be the result of an uncertainty assessment (see section 7(c)).*

*Please use the comment box (point (h) below) to describe how the uncertainty achieved over the whole period is determined.*

**Standards and procedures:**

**(f) Applied standards and of any deviations from those standards**

*Please use references to table 9(e) above as appropriate.*

--

**(g) References to procedures**

*In order to describe the applied approaches in full, the following information has to be provided. Please provide references to the appropriate written procedures. The procedures are to be outlined in section 11 below in this sheet.*

- i. Any calculation formulae used for data aggregation and used to determine the annual emissions  

--
- ii. Method for determining whether valid hours or shorter reference periods for each parameter can be calculated (using the threshold given in Article 44(2)), and for substitution of missing data in accordance with Article 45  

--
- iii. Calculation of the flue gas flow, if applicable  

--
- iv. Determination of CO2 stemming from biomass and subtracted from the measured CO2 emissions, if applicable  

--
- v. Corroborating calculations in accordance with Article 46 that are carried out, if applicable  

--

**Comments and explanations:**

**(h) Comments:**

*Please provide any relevant comments below. Explanations may in particular be required for e.g. the biomass estimation method, further QA/QC measures, etc.*

--

**(i) Justification if required tiers are not applied:**

*If the tiers required pursuant to Article 41 is not applied for this measurement point, please give a justification here.*

--

**M2 Measurement Point 2:**

**(a) Operation type:**

--	--

**M3 Measurement Point 3:**

**(a) Operation type:**

--	--

**M4 Measurement Point 4:**

**(a) Operation type:**

--	--

**M5 Measurement Point 5:**

**(a) Operation type:**

--	--

**11 Management and procedures for measurement based approaches**

**(a) Please provide details about the written procedures detailing the method and any calculation formulae used for data aggregation and to determine the annual CO2e emissions where measurement based methodologies are applied.**

*Please provide details about the written procedures in accordance with Article 44 of the MRR.*

*Where a number of procedures are used for a similar purpose but for different emission sources or measurement points, please provide details of an overarching procedure which covers the common elements and quality assurance of the applied methods.*

*You may then either give here references to individual "sub-procedures", or you may provide details of each relevant procedure separately. For the latter, please use the "add procedure" button at the end of this sheet. However, please ensure that clear reference to the appropriate (sub-)procedure can be given.*

Title of procedure	
Reference for procedure	
Diagram reference (where applicable)	

<u>Brief description</u> of procedure <i>Description should cover the essential parameters and operations performed</i>	
<u>Post or department</u> responsible for the procedure and for any data generated	
<u>Location</u> where records are kept	
<u>Name of IT system</u> used (where applicable).	
<u>List of EN or other standards</u> applied (where relevant)	

**(b) Please provide details about the written procedures which describe the methods used for determining the valid hours (or shorter reference periods) for each parameter and for substitution of missing data.**

*Please provide details about the written procedures which describe the methods for determining if valid hours or shorter reference periods for each parameter can be provided, and for substitution of missing data in accordance with Article 45 of the MRR.*

<u>Title of procedure</u>	
<u>Reference</u> for procedure	
<u>Diagram reference</u> (where applicable)	
<u>Brief description</u> of procedure <i>Description should cover the essential parameters and operations performed</i>	
<u>Post or department</u> responsible for the procedure and for any data generated	
<u>Location</u> where records are kept	
<u>Name of IT system</u> used (where applicable).	
<u>List of EN or other standards</u> applied (where relevant)	

**(c) Where flue gas flow is determined by calculation, please provide details about the written procedure for this calculation for each relevant emission source in accordance with Article 43(5)(a) of the MRR.**

<u>Title of procedure</u>	
<u>Reference</u> for procedure	
<u>Diagram reference</u> (where applicable)	
<u>Brief description</u> of procedure <i>Description should cover the essential parameters and operations performed</i>	
<u>Post or department</u> responsible for the procedure and for any data generated	
<u>Location</u> where records are kept	
<u>Name of IT system</u> used (where applicable).	
<u>List of EN or other standards</u> applied (where relevant)	

**(d) Where CO2 stemming from biomass is included in the emissions measurement, please provide details about the written procedure detailing how the biomass CO2 is to be determined and subtracted from the measured CO2 emissions, where applicable, in accordance with Article 43(4) of the MRR.**

<u>Title of procedure</u>	
<u>Reference</u> for procedure	
<u>Diagram reference</u> (where applicable)	
<u>Brief description</u> of procedure <i>Description should cover the essential parameters and operations performed</i>	
<u>Post or department</u> responsible for the procedure and for any data generated	

Location where records are kept	
Name of IT system used (where applicable).	
List of EN or other standards applied (where relevant)	

(e) Please provide details about the written procedure for carrying out the corroborating calculations, where applicable, in accordance with Article 46 of the MRR.

