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Guidance Document

Combined M&R and A&V Guidance on reviewing Annual Emissions and Verification Reports

MRR + AVR Guidance document, Version of 6 December 2013

Status of this document:

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 (MRR) on monitoring and reporting of greenhouse gas emissions as well as Commission Regulation (EU) No. 600/2012 on accreditation and verification (AVR) of 21 June 2012 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 document takes into account the discussions within meetings of the informal Technical Working Group on the Monitoring and Reporting Regulation under WGIII of the Climate Change Committee (CCC), as well as written comments received from stakeholders and experts from Member States.

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

http://ec.europa.eu/clima/policies/ets/monitoring/documentation_en.htm.

¹ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:181:0030:0104:EN:PDF>

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1 INTRODUCTION

According to Article 67 of the MRR, the competent authority (CA) will receive every year by 31 March² from each installation and aircraft operator an annual emissions report (AER) submitted in accordance with the requirements of the AVR. Those emissions reports will be verified by a verifier and accompanied by a verification report (VR) in accordance with Article 27 of the AVR. The CAs will normally then perform checks on (some of) the annual AERs and review them.

Possible approaches to checking those reports are discussed in this guidance document. Note that it is not the intention of this document to change a CA's established and proven approach of checking those reports but:

- to propose some best-practice examples; and
- to reflect on some new reporting requirements ; and
- to reflect that all information will be contained in the harmonised electronic reporting templates.

In section 2.1 a general recommended approach for checking annual reports is discussed, including approaches for sampling. In chapter 3 typical checks for the AER and the VR are listed.

2 CHECKS TO BE PERFORMED

2.1 Recommended approach

The verifier has access to data and information of the installation or aircraft operator that nobody else has under routine conditions³. Therefore, looking first at the VR is considered the most appropriate starting point for further checks considering the following aspects:

- Has a verified AER and the VR for each installation and aircraft operator been submitted and has a number been entered (and verified, if applicable) in the Registry?
- Is the emission number in the AER, the VR and in the Registry the same?
- Is there a positive verification opinion statement in the VR?
- If the verification opinion statement in the VR states that the AER cannot be verified as satisfactory, what type of verification opinion statement is given. A limitation of scope can require a different assessment and action by the CA than if the AER was not verified as satisfactory because of a non-compliance with material effect on the emission data.
- Are there any outstanding misstatements, non-conformities, non-compliances with the MRR and recommendations for improvements reported in the VR (i.e. is an improvement report to be expected)?

In the ideal case all information necessary for approving the correctness of emission data can be checked automatically. A prerequisite for automatic checks is establishing an appropriate database. It can be considered best practice to have an IT system covering and storing all information gathered through the different reporting requirements. Automatic checks can then be performed by automatic reporting.

² Some MS may require operators to submit the verified annual emission report earlier than by 31 March, but by 28 February at the earliest.

³ Unless a competent authority is performing a site visit or requests additional information due to doubts regarding the AER's or VR's content.

Even in the absence of such an advanced IT system the harmonised templates provided by the Commission (e.g. the Monitoring Plan (MP), AER and VR templates) also allow the establishment of such an appropriate database since information for each installation and aircraft operator is stored at the same place (e.g. the same cell range) and using the same terms, names or labelling (e.g. by selection from a drop-down list). The appropriate use of those templates remains important for establishing a database which will allow automatic checks. This can be achieved by transferring information contained in each template into a database (e.g. a MS Excel-“Masterfile” or MS Access) either manually or by programming suitable macros. For this purpose an appropriate file naming convention will facilitate extraction of data. Useful filenames will contain the file type, the installation or aircraft operator ID, the submission date and/or similar important information, e.g. “BE_XY001_MP_2012_12_05.xls” or “AT_YZ007_AER_2014_20150315.xls”.

For automatic checks to be performed you may consider those elements in the indicative lists in sections 3.1 and 3.2, for which the templates allow automatic checking.

Note that a database will also facilitate extraction of aggregated results for National Inventory purposes or for other reporting requirements, e.g. for Article 21 reporting.

In general, the more automatic checks are performed the less time consuming and labour-intensive the annual checks will be. Even more importantly, the risk of any misstatements or non-conformities remaining unrecognised will be significantly decreased.

However, even if such a best-practice database is established and maintained, for some issues automatic checks can only serve as an indication that a manual follow-up is required, and in other cases issues can only be assessed on a manual basis in the first place. Furthermore, some information and data will only be accessible if the CA’s assessor performs site visits. For those manual (follow-up) checks and in particular if site visits are to be carried out, the assessment can become very time consuming and labour-intensive.

As a consequence, it will probably not be practical to check the correctness of all emission numbers reported for all installations and aircraft operators to a high level of detail. Therefore, a distinction must be made between checks that are performed for all installations (and aircraft operators) and checks that are performed on a limited number of installations (and aircraft operators), i.e. spot checks or site visits.

2.2 How to sample for spot checks and site visits

General aspects

In general, CAs should strive to check all installations and aircraft operators at least every few years (e.g. 3 to 4 years). The ability to do so will of course depend on the share of installations and aircraft operators the CA is capable of spot checking or site visiting in one year. E.g. if only 20% of the installations can be site visited per year, it takes at least 5 years to visit all installations. When it is not possible to perform detailed checks or site visits for all installations or aircraft operators, it is necessary to prepare a suitable approach for sampling.

Examples of different aspects CAs may consider for carrying out spot checks or site visits:

- All installations with misstatements, non-conformities or recommendations stated in the verification report;
- All installations with irregularities or inconsistencies observed during the general checks performed;
- All installations with issues in the past, where considered potentially relevant also in the future;
- All installations with a significant difference to the number of emissions reported in the previous AER;
- As many sectors as possible are represented in the spot check list,
- Consider to have as many verifiers as possible represented in the spot check list
- Consider priority issues (e.g. focus on specific sectors, source streams, consumption of biomass,..) for each year,
- Some random samples
- For the remaining free number of detailed checks, select the largest installations or aircraft operators (i.e. with respect to the annual amount of emissions) which have not been checked in the last years.

The risk-based approach and the Commission's "risk-based tool"

Many of these aspects are already known before receiving the most recent reports or can be extracted quite easily from the latest reports.

For efficient and cost-effective checks of the AERs, it can be considered best practice to apply a risk-based approach. This involves assessment of the following:

- The probability that misstatements are contained in the AER or that non-conformities have occurred, and
- The impact of a misstatement where the risk equals the probability of the misstatement multiplied by the corresponding amount of annual emissions.

The first bullet point seeks to answer the question: "Which installations or aircraft operators should be checked in-depth or visited to minimise the number of misstatements and non-conformities in the CA's control that are not detected disregarding the corresponding annual amount of emissions?"

The second bullet point tries to quantify the impact in relation to the total emissions of all installations, i.e. seeking an answer to the question: "Which installations or aircraft operators should be checked in-depth or visited to minimise the difference between the sum of emissions reported by all installations and aircraft operators in the CA's control and the correct number of emissions in a cost-efficient manner?"

Both questions can be answered by defining indicators which represent the probability that a specific event will occur and assigning a weight to each of these events, when they occur. The result of adding up the indicators' values will be a number that indicates the impact (or risk points) scored by each installation or aircraft operator. Note that the simple examples for sampling above are in fact also possible indicators but without assigned weights. Instead each example indicator triggers performing a 100% check.

Further indicators may address more technical aspects, in particular indicators that impact on the complexity of the monitoring plan, such as:

- Types of fuels or materials consumed
- Number of source streams and emission sources
- Complexity of the installation in general (e.g. based on the industry sector)
- Activity-specific monitoring requirements
- Use of accredited/non-accredited laboratories
- Application of fall-back approaches
- Application of sustainability criteria for biomass
- Where a Category B or C installation or aircraft operator is not applying highest tier methodology
- etc.

The Commission has provided a tool for carrying out such a risk-based targeting of installations and aircraft operators. This tool is based on best-practices already applied in the past by CAs. It allows for following both risk-based approaches identified above. It involves the use of several indicators and can be broadly customised by the CA, assigning to each risk indicator a weight based on the CA's own judgement.

The tool can be downloaded from the Commission's website at the following address:

http://ec.europa.eu/clima/policies/ets/monitoring/documentation_en.htm.

More guidance on how to use this tool can be found in its "Guidelines & Conditions" sheet.

3 TYPICAL CHECKS IN THE REPORTS

3.1 Typical checks in the Verification Report

Besides typical checks on the completeness of the verification report (VR), other checks can provide the CA with information on the robustness of the verification and on the risks that there are still misstatements, non-conformities or other issues that have not been identified by the verifier. It can also indicate issues that need to be followed up: e.g. through improvement reports, amendments of the monitoring plan, or conservative emission estimates by the CA.

Not all checks outlined in the tables below will require the same level of detail. Some checks can be made very quickly and are just intended to point the CA to areas that may need further assessment, e.g. areas in the AER or monitoring plan or issues that need to be reported back to the NAB or NCA through the information exchange requirements. More information on the different sections in the Commission's VR template can be found in the AVR Key guidance note II.6 on verification report(KGN II.6).

3.1.1 Checks related to the verifier

Issue	Comments
Is the accreditation valid? (Or in the case of a certified natural person verifier, is the certification valid?)	The accreditation/certification certificate number and contact details of the NAB or NCA allows the CA to check the verifier's accreditation or certification status on the NAB's or NCA's website.
Activities covered by the scope of accreditation or certification?	Check whether the Annex I activity listed in the VR and in the AER is covered by the scope of accreditation or certification of a verifier. This can be assessed at the NAB's or NCA's website.
Which verifier or verification team members were involved in the verification?	If there are already complaints or concerns on a particular verifier, the CA may decide to assess the VRs and the AERs verified by that verifier more thoroughly.
Which persons were involved in the site visit?	Check which team members were involved in the site visit. If the names are different from the team members listed under the verification team in the VR template, this can be an indication that the verification is not performed or recorded correctly.
That the independent reviewer is not part of the verification team?	A cross-check can be made whether the name of the independent reviewer in the verification report is the same as a verification team member involved in the verification (EU ETS auditor, lead auditor or technical expert). If the names are the same, the NAB/NCA should be notified since Article 25(2) of the AVR has not been met.
When has the verification taken place?	Cross-check on the date of the verification report (e.g. with the date received by the NAB).
If available, have other verifications by the same verifier been reported in same time frame?	Cross-checks with the dates of verification reports and the names of verifiers.

3.1.2 Checks related to the verification process

Issue	Comments
Which versions of the approved monitoring plan were taken into account in the verification?	Cross-check of the versions of the monitoring plans listed in the VR against the versions of the monitoring plans in the CA's database and versions mentioned in section A of the Commission's monitoring plan template.
Number of site visits and number of days on site	It is the NAB's/NCA's responsibility to oversee whether the verifier has allocated sufficient time to the verification. However, the data on the site visit(s) listed in the verification report can give an indication of significant anomalies in the time spent on site: e.g. if the installation or aircraft operator is highly complex and the time spent on site is unreasonably low in comparison to similar installations or aircraft operators with similar activities. Suspicious on incorrect time allocation should be reported to the NAB/NCA in the information exchange according to Article 72 of the AVR.
Is there anything suspicious reported which should be checked in the AER or in the monitoring plan?	This could for example be information that a data gap has occurred, that flights were not complete, that the monitoring methodology was not correctly applied.

	The information provided in the VR can point the CA to areas in the AER or the monitoring plan that need to be assessed or checked further.
If site visits have been waived, what was the justification?	Check whether site visits were actually undertaken. If they were waived, check the justification and assess whether it matches the CA's decision on the waive of the site visit in accordance with Article 31 of the AVR. For installations with low emissions CA approval is not required.
Are any suspicious or relevant issues reported under the activities mentioned under the item "A&V met" in the Commission's verification report template?	<p>Check whether a particular verification activity was not carried out, and the reasons why: e.g.</p> <ul style="list-style-type: none"> ● Situations where the data could not be traced back to primary source data because of missing information; ● Situations where verification checks did not need to be carried out (e.g. where the small emitter's emissions report was automatically generated from the EU ETS Support Facility independently from any input of the small emitter). The CA can double-check with their own records whether this was justified. ● Check on issues found during verification activities. It could point the CA to areas in the monitoring plan that need to be addressed: ● Information on irregularities in the control activities (e.g. calibration of measurement equipment that was not carried out (in time)); ● Information on whether uncertainty requirements of the MRR were met or calibration certificates were missing.
What materiality level was applied?	Check in Annex II of the Commission's verification report template whether the correct materiality level was applied and potentially any relevant information on the detail of the verification work (please see the KGN II.6 for more detail).

3.1.3 Checks related to the outstanding issues

Issue	Comments
What type of verification opinion statement was provided?	<ul style="list-style-type: none"> ● Check whether the verification opinion is “verified”, “verified with comments” or “not verified”. ● If there is a “not verified” report, the reason for that: e.g. limitation of scope, material misstatements⁴.
Are there uncorrected misstatements? Do they have material effect?	<ul style="list-style-type: none"> ● Check the description of the misstatement and assess which data in the AER are affected⁵. ● Check whether the correct verification opinion is selected in the statement (“verified with comments” in the case of non-material misstatements or “not verified” in the case of material misstatements).
Are there uncorrected non-conformities? Do they result in material misstatement?	<ul style="list-style-type: none"> ● Check the description and assess whether and which data in the AER are affected and which issue in the approved monitoring plan is not complied with. ● Check whether the correct verification opinion is selected in the statement (“verified with comments” in the case of non-conformities with no material effect, or “not verified” in the case of non-conformities that are considered to result in material misstatement). ● Check whether in the verification opinion statement under the section “<i>EU ETS compliance rules</i>” of the Commission’s verification report template it is indicated that the monitoring plan or permit is not complied with. ● Make note to check that an improvement report is submitted by 30 June if there are reported non-conformities. Cross-check between the VR and improvement report data (e.g. whether the description of the issues match, what corrective action is described in the improvement report).
Are there uncorrected non-compliance issues with the MRR? Do they result in material misstatement?	<ul style="list-style-type: none"> ● Check the description of the non-compliance issue and assess whether and which data in the AER are affected and which Article of the MRR is not complied with. ● Check whether CA approval is needed for correcting the non-compliance. ● Check whether the correct verification opinion is selected in the statement (“verified with comments” in the case of non-compliance with no material effect, or “not verified” in the case of non-compliance that is considered to result in material misstatement). ● Check whether in the verification opinion statement under the section “<i>EU ETS compliance rules</i>” of the Commission’s verification report template it is indicated that the MRR is not complied with. ● Assess follow-up action (e.g. updating the monitoring plan).
Are there recommendations for improvement?	<ul style="list-style-type: none"> ● Check the description and assess to which area the recommendation of improvement relates. ● Check whether the correct verification opinion is selected in the statement (“verified with comments”).

⁴ Please see section 3.3 of the Explanatory Guidance (EGD I) on the required follow-up actions.

⁵ Please see section 3.3 of the Explanatory Guidance (EGD I) on the required follow-up action: whether or not emissions should be conservatively estimated by the CA.

	<ul style="list-style-type: none"> ● Check whether in the verification opinion statement under the section “<i>compliance with MRR principles</i>” of the Commission’s verification report template the issue is highlighted in the field “<i>continuous improvement</i>”. ● Make a note to check that an improvement report is submitted by the 30 June addressing the recommendations made for improvement. Cross-check between the VR and the improvement report data (e.g. whether the description of the issues match, what action is described in the improvement report to address the recommendations).
<p>Are there prior year non-conformities that have not been resolved?</p>	<ul style="list-style-type: none"> ● Check the description and assess whether and which data in the AER are affected and which issue in the approved monitoring plan or permit is not complied with. ● Check whether the correct verification opinion is selected in the statement (“verified with comments” in the case of non-conformities with no material effect, or “not verified” in the case of non-conformities that are considered to result in material misstatement). ● Check whether in the verification opinion statement under the section “<i>EU ETS compliance rules</i>” in the Commission’s verification report template it is indicated that the monitoring plan or permit is not complied with. ● Make a note to check that an improvement report is submitted by 30 June addressing these non-conformities. Cross-check between the VR and the improvement report data (e.g. whether the description of the issues match, what corrective action is described in the improvement report). ● Check whether the section on prior year non-conformities in the opinion statement is completed correctly and whether there are discrepancies with the information in Annex I of the Commission’s verification report template.

3.1.4 Checks related to the installation

Issue	Comments
Are there any changes to the monitoring plan not notified to or approved by CA?	Check between Annex III of the Commission's verification report template and changes reported under the opinion statement in the section " <i>compliance with EU ETS rules</i> ". This may result in follow-up action by the CA; e.g. approval of an update of the monitoring plan
Did data gaps occur and were they closed with a method that led to conservative estimation?	Check Annex I of the Commission's verification report template and consistency check with the verification opinion statement (in the section " <i>compliance with EU ETS rules</i> ") Are appropriate procedures described in the MP and used?
Where appropriate, are there any changes to capacity/activity level etc. that have not been reported by 31 st December (Article 17(4) AVR)?	Check Annex III of the Commission's verification report template and changes reported under the opinion statement in the section " <i>compliance with EU ETS rules</i> "
Are there any changes to the monitoring plan or permit that have been notified as approved by the CA but have not been included within a re-issued permit and approved MP at the time of completion of the verification?	Check Annex III of the Commission's verification report template and changes reported under the opinion statement in the section " <i>compliance with EU ETS rules</i> "
Have any changes occurred during the reporting period that have a significant effect on the data?	This check could point the CA to areas in AER or monitoring plan that need to be assessed
Cross check between VR and AER data: <ul style="list-style-type: none"> ● Category of installation/size of the aircraft operator ● Installation with low emissions/small emitter ● Source streams, methods used, emission factors used ● Emission data including combustion and process emissions for installations 	This check is only relevant if the AER and VR are separate documents

3.2 Typical checks in the Annual Emissions Report

3.2.1 Checks related to consistency with MP

Issue	Comments
Is the template integrity maintained?	This is not relevant if a web-based IT-system is used. Checking the integrity of formulae will also allow check of whether the latest version has been used.
Is the latest MP version approved? Is the latest approved MP applied?	Check whether the latest version referenced in the AER is approved, e.g. by checking whether “approved by competent authority” is selected in sheet “A_MPVersions” for the latest entry
Monitoring approach(es) used	E.g. Is the standard or mass-balance methodology applied, are fall-back approaches applied? This can be done e.g. by checking whether entries in section 6(a) of the MP are consistent with those in section 7(a) of the AER
Completeness of source streams and emission sources	Check if there are any source streams or emissions sources missing or additional in the AER compared to the MP. In the AER a list of all relevant source streams and emission sources is contained in sheet “J_Accounting”.
Category of the installation and estimation of emissions	Are certain installation’s category thresholds exceeded compared to the MP? Are source stream categories in the AER consistent with the MP, e.g. check whether categories from each source stream in the AER are consistent with the estimated emissions in section 6(f) of the MP.
Tiers used	Check for each source stream or emissions source whether the applied tiers are consistent with the latest approved MP. In the AER a list of all relevant source streams and emission sources is contained in sheet “J_Accounting”.
Default values used	Check for each source stream or emissions source whether the applied default values are consistent with the ones used in the MP. In the AER a list of all relevant source streams and emission sources is contained in sheet “J_Accounting”.

3.2.2 Checks related to consistency with previous reports

Issue	Comments
Time-series of annual emissions	Any deviation in total emissions or emissions of a source stream can be a first indicator of changes or risk of errors.
Time-series of activity data	The higher the deviation compared to previous years the more likely it is that errors have occurred. Furthermore, deviations compared to the previous year may also trigger changes of the installation (Cat. A, B and C) or source stream categories (major, minor or de-minimis) or may indicate changes to emission sources which require the operator to follow-up (e.g. update the MP).
Time-series of calculation factors	Deviations may indicate unrepresentative samples or results. Also trends can be identified. It may be appropriate to define ranges within which factors are considered acceptable
Where activity data is determined pursuant to Art. 27(2) of the MRR, does this year's opening stock equal last year's closing stock?	Allows the determination of gaps or overlaps compared to previous year's reporting, where the feature to request stock-related data in the report is used.

3.2.3 Checks related to other information

Issue	Comments
Checks for completeness of required sections and with the MRR requirements of Annex X	Check if all required information has been reported
Checks with other external data	e.g. with NIMs data for the allocation
Have any temporary changes of tiers or data gaps been reported?	Such information can be gathered from sheet G of the Commission's AER template Are appropriate procedures described in the MP and used?
Has an updated uncertainty assessment been submitted for fall-back methodologies?	Article 22 of the MRR requires annual reassessment by the operator (and this has to be submitted to the verifier)
Is there any suspicion regarding Art. 24 of CIMs?	This is in close relation to corresponding statements in the VR and also to the time-series checks for activity data Check whether energy input decreased or fuel mix has been shifted to biomass
For CEMS, do corroborating calculations confirm the measurement results?	Only relevant if CEMS is applied for CO ₂ or N ₂ O ⁶ emissions or for transferred CO ₂
Has evidence been provided for satisfying sustainability criteria and is it still valid?	Only relevant if biofuels or bioliquids are consumed.
For transferred CO ₂ do exports/imports correspond to exports/imports of connected installations?	Such information can be gathered from sheets "I_Summary" and "J_Accounting" in the Commission's AER template

⁶ Note that Article 46 of the MRR requires the operator to perform corroborating calculations, with the exception of nitrous oxide (N₂O) emissions from nitric acid production and greenhouse gases transferred to a transport network or a storage site.

