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Guidance Document

The Accreditation and Verification Regulation - Time allocation in verification

AVR Key guidance note No. II.12, Version of 19 September 2013

This document is part of a series of documents and templates provided by the Commission services for supporting the implementation of 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.

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 Accreditation and Verification Regulation under 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 at the meeting of the Climate Change Committee on 18 September 2013.

All guidance documents and templates can be downloaded from the documentation section of the Commission's website at the following address: **http://ec.europa.eu/clima/policies/ets/monitoring/index_en.htm.**

Background

This key guidance note is part of a suite of guidance documents developed by the Commission to explain the requirements of the EU ETS Regulation on Accreditation and Verification (AVR)[1]. The suite of guidance documents consists of:

- an explanatory guidance on the articles of the AVR (EGD I), including a user manual providing an overview of the guidance documents and their interrelation with the relevant legislation;
- key guidance notes (KGN II) on specific verification and accreditation issues;
- a specific guidance (GD III) on the verification of aircraft operator's reports;
- templates for the verification report and information exchange requirements;
- exemplars consisting of filled-in templates, checklists or specific examples in the explanatory guidance or key guidance notes;
- frequently asked questions.

This key guidance note explains what factors the verifier should take into account when determining the time to be spent on a verification assignment. The guidance includes a number of examples. The key guidance note represents the views of the Commission services at the time of publication. It is not legally binding.

The note applies to the **verification of operator's or aircraft operator's reports**. Please note the following:

▪ Wherever this note uses the term 'report' it means the operator's emission report, the aircraft operator's emission report or the tonne-kilometre report. ▪ Wherever the note uses the term 'operator' this also means that the relevant phrase is applicable to aircraft operator unless this is specifically mentioned otherwise in the note.	

1. Overview of time allocation requirements

A key determinant of the successful delivery of reasonable assurance is the adequacy of the time allocated to the verification team to complete an appropriate level of detailed testing across the breadth and down the depth of the monitoring, data flow activities and internal control systems of the operator.

Therefore, one of the key activities in the pre-contract stage is determining the time needed to properly carry out all the specified verification activities. This includes all stages of work, from the pre-contract stage through to final independent review and submission of the verification report to the operator; and covering the work of the entire team, including any technical experts that may be needed, and the independent reviewer.

Art. 8(1)(f) and 9 AVR

As the pre-contract stage involves the period before the verification engagement is accepted by the verifier and the contract with the operator is signed, the amount and level of detail of information available to the verifier is likely to be limited. At the very least the approved monitoring plan (MP) and the operator's report[2] should be provided. In any case the verifier must ensure that it has obtained sufficient information (at least at a high level) about the

[1] 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, OJ EU, L 181/1.

[2] If the operator's report is not available at the time of the pre-contract stage, the previous report (and expected emissions for the current reporting year) or the draft report should be provided.

operator's activities, technical processes, MP, data flow, reporting processes and quality controls in order for the verifier to determine a proper time allocation suitable to be able to arrive at a verification opinion with reasonable level of assurance.

Because it is not possible at the pre-contract stage to determine exactly the time requirements, each verifier contract with the operator must include specific provisions to allow for additional time to be allocated by the verifier where the verifier's strategic analysis, risk analysis or other verification activities indicate that more work is needed than originally expected. Contracts should not be signed with a fixed fee that cannot subsequently be amended if more time is needed to complete all verification activities to the required quality.

Art. 9(2) AVR

Verifiers need to document in their internal verification documentation the allocation of time at the start of the contract (including assumptions etc. made), and then the EU ETS lead auditor needs to review this during the planning of the detailed verification to ensure that the time is sufficient to complete the assignment. If time is not sufficient, the lead auditor has to plan the additional time needed and obtain a variation to the contract.

The main task of the independent reviewer is to determine at the end of the verification whether the verifier has properly conducted its work in accordance with the requirements, that the procedures for the various verification activities have been adhered to and that the verification team has in practice done sufficient to deliver a verification opinion with reasonable assurance. This may involve comparison of the time allocated to the verification and the time that the verifier has actually spent, especially in situations where deficiencies have been identified in the course of the verification.

2. Factors to consider in determining time allocation

When determining the time needed for a verification engagement, the verifier should ensure that each individual step in the verification process is covered in the time allocation. This means that sufficient time should be allocated for not only the time spent on site at the operator's premises and for the off-site activities[3] performed by the verification team, but also for the activities to be carried out by the independent reviewer and for any technical expert support that may be needed.

Time allocation is dependent on the specifics of an individual installation or aircraft operator. A large installation may not necessarily need more time if its monitoring, accounting and control activities and processes are relatively simple (e.g. a large non-complex power station may operate on gas and have 12 invoices as its data source). However, an installation or aircraft operator that has a complex data process flow is likely to require more time. So complexity needs to be considered from both an operational and a data process flow perspective. This means that a verifier cannot define a generic time allocation for different sectors since the verifier must take operator specific factors into account for each individual verification.

The planned time allocation needs also to take into account the time necessary to carry out the site visit(s) to the installation or to the aircraft operator[4]. The two tables below give examples of factors specified in the AVR, and discuss how they might impact upon the time

[3] Including drafting a verification plan, interacting with client personnel and report writing.

[4] It should not be assumed that site visits always increase the overall time duration of a required verification. Often they present the quickest way to accessing required information.

required for the verification; the tables focus on installations and aircraft operators separately as they require slightly different considerations.

Please note that the examples from the AVR are not exhaustive: verifiers should demonstrate in their internal verification documentation that they have considered each verification individually.

Factors to consider for Installations:

Elements to take into account in the time allocation	**Examples of issues that can be relevant**	
Complexity of installation	▪ the size of the installation. Intuitively one might consider that if an installation is a category A installation, it will probably take less time than a category C installation – this is not a safe assumption to make in isolation of evaluation of the monitoring process or the data flows (see below). However a category C installation will require more intensive checks since the materiality level is 2% of the reported emissions (compared to 5% for a category A or B installation); ▪ the type of Annex I activity. Verification of a complex refinery or chemical plant will take more time than a gas fired power plant with a straightforward combustion and monitoring process, whereas an installation combining process and combustion emissions such as a cement factory may be somewhere in between; ▪ the greater the number of Annex I activities carried out at an installation, the more time is likely to be required; ▪ the number of different emission sources and source streams, in particular the number of major source streams; ▪ the types of emission sources and source streams (e.g. the greater the number of 'non-standard' source streams[5], including biomass, the more time is likely to be required); ▪ the types of GHG gases involved (e.g. CO_2, N_2O, PFC); ▪ the overall culture and organisation of the installation in relation to the management and adherence to internal procedures and corrective action. A culture that encourages constant improvements and the finding and correction of problems is likely to require less time than a blame culture that discourages such searches.	**Art. 9(1)(a) AVR**
The amount of information and the complexity of the approved MP	▪ the type of monitoring method (calculation or measurement, or both) in use; ▪ for measurement, whether the control of the measurement system is carried out by the operator or by a third party; ▪ the use of continuous emission measurement systems (CEMS), including standards applicable, measurement principle and parameters used, as well as the application of EN 14181 and other relevant requirements: this will give rise to a potentially large amount of evidence for evaluation and equipment to be inspected; ▪ the application of a fall-back methodology can require greater evidence review and testing since it is a 'non-standard' methodology requiring specific checks by the verifier according to Article 19(2) of	**Art. 9(1)(b) AVR**

[5] The verifier should take account of the balance between major and other source streams; minor and de-minimis source streams may require less time, but they should not be disregarded completely.

Elements to take into account in the time allocation	Examples of issues that can be relevant
	the AVR; ▪ how activity data are determined (e.g. supplier provided data, direct measurement, or stock change accounting; or a combination of different data determinations); ▪ the methods used to derive calculation factors (e.g. sampling and lab analysis of fuels/materials; online continuous analyses or default factors; or a combination); ▪ the use of a non-accredited lab may increase the amount of time needed[6] ; ▪ the use of bioliquids requires additional checks to be conducted to confirm the sustainability of the bioliquids; so greater testing and evidence evaluation may then be required; ▪ the involvement of third parties (e.g. suppliers) and the timeliness, quality and reliability of data supplied or work done; ▪ if reliance has been placed by the operator upon "*maximum permissible error*" and *"national legal metrological control",* the amount of evidence to be reviewed is likely to be much less than for an extensive uncertainty assessment[7].

Factors to consider for aircraft operators (AOs):

Elements to take into account in the time allocation	Examples of issues that can be relevant	
Complexity of the aircraft operator's activities and fleet	▪ the legal and organisational structure of the AO - these can be complex e.g. when different ICAO designators or registration numbers are used by an individual AO, or if the AO has been subject to a merger; ▪ whether the AO is defined as a commercial or non-commercial AO under the EU ETS Directive can give rise to a different set of testing requirements in relation to eligibility thresholds; ▪ whether the AO is defined as a small emitter under Article 54(1) of the MRR, as this may considerably simplify the verification process – provided that the AO applies the Small Emitter Tool and provides the verifier with access to the ETS Support Facility[8]; ▪ the size of the AO's eligible fleet, the number of flights the AO is responsible for, and hence the scale of emissions; ▪ the composition of the fleet (type and number of aircraft, whether owned or (long term) leased aircraft, dry vs. wet leased aircraft and	**Art. 9(1)(a) AVR**

[6] When the operator uses an accredited laboratory to perform the determination of calculation factors, the verifier may not have to carry out the same number of checks or with the same rigour as when a non-accredited lab is used. When an accredited lab is used, the verifier can in general rely on the accreditation and surveillance carried out by the NAB providing a detailed witnessing and evaluation of the lab's methodology, systems and competence. If a non-accredited lab is used, more detailed checks are arguably needed. The Commission's FAQs provide more information on the evaluation required for non-accredited labs.

[7] According to Article 19(1) of the AVR the verifier is required to confirm the validity of the information used to calculate the uncertainty levels as set out in the approved MP.

[8] Please see the Quick Guide to verification of small emitters (EU ETS aviation).

Elements to take into account in the time allocation	Examples of issues that can be relevant	
	the responsibilities of the AO in each case etc.); ▪ the geographical focus of flights and type of flights (scheduled/non-scheduled, flights to and from the EU, exempted flights etc.); ▪ the AO's business model (e.g. cargo, charter, network or mixed). This has an impact on the flight planning processes and their implementation; and could involve multiple internal departments and systems, each with its own risks to be evaluated and tested; ▪ the number of departments or persons responsible for specific data flow elements (e.g. Flight Planning, Operations, Flight Control, IT, pilots, fuel suppliers, fuel management etc.); ▪ the type of data collection and management system used (e.g. fully manual vs. fully automated, or a combination of both).	
The level of information and the complexity of the MP approved by the CA	▪ the size of data set(s) to be verified, and by how many ways the data set(s) must be handled to produce the required reporting of aerodrome pairs etc.; ▪ the complexity of data used for the mass and balance determination, as well as for the fuel consumption and the purchased fuel; ▪ whether a simplified monitoring methodology is applied (e.g. by small emitters); ▪ the use of biofuels (including blends) requires additional checks to be conducted to confirm the sustainability of the biofuel; so greater testing and evidence evaluation may then be required; ▪ the validation of the tool used to calculate the Great Circle Distance (e.g. ellipsoid based on WGS 84) and the checking of the use of current AIP data for aerodromes (e.g. Vincenty /other formula based on WGS 84) (verification of tkm); ▪ the method used to determine mass of passengers and baggage – use of Tier 2 (using "mass and balance" documentation) will require more evaluation time than checking the calculation based upon the Tier 1 default (verification of tkm); ▪ similarly, the method used to determine mass of freight and mail will impact evaluation time required (mass and balance documentation standard default vs. weighed mass, verification of tkm); ▪ the determination of "tare weight" of containers/pallets and how these are deducted in the calculations (verification of tkm).	**Art. 9(1)(b) AVR**
The location of the information and data related to greenhouse gas emissions or tonne-kilometre data	▪ for aviation there is particularly an 'agent' issue since many smaller AOs have their emissions data monitoring, accounting and reporting outsourced to a third party; so evaluation is required in the pre-contract stage to determine where records are stored; whether they are all stored in the same location; and whether critical records can truly be evaluated remotely by the verifier.	**Art. 9(1)(e) AVR**

Factors to consider for both operators and AO:

Elements to take into account in the time allocation	Examples of issues that can be relevant	
The complexity and completeness of the data flow activities	▪ the number of flows of data coming together in the handling and aggregation of data (e.g. single flow of data vs. multiple flows – the greater the number of strands of data the larger the possibility for errors etc.; for example, a single gas supply will need much less time to evaluate than multiple sources and/or multiple fuels/materials being aggregated and handled to produce a single consolidated emission value; ▪ the amount of automation included in the accounting process (significant manual handling of data increases the risk of misstatement and therefore the amount of detailed testing that is needed); ▪ the way the emission report is extracted from the data management system and whether it is being reported to the CA through an electronic reporting system or by a manual system (e.g. Excel formatted).	**Art. 9(1)(d) AVR**
The robustness of the control system of the operator or aircraft operator	▪ the transparency of the accounting and control system (including the adequacy and effectiveness of the required procedures) and the number of times humans have to handle the data; ▪ the complexity, robustness and frequency of control activities implemented as part of the control system; ▪ the nature and types of control processes applied to the accounting system (e.g. more formalised and documented control activities are likely to be more effective, lead to lower risk and reduce the verifier's testing schedule since the verifier can place more reliance upon the outcomes of the internal QA/QC checks); ▪ whether emissions data are missing due to equipment failure/ malfunctioning or other reasons, and the method or estimate used to fill the data gap – since this will need to be evaluated by the verifier for its reasonableness and supporting evidence[9]; ▪ the frequency and type of calibration of measurement instruments and their fitness for purpose based upon their original design and installation; ▪ whether any part of the monitoring activities has been outsourced, and the type of control activities in place to ensure the quality of the results of these outsourced activities; ▪ the type of controls for recording and transmitting of data into (and within/between) IT systems - including control and validation of 'black box' databases; backups and archive(s); and source data extracted from other IT systems (e.g. meter readings transferred to computers, which send data to a DCS[10] (where it might be manipulated), and then onto a PI[11] system (where it might be further handled again), before being extracted into an Excel sheet or	**Art. 9(1)(d) AVR**

[9] This factor should be considered during the strategic and risk analysis. It is difficult to estimate this at the pre-contract stage.

[10] Distributed Control System

[11] Plant information

Elements to take into account in the time allocation	Examples of issues that can be relevant
	data base for the emissions calculation process); ▪ whether and how (appropriate) records are being kept and their ease of recovery for evaluation as verification evidence.
The location of relevant information and data	▪ complicated logistics involving more than one building/location and/or agents where monitoring and reporting activities are carried out, and data and documentation are being retained (e.g. monitoring equipment may be at the installation but data are sent by telemetry to a location off-site where it is evaluated and processed before being sent in a spreadsheet to a third location for transfer into the emissions calculation spreadsheets. Depending upon the quality of the internal controls this might require visits to three locations to inspect and evaluate different parts of the data flow).
The amount of prior knowledge and experience the verifier has of that installation	▪ if the verifier has carried out the prior year's verification it will have a basis of knowledge of the activities of the operator, the scope and design of its data flow, and its monitoring and control processes as well as the quality of its internal control activities. This will enable the verifier to conduct its strategic review and risk analysis more quickly using the updated information for the current verification – therefore less time needs to be allocated to these tasks. However, the amount of time needed for detailed checking during verification is unlikely to reduce significantly since the verifier has still to look at the current application of the monitoring and control activities and procedures to ensure that they are being applied in practice as designed and documented.

Art. 9(1)(e) AVR

3. Adjustment of time allocation

The pre-contract stage is the period before the verification engagement has been accepted by the verifier and a contract has been signed, so information available to the verifier may be limited. During the strategic and risk analysis a detailed evaluation is made of the data flow activities, the control system including the control activities, the elements of the monitoring methodology etc. which will enable the verifier to better determine the actual complexity of accounting processes and the inherent and control risks in practice.

Therefore, at this stage the lead auditor is required to review the allocation of time to ensure that it is adequate to deliver the verification planned, based on his strategic and risk analysis.

If additional processes and/or risks have been identified or the monitoring and/or control system and activities seem to be more complicated, the verifier must allocate more time than anticipated at the pre-contract stage.

Similarly, if during the detailed verification the evaluation of evidence, systems or data identifies non-conformities, misstatements or other issues that require the verification plan to be amended to allow more detailed testing, the risk analysis and verification plan must be updated, the required time adjusted and the operator must be notified of the additional time required.

4. Procedures for time allocation and documentation

The verifier's procedures for time allocation must be effective; and the internal verification documentation must demonstrate that:

- time allocated in the contract is consistent with the risks identified in the pre-contract stage and on completion of the verification;
- sufficient information has been obtained from the operator to be able to make a proper time allocation in the pre-contract stage, and to update it during development of the verification plan;
- the appropriate factors have been identified and considered properly – and documented – to ensure that sufficient time has been allocated to the verification engagement;
- additional time has been allocated if more time has been needed (it is advisable to have a formalised process to allow the EU ETS lead auditor to agree this with the client immediately when the need for more time has been identified);
- the time spent on the verification has been monitored and compared to the time allocated, and any deviation from the time allocation has been justified appropriately to the independent reviewer (especially where less time is actually spent than allocated);
- the time allocation (in the pre-contract stage and actually spent) has been properly documented.