Title of procedure	
Reference for procedure	
Diagram reference (where applicable)	
Brief description of procedure <i>Description should cover the essential parameters and operations performed</i>	
Post or department responsible for the procedure and for any data generated	
Location where records are kept	
Name of IT system used (where applicable).	
List of EN or other standards applied (where relevant)	



Click "+" to add more procedures

## G. Fall-back Approaches

relevant

Please enter data in this section

### 12 Description of the Fall-back approach

Article 22 of the MRR provides that an operator may use a methodology that is not based on tiers for selected source streams or emission sources, where certain criteria set out in that article are met. Please complete this section if you propose to apply such a fall-back approach to any source streams or emission sources. Your competent authority may ask for further information to justify this approach.

- (a) Where a fall-back monitoring methodology is applied in accordance with Article 22 of the MRR, please provide a detailed description of the monitoring methodology applied for all source streams or emission sources, for which no tier approach is used.**

Please provide a concise description of the monitoring approach, including formulae, used to determine your annual CO2 or CO2(e) emissions in the text box below.

If the description is too complex, e.g. complex formulas are applied, you may provide the description in a separate document using a file format acceptable for the CA. In this case please reference this file here, by using the file name and date.

This description should provide the linking information which is needed to understand, how the information given in other parts of this template are used together for calculating the emissions. It may be as short as the given example in sheet D\_CalculationBasedApproaches, section 7(a).

- (b) Please provide a concise justification for the application of a fall-back approach to the above emission sources, in line with the provisions set out in Article 22.**

You must be able to demonstrate that the overall uncertainty for the annual level of greenhouse gas emissions for the whole installation does not exceed 7.5% for category A, 5.0% for category B and 2.5 % for category C installations. Note: Your competent authority may request full details of your justification to demonstrate that application of a tiered calculation based method or measurement approach is technically not feasible or would lead to unreasonable costs.

If the description is too complex, e.g. complex formulas are applied, you may provide the description in a separate document using a file format acceptable for the CA. In this case please reference this file here, by using the file name and date.

- (c) Please provide details about the written procedures used for carrying out the annual uncertainty analysis required under Article 22 of the MRR.**

<u>Title of procedure</u>	
<u>Reference for procedure</u>	
<u>Diagram reference</u> (where applicable)	
<u>Brief description of procedure</u> <i>Description should cover the essential parameters and operations performed</i>	
<u>Post or department</u> responsible for the procedure and for any data generated	
<u>Location</u> where records are kept	
<u>Name of IT system</u> used (where applicable).	
<u>List of EN or other standards</u> applied (where relevant)	



Click "+" to add more procedures

**H. N2O emissions**

relevant

Please enter data in this section

**13 Management and procedures for monitoring N2O emissions**

*Note: this section is to be completed for determination of N2O emissions from specified production activities at an installation. N2O emissions from combustion of fuels are not covered. Please make sure that the informations on your measurement system are entered in sheet F\_MeasurementBasedApproaches as appropriate.  
In this sheet only requirements are to be laid down which are not relevant to CO2 monitoring.*

- (a) **Please provide details about the written procedure which describes the method and parameters used to determine the quantity of materials used in the production process and the maximum quantity of material used at full capacity.**

<u>Title of procedure</u>	
<u>Reference</u> for procedure	
<u>Diagram reference</u> (where applicable)	
<u>Brief description</u> of procedure	
<u>Post or department</u> responsible for the procedure and for any data generated	
<u>Location</u> where records are kept	
<u>Name of IT system</u> used (where applicable).	
List of <u>EN</u> or other <u>standards</u> applied (where relevant)	

- (b) **Please provide details about the written procedure which describes the method and parameters used to determine the quantity of product produced as an hourly load expressed as nitric acid (100%), adipic acid (100%), glyoxal and glyoxylic acid and caprolactam per hour.**

<u>Title of procedure</u>	
<u>Reference</u> for procedure	
<u>Diagram reference</u> (where applicable)	
<u>Brief description</u> of procedure	
<u>Post or department</u> responsible for the procedure and for any data generated	
<u>Location</u> where records are kept	
<u>Name of IT system</u> used (where applicable).	
List of <u>EN</u> or other <u>standards</u> applied (where relevant)	

- (c) **Please provide details about the written procedure describing the method and parameters used to determine the N2O concentration in the flue gas from each emission source, its operating range, and its uncertainty, and details of any alternative methods to be applied if concentrations fall outside the operating range and the situations when this may occur.**

<u>Title of procedure</u>	
<u>Reference</u> for procedure	
<u>Diagram reference</u> (where applicable)	
<u>Brief description</u> of procedure	
<u>Post or department</u> responsible for the procedure and for any data generated	
<u>Location</u> where records are kept	
<u>Name of IT system</u> used (where applicable).	
List of <u>EN</u> or other <u>standards</u> applied (where relevant)	

- (d) **Please provide details about the written procedure detailing the calculation method used to determine N2O emissions from periodic, unabated sources in nitric acid, adipic acid, caprolactam, glyoxal and glyoxylic acid production.**

<u>Title of procedure</u>	
<u>Reference</u> for procedure	
<u>Diagram reference</u> (where applicable)	
<u>Brief description</u> of procedure	
<u>Post or department</u> responsible for the procedure and for any data generated	
<u>Location</u> where records are kept	

Name of IT system used (where applicable).	
List of EN or other standards applied (where relevant)	

**(e) Please provide details about the written procedure describing the way in which or the extent to which the installation operates with variable loads and the manner in which the operational management is carried out.**

Title of procedure	
Reference for procedure	
Diagram reference (where applicable)	
Brief description of procedure	
Post or department responsible for the procedure and for any data generated	
Location where records are kept	
Name of IT system used (where applicable).	
List of EN or other standards applied (where relevant)	

**(f) Please provide information on process conditions that deviate from normal operations.**

*This information should include an indication of the potential frequency and the duration of such process conditions, as well as an indication of the volume of the N2O emissions during the deviating process conditions such as abatement equipment malfunction.*



Click "+" to add more procedures

**I. Determination of PFC emissions from production of primary aluminium**

relevant

Please enter data in this section

**14 Determination of PFC emissions**

**Note:** this section is to be completed for determination of emissions of perfluorocarbons from production or processing of primary aluminium at an installation. As a "calculation based approach" is used here, make sure you have entered all appropriate data (except the source stream details and procedures to be provided in this sheet) in section 7 (sheet D\_CalculationBasedApproaches).

**(a) Please provide a concise description of the approach used to determine your PFC emissions and to convert these to annual CO2(e) emissions in the text box below.**

*Please provide a concise description of the monitoring approach, including formulae, used to determine your annual CO2(e) emissions in the text box below.  
If the description is too complex, e.g. complex formulas are applied, you may provide the description in a separate document using a file format acceptable for the CA. In this case please reference this file here, by using the file name and date.  
This description should provide the linking information which is needed to understand, how the information given in other parts of this template are used together for calculating the emissions. It may be as short as the given example in sheet D\_CalculationBasedApproaches, section 7(a).*

**(b) Process diagram where requested by the Competent Authority:**

*Please provide the reference to a process diagram containing all relevant emission sources and emission points during typical operation and during "non-typical" operations, i.e. restrictive and transition phases, including breakdown periods or commissioning phases.*

**(c) List of source streams to be monitored regarding PFCs:**

*In the case of PFC emissions, two methodologies (A: Slope method, B: Overvoltage Method) may be used. Several cell types may exist in an installation (e.g. different technologies or years of construction) which may exhibit different emission characteristics.  
Groups of cells which are monitored using the same method and which exhibit the same emission characteristics (same emission factors) should be considered as "source streams" (i.e. entities to be monitored) in analogy to other calculation based monitoring approaches.  
Please indicate here in the list of the "source streams" of your installation the monitoring methodology and cell/anode type as appropriate. The list is automatically taken from section 6.e in sheet C\_InstallationDescription.  
This list will then be used in the following section for defining further details for each source stream.*

Source stream Name	Source stream type	Cell type	Monitoring method

Click "+" to add more source streams

**15 Monitoring details for source streams of PFC emissions**

Please note that the guiding text is only displayed for the first source stream.  
If you want to display data for further source streams, please click on the "+" signs at the left (data grouping function).  
For adding further source streams, please go to section 6.e in sheet C\_InstallationDescription, and use the macro there.

<b>Source Stream 1:</b>	
<b>Source stream type:</b>	
<b>Method applicable according to MRR:</b>	
<b>Parameter to which uncertainty applies:</b>	

**Automatic guidance on applicable tiers:**

*Below in the green fields the required tiers for activity data and calculation factors are displayed based on your inputs in section 5(d) and (e), and 6(e) and 6(f). Those are the minimum tiers for major source streams in category C installations. However, lower requirements may be allowed. An appropriate guidance will be displayed in the green text box below, depending on the following points:*

- Reduced requirements apply to installations with low emissions in accordance to Article 47(2);
- The installation category (A, B or C) in accordance to Article 19;
- Reduced requirements apply to minor source streams and de-minimis source streams as classified pursuant to Article 19(3).

*This message on applicable tiers is relevant for the activity data and for all calculation factors.*

**Activity Data**

**Primary aluminium production:**



(b) Activity data tier level required:	
(c) Activity data tier used:	
(d) Uncertainty achieved:	Comment:
<b>Method A: number of Anode effects per cell-day</b>	
(e) Activity data tier level required:	
(f) Activity data tier used:	
(g) Uncertainty achieved:	Comment:
<b>Method A: average anode effect minutes per occurrence</b>	
(h) Activity data tier level required:	
(i) Activity data tier used:	
(j) Uncertainty achieved:	Comment:
<b>Method B: anode effect overvoltage per cell</b>	
(k) Activity data tier level required:	
(l) Activity data tier used:	
(m) Uncertainty achieved:	Comment:
<b>Method B: Current efficiency</b>	
(n) Activity data tier level required:	
(o) Activity data tier used:	
(p) Uncertainty achieved:	Comment:

**Calculation factors**

(q) Tiers applied

calculation factor	required tier	applied tier	full text tier
i. SEF(CF4) Slope emission factor			
ii. OVC (Overvoltage coefficient)			
iii. F(C2F6) Weight fraction of C2F6			

(r) Tier details

calculation factor	applied tier	default or latest value	Unit	source ref	analysis ref	date of latest analysis	Analysis frequency
i. SEF(CF4) Slope emission factor							
ii. OVC (Overvoltage coefficient)							
iii. F(C2F6) Weight fraction of C2F6							

**Collection efficiency for accounting for fugitive emissions**

(s) Determination of the collection efficiency

	default or latest value	Unit	source ref	analysis ref	date of latest analysis	Analysis frequency
Collection efficiency						

**Comments**

(t) Comments:

Please provide any relevant comments below. Explanations may in particular be required for how the calculation factors are determined, which measuring instruments and process control equipment are used for determining the activity data, etc.

--

(u) Justification if required tiers are not applied:

If any of the tiers required pursuant to Article 26 is not applied for activity data or any of the applicable calculation factors, please give a justification here. Where an improvement plan is required in accordance with Article 26, this should be submitted with this monitoring plan and referenced below. Where justification is based upon unreasonable costs, in accordance with Article 18, this calculation should be submitted with this monitoring plan and referenced within the justification below.

--

<b>Source Stream 2:</b>	
Source stream type:	
<b>Source Stream 3:</b>	
Source stream type:	
<b>Source Stream 4:</b>	
Source stream type:	
<b>Source Stream 5:</b>	
Source stream type:	

**16 Management and written procedures for PFC monitoring**

(a) Where a tier 2 emission factor is applied, please provide details about the written procedure setting out the schedule for repetitions of the measurements detailed in 12(c) to be carried out in accordance with Section 8 of Annex IV of the MRR.

Title of procedure	
Reference for procedure	
Diagram reference (where applicable)	
Brief description of procedure	

Post or department responsible for the procedure and for any data generated	
Location where records are kept	
Name of IT system used (where applicable).	
List of EN or other standards applied (where relevant)	

**(b) Where a tier 2 emission factor is applied, please provide details about the protocol describing the written procedure used to determine the installation specific emission factors for CF<sub>4</sub> and C<sub>2</sub>F<sub>6</sub>.**

*Note: the procedure should also show that the measurements have been and will be carried out for a sufficiently long time for measured values to converge, but at least for 72 hours.*

Title of procedure	
Reference for procedure	
Diagram reference (where applicable)	
Brief description of procedure	
Post or department responsible for the procedure and for any data generated	
Location where records are kept	
Name of IT system used (where applicable).	
List of EN or other standards applied (where relevant)	

**(c) Please provide details about the written procedure detailing the methodology for determining the collection efficiency for fugitive emissions, where applicable.**

Title of procedure	
Reference for procedure	
Diagram reference (where applicable)	
Brief description of procedure	
Post or department responsible for the procedure and for any data generated	
Location where records are kept	
Name of IT system used (where applicable).	
List of EN or other standards applied (where relevant)	



Click "+" to add more procedures

**J. Determination of transferred or inherent CO2**

relevant

Please enter data in this section

**17 Determination of inherent and transferred CO2**

Note: this section is to be completed where transfer of inherent CO2 as part of a fuel in accordance with Article 48 of the MRR or transfer of CO2 in accordance with Article 49 of the MRR are carried out. Furthermore this sheet is relevant for information to be provided where activities of CO2 capture, transport in pipelines or geological storage of CO2 as covered by Annex I of the EU ETS Directive are carried out. Information regarding the measurement points and measuring instruments are to be provided in sheet F\_MeasurementBasedApproaches.

**(a) Please provide a detailed description of the monitoring methodology used to determine inherent or transferred CO<sub>2</sub>.**

*Please provide a concise description of the monitoring approach, including formulae, used to determine your annual CO2 or CO2(e) emissions in the text box below. This should cover in particular the amounts of CO2 to be added due to receiving transferred CO2, or for subtracting CO2 due to transfer out of the installation, as appropriate. Please make sure that this calculation is in line with Articles 48 and 49 of the MRR.*

*If the description is too complex, e.g. complex formulae are applied or a diagram is needed for facilitating the description, you may provide the description in a separate document using a file format acceptable for the CA. In this case please reference this file here, by using the file name and date.*

*This description should provide the linking information which is needed to understand, how the information given in other parts of this template are used together for calculating the emissions. It may be as short as the given example in sheet D\_CalculationBasedApproaches, section 7(a).*

**(b) Please provide details of the receiving and transferring installations**

*Please give here for each installation (or other entity) from which you receive or to which you transfer inherent or transferred CO2 the following information:*

**Installation name** *Give here the name of the installation or non-ETS entity, from which or to which CO2 is transferred. To the extent feasible use the same name as the competent authority and the Registry use.*

**Operator Name** *Name of the operator of that installation or non-ETS entity.*

**Unique ID** *For EU ETS installations, give the unique ID of the installation as used by the Registry system. In case of doubt contact the competent authority for the correct format of the ID.*

**Type of transfer** *Select here from the drop-down list whether it is a transfer from or to an installation or non-ETS entity, and whether this deals with inherent CO2 (Article 48) or transferred CO2 (Article 49) as defined by the MRR.*

**Measurement approach** *According to Article 49(3), you can determine transferred or inherent CO2 either by your own instruments, or using the measurement by the other installation, or you can use both and determine the result as the average of the measurements. Please indicate here, which of these approaches are used.*

*Note: Details about the continuous measurement approach, the measurement points and measuring instruments have to be entered in sheet F\_MeasurementBasedApproaches.*

Transfer Ref.	Installation Name	Operator Name	Unique ID of Installation	Type of transfer	Measurement approach
TR1					
TR2					
TR3					
TR4					
TR5					

Click "+" to add more installations

**(c) Where part of the transferred CO<sub>2</sub> is generated from biomass, or where an installation is only partially covered by the EU ETS Directive, please provide details of the written procedure used for deducting the amount of transferred CO<sub>2</sub> which does not originate from fossil carbon activities covered by the EU ETS Directive.**

<b>Title of procedure</b>	
<b>Reference for procedure</b>	
<b>Diagram reference (where applicable)</b>	
<b>Brief description of procedure</b>	
<b>Post or department responsible for the procedure and for any data generated</b>	
<b>Location where records are kept</b>	
<b>Name of IT system used (where applicable)</b>	
<b>List of EN or other standards applied (where relevant)</b>	



List of EN or other standards applied (where relevant)	
--	--

(h) If method B is applied, provide here a description of the procedure used for determining fugitive emissions:

Title of procedure	
Reference for procedure	
Diagram reference (where applicable)	
Brief description of procedure	
Post or department responsible for the procedure and for any data generated	
Location where records are kept	
Name of IT system used (where applicable).	
List of EN or other standards applied (where relevant)	

(i) If method B is applied, provide here a description of the procedure used for determining vented emissions:

Title of procedure	
Reference for procedure	
Diagram reference (where applicable)	
Brief description of procedure	
Post or department responsible for the procedure and for any data generated	
Location where records are kept	
Name of IT system used (where applicable).	
List of EN or other standards applied (where relevant)	

**19 Information relevant for installations for the geological storage of CO2**

Note: In case of the geological storage of CO2, emissions from the storage complex as well as release of CO2 to the water column have to be monitored only where a leakage is detected. Where no leakage is detected, the monitoring plan may have no particular provisions for monitoring.

Therefore it is of utmost importance that a procedure is in place for immediate reaction if a leakage is detected. In such case the monitoring plan must be updated without undue delay.

Please provide details about the procedure used for regular evaluation of the monitoring plan's appropriateness. For this purpose, please use point 19(c) in sheet K\_ManagementControl.

(a) Where applicable, please provide details of the written procedure which describe the quantification methodologies for emissions or CO2 released to the water column from potential leakages as well as the applied and possibly adapted quantification methodologies for actual emissions or CO2 released to the water column from leakages, as specified in section 23 of Annex IV.

Title of procedure	
Reference for procedure	
Diagram reference (where applicable)	
Brief description of procedure	
Post or department responsible for the procedure and for any data generated	
Location where records are kept	
Name of IT system used (where applicable).	
List of EN or other standards applied (where relevant)	

(b) Please provide here a description of the methodology and procedure used to determine any fugitive or vented emissions, including from sites where enhanced hydrocarbon recovery is carried out. If measurement based methods in Accordance with Articles 41 to 46 are not applied, a justification regarding unreasonable costs must be enclosed.

Title of procedure	
Reference for procedure	
Diagram reference (where applicable)	
Brief description of procedure	
Post or department responsible for the procedure and for any data generated	
Location where records are kept	
Name of IT system used (where applicable).	

List of EN or other standards applied (where relevant)	
--	--

(c) Provide here a description of the procedure used to determine the uncertainty of emissions from leakages, if applicable, for the purpose of correcting the emissions figure in accordance with subsection B.3 of section 23 of Annex IV of the MRR.

Title of procedure	
Reference for procedure	
Diagram reference (where applicable)	
Brief description of procedure	
Post or department responsible for the procedure and for any data generated	
Location where records are kept	
Name of IT system used (where applicable).	
List of EN or other standards applied (where relevant)	



Click "+" to add more procedures

## K. Management & Control

relevant

This sheet is relevant for all types of installations

Please enter data in this section

### 20 Management

- (a) **Please identify the responsibilities for monitoring and reporting emissions from the installation, in accordance with Article 61 of the MRR.**  
 Please identify the relevant job titles/posts and provide a succinct summary of their role relevant to monitoring and reporting. Only those with overall responsibility and other key roles should be listed below (i.e. do not include delegated responsibilities).  
 These could be outlined in a tree diagram or organisational chart attached to your submission  
 If the data flow (and audit trail) is complete, all responsibilities should be found in descriptions of procedures and no further persons need to be added.

Job title/post	Responsibilities

- (b) **Please provide details about the procedure used for managing the assignment of responsibilities for monitoring and reporting within the installation and for managing the competencies of responsible personnel, in accordance with Article 58(3)(c) of the MRR.**  
 This procedure should identify how the monitoring and reporting responsibilities for the roles identified above are assigned and how training and reviews are undertaken and how duties are segregated such that all relevant data is confirmed by a person not involved with the recording and collection of the data..

Title of procedure	ETS personnel management
Reference for procedure	
Diagram reference (where applicable)	
Brief description of procedure	<ul style="list-style-type: none"> <li>• Responsible person maintains a list of personnel involved in ETS data management</li> <li>• Responsible person holds at least one meeting per year with each involved person, at least 4 meetings with key staff as defined in the annex of the procedure; Aim: Identification of training needs</li> <li>• Responsible person manages internal and external training according to identified needs.</li> </ul>
Post or department responsible for the procedure and for any data	HSEQ deputy head of unit
Location where records are kept	Hardcopy: HSEQ Office, shelf 27/9, Folder identified "ETS 01-P". Electronically: "P:\ETS_MRV\manag\ETS_01-P.xls"
Name of IT system used (where applicable).	N.A. (Normal network drives)
List of EN or other standards applied (where relevant)	N.A.
Title of procedure	
Reference for procedure	
Diagram reference (where applicable)	
Brief description of procedure	
Post or department responsible for the procedure and for any data generated	
Location where records are kept	
Name of IT system used (where applicable).	
List of EN or other standards applied (where relevant)	

- (c) **Please provide details about the procedure used for regular evaluation of the monitoring plan's appropriateness, covering in particular any potential measures for the improvement of the monitoring methodology.**  
 The procedure specified below should cover the following:  
 i - checking the list of emissions sources and source streams, ensuring completeness of the emissions and source streams and that all relevant changes in the nature and functioning of the installation will be included in the monitoring plan;  
 ii - assessing compliance with the uncertainty thresholds for activity data and other parameters (where applicable) for the applied tiers for each source stream and emission  
 iii - assessment of potential measures for improvement of the monitoring methodology applied.

Title of procedure	
Reference for procedure	
Diagram reference (where applicable)	
Brief description of procedure	
Post or department responsible for the procedure and for any data generated	
Location where records are kept	
Name of IT system used (where applicable).	
List of EN or other standards applied (where relevant)	

### 21 Data flow activities

- (a) **Please provide details about the procedures used to manage data flow activities in accordance with Article 57 of the MRR.**  
 Where a number of procedures are used, please provide details of an overarching procedure which covers the main steps of data flow activities along with a diagram showing how the data management procedures link together (please reference this diagram below and include when submitting your monitoring plan). Alternatively please provide details of additional relevant procedures on a separate sheet.  
 Under "Description of the relevant processing steps", please identify each step in the data flow from primary data to annual emissions which reflect the sequence and interaction between data flow activities and include the formulas and data used to determine emissions from the primary data. Include details of any relevant electronic data processing and storage systems and other inputs (including manual inputs) and confirm how outputs of data flow activities are recorded.

Title of procedure	
Reference for procedure	
Diagram reference (where applicable)	
Brief description of procedure	

Post or department responsible for the procedure and for any data generated	
Location where records are kept	
Name of IT system used (where applicable).	
List of EN or other standards applied (where relevant)	
List of primary data sources	
Description of the relevant processing steps for each specific data flow activity	

**22 Control activities**

- (a) Please provide details about the procedures used to assess inherent risks and control risks in accordance with Article 58 of the MRR.

*The brief description should identify how the assessments of inherent risks and control risks are undertaken when establishing an effective control system.*

Title of procedure	
Reference for procedure	
Diagram reference (where applicable)	
Brief description of procedure	
Post or department responsible for the procedure and for any data generated	
Location where records are kept	
Name of IT system used (where applicable).	
List of EN or other standards applied (where relevant)	

- (b) Please provide details about the procedures used to ensure quality assurance of measuring equipment in accordance with Article 58 and 59 of the

*The brief description should identify how all relevant measurement equipment is calibrated and checked at regular intervals, if applicable, and how non-compliance with the required performance is dealt with.*

Title of procedure	
Reference for procedure	
Diagram reference (where applicable)	
Brief description of procedure	
Post or department responsible for the procedure and for any data generated	
Location where records are kept	
Name of IT system used (where applicable).	
List of EN or other standards applied (where relevant)	

- (c) Please provide details about the procedures used to ensure quality assurance of information technology used for data flow activities in accordance with Article 58 and 60 of the MRR.

*The brief description should identify how information technology is tested and controlled, including access control, back-up, recovery and security.*

Title of procedure	
Reference for procedure	
Diagram reference (where applicable)	
Brief description of procedure	
Post or department responsible for the procedure and for any data generated	
Location where records are kept	
Name of IT system used (where applicable).	
List of EN or other standards applied (where relevant)	

- (d) Please provide details about the procedures used to ensure regular internal reviews and validation of data in accordance with Articles 58 and 62

*The brief description should identify that the review and validation process includes a check on whether data is complete, comparisons with data over previous years,*



Title of procedure	
Reference for procedure	
Diagram reference (where applicable)	
Brief description of procedure	
Post or department responsible for the procedure and for any data generated	
Location where records are kept	
Name of IT system used (where applicable).	
List of EN or other standards applied (where relevant)	

- (e) **Please provide details about the procedures used to handle corrections and corrective actions in accordance with Articles 58 and 63 of the MRR.**  
*The brief description should outline what appropriate actions are undertaken if data flow activities and control activities are found not to function effectively. The procedure should outline how the validity of the outputs are assessed, the process of determining the addressing the cause of the error.*

Title of procedure	
Reference for procedure	
Diagram reference (where applicable)	
Brief description of procedure	
Post or department responsible for the procedure and for any data generated	
Location where records are kept	
Name of IT system used (where applicable).	
List of EN or other standards applied (where relevant)	

- (f) **Please provide details about the procedures used to control outsourced processes in accordance with Articles 59 and 64 of the MRR.**  
*The brief description should identify how data flow activities and control activities of outsourced processes are checked and what checks are undertaken on the quality of the*

Title of procedure	
Reference for procedure	
Diagram reference (where applicable)	
Brief description of procedure	
Post or department responsible for the procedure and for any data generated	
Location where records are kept	
Name of IT system used (where applicable).	
List of EN or other standards applied (where relevant)	

- (g) **Please provide details about the procedures used to manage record keeping and documentation in accordance with Articles 58 and 66 of the MRR.**  
*The brief description should identify the process of document retention, specifically in relation to the data and information stipulated in Annex IX of the MRR and to how the data is stored such that information is made readily available upon request of the competent authority or verifier.*

Title of procedure	
Reference for procedure	
Diagram reference (where applicable)	
Brief description of procedure	
Post or department responsible for the procedure and for any data generated	
Location where records are kept	
Name of IT system used (where applicable).	
List of EN or other standards applied (where relevant)	

- (h) **Please provide the reference to the documented results of a risk assessment that demonstrates that the control activities and procedures are commensurate with the risks identified in accordance with Article 12(1)(b) of the MRR. (Note: The requirement to submit the risk assessment to the CA does not apply to installations with low emissions, in accordance with Article 47(3) of the MRR)**  
*Please reference the file/document attached to your monitoring plan in the box below.*

- (i) **Does your organisation have a documented environmental management system?**

- (j) **If the Environmental Management System is certified by an accredited organisation, please specify to which standard e.g. ISO14001, EMAS, etc.**

**23 List of definitions and abbreviations used**

- (a) **Please list any abbreviations, acronyms or definitions that you have used in completing this monitoring plan.**

Abbreviation	Definition


**24 Additional information**

- (a) **If you are providing any other information that you wish us to take into account in considering your plan, tell us here. Please provide this information in an electronic format wherever possible. You can provide information as Microsoft Word, Excel, or Adobe Acrobat formats.**  
*You are advised to avoid supplying non-relevant information as it can slow down the approval. Additional documentation provided should be clearly referenced, and the file name / reference number provided below. If needed, check with your competent authority*  
 Please provide file name(s) (if in an electronic format) or document reference number(s) (if hard copy) below:

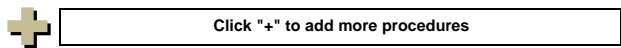
File name/Reference	Document description

**25 Changes in operation**

**This section is optional for Member States**  
 Article 24(1) of Commission Decision 2011/278/EC requires that Member States must ensure that all relevant information about any planned or effective changes to the capacity, activity level and operation of an installation is submitted by the operator to the competent authority by 31 December each year. Article 12(3) of the MRR further provides that Member States may require information to be included in the monitoring plan of an installation for the purposes of meeting these requirements.

- (a) **Please provide details about the procedure used to ensure regular reviews are carried out to identify any planned or effective changes to the capacity, activity level and operation of the installation that have an impact on the installation's allocation.**  
*The procedure specified below should cover the following:*  
 - planning and carrying out regular checks to determine whether any planned or effective changes to the capacity, activity level and operation of an installation are relevant under Commission Decision 2011/278/EC; and  
 - procedures to ensure such information is submitted to the competent authority by 31 December of each year.

Title of procedure	
Reference for procedure	
Diagram reference (where applicable)	
Brief description of procedure	
Post or department responsible for the procedure and for any data generated	
Location where records are kept	
Name of IT system used (where applicable)	
List of EN or other standards applied (where relevant)	



**L. Member State specific further information**

**26 Comments**

Space for further Comments:

