Guidance/best practices on verification of the emissions report –providing examples of how verification activities can be carried out by the verifier- pursuant to Regulation on monitoring reporting and verification emissions from maritime transport

This document is part of a series of documents prepared by experts gathered under two subgroups established under the umbrella of the "European Sustainable Shipping Forum (ESSF)": the MRV subgroup on monitoring and reporting and the MRV subgroup on verification and accreditation. These two MRV subgroups gathered for the period June 2015 to May 2017 in order to provide technical expertise relevant for the implementation of Regulation (EU) 2015/757 (the MRV shipping Regulation).

As indicated in their terms of reference, the two MRV shipping subgroups gathered relevant expertise and were mandated to identify guidance best practices in relevant areas. The substance of this guidance/best practices document was unanimously endorsed by the representatives of the ESSF Plenary by written procedure ending on 30th of June 2017.

Apart from the present document, Guidance/Best practices documents have been established in the following areas:

- Preparation of Monitoring Plans by companies;
- Monitoring and reporting of fuel consumption, CO2 emissions and other relevant parameters;
- Use of ship tracking data basis by verifiers
- Assessment of monitoring plans by verifiers;
- Backward assessment of monitoring plans;
- Materiality and sampling;
- Recommendations for improvements issued by verifiers;
- Assessment of verifiers by National Accreditation Bodies in order to issue an accreditation certificate;
- Dealing with situations where the accreditation is suspended or withdrawn close to the planned issuing date of the Document of Compliance (DOC) by the verifier.

All guidance/ best practices documents and other relevant documents can be downloaded from the Commission's website at the following address:

https://ec.europa.eu/clima/policies/transport/shipping_en#tab-0-1

1. INTRODUCTION

This document has been prepared by a Task Force under the MRV subgroup on verification and accreditation, co-ordinated by Mr Julien Dufour (from Verifavia). It provides examples on how to deal the verification of the annual emissions report. It has been written to support the MRV Regulation by explaining its requirements in a non-legislative language. However, it should always be remembered that the Regulation is the primary requirement.

The general obligation for verifiers are stipulated in Articles 13, 14 and 15 of **Regulation (EU) 2015/757** as general principles for verification Also article 5 of Regulation 2016/2072 is relevant on general assertions.

List of assertions to be checked with reference

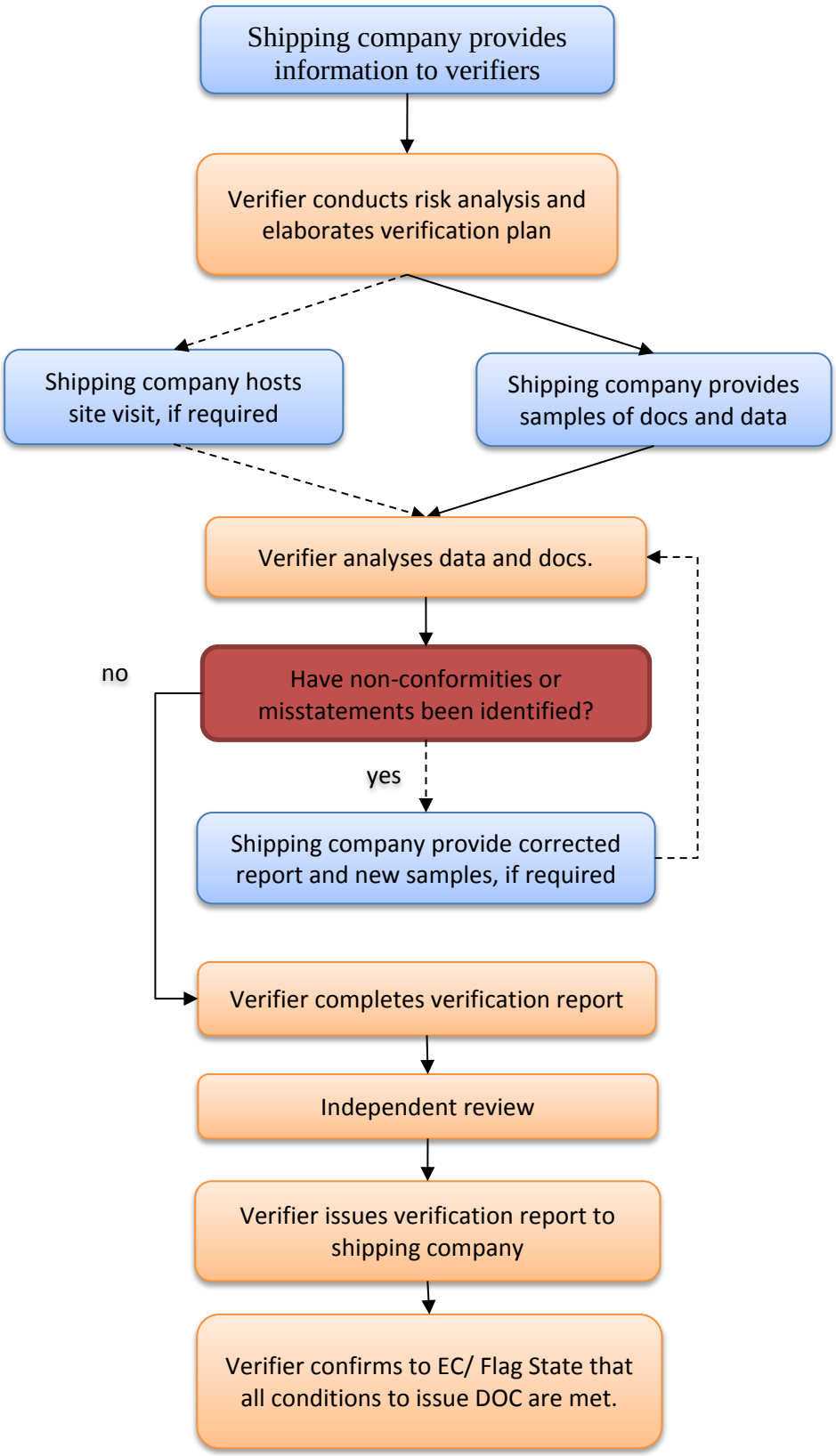
Existence	Delegated Regulation 2016/2072
Completeness	Delegated Regulation 2016/2072
Accuracy	Regulation 2015/757 and Delegated Regulation 2016/2072, ISO 14064-3
Consistency	Delegated Regulation 2016/2072
Transparency	Delegated Regulation 2016/2072
Relevance	Delegated Regulation 2016/2072
Reliability	Regulation 2015/757
Credibility	Regulation 2015/757

List of verification steps

Reference is made to Articles 10 to 21 of the Delegated Regulation (EU) 2016/2072

Art 10 - Information to be provided by companies See Task 1 below for examples
Art 11 - Risk assessment See Guidance for verifiers on the use of external ships' tracking data See Guidance for materiality and sampling
Art 12 - Verification plan See Task 2 below for examples of activities
Art 13 - Verification activities concerning the emissions report See Task 2 below for examples of activities
Art 14 - Verification of reported data See Task 3 below for examples of activities
Art 15 - Materiality level See Guidance for materiality and sampling
Art 16 - Site visits No specific guidance
Art 17 - Addressing misstatements and non-conformities in the emissions report No specific guidance
Art 18 - Conclusion of the emissions report verification No specific guidance
Art 19 - Recommendations for improvement

See Guidance on recommendations for improvement
Art 20 - Verification report No specific guidance
Art 21 - Independent review of the emissions report No specific guidance



2. TASK 1 - INFORMATION TO BE PROVIDED BY COMPANIES (ART 10)

Reference is made to Article 10, particularly paragraphs 1, 2 and 3.

Companies shall provide the verifier with supporting information according to paragraph 1.

Paragraph 2 allows the verifier to identify specific information deemed relevant for the purpose of its verification. Therefore, according to the recommendations in the *guidance for materiality and sampling* and based on a pre-defined sampling plan (as per Article 12 b), companies shall also provide the supporting information referred in this paragraph as follows:

Copies of relevant ship's log-books for the sampled voyages.
Copies of relevant bunkering documents for the sampled voyages. Paper or electronic documents may include BDNs, bunkering survey reports or bunkering invoices, if available.
Copies of relevant documents containing information on transport work and time spent at sea for the sampled voyages. Paper or electronic documents may include cargo record book, bills of lading, cargo manifest, EU customs declaration, draught measurements or loading instrument output.

Additionally, and if applicable on the basis of the monitoring method applied, verifiers may ask the company to provide the supporting information referred to in Paragraph 3.

Particularly in relation to b), c) and d), the respective information could be provided as follows:

Evidence indicated may include calibration certificates, instructions from manufacturers, relevant entries from the PMS, procedures from the SMS for maintenance / zeroing / calibration, etc.
Extract of fuel consumption activity data from flow meters. Data could be provided in a format that is compatible with spreadsheet or via "verifier access" (read-only) to the tool that monitors and analyses data from flow meters. For ships which use the same flow meters to monitor the consumption rates of various fuels (HFO, LFO, MDO / MGO), sample fuel change-over events in the engine logbook to compare with the raw data and reported data.
Copies of evidence indicated at d) could be provided for ships using method A) or method B) for a sample period indicated by the verifier at the time of the elaboration of the sampling plan or the voyages identified by the verifier.

Although not included in Article 10, with a view to facilitate the verification work, additional raw information/data i.e. per-voyage basis, preferably on an electronic format, should be provided to the verifier upon request.

Further examples of other relevant information/data that may be provided to the verifier as follows:

Fall-back / back-up methodologies	Details for the back-up (data gap) methodologies (i.e. method A), method B), Method C), Method D), or another method through formulas), which is to be different from the main method selected under Table C.2 of the monitoring plan. Details of calculation schemes used for closing data gaps, if alternative methods are used.
Control activities	Evidence of control activities performed on procedures and data Internal audit results related to the EU MRV Regulation, if applicable.

3. TASK 2 - VERIFICATION PLAN (ART 12 AND 16) AND VERIFICATION ACTIVITIES CONCERNING THE EMISSIONS REPORT (ART 13)

Reference is made to Articles 12, 13 and 16 of Regulation (EU) 2015.757.

The overall assessment of the various risks involved provides information and effective input into the verification plan that needs to be drawn up at the end of the risk analysis. The verification plan consists of at least two elements: the verification programme and the data sampling plan.

The data sampling plan should follow the *guidance document for materiality and sampling*.

The verification programme may include information on site visit(s) including a description of what activities will be performed on-site and what activities off-site, as well as information on the systems and processes to be checked and interviews to be performed.

With reference to Article 13 paragraph 1, examples of relevant staff to enquire are as follows:

- Fleet operations manager
- Technical manager
- Environmental manager
- Fuel manager
- Quality manager
- IT manager
- Finance manager
- Chief engineer

With reference to Article 13 paragraph 1, examples of observation and walkthrough procedures are as follows:

- Observation of IT systems such as:
  - Fuel management system (on-board and ashore)
  - Cargo management system
  - Voyage planning, monitoring and management system
  - Planned Maintenance System
  - EU MRV software/solution
- Data collection on-board
- Data entry in fleet / voyage monitoring system
- Preparation of report
- Control activities on the data

4. TASK 3 - VERIFICATION OF REPORTED DATA (ART 14)

Reference is made to paragraph 1; as part of the data verification referred to in this paragraph, the verifier shall check the below items (including examples of related activities).

Reference is also made to the *guidance for verifiers on the use of external ship's tracking data*.

Item to verify	**Examples of verification activities:**
Completeness of emissions sources (Art 14 §2(a))	- Check that all emissions sources listed in the MP have been considered in the fuel consumption calculation. - Verify the effective implementation of the relevant procedure as described in the MP
Completeness of data (Art 14 §2(b))	- Verify the effective implementation of the relevant procedures as described in the MP - Test design, existence and effectiveness of internal controls for the relevant procedures - Perform testing based on a sampling plan (reconciliation, recalculations, and document cross-check, for example with ship's logbook and/or Arrival/Noon/Departure reports where applicable - Check logical sequence of consecutive voyages - Check that ports of call are for loading or unloading commercial cargo, or embarking or disembarking passengers - Check correctness of reported voyages are under geographical scope of the regulation
Consistency between reported aggregated data and data from relevant documentation (Art 14 §2(c))	- Verify the effective implementation of the relevant procedures as described in the MP - Test design, existence and effectiveness of internal controls for the relevant procedures. - Check fuel consumption at sea and at port, time at sea, distance sailed and transport work based on raw data provided all reportable voyages - Perform substantive testing based on a sampling plan

	(reconciliation, recalculations, document cross-check).
Consistency between aggregated fuel consumption and data on fuel purchased (Art 14 §2(d))	- Conduct risk assessment on the procedure - Select a time period - Request of the reported fuel consumption for the selected period - Review all documentation (i.e. BDNs) for the selected period. - Request stock takes values (ROB) for the first and the last date of the selected period. - Cross check BDNs with fuel consumption - If difference between aggregated fuel consumption and supplied fuel exceeds a certain threshold in the aggregated values, proceed with further investigation.
Reliability and accