GUIDANCE FOR STATES ON REMOTE VERIFICATION UNDER THE CORSIA MRV SYSTEM

What can be the specific role of remote verification techniques when an extraordinary event or circumstance prevents site visits?

The decision to undertake a site visit as part of the verification of the aeroplane operator's emissions report is to be taken by the verification body on a per operator and per engagement basis and on the basis of the risk analysis; conducting a risk analysis is a mandatory requirement for the verification body according to Annex 16, Volume IV, Appendix 6, paragraph 3.6. The ETM (Doc 9501), Volume IV, section 3.3.4.2 provides further guidance on the relationship between the risk analysis and site visit activities. In cases where site visit verification activities are deemed necessary by the verification body but cannot be undertaken within applicable deadlines due to an extraordinary event or circumstances[1] beyond the control of the aeroplane operator or verification body, the verification body should coordinate with the State[2] to which the aeroplane operator is attributed on whether alternative approaches can be used and are acceptable by the State, on an exceptional basis, to replace on-site verification activities. Such an approach may include remote verification (e.g., video conferencing, upload of data in a secure data room, or direct independent access to flight information). The verification body should be prepared to justify its decision to resort to an alternative approach, provide additional information on the alternative approach, and to demonstrate how it will ensure a robust verification approach and credible data; it may also include the submission of a preliminary report by the deadline, with a follow-up site visit when conditions permit.

What should a State generally consider when coordinating with a verification body on a remote verification approach for emissions reports?

Guidance in the ETM (Doc 9501), Volume IV, section 3.3.4.2 recommends that the verification body coordinate with the State before replacing the site visit with a remote verification approach. The following table provides guidance to facilitate the State's consideration of a remote verification as an alternative to a site visit. Most background information required would be found in the Emissions Monitoring Plan of the aeroplane operator. The State could also consult with the aeroplane operator, if needed.

In particular, the State should consider whether the verification body has proposed sufficient and appropriate measures to ensure that those verification activities, which may be more difficult to undertake remotely, can be carried out effectively. Such verification activities could include confirming the analysis of data flow, actual procedures and control activities according to the implementation status of the Emissions Monitoring Plan.

The decision by a verification body to conduct its verification activity remotely is only applicable to an individual verification engagement and should be reassessed for future verification activities, in light of the risk assessments and experience gained. If the verification body decides to use remote verification for a future engagement, it should consult with the State again.

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[1] As defined in IAF ID 3:2011, IAF Informative Document for Management of Extraordinary Events or Circumstances affecting ABs, CABs, and Certified Organizations https://www.iaf.nu/upFiles/IAFID32011_Management_of_Extraordinary_Events_or_Circumstances.pdf.

[2] State refers to administering authority, which is recommended to coordinate with the relevant National Accreditation Body.

The table of considerations by the State below is organized by the responsibilities of different CORSIA stakeholders (State, aeroplane operator, and verification body) involved in the CORSIA verification activities. Based on the responsibilities of each stakeholder as set out in Annex 16, Volume IV, sample criteria have been identified. Each criterion is associated with a number of considerations (in the form of recommended questions) for the State reviewing a coordination inquiry from a verification body for a remote verification approach. The final column in the table provides background information for the State and additional supporting information that could be provided by the verification body in order to build understanding of the verification risk and appropriateness of the remote verification approach.

Responsibility	Sample criteria	Considerations by the State	Background information for the State, and additional supporting information to be provided by the verification body
State	Status of approval of Emissions Monitoring Plan	• Is the latest version of the Emissions Monitoring Plan approved and valid? • Does the approval include additional conditions imposed by the State, e.g. to address missing requirements in the Emissions Monitoring Plan such as record keeping procedures by the aeroplane operator? • Was the Emissions Monitoring Plan recently re-approved with significant material changes to it?	In cases where the Emissions Monitoring Plan has not yet been reviewed by the State or includes substantial additional conditions imposed by the State, the verification risk is increased. Consequently, the verification body should explain how the remote verification would result in sufficient evidence on the correct implementation of the Emissions Monitoring Plan.
	Findings of previous order of magnitude checks[3]	• Did the previous year's order of magnitude check identify any concerns/issues with the emissions report and verification report? • Did the verification statement of the previous emissions report include any significant comments or limitations?	Results of previous order of magnitude checks might support or demonstrate limitations of the currently used verification approach. In coordination with the State, the verification body should be in the position to explain which applied verification techniques are being used during the remote verification to mitigate the risk that issues identified in the order of magnitude check would be arising again.

[3] Only applicable from the second CORSIA verification onwards.

Responsibility	Sample criteria	Considerations by the State	Background information for the State, and additional supporting information to be provided by the verification body
Aeroplane operator	CORSIA CO_2 Estimation and Reporting Tool (CERT) or fuel use monitoring method	• Is CO_2 emissions determined by a fuel use monitoring method, or through the CERT?	Requirements for monitoring and processing of data are more demanding and therefore error prone if actual fuel use is determined by fuel use monitoring methods and CO_2 emissions are not estimated though the CERT. The use of the CERT is a good indicator for the feasibility of a remote verification. On the contrary, if the aeroplane operator uses a fuel use monitoring method, the verification body should provide information on how other criteria included in this table, such as data storage and availability, would be assessed.
	Recent changes to operations[4]	• Has the aeroplane operator undergone any changes since the last verification? (to operations, fleet, monitoring methods, data management methods etc.)	The verification body could provide information on its approach to assess significant changes during the remote verification and how their potential impact would be determined.
	Complexity of monitoring, size of aeroplane operator and reporting readiness	• How complex is the overall system for tracking and monitoring data and managing data quality? • What materiality level is applicable? • How much experience does the aeroplane operator have complying with and reporting under CORSIA[3] or other GHG schemes?	The complexity of the monitoring can be determined by aspects such as fleet size, number of flights and aircraft types, manual or automatic control procedures, type of fuel use monitoring method, number of interfaces and IT systems in the data flow, level of outsourcing, wet lease arrangements, availability of secondary data, assigned responsibilities, use of CORSIA eligible fuels, number of data gaps, internal auditing and the possibility to confirm emissions with external data such as public flight schedules. Based on the results of its assessment, the verification body could provide explanations on how the specific remote verification techniques are applied to gain sufficient and appropriate evidence to guarantee a reasonable level of assurance. According to Annex 16, Volume IV, Appendix 6, 3.4 the materiality threshold for an aeroplane operator with CO_2 emissions above 500 000 tonnes is 2 per cent. For an aeroplane operator with CO_2 emissions equal or below 500 000 tonnes a 5 per cent threshold is applicable. A lower threshold corresponds with an increased requirement for the verification body to demonstrate the applicability of the specific remote verification design.

[4] Only applicable from the second CORSIA verification onwards.

Responsibility	Sample criteria	Considerations by the State	Background information for the State, and additional supporting information to be provided by the verification body
Aeroplane operator	Data storage and data availability with access to primary data sources	• Is the aeroplane operator able to provide the verification body with the required remote access to its primary data sources?	The verification body could provide summary information on the approach employed by the aeroplane operator and elaborate how the data will be accessed. This could include, e.g., means of access to operator information such as direct and independent access to operator information and measures implemented to ensure stepwise interactions with significant time lags do not increase the risk of oversights and errors (e.g. by communicating though email exchange).
Verification body	Technical capabilities	• Does the verification body have the technical capability to perform remote verifications via video conferencing and secure data transmission and storage?	The verification body should provide information on the technical means (e.g. name of software) to not limit interactions between the aeroplane operator and the verification body and how any technical issues will be minimized to ensure the successful implementation of the remote verification.
	Experience	• Has the verification body conducted a site visit of the aeroplane operator in recent years? • Does the verification body have experience conducting remote verifications?	If the verification body is conducting its first verification with an aeroplane operator, or if it has not been on the aeroplane operator's site before (e.g. during a preliminary verification), it might be confronted with unexpected challenges during the verification which could be difficult to solve during a remote verification. The State is encouraged to request information from the verification body on its experience in these areas. As CORSIA implementation progresses, the verification body's experience in conducting verifications under CORSIA should be taken into consideration.
	Accreditation	• Does the verification body's accreditation and / or internal procedures include remote verification techniques?	The State may want to seek confirmation from the verification body on whether applied remote verification techniques and processes were part of the CORSIA accreditation process. For this specific purpose, the verification body could be invited to submit internal documentation to the State outlining accredited remote verification procedures. Where the accreditation does not cover remote verification techniques, a State may want to seek further information from the verification body on their experience conducting remote verifications as per the guidance provided in this table, including any internal procedures applicable to remote verification.

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