

MONITORING METHODOLOGY PLAN INTERIM GUIDANCE FOR OFFSHORE OIL AND GAS OPERATORS

EUROPEAN UNION EMISSIONS TRADING SYSTEM (EU-ETS)

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Abbreviations

BEIS	Business, Energy & Industrial Strategy
СВА	Cost Benefit Analysis
CL	Carbon Leakage
EU ETS	European Union Emissions Trading System
FAR	Free Allocation Regulations
MMP	Monitoring Methodology Plan
MP	Monitoring Plan
NIMs	National Implementation Measures
NLMC	National Legal Meteorological Control
OPRED	Offshore Petroleum Regulator for Environment and Decommissioning

Introduction and scope

The draft interim guidance is for all EU ETS permitted installations that have applied for a free allocation or intend to apply under the Free Allocation Regulations (FAR).

The National Implementation Measures (NIMs) data collection exercise in summer 2019 required a submission, via ETSWAP, of an installation's activity levels (baseline data report) as well as a plan showing how that information was gathered, i.e. the Monitoring Methodology Plan (MMP). The baseline data reports will be used to calculate the initial level of free allocation received by an installation for the period 2021 to 2025 and the determination of this initial free allocation is on-going at present.

The MMP also documents how an installation's activity level is intended to be monitored going forward – referred to as 'forward looking' aspects of the MMP. These aspects were not assessed as part of the NIMs exercise. The Offshore Petroleum Regulator for Environment & Decommissioning (OPRED) are currently starting the process of approving the MMPs and this may require us to contact you for changes to be made. It is a requirement of the FAR that MMPs must be approved by OPRED by 31st December 2020 for a free allocation to be received by an installation. OPRED encourages you to review your MMP to ensure any necessary changes are captured now with sufficient time to be reviewed and approved by the deadline.

However, as the MMP is to be migrated into the new permit for issue on 1st January 2021 the final MMP must be submitted well in advance of this date in order for the review to be completed and ensure it complies with the regulations. It is probable that submissions with major changes made after 30th October 2020 will not likely be completed in time and your MMP

may not be approved, risking operating the installation in a non-compliant manner. Therefore, early engagement and updates must be made in satisfactory time.

This interim guidance note is to provide guidance to industry on the requirements of the MMP during the review process and illustrates what the Department will be looking for. This guidance note will be updated with further details on the activity level change regulations and the reporting process in due time. This guidance note should be read in conjunction with the Phase IV guidance documents published by the European Commission.

What is a Monitoring Methodology Plan?

The MMP was introduced by the FAR in 2019. The MMP sets out the methodology an offshore oil and gas installation will follow for the monitoring and collection of data required to calculate the amount of free allocation this installation is entitled to receive. The MMP explains the data sources for each sub-installation in the NIMs baseline data report. This includes the information required to determine the annual activity levels of each sub-installation, and to determine the emissions attributed to each sub-installation. The monitoring and reporting of activity levels by sub-installation is used to assess the level of free allocation received by an installation.

Just as the current Monitoring Plan (MP) forms part of the installation's Phase 3 Greenhouse Gas permit (and describes how emissions are monitored and reported in accordance with the principles of the Monitoring and Reporting Regulation (MRR)), the MMP will form part of the permit from 1st January 2021. The MMP must be approved by OPRED by the 31st December 2020.

As the MMP is a 'live' document, any changes can be captured at various times depending upon the type of change as described in the FAR, Article 9. It is advisable to review your MMP to ensure that it reflects current practice or to reflect any changes which were made as part of the baseline data collection review process. These changes need to be recorded in the version control section of the MMP (i.e. Sheet A).

Incumbent installations – held a permit before 30 June 2019

If the installation was included in the NIMs data collection exercise in 2019 the MMP consists of 2 parts:

- 'backward looking' i.e. explaining how data was collected during the baseline period (2014-2018), that is the basis of the application for free allowances in the allocation period 2021-2025; and
- 'forward looking' i.e. explaining how activity levels are intended to be monitored as accurately as possible during 2019 and 2020, and during the first allocation period.

New installations – first permitted after 1st January 2019

If the installation was first permitted after 1st January 2019 but before 30 June 2019, then it was not possible to submit baseline data (as no data was available). The MMP must be completed following this guidance, and it must include activity monitoring after the start or normal operations (i.e. the first day of operations) and submit this with your application for an allocation as well as the verification report.

New installations – first permitted after 30 June 2019

New installations were not required to submit information during the baseline data collection exercise. The MMP will only consist of the 'forward looking' part and will explain the monitoring of activity levels as accurately as possible during 2019 and 2020, and during the first allocation period.

If data was submitted as part of the NIMs exercise, OPRED has reviewed the backward-looking aspects of the MMP to ensure that the data you supplied was compliant with the FAR. This review did not cover the forward-looking part of the MMP. This process is now being conducted by OPRED to ensure compliance with the requirements of the FAR.

What is involved in the MMP Approval Process?

The MMP templates that were submitted during the NIMS exercise will be systematically reviewed by OPRED to ensure that submitted data complies with the requirements of the FAR. The MMP templates comprise a number of data sheets, labelled A to J (some are not applicable as referred to below). The types of checks that we will undertake on each sheet are highlighted in the section below.

OPRED encourages you to review your Installation's MMP in line with the checks described in the table below as this will enable any queries we may have to be addressed promptly. You may also find it helpful to review any comments provided by your verifier.

An Installation's MMP must describe how the relevant data for 2019 and / or 2020 was calculated using data sources representing highest achievable accuracy (see section 4 of Annex VII of the FAR). OPRED will be reviewing the data sources to confirm that the highest level of accuracy is achieved for each sub-installation. Where the highest level of accuracy is not achieved, a relevant justification must be provided as part of the MMP. Justifications can be based on either of the following conditions (see further details below and sections 6.6.2 and 6.6.3 of Commission Guidance document number 5):

- the use of most accurate data sources is technically not feasible;
- the use of most accurate data sources would incur unreasonable costs; and
- based on a simplified uncertainty assessment the associated level of accuracy of the data source proposed is at least equivalent to the highest level of accuracy.

It is important to review metering and instrumentation listed in an installation's Phase 3 MP as they may be sufficient to meet the highest level of accuracy required by the FAR. However, it is the precise location of the metering and instrumentation that will determine if a particular **sub-installation** is achieving the highest level of accuracy or requires a justification (see section 6.3 of Commission Guidance document number 5).

OPRED will be able to approve an MMP once it is satisfied that the MMP complies with the FAR.

Review of MMP Content.

Sheet A version MMP – MMP version control

This table must be updated every time an alteration is made to the MMP to detail the nature of the change. This is required to provide a clear audit trail of changes.

Sheet B Installation Data

Section 'I Identification of the Installation'

The information entered here should match the information contained on the permit.

The registry ID in 3.(a).(ii) is the EUTL ID and is now the NIMs ID.

Contact details: Must be completed for the primary person, a second contact is optional, and address of the installation will be the latitude and longitude.

Sheet C Installation Description

This section provides the information which is used to compare against multiple points in the MMP as it will set out how the installation is broken down into sub-installations. It will also be used to check against information supplied in Sheet D and G. The information provided should be clear and sufficient to understand the installation and processes occurring within it.

Sheet C Section I.2 'List of Sub-installations (fall-back)':

This section lists the sub-installations, and these should be correctly listed. The information should be clear and the sub installations should match the data collection template, the flow diagram etc.

- Are the correct sub-installations listed;
- Does this match the data collection template;
- Does this match the flow diagram required under Section II below;
- Is the Carbon Leakage (CL) status of the fall-back sub-installations correctly listed (Check the CL status against baseline data or NACE codes).

Sheet C Section II 'Description of installation'

This section should contain:

- (a) A description of the installation; including the main processes carried out, a list of emissions sources, a flow diagram and a plan of the installation which allows an understanding of the energy flows. This is required to enable a full check on the split of the sub-installations and equipment included as well as the measurement devices used.
- (b) Reference to the latest approved permit.
- (c) Reference to Flow Diagram Filename must be included;

The flow diagram must be submitted as a separate document and in support of the MMP as this will be used to migrate the information into the new IT system in the near future.

Any embedded files in the MMP template will not be migrated. It will be necessary to submit as separate document(s).

Where any diagrams form part of a supporting document or procedure then these should be clearly referenced. Where this is done it is not necessary to submit a separate document detailing the flow diagram.

The flow diagram must contain as a minimum the following information:

- Technical elements of the installation, identifying emissions sources as well as heat producing and consuming units;
- All energy flows, in particular the source streams, measurable and nonmeasurable heat and electricity where relevant;
- Points of measurement and metering devices; and
- Boundaries of the sub-installations, including the split between sub-installation serving sectors deemed to be exposed to a significant risk of carbon leakage and those not at risk. The split is to be based upon NACE rev. 2 which is determined from hydrocarbon export quantities (see NIMs Guidance for further details).

Any change to previous submissions should be described.

Sheet C Section III 'Connections to other EU ETS installations or non-ETS entities'

Left blank at present.

Sheet D Methods and Procedures

Sheet D Section I 'Methods at installation level'

(a) Physical parts serving more than 1 sub-installation;

This Section should contain:

 From the submissions under Sheet C – the description of the installations and the breakdown into sub-installations. Clarify whether any units serve more than one sub-installation? For example, should a boiler or turbine support two different subinstallations, perhaps one exposed to Carbon Leakage whilst the other is not. If yes, there should be an entry in this section; if not the section is left blank and equipment will be mentioned under specific sub-installations in Sheet G.

(b) Methods to assign parts of installations and their emissions to the respective sub installations:

FAR ANNEX VII 3.2:

For each sub-installation mentioned in Section C (a) the description of methods to assign parts of installations which serve more than one sub-installation and their

emissions to the respective sub-installations must be included here. This does not apply to sub-installations which meet the 95% de-minimis rule in the FAR Article 10(3).

The methods described in this section of the MMP must correspond to the methods listed in the FAR:

Where data is not available – FAR Annex VII 3.2(1)

Inputs, outputs and corresponding emissions shall be attributed based on the
mass or volume of individual products produced or estimates based on the ratio
of free reaction enthalpies of the chemical reactions involved or based on another
suitable distribution key that is corroborated by a sound scientific methodology.

Where several sources of data are available – there are several possible routes FAR Annex VII 3.2(2).

- Determination of the split based on a determination method, such as submetering, estimate, correlation, used equally for each sub-installation. Where the sum of the sub-installation data is different from the data determined separately for the installation, a uniform "reconciliation factor" is applied for uniform correction to meet the total figure of the installation. Annex VII 3.2 (2) contains the calculation which must be completed.
- If only one sub-installation's data is unknown or is of lower quality than the data of
 other sub-installations, known sub-installation data may be subtracted from the
 total installation data. This method is preferred only for sub-installations which
 contribute smaller quantities to the installation's allocation.

It is possible that this information is provided instead in Sheet G – however, the MMP on Sheet D should reference the later sections.

(c) Methods to avoid double counting:

The total emissions, adding together the emissions attributed to sub-installations and to "other", should equal to 100% of the verified annual emissions.

This calculation is displayed in the NIMs data collection template, Sheet K III Table 2. However, the MMP requires a description on how this has been done (providing a calculation) and a detailed explanation for any deviations from 100%. This can happen, for example where there are emissions which are eligible but are not being claimed for under a sub-installation. Any issues of this nature must be clearly identified and explained. Ensure that the relevant calculation is carried out as described.

Sheet D Section II 'Procedures'

The following procedures are required as part of the MMP:

- Managing assignment of responsibilities for monitoring & reporting and managing competencies of responsible personnel
- Data Flow Activities
- Control Activities (including justifications for deviating from the highest accuracy level where applicable)

The MMP template must, as a minimum, have the following information provided for each procedure:

- Title of Procedure
- Reference for the procedure, including document number and revision number.

Other information about the procedure is optional.

Procedures and any supporting documents **may be** requested by OPRED (Article 8(3) of the FAR) to check compliance with the requirements of the FAR. The procedures referenced could be the same as those used for emissions monitoring, as processes and metering could be the same. However, there are a considerable number of new items required as part of the baseline data collection/annual activity level reporting where procedures may not have been developed for Phase III of the EU ETS. Examples of areas where the MMP procedures may differ from Phase III MP:

Net Measurable Heat

The measurement of net measurable heat is generally different to emissions monitoring, i.e. not a requirement for the MP. The installation wide balance of heat production and consumption (accounting for heat losses) must have an appropriate data flow and control activity associated with the calculations. This must also be referenced appropriately in procedures, for example in the calibration schedules of meters.

<u>Commission Guidance document number 5</u> provides detailed examples on what is considered compliant approaches to monitoring net heat. The following may be reviewed in the MMP:

If heat metering is installed, this should meet the highest accuracy (Readings of measuring instruments subject to national legal metrological control or measuring instruments compliant with the requirements of the Directive 2014/32/EU) and there should be some supporting evidence of this.

 If the highest accuracy method is not installed, a deviation from this must be provided on the grounds of technical or cost benefit justification.

Heat metering should be installed at the heat consuming facilities and not the producing unit. The location of metering should be clearly marked on the flow diagram. A deviation from this will need to be justified as above.

Electricity

Where electricity is produced, the installation wide balance of electricity import, production, consumption and export is required. This is not a requirement of the MP and therefore this must be acknowledged in the data flow and control activities in the MMP (See Annex IV, Section 2.5 of FAR for further details).

List of NACE codes A list of qualifying applicable NACE codes associated with sub-installations needs to be reported and must be acknowledged in the procedures.

The applicable two NACE codes for the offshore O&G industry are:

i) Extraction of oil: 0610

ii) Extraction of gas: 0620

Annual Emissions per sub-installation

The installations yearly emissions must be broken down into the separate sub-installations. For further guidance on how to split sub-installations, please refer to the NIMS Guidance. Please refer to Commission Guidance Document number 5 on how to set out your procedures to split emissions to the respective sub-installation(s).

Control System

The requirements of the control system associated with the data monitored using the MMP are outlined in Article 11 of the FAR. This will be required to be updated to reflect the installations current control system for emission monitoring with information relevant to data collection under the MMP.

Sheets E Energy Flows

Sheet E Section I 'Fuel Input'

This section contains information on the methodology utilised to report the fuel input at installation level and should include:

Applicable hierarchy references for the fuel input and energy content data sources. Please list the three main data source hierarchies utilised, these should be pursuant to section 4.4 and 4.6 of Annex VII of the FAR. Further information can be found in the following section of this guidance document-

Data Sources Used to Meet Highest Accuracy;

Where the data sources in Table 1 are **not** used at the installation then "**FALSE**" must be entered in the relevant section of the MMP showing that the highest accuracy is not met. A justification must then be provided for not meeting this, further guidance on appropriate justification methods can be found in the following section of this guidance document

Methods used to produce data for the benchmark improvement

It has yet to be finalised whether OPRED will request this information, an update will be provided relating to annual activity level reporting. Some of this information will already have been entered onto Sheet E where the installation comprises a single sub-installation.

Direct emissions of the SUB-INSTALLATION (Sheet D of NIMs Template)

This section should include how the data was populated in Sheet G of NIMs (section (c), directly attributable emissions to a sub-installation). The approach chosen should comply with Article 10 of the FAR, i.e. using the rules in section 10, Annex VII.

Deviation from the Hierarchy – What Does This Mean?;

 The MMP, under the various sections, requires a description of how the data set is monitored. This can be either entered within the MMP or by providing reference to an external document, this must also be submitted.

Where a description of methodology is required, the following aspects must be demonstrated, and this will be used to check the hierarchy methods applied:

- Calculation steps,
- Data sources and corroborating data sources,
- Calculation formulae,
- Relevant calculation factors including unit of measurement,
- Horizontal and vertical checks for corroborating data,
- Procedures underpinning the sampling plan,
- Measurement equipment used with reference to the relevant diagram and a description how they are maintained,
- Laboratory where relevant analytical procedures are carried out.

Sheet E Section II 'Measurable heat at installation level'

This section should only be completed if a heat sub-installation is applicable to the installation. If this section is relevant the same inputs are required as per sheet E section I above. Data source hierarchies are as per sections 4.4, 4.5 and 4.6 of Annex VII of the FAR.

Sheet E Section IV 'Electricity at installation level'

This section is relevant if electricity is produced within the installation. Should this section be applicable the same inputs are required as per sheet E section I above.

Sheets G Fall-back (sheet F is not applicable)

Sheet G section I Fall-back sub-installation: 1 Heat benchmark sub-installation, CL and 2 Heat benchmark sub-installation, non-CL, 4 Fuel benchmark sub-installation, CL and 5 Fuel benchmark sub-installation, non-CL.

These sections should be completed as applicable, for further information on how to determine if CL or non-CL is applicable to your installation (see NIMS Guidance for further details).

These sections should include:

- System boundaries of the sub-installation should describe:
 - the technical units included:
 - the processes carried out;
 - the input of fuels; and

the outputs attributed

You can either enter the information into the MMP, or as above, reference an external document which must be submitted with the MMP.

- Method for the determination of annual activity levels: this section should include reference to data hierarchies for the quantification of measurable heat flows pursuant to section 4.5 of Annex VII of the FAR and to section 7.2 of Annex VII of the FAR. Description of the relevant applied methodologies should be provided as per Sheet E section I;
- Directly attributable emissions: this section should include how the data was gathered to populate Sheet G of NIMs template (section (c), directly attributable emissions to a sub-installation). The approach chosen should comply with Article 10 of the FAR, i.e. using the rules defined in section 10, Annex VII.

For heat produced from CHPs, description must be provided to explain how parameters of section 8 of Annex VII of the FAR have been determined.

Note imported heat from other installations/ sub-installations should not be included here.

- Fuel input to this sub-installation and relevant emission factor: this section should include information on the applied methodology for deriving the fuel input, net calorific value and the weighted emission factor(s) and confirm the level of accuracy achieved for quantifying amounts (expressed as tonnes or Nm3) of fuels and associated calculation factors. Description of the applied methodology should be detailed along with explanation for any deviation from the data hierarchy.
- Measurable heat produced: this section should include the level in the data hierarchy achieved with deviation explanation if applicable and a description of the methodology applied.
- Measurable heat imported: if applicable fill in this section to detail the data hierarchy and methodology utilised, including explanation of hierarchy deviation if necessary.

Data Sources Used to Meet Highest Accuracy

The data source hierarchy in descending order must be followed as per sections 4.4, 4.5 and 4.6 of Annex VII of the FAR. Where the data sources in Table 1 are **not** used at the installation then "**FALSE**" must be entered in the relevant section of the MMP showing that the highest accuracy is not met and a justification must then be provided.

Table 1: Preferred Data Source to Meet Highest Accuracy

Parameter Being	Data Source to Meet Highest Accuracy
Measured (At	
Installation and	
Sub-installation	
level)	
,	

Fuel Input	4.4.(a) Methods in accordance with the monitoring plan approved under Regulation (EU) No. 601/2012;4.4.(b) Readings of measuring instruments subject to national
	legal metrological control (NLMC) or measuring instruments compliant with the requirements of the Directive 2014/32/EU for direct determination of a data set.
Measurable Heat	4.5. (a) Readings of measuring instruments subject to national legal metrological control (NLMC) or measuring instruments compliant with the requirements of the Directive 2014/32/EU.
Net Measurable Heat Flows	Method 1 (Using measurements) of Section 7.2 of the FAR Annex VII.
Electricity	4.5. (a) Readings of measuring instruments subject to national legal metrological control (NLMC) or measuring instruments compliant with the requirements of the Directive 2014/32/EU.
Emission Factors & Energy Content	4.6. (a) Methods for determining calculation factors in accordance with the monitoring plan approved under Regulation (EU) No. 601/2012
	4.6. (b) Laboratory analyses in accordance with section 6.1 of Annex VII (FAR).

Methods used to produce data for the benchmark improvement

It has yet to be finalised whether OPRED will request this information, an update will be provided relating to annual activity level reporting. Some of this information will already have been entered onto Sheet E where the installation comprises a single sub-installation.

Direct emissions of the SUB-INSTALLATION (Sheet D of NIMs Template)

This section should include how the data was populated in Sheet G of NIMs (section (c), directly attributable emissions to a sub-installation). The approach chosen should comply with Article 10 of the FAR, i.e. using the rules in section 10, Annex VII.

Deviation from the Hierarchy – What Does This Mean?

The FAR Annex VII Section 4.1 and 4.2 set out the acceptable routes which must be followed where the data source representing the highest achievable accuracy cannot be used. Each relevant parameter sets out which data source represents the highest achievable accuracy.

Where the highest achievable accuracy cannot be met, the next highest in the hierarchy must be applied. The justification for not applying the highest or next highest order in the hierarchy must be provided with the MMP to the competent authority.

The justification must be reviewed at least annually to ensure that any deviation is still applicable. Suitable justification techniques are as follows:

Technical feasibility: Justification shall be based on the operator having technical resources capable of meeting the needs of a proposed system or requirement that can be implemented in the required time for the purposes of the FAR. Those technical resources shall include availability of required techniques and technology.

Unreasonable Cost: An unreasonable cost benefit analysis (CBA) tool has been provided which must be completed in accordance to the specific data source as each has a different improvement factor. The improvement factor is used to determine the annual benefit attributed to a proposed improvement and is defined as 1% of the emissions affected by the proposed improvement. The affected emissions can be:

- 1) the most recent free allocation attributed to a sub-installation, or where this value may be relatively high, one of the following:
- 2) In the case of emissions based on individual source streams, the CO2 "content" of the source stream (i.e. carbon content multiplied by 3.664 [t CO2 / t C], or proportion of fuel use multiplied by its Emissions Factor, etc.).
- 3) In the case of emissions monitored by a measurement-based methodology, the annual emissions of the respective emission source.
- 4) In the case of measurable heat, the respective annual amount of measurable heat multiplied by the heat benchmark (for which the Phase III benchmark (62.3) is to be used until the revised value has been agreed).
- 5) In the case of non-measurable heat, the respective annual amount of non-measurable heat multiplied by the fuel benchmark (for which the Phase III benchmark (56.1) is to be used until the revised value has been agreed).
- 6) In the case of electricity, the respective annual amount of electricity multiplied by 0.376 tonnes of CO2 per Megawatt-hour and expressed as tonnes of CO2 (FAR, Article 22(3)).

The FAR (Annex VII, Section 4) requires the highest accuracy data sources to be used at each sub-installation. This includes the split between sub-installations serving sectors deemed to be exposed to a significant risk of carbon leakage (CL) and those not at risk (non-CL),see NIMs Guidance for further details. Only one cost benefit analysis needs to be performed per data source. This is because any improvement necessary, e.g. meter installation, will apply to a physical part of the process, regardless of whether that process serves a CL or non-CL sector. Further guidance is provided in the CBA tool. The completed cost benefit analysis should then be referenced in the applicable sections on Sheets E and G of the MMP template.

Simplified Uncertainty Assessment: Based on a simplified uncertainty assessment, identifying the major sources of uncertainty and estimating their associated levels of uncertainty, the operator demonstrates to the satisfaction of the competent authority that the associated level of uncertainty of the data source proposed is equivalent to, or better than sources pursuant to section 4 of Annex VII.

How to submit your Monitoring Methodology Plan after addressing comments

Any changes made to your MMP that is in response to verifier and / or OPRED comments must be addressed within the MMP template and submitted by email to your assigned environmental manager as well as beta.gov.uk.

What to do if you need to change your Monitoring Methodology Plan

As the MMP is a 'live' document, any changes can be captured at various times depending upon the type of change as described in the FAR, Article 9. It is advisable to review your MMP to ensure that it reflects current practice or to reflect any changes which were made as part of the baseline data collection review process. These changes need to be recorded in the version control section. If you make a change to the version submitted to us, please re-submit via email. This will ensure that we are reviewing the most recent version. ETSWAP will be updated in future to allow modifications to be submitted via the system.

Inspection against information provided in the MMP

The Department will be using information submitted and will conduct inspections against this either offshore and / or within the respective onshore offices. It is important that information provided is accurate to avoid any future implications.

Need assistance?

If you require assistance, please contact your respective environmental manager and also copy bst@beis.gov.uk.