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Guidance Document

EU ETS Inspections

MRR Guidance document No. 8

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This document is part of a series of documents provided by the Commission services for supporting the implementation of Commission Regulation (EU) No. 601/2012 of 21 June 2012 on the monitoring and reporting of greenhouse gas emissions pursuant to Directive 2003/87/EC of the European Parliament and of the Council¹.

The guidance represents the views of the Commission services at the time of publication. It is not legally binding. This guidance document takes into account the discussions within meetings of the informal Technical Working Group on the Monitoring and Reporting Regulation under the WGIII of the Climate Change Committee (CCC), as well as written comments received from stakeholders and experts from Member States. This guidance document was unanimously endorsed by the representatives of the Member States of the Climate Change Committee by written procedure closing 21 December 2017.

All guidance documents and templates can be downloaded from the documentation section of the Commission's website at the following address:

https://ec.europa.eu/clima/policies/ets/monitoring_en#tab-0-1.

¹ <http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1468321700339&uri=CELEX:02012R0601-20140730>

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1 INTRODUCTION

1.1 About this document

This document has been written to support competent authorities in the Member States in the implementation of the EU ETS compliance system as required by the M&R and A&V Regulations. Inspections (commonly understood as the competent authority performing site visits) are not a requirement defined by the EU ETS Directive or its daughter Regulations. However, they are commonly accepted as best practice for ensuring compliance of regulated entities in general². More specifically, the European Court of Auditors³ has called on Member States to make increasingly use of inspections in the EU ETS for improving compliance. In the EU ETS there exists already a high level of compliance due to a strongly regulated system of operators' self-monitoring combined by third-party verification. However, competent authorities are well-advised to exercise further control, such as in the performance of inspections. These should not overlap with, but supplement the work of verifiers.

This document takes into account the valuable input from the task forces on monitoring and on aviation established under the EU ETS Compliance Forum, and from the informal technical working group (TWG) of Member State experts established under the Working Group 3 of the Climate Change Committee.

1.2 How to use this document

For acronyms, references to legislative texts and links to further important documents, please see the Annex.

This symbol points to important hints for competent authorities.



The light bulb symbol is used where best practices are presented.



The tools symbol tells the reader that other documents, templates or electronic tools are available from other sources.



The book symbol points to examples given for the topics discussed in the surrounding text.



² A general framework on inspections are the "RMCEI" (Recommendations on Minimum Criteria for Environmental Inspections): Recommendation of the European Parliament and of the Council of 4 April 2001 providing for Minimum Criteria for Environmental Inspections in the Member States. Download: <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32001H0331>

³ ECA (European Court of Auditors), "The integrity and implementation of the EU ETS", Special Report EN 2015/06, Download under: http://www.eca.europa.eu/Lists/ECADocuments/SR15_06/SR15_06_EN.pdf

1.3 Where to find further information

All guidance documents and templates provided by the Commission on the basis of the M&R Regulation and the A&V Regulation can be downloaded from the Commission's website at the following address:



https://ec.europa.eu/clima/policies/ets/monitoring_en#tab-0-1

The following documents are provided⁴:

- Guidance document No. 1: “The Monitoring and Reporting Regulation – General guidance for installations”. This document outlines the principles and monitoring approaches of the MRR relevant for stationary installations.
- Guidance document No. 2: “The Monitoring and Reporting Regulation – General guidance for aircraft operators”.
- Guidance document No. 3: “Biomass issues in the EU ETS”: This document discusses the application of sustainability criteria for biomass, as well as the requirements of Articles 38, 39 and 53 of the MRR. This document is relevant for operators of installations as well as for aircraft operators.
- Guidance document No. 4: “Guidance on Uncertainty Assessment”. This document for installations gives information on assessing the uncertainty associated with the measurement equipment used, and thus helps the operator to determine whether he can comply with specific tier requirements.
 - Guidance document No. 4a: “Exemplar Uncertainty Assessment”. This document contains further guidance and provides examples for carrying out uncertainty assessments and how to demonstrate compliance with tier requirements.
 - Documentation of a training day on uncertainty assessment.
- Guidance document No. 5: “Guidance on Sampling and Analysis” (only for installations). This document deals with the criteria for the use of non-accredited laboratories, development of a sampling plan, and various other related issues concerning the monitoring of emissions in the EU ETS.
 - Guidance document No. 5a: “Exemplar Sampling Plan”. This document provides an example sampling plan for a stationary installation.
- Guidance document No. 6: “Data flow activities and control system”. This document discusses possibilities to describe data flow activities for monitoring in the EU ETS, the risk assessment as part of the control system, and examples of control activities. It applies to both, aircraft operators and installations.
 - Guidance document No. 6a: “Risk Assessment and control activities – examples”. This document further guidance and an example for a risk assessment.
- Guidance document No. 7: “Continuous Emissions Monitoring Systems (CEMS)”. For stationary installations, this document gives information on the application of measurement-based approaches where GHG emissions are

⁴ This list is at the current stage non-exhaustive. Further documents may be added later.

measured directly in the stack, and thus helps the operator to determine which type of equipment has to be used and whether he can comply with specific tier requirements.

- Guidance document No. 8: “EU ETS Inspection”: This document.

The Commission furthermore provides the following electronic templates:

- Template No. 1: Monitoring plan for the emissions of stationary installations
- Template No. 2: Monitoring plan for the emissions of aircraft operators
- Template No. 3: Monitoring plan for the tonne-kilometre data of aircraft operators
- Template No. 4: Annual emissions report of stationary installations
- Template No. 5: Annual emissions report of aircraft operators
- Template No. 6: Tonne-kilometre data report of aircraft operators
- Template No. 7: Improvement report of stationary installations
- Template No. 8: Improvement report of aircraft operators

Besides these documents dedicated to the MRR, a separate set of guidance documents on the A&V Regulation is available under the same address. Furthermore, the Commission has provided guidance on the scope of the EU ETS for aircraft operators:



<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0450:EN:NOT>

All EU legislation is found on EUR-Lex: <http://eur-lex.europa.eu/>

The most important legislation is furthermore listed in the Annex of this document.

Also competent authorities in the Member States may provide useful guidance on their own websites. Aircraft operators should in particular check if the competent authority provides workshops, FAQs, helpdesks etc.



2 THE ROLE OF INSPECTIONS IN THE EU ETS

2.1 General considerations

Whenever a new legislation is introduced, it has to come with a compliance strategy. It usually consists of several elements such as promotion of compliance by tools like guidance documents, helpdesks etc., penalties for non-compliance situations, and some effective control measures for determining the compliance status of those subject to the legislation. In the EU ETS, “*Member States shall ensure that*” (Article 14(3) of the EU ETS Directive⁵) operators carry out the relevant MRV tasks in line with the M&R and A&V Regulations. The responsibility of ensuring that the EU ETS works reliably is therefore on the Member States.

Very effective controls have always been part of the EU ETS, consisting of the operators’ self-monitoring, annual third-party verification, and some further control of reports by competent authorities. However, every system can be improved over time. “Inspections” (for definition see below) are applied as an effective measure for increasing the Competent Authorities’ assurance on the compliance of EU ETS operators⁶. Due to considerations regarding efficiency and administrative burden, inspections are not a mandatory requirement of the EU ETS Directive. Care should be taken that the work of verifiers is not duplicated, but supplemented. The right balance is required between further reducing the remaining risk of not detecting non-compliances and limiting additional administrative burden to reasonable levels. Therefore a risk-based approach is recommended in this guidance document for targeting inspections to those installations where inspections may add the most value.

2.2 Definitions

Within this guidance document, the term “**inspections**” means activities carried out by the competent authority which aim at determining whether an operator complies with the requirements of the EU ETS Directive and its daughter Regulations. It therefore explicitly excludes activities performed by verifiers and accreditation bodies. While inspections may involve significant paperwork and desk studies, the specific benefit of inspections over other methods of compliance check is the performance of **site visits**. This guidance therefore focusses on compliance checks which involves site⁷ visits.

⁵ “Member States shall ensure that each operator of an installation or an aircraft operator monitors and reports the emissions from that installation during each calendar year, or, from 1 January 2010, the aircraft which it operates, to the competent authority after the end of that year in accordance with the regulation referred to in paragraph 1.”

⁶ In this document the expression “operator” can also be read – to the extent applicable – as “aircraft operator”.

⁷ “Site” means the place where the installation is actually situated. Site visit thus means a visit to the installation itself. The visit of a company head quarter or other company buildings may become relevant if it is the place where data is stored, but will usually not be sufficient for qualifying the visit as site visit. As a specific exception to that rule, in case of aircraft operators instead of installations, the site is explicitly defined as “*the locations where the monitoring process is defined and managed, including the locations where relevant data and information are controlled and stored*” (Article 3(13) of the AVR). For remote installations (e.g. offshore) where data is stored and handled at a central location (e.g. company offices), inspection of both ‘site’ and operators headquarters may be relevant.

Since this guidance is dealing with Monitoring and Reporting (M&R) issues, “**compliance**” in this regard relates mainly to the requirements of the M&R Regulation (MRR), and in particular to whether the Monitoring Plan (MP) is in conformity with the MRR and the real situation of the installation, and whether monitoring is carried out appropriately in conformance with the MP. Due to the proximity of the topic, many inspections will examine compliance of data collected for the purpose of allocation with the requirements of the Benchmarking Decision⁸, i.e. how activity levels at sub-installation level and the installed capacity of sub-installations have been determined by the operator.

The term “**competent authority**” here usually refers to the CA which performs the inspections. This may be a separate entity (also called the “**Inspectorate**”), or the CA which is in charge of approving monitoring plans and checking Annual Emission Reports (AERs). Since those are not identical in all Member States (MS), a dedicated section (3.7) of this guidance will deal with issues of the relevant information exchange between CAs. “**Inspectors**” usually refers to the persons who perform the inspections. “**IED inspectors**” in this document refers to any inspectors who have not necessarily performed EU ETS inspections before, but whose main occupation have been inspections in other context, in particular related the IED (Industrial Emissions Directive⁹) or the Seveso Directive¹⁰.

2.3 Synergies

Inspections have already some tradition in the area of the IED, the Seveso Directive and environmental protection in context of industry in general. Therefore Member States are advised to make use wherever possible of synergies between inspections for other purposes such as IED and Seveso inspections and those under the EU ETS. This includes that

- IED inspectors share their knowledge of the relevant installations with EU ETS inspectors. This includes technical knowledge of the installation and its processes, but also about the operator’s attitude towards compliance, the content of various permits, penalties imposed in the past, knowledge level of the operator’s staff, etc.
- The IED and the Seveso Directive require that the MS develops and implements an inspection plan for the purpose of those Directives. EU ETS inspections can be coordinated with those inspections where installations have obligations under those Directives. However, it must be kept in mind that inspections under different Directives are triggered by different types of environmental or financial risks and therefore require different inspection tasks and frequencies.

Furthermore there are strong synergies with verification:

⁸ Commission Decision 2011/278/EU of 27 April 2011 determining transitional Union-wide rules for harmonised free allocation of emission allowances pursuant to Article 10a of Directive 2003/87/EC of the European Parliament and of the Council.

⁹ Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control).

¹⁰ Directive 2012/18/EU of the European Parliament and of the Council of 4 July 2012 on the control of major-accident hazards involving dangerous substances, amending and subsequently repealing Council Directive 96/82/EC (“Seveso III Directive”).

- Where a verifier has already given a positive verification opinion, CAs may be in principle confident that the verifier's judgement is valid. Verification reports can play an important role in risk-based selection of installations to inspect. Inspections can concentrate primarily on installations with negative verification, verification with comments, or installations where verifiers were active who are known or suspected to exert insufficient scrutiny during verification.

2.4 Purpose of inspections

The purpose of an inspection will define its scope, i.e. the activities to be carried out during inspections. It will also influence the planning of inspections over time. For ease of reference to different types of inspections, the following categorisation of EU ETS inspections is proposed for use within this guidance document:

- A. Inspections carried out as part of the **approval process of an MP** or updates thereof.
- B. **Routine inspection**, with the purpose to check if the approved MP is still valid (i.e. if it reflects the reality of the installation).
- C. **Non-routine (targeted) inspection**: Such inspection may be the result of comments in the Verification Report (VR), of CA's doubts on details in the AER, or of issues raised by third parties in general.
- D. Inspections carried out as part of the process for **determination of emissions** pursuant to Article 70 of the MRR.

Type A and D will be carried out as demand arises, while types B and C will form the core of an (annual or multi-annual) inspection plan, with type C potentially getting the higher attention if resources are too limited for regularly inspecting all installations.

2.5 Relation between inspection and verification

The overall responsibility for the functioning of the EU ETS is born by the Member State CA. The architecture of the EU ETS transfers some control tasks to the verifiers. Those tasks are well-defined by Article 7 of the AVR. In accordance with Article 7(4), the verifier shall assess:

- Whether the AER is complete;
- Whether the operator has acted in compliance with the permit and the MP;
- Whether the data in the AER are free from material misstatements;
- Whether the control system in support of the monitoring methodology can be improved.

The second and last point above could be considered as CA's tasks, but are also covered by verifiers' activities. However, there is no definition or limitation of the responsibilities of a CA in the EU ETS Directive or its daughter instruments. It is therefore more a question of efficiency and common sense than a legal requirement to avoid duplication of verifiers' tasks by the CA. Differences in CA and verifier core responsibilities and competences can justify both looking at the same general areas but with different specific focuses. The final decision on the

scope and tasks of the inspection will need to be defined on a case-by-case basis and will strongly depend on the inspector's experience.

Another important factor is the contractual and financial relationship between verifier and operator, which sometimes attracts scepticism about the verifiers' impartiality and independence. While in principle the accreditation system is in place to ensure impartiality and independence, a residual risk of unduly benevolent verification opinions or superficial verification (induced e.g. by unrealistically low fees) remains. Therefore, CAs may not always rely on the verifier surveillance performed by the NAB (National Accreditation Body), but may also carry out some checks on verification reports. The regular information exchange between NAB and CA (e.g. on complaints about verifiers) will also provide information about cases where trust in the verifier's work is not complete.

Consequently a CA may take the following considerations into account when planning or carrying out inspections:

- The approval of MPs and amendments thereof are fully the responsibility of the CA. Necessary site visits cannot be delegated to verifiers. They can be considered the most important inspection cases. However, type A inspections can take into account observations reported by verifiers and improvement reports by operators responding to these observations. The verifiers' inputs can inspire the checklist of the inspectors either by requiring specific checks of some improvement points, or by raising assurance that certain points don't need further attention.
- For the routine of annual emissions reporting the CA will tend to rely on the work of verifiers and not to duplicate the verifiers' tasks. Therefore type B and C inspections will predominantly avoid the checking of detailed information that has already been checked by the verifier (as far as this is known). However, verifications are carried out on the basis of the verifier's risk analysis and sufficient sampling by the verifier to reach a verification opinion with 'reasonable assurance'. This means that the verifier does not necessarily check all data. Therefore, the inspector may consider it appropriate to repeat some of the verifier's checks, or extend them (i.e. carry out additional checks). Usually, such checks will be aimed at corroborating the verifier's findings, but if discrepancies are revealed, this could have consequences for both the operator and verifier.
- The CA has to ensure that for every active installation or aircraft operator an emission figure is available against which allowances are to be surrendered. Therefore the CA has to determine the emissions by conservative estimate in case that the operator or aircraft operator fails to submit a verified emissions report. Due to this responsibility the CA may have to carry out a site visit, i.e. an inspection (type D) to assist their conservative estimate. The verifier's report (if available) can serve as a starting point for the CA's conservative estimate and for developing a checklist as mentioned in the first bullet point above.

From the above considerations it can be concluded that the CA cannot completely avoid a repetition of verifiers' tasks and should not do so in certain circumstances. However, the CA will carry out inspections to a much lesser extent than the verifiers and will concentrate on tasks which the verifier has paid less attention to. Any duplication of work can thus be limited. Furthermore the use of a risk assessment during inspection planning will ensure that the activities of the

inspectors will lead to an increase of confidence in the EU ETS data in general. The effort of inspections in general will therefore be justified.

3 GUIDANCE ON INSPECTIONS

3.1 Selecting installations – the Inspection Plan

When inspections are used as a tool for increasing compliance, this should be done on systematic terms, in order to ensure fair treatment of all participants. Inspectorates are advised to implement an Inspection Plan (IP) which ensures the most suitable coverage of EU ETS participants. Such IP should cover at least the annual work programme of the inspectorate, while coverage of a multi-annual work programme seems equally appropriate in order to ensure broad coverage of participants. While the IED and Seveso Directive require all covered installations to be inspected at least every three years, there is no such requirement in the EU ETS. When developing the IP, the inspectorate will take into account the following factors for defining the number of inspections per year:

- Whether there is a legal requirement in the MS to carry out at least a defined minimum number of inspections;
- The available resources (number of inspectors and budget);
- Whether the CA has identified irregularities when checking annual emission reports or verification reports, or improvement reports, which can be best resolved by inspections;
- Possible synergies with inspections in other areas, such as the IED and Seveso Directive.

For selecting individual installations to be inspected in the current year, a risk assessment should be carried out which ensures that primarily those installations are inspected which exhibit a higher risk for non-compliance. This way the added value will be highest. The following considerations apply:

- The aim should¹¹ be that during a multi-annual IP *all* installations are inspected at least once, while highest risk installations should be inspected more often.
- Based on experience within the respective Member State, inspectorates may develop individual risk-based approaches. Section 3.2 of this guidance provides a starting point. However, Member States are free to develop their own approach for risk assessments. The risk assessment will lead to a ranking of installations based on their risk of non-compliance.
- Several approaches can then be used to select installations according to the number of annual inspections decided in the previous step. A good balance should be achieved such that
 - All installations are included where irregularities were found when checking annual emission reports;

¹¹ It is emphasized that this is not a strict requirement of the EU ETS Directive.

- Where – according to the CA’s findings – there are concerns or suspicions over verification quality or where complaints were filed against certain verifiers, some installations are included which were verified by those verifiers;
- Several installations of the highest risk are included according to the decided frequency of inspections;
- The remaining number of inspections is filled up with medium and low risk installations, e.g. by random sampling, such that over the multi-annual work programme all installations are inspected at least once.

Type A inspections (carried out during approval of the MP) are not included in this planning, since their number is unknown in advance and the risk-based approach will not lead to appropriate results. For those a separate budget must be available (e.g. from fees collected for the MP approval).

This is illustrated by the following example:



Example: Member State X has decided that based on available budget, 40 inspections can be performed every year. There are 150 Installations in the MS, of which 20 are classified as highest risk, 60 medium risk and 70 lowest risk.

It was decided that the highest risk installations should be inspected every two years, medium risk at least every four years, and lowest risk installations at least once during the trading period (currently 8 years). The annual Inspection Plan can then be as follows:

Risk	Total installations	frequency (years)	Inspections per year
High	20	2	10
Medium	60	4	15
Low	70	8	8 – 9
Non-routine inspections			6 – 7
Total			40

As it can be seen from the table, this IP allows flexibility for 6 to 7 further inspections in the category “non-routine inspections”. These will be inspections targeting those installations where irregularities were found in AER or VR checking, or repetitions of inspections of the previous year(s), where evidence on the implementation of improvements compared to the previous inspection is to be collected.

The IP is to be completed in a next step by randomly sampling the required number of installations in each risk category, excluding installations already inspected in the previous year(s). Note that it can also happen that more non-routine inspections may be required than shown in the table. In that case the inspectorate has to make sure that those are included, i.e. the sampling of installations for routine inspections will not be completely random.

3.2 Risk assessment

As mentioned in the previous section, a risk assessment is a valuable tool for selecting installations for inspections, such that those installations with highest risk for non-compliance are controlled most frequently, thereby effectively reducing their risk of non-compliance beyond the level already achieved by third-party verification.

There is valuable literature available on risk-based planning of inspections in the context of IED and the Seveso Directive¹². Although some synergies with EU ETS inspections can be identified (see section 2.3), the risks involved in the EU ETS differ considerably from those under the other Directives. Under the IED, the predominant risk is uncontrolled emissions to soil, water and air, which may cause severe damage to the environment and threats to human health. In the case of the Seveso Directive it is the risk of serious accidents (such as explosions, fire and release of harmful substances), again with direct threats for human lives. When it comes to the EU ETS, however, a non-compliance impacts the correct quantification of GHG emissions (with no direct health impact) and the financial status of the operator. If large emissions remain unreported, it could theoretically have an influence on the carbon price. The biggest risk however lies in the damage that could be done to the trust of market participants, and to the environmental integrity and credibility of the cap & trade instrument overall.



When risk is commonly defined as the product of probability and effect, in the context of the EU ETS “effect” can be translated to “GHG emissions”, or more precisely, “GHG emissions which might be reported erroneously”¹³. The risks that such faulty report happens are the same which a CA will commonly assess when selecting AERs and VRs for review. Therefore the “**Risk Profiling Tool**”¹⁴ (RPT) provided by the Commission for the latter purpose can be immediately applied.

The RPT does not work by quantifying the likeliness of individual error possibilities, but just assumes that certain characteristics of an installation (such as high number of source streams, heterogeneous materials which require analyses, application of CEMS, etc.) make mistakes more likely than in simple installations. It furthermore takes into account any events or findings in the past, and experience the CA has made with the operator or the involved verifier.

The RPT can be adjusted to each Member State’s needs by using weighting factors for the different risk factors, based on the inspector’s experience. It then delivers a ranking of installations by risk, which can be applied for producing an inspection plan as described in section 3.1. The time since the last inspection can be used as parameter in the RPT. However, if the methodology described in section 3.1 is used, the “discount factors” for time since the last inspection should be set to zero. Furthermore the ranking can be made independent of the size of the emissions. This feature helps to put more emphasis on the complexity of installations rather than amount of emissions.

¹² In particular the IMPEL report “Guidance for the implementation of the IED in planning and execution of inspections”, <http://impel.eu/wp-content/uploads/2015/01/Step-by-step-guidance-for-IED-Inspections-June-2013-final-080713.pdf>

¹³ CAs may consider also the level of free allocation as part of the risk.

¹⁴ https://ec.europa.eu/clima/sites/clima/files/ets/monitoring/docs/risk_profiling_tool_aer_rev1_en.xls

Note that this risk-based approach is most useful for planning routine inspections. Non-routine inspections (e.g. as follow-up to irregularities in the AER or to issues raised by third parties) should take place as if the determined risk is very high.

3.3 Inspection methodology

In order to make the inspection a well-structured, consistent and repeatable exercise, which is perceived as fair and justified among operators, inspectorates are advised to establish and maintain a systematic inspection methodology suitable for the needs of their Member State. This should include written procedures for planning and carrying out inspections, templates for checklists and reports, and a monitoring and review system for continuous improvement of the methodology. Due to the big differences between installations the methodology needs to allow for adequate flexibility.

3.4 Preparation phase

After having selected an installation for inspection, the next step is to prepare the inspection. This will involve:

- Assigning the inspection to one or more inspectors such that the relevant (sector-specific, if applicable) competences are covered;
- Contacting the operator, agreeing on the date of inspection (unless an unannounced visit is planned), and asking for relevant background information, if not already available at the CA.

Information already available to the CA¹⁵ includes in particular:

- The latest approved monitoring plan, including a description of the installation and its processes;
- Supplementing documents such as risk assessment and uncertainty assessments, if applicable;
- Annual emission reports, verification reports and improvement reports of the previous years;
- Data used for application for (changes of) free allocation;
- Internal documentation of the CA's checks of MPs, AERs, VRs and IRs.

Where applicable, operators will not be asked to send the information beforehand, but to have it available during inspections. This will apply e.g. to

- a list of recent or planned changes to the monitoring plan (if not yet submitted for approval);
- Monitoring data such as production protocols, invoices, analysis results, retained samples;
- Written procedures,

¹⁵ If the CA and the inspectorate are two separate bodies, a suitable information exchange must be ensured.

- Permits relevant for other legislation (e.g. IED), or permit applications if significant changes of the installation are envisaged,
- etc.
- Study of the information listed above (desk review);
- The inspector will prepare an agenda, or at least a list of points he wants to discuss with the operator. This can either be done based on a generic checklist available at the inspectorate, or just a collection of points that were unclear during the desk review. Often these points will be of concern regarding compliance, but it may as well be just points where the inspector wants to improve his understanding of the installation. There may also be points which the inspector wants to bring to the attention of the operator, e.g. where changes in legislation are planned which will require action by the operator.
- With the list of topics for inspection in mind the inspector may send the operator an agenda so that the operator can ensure that relevant staff¹⁶ are available when required, and can check if the timetable is realistic (e.g. taking into account time required for safety and security procedures, walking distances in the installation, etc.)
- For efficiency reasons the inspector may already want to prepare a template for the inspection report so that only the actual findings need to be added during the inspection or as soon as possible thereafter. The sooner the report is made available to the operator for comment, the better.

This preparation is similar to the development of an audit plan on the side of the verifier. However, inspectors may decide flexibly during the inspection that they focus on single topics where issues are identified, such as a single source stream or part of the data flow, while a verifier must ensure to cover the whole audit plan.

3.5 Performing inspections (site visits)

Every inspection will be different. However, the general pattern will include an introduction to the inspection and some concluding discussion in some office building. Between these two framing agenda points several activities will take place, in particular a discussion of the monitoring methodology and some data checks, and a tour through the installation. However, each inspector and every installation will have different preferences, and various practical or logical reasons will influence whether a tour through the installation or a check on some data should be performed first.

A “complete check of everything” will usually be impossible within the time available¹⁷. Therefore some selection of topics will be required. The selection of topics and the severity of scrutiny should be commensurate with the risks for non-compliance or misstatements in emissions data. For example, the data flow

¹⁶ If the operator considers it useful, he may also invite the verifier or other consultants to participate. This may help to provide relevant information to the inspectors, or for building up mutual understanding of the issues at stake, e.g. measurement requirements. If such external persons participate, it is important to clarify their roles before the start of the inspection.

¹⁷ However, additional work can be performed by inspectors as desk reviews, e.g. on data provided by the operator before, during or after the on-site visit.

and control system can be well understood if the operator explains and demonstrates to the inspector how one single (major) source stream is monitored. The inspection can work by way of a “**walk through test**” which gives good impression of the full monitoring approach: Visiting the measurement instruments in the installation (including a check of the environment and if use conditions are respected), checking maintenance and calibration protocols (including the presence of up to date valid certificates where appropriate), then observing the operator performing the sampling, visit the laboratory, get a demonstration of the data collection IT system or spreadsheets, and comparing complete data of a year with final data in the annual emissions report. The findings of the verifier can provide topics for discussion – what can be improved, why is improvement not possible, is it true that costs would be unreasonable?

A **tour through the installation** will be a fixed agenda item for every inspection. It will be useful if the tour starts with a discussion of: The process flow chart and a plan of the installation, so that the inspector gets some orientation about the installation. Where are important parts (measurement instruments or sampling points for biggest source streams), process units, emission points, etc.? What will be the sequence in which those will be shown during the tour?

To the extent possible the most logical route through the installation should be chosen, i.e. a route which follows the production process from raw material entry points over storage and reactors to the final storage and dispatch point. Where relevant, emission points (stacks, other emission points or diffuse emission sources) should also be included.

Data and document checks: Depending on the issues found during the preparation, the inspector will ask the operator to provide data, documents or other evidence. Often it will be useful to carry these checks out by way of walk through test as mentioned above. However, if an installation is very complex and has many source streams or data sources, other approaches for sampling will be required, taking into account previous knowledge, such as from earlier inspections or comments made by the verifier in the VR.

While the checks in routine inspections may be less intense than during verification and not covering the whole monitoring plan, the inspector will get a general impression of how orderly the operator keeps his monitoring methodology and data. Thereby the CA gets a better understanding of real risks of non-compliance of this installation, which can be used for better interpretation of future annual emission and verification reports, and for better estimating the risks for selecting installations for future inspections.

Discussion: Throughout the inspection, or in a separate agenda point towards the end of the site visit, the inspector should discuss his findings with the operator. The inspector can remind the operator of his obligations under the EU ETS, but also use this opportunity to point the operator to available guidance material and templates. That can prevent the operator from investing in expensive or complicated monitoring approaches which still don't satisfy the MRR requirements (or the CA's understanding thereof).

Often the operator just wants an open ear for his problems with the EU ETS. Operators want to better understand why the MRR or AVR put forward certain requirements, or how they can be complied with. Often there will also be allocation issues that the operator wants to discuss. If the inspector carefully listens to

the issues and provides clear and well-informed answers, it can improve the operator's attitude towards the EU ETS.

Open discussion can furthermore provide evidence to the CA about the operator's abilities and willingness to comply. Thereby inspections offer a unique possibility for CA and operator to settle or even avoid disputes, just because they get to know each other from face to face. This simple fact adds significant value for the operator, and can improve overall compliance. Not least, this can be a strong argument to increase the operator's willingness to receive the inspectors.

Special cases:

- If the inspection is carried out specifically for the approval of an MP or updates thereof (type A inspection), focus will be laid on topics such as checks if instruments are in place as defined in the MP and installed in accordance with use specifications, the completeness of sources and source streams, clear and correct defined boundaries; If the description of the installation and the plan or flow diagram are reflecting the real situation of the installation; the existence of written procedures including the operator's risk assessment, of an IT system, etc. However, no monitoring data will be checked in this case.
- If the inspection is carried out for the determination of emissions (by conservative estimate, type D inspection), duplication of some verifier's work is likely to be unavoidable, in particular checking of data. Where applicable it needs to be discussed with the operator how data gaps were filled, and whether no better data sources exist. Inspectors may need to take readings from meters themselves, require the operator to perform calibration and/or maintenance of meters in order to find systematic deviations, perform data aggregation and emission calculation independently of the operator, etc. It may be even necessary to take samples of materials or fuels for analysis (or take part of the retain samples, if available).

3.6 After the site visit – documentation and reporting

Findings of the inspections should be compiled in a report. MS are advised to have a template at hand. The structure of such report could, for example, be like this:

- Introduction:
 - Basis¹⁸ for inspections, short history of earlier inspections (i.e. when was the last inspections, have there been unresolved issues), is there a reason for inspection based on the latest AER, etc.
- Short description/overview of installation
- Topics discussed and findings during the site visit
 - If the inspection was carried out using a checklist, this can be copied in here.
- Follow-up actions

¹⁸ If applicable in the MS, also the legal basis should be mentioned.

- List of mandatory corrective action on non-compliances found
- Recommendations for other improvements of the Monitoring plan, the procedures or supporting documents.
- [Optional: Comments by operator on this report.]

It is important to make a detailed summary of all findings. No conclusions should be drawn without having documented evidence in the report.

It is highly recommended that findings are discussed internally at the CA, and that conclusions on possible non-compliances, improvements or penalties are not based on one individual inspector's opinion. Wherever possible a quality check on these conclusions should be carried out, including comparison to similar cases, thereby ensuring that similar cases are treated similar.

It is furthermore recommended that the operator is given the opportunity to comment on the findings. For this possibility two approaches can be useful, depending on the Member State's common administrative practice and the severity of the findings:

- An efficient way to receive and take account the operator's comments, is to present findings to the operator at a closing meeting after the site visit. The operator is then given the opportunity to comment on findings and discuss with the inspector. This allows the operator to start work on rectifying issues without delay. In addition it is a good idea to request the presence of senior management at the closing meeting. This ensures that senior management are aware of any issues and can dedicate the necessary resources and support to resolving issues.
- The inspection report is sent to the operator for giving comments. If this is done, it is possible to add the operator's comments in a separate section of the report, as indicated above. It is important that all reporting is done as quickly as possible in order to keep memories fresh and to make improvements without undue delay. For sending the report to the operator a reasonable deadline would be around 2 weeks after the inspection, giving the operator between a further 2 and 4 weeks to reply.

After the report is finalised, it is sent to the operator, accompanied, if applicable, by any formal decrees on penalties, and an improvement programme (including the improvement recommendations of the report and deadlines for the improvements). If applicable, a date for a follow-up inspection (regarding the improvements) can already be agreed at this stage.

Since the result of inspections can be considered environmental information, Member States may consider making the results accessible for the public.

If the inspection's goal included clarification of verifier's findings, the respective results should also be brought to the attention of the verifier and the NAB (if applicable).

3.7 Information exchange between CAs

In a Member State there may be several competent authorities involved with EU ETS implementation. These may be:

- A central CA ultimately responsible for the whole ETS implementation (usual a ministry);
- A central or several local CAs responsible for permitting and monitoring plan approval;
- A central or several local CAs responsible for receiving and checking annual emission reports and verification reports;
- A central or several local CAs responsible for free allocation;
- A central inspectorate or local inspectorates.

In addition, there will usually be a national accreditation body (NAB) and some foreign NABs which have accredited verifiers active in this one MS.

Depending on which of these institutions are relevant in a Member State, several communication paths will be relevant for inspections. Not all possible situations can be described here. The common principle, however, will be that a structured information exchange should be established. The aim is that inspectors get the best possible information about what they should look for, and also that all relevant CAs get relevant feedback from inspectors, including clarification of situations where irregularities are found or suspected. Such information exchange is best implemented by using a central IT tool or database, where all concerned authorities can find all relevant information about the installations covered by the EU ETS in their area. Such IT tools should make accessible:

- Permits and approved monitoring plans with the supplementing documents;
- Annual emission reports, verification reports, improvement reports;
- Internal documentation of checks concerning the above documents;
- Inspection reports;
- Information relevant for free allocation (baseline data, sub-installation capacities,...), applications for changes of allocation (significant capacity changes, partial or full cessations, recoveries after partial cessation);
- All other types of correspondence with operators to the extent they are relevant to EU ETS inspections;
- In the ideal case also all relevant information from viewpoint of IED or other environmental permitting and IED inspection reports should also be available.

Such a database helps inspectors and other CAs getting a full understanding of the installations that is going to be inspected.

Where no such database is available, CAs need to bring this information together by other means. For example, inspectors who set up an inspection plan may have to write to local CAs asking which installations showed some irregularities or questionable elements in their AERs and VRs. A central CA may have to collect inspection reports from local inspectors, etc. While all such case-specific information exchange is in principle acceptable, it is recommended that one central CA ensures that the information exchange is carried out in a systematic and structured manner. The aim is that inspectors get all relevant information for planning inspections, and that CAs responsible for MRV get results from the inspections. The following main information paths are important:

- Development of inspection plan: Gather input from all MRV CAs, which installations may require an inspection, and why (e.g. unclear findings of a verifier, possible partial cessation, or requirement to approve a new monitoring plan);
- Before actual inspection: Inspector gathers all relevant documents for desk review;
- After inspection: The CA who asked for inspection or which is otherwise competent for this installation, gets the report on inspection findings, and information on relevant follow-up, including need for imposing penalties;
- If the inspection dealt with clarification of verifier findings, the NAB may need to be informed about the quality of the verifier's work.

It may furthermore be useful for a Member State to define reasonable deadlines for each type of information exchange, and to provide a simple template to ensure that the relevant information is complete.

3.8 Competence requirements for inspectors

Inspectors need a wide range of technical and legal knowledge as well as social skills. Where necessary, teams will have to be built for inspections to ensure that all required competences are available. Where the inspectorate cannot cover all relevant competences by teaming up with other CAs, it may become necessary to involve experts from the private sectors. In this case it needs to be ensured that the roles, responsibilities and competencies are clearly defined. In particular it must be clear that the inspector is responsible for the overall inspection result, and that external experts do not have any conflicts of interest. In particular when verifiers act as experts, it must be clear that the verifier has not verified the installation under consideration, and that the verifier will not use the opportunity for advertising his own business. Overall it may be a better choice not to involve any verifiers in CA inspections at all.

Competences required for inspections:

- Deep knowledge of the EU ETS and its requirements for operators, in particular those of the M&R and A&V Regulation. Understanding of the free allocation rules will be an asset;
- Technical understanding of industrial installations in general. The more complex the industry sector, the more important will be understanding of the sector-specific processes. Knowledge in this regard may well be stemming from work in the field of IED and Seveso Directive;
- Knowledge of the most common measurement instruments, principles of sampling and laboratory analyses. If there are already known issues with an installation's monitoring methodology, more specific knowledge on these particular topics may be required;
- Communication skills: Asking precise questions, confirming what was heard as answer, ability to write clear reports, etc.
- Social skills: active and empathic listening, leading discussions and teams (if applicable), avoiding and resolving conflicts, etc.

Member States should ensure that inspectors can acquire those skills either from dedicated trainings, or from learning from experienced colleagues (includ-

ing ones from other CAs). Where a MS envisages the use of inspections without prior information of the operator, there may be the requirement to provide a legal basis for inspectors to enter installations without further justification. In any case it may be useful to provide inspectors with special service certificates and documents that explain rights and duties of inspectors to operators.

4 ANNEX I

4.1 Acronyms

EU ETS.....	EU Emission Trading Scheme
MRV	Monitoring, Reporting and Verification
MRR.....	Monitoring and Reporting Regulation (M&R Regulation)
AVR	Accreditation and Verification Regulation (A&V Regulation)
MP	Monitoring Plan
CA	Competent Authority
AER	Annual Emissions Report
MS	Member State(s); In this guidance always meaning “EU or EEA-EFTA Member State”
EEA.....	European Economic Area (covers EU and EFTA countries)
EFTA.....	European Free Trade Association (members: Norway, Iceland, Liechtenstein, Switzerland; The latter does not participate in the EU ETS)
IED.....	Industrial Emissions Directive; formerly known as IPPC (Integrated Pollution Prevention and Control) Directive
RPT.....	Risk Profiling Tool (described in section 3.2)
IMPEL.....	European Union Network for the Implementation and Enforcement of Environmental Law (www.impel.eu)
IT.....	Information Technology

4.2 Legislative texts

EU ETS Directive: Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC, amended several times, e.g. by Directive 2009/29/EC. Download consolidated version: <http://data.europa.eu/eli/dir/2003/87/2015-10-29>

M&R Regulation: Commission Regulation (EU) No. 601/2012 of 21 June 2012 on the monitoring and reporting of greenhouse gas emissions pursuant to Directive 2003/87/EC of the European Parliament and of the Council. Download of the consolidated version under <http://data.europa.eu/eli/reg/2012/601/2014-07-30>

A&V Regulation: Commission Regulation (EU) No. 600/2012 of 21 June 2012 on the verification of greenhouse gas emission reports and tonne-kilometre reports and the accreditation of verifiers pursuant to Directive 2003/87/EC of the European Parliament and of the Council. <http://eur-lex.europa.eu/eli/reg/2012/600/oj>

RES Directive: Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC. Download: <http://eur-lex.europa.eu/eli/dir/2009/28/>

Industrial Emissions Directive (IED): Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control). Download: <http://eur-lex.europa.eu/eli/dir/2010/75/2011-01-06>

Seveso III Directive: Directive 2012/18/EU of the European Parliament and of the Council of 4 July 2012 on the control of major-accident hazards involving dangerous substances, amending and subsequently repealing Council Directive 96/82/EC. Download: <http://eur-lex.europa.eu/eli/dir/2012/18/oj>

RMCEI: Recommendation of the European Parliament and of the Council of 4 April 2001 providing for Minimum Criteria for Environmental Inspections in the Member States (Recommendations 2001/331/EC). Download: <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32001H0331>

5 ANNEX II – SAMPLE CHECKLIST

5.1 General Information

Date of site visit:

Name Lead Inspector:

Further Inspectors (if applicable):

.....

Report to be reviewed by:

Contact data of operator:

Main contact: Name:

Telephone: Email:

Mobile:

Second contact:

Installation Name:	
Unique ID:	
Operator Name:	
Installation Category:	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C
Low emitter:	<input type="checkbox"/> Yes <input type="checkbox"/> No
Annex I Activities:
Monitoring approaches	<input type="checkbox"/> Calculation <input type="checkbox"/> CEMS <input type="checkbox"/> Fall-back <input type="checkbox"/> N ₂ O <input type="checkbox"/> PFCs <input type="checkbox"/> Transferred/Inherent CO ₂
Date of most recent inspection	
Reason for inspection	<input type="checkbox"/> Approval of monitoring plan or amendments of MP <input type="checkbox"/> Routine inspection (to be repeated every years) <input type="checkbox"/> Non-routine inspection (please add reasons below) <input type="checkbox"/> Determination of emissions
Reasons for non-routine inspection:	Observations reported by Details:
Summary of open issues after last inspection (if any)	

5.2 Topics discussed with operator / examined during tour through site

Note: The following are examples of topics for inspections and are by no means considered complete or compulsory.

<p>Installation description and boundaries</p>	<p><input type="checkbox"/> Discussion <input type="checkbox"/> Satisfactory Detailed findings:</p>	<p><input type="checkbox"/> Evidence in Documents <input type="checkbox"/> May need improvement</p>	<p><input type="checkbox"/> Site Visit <input type="checkbox"/> Non-compliance</p>
<p>Completeness of source streams</p>	<p><input type="checkbox"/> Discussion <input type="checkbox"/> Satisfactory Detailed findings:</p>	<p><input type="checkbox"/> Evidence in Documents <input type="checkbox"/> May need improvement</p>	<p><input type="checkbox"/> Site Visit <input type="checkbox"/> Non-compliance</p>
<p>IT system for data collection – functioning (calculation formulae), security aspects (access restrictions)</p>	<p><input type="checkbox"/> Discussion <input type="checkbox"/> Satisfactory Detailed findings:</p>	<p><input type="checkbox"/> Evidence in Documents <input type="checkbox"/> May need improvement</p>	<p><input type="checkbox"/> Site Visit <input type="checkbox"/> non-compliance</p>
<p>Calibration protocols for measurement instruments xyz, uvw and abc</p>	<p><input type="checkbox"/> Discussion <input type="checkbox"/> Satisfactory Detailed findings:</p>	<p><input type="checkbox"/> Evidence in Documents <input type="checkbox"/> May need improvement</p>	<p><input type="checkbox"/> Site Visit <input type="checkbox"/> Non-compliance</p>
<p>Walk-through test of data flow for source stream xy</p>	<p><input type="checkbox"/> Discussion <input type="checkbox"/> Satisfactory Detailed findings:</p>	<p><input type="checkbox"/> Evidence in Documents <input type="checkbox"/> May need improvement</p>	<p><input type="checkbox"/> Site Visit <input type="checkbox"/> Non-compliance</p>
<p>Discussion of procedures used for evidence for sustainability of biomass</p>	<p><input type="checkbox"/> Discussion <input type="checkbox"/> Satisfactory Detailed findings:</p>	<p><input type="checkbox"/> Evidence in Documents <input type="checkbox"/> May need improvement</p>	<p><input type="checkbox"/> Site Visit <input type="checkbox"/> Non-compliance</p>
<p>Sampling of material Y Discussion of sampling plan, watching taking of a sample</p>	<p><input type="checkbox"/> Discussion <input type="checkbox"/> Satisfactory Detailed findings:</p>	<p><input type="checkbox"/> Evidence in Documents <input type="checkbox"/> May need improvement</p>	<p><input type="checkbox"/> Site Visit <input type="checkbox"/> Non-compliance</p>

<p>CEMS: Latest report of AST test (See GD 7)</p>	<p> <input type="checkbox"/> Discussion <input type="checkbox"/> Evidence in Documents <input type="checkbox"/> Site Visit <input type="checkbox"/> Satisfactory <input type="checkbox"/> May need improvement <input type="checkbox"/> Non-compliance Detailed findings: </p>
<p>Data check (example)</p>	<p>Check of 3 random invoices of natural gas – compare data in Excel sheet with real invoices. Compare meter ID with real meter in installations. Plausibility check of meter reading.</p> <p> <input type="checkbox"/> Satisfactory <input type="checkbox"/> Mistake found, which: </p>
<p>Data check (example)</p>	<p>Fuel oil: Plausibility check of 5 consecutive delivery slips against tank readings and consumption data from daily production protocols</p> <p> <input type="checkbox"/> Satisfactory <input type="checkbox"/> Mistake found, which: </p>
<p>Allocation data plausibility</p>	<p>Compare time series of annual production of product</p> <p>5 years production / emissions – correlation?</p> <p>2 maximum monthly productions every year – corresponding to capacity reported in NIMs baseline data?</p> <p>Evidence for partial cessation found?</p> <p> <input type="checkbox"/> Satisfactory <input type="checkbox"/> Issue found, which: </p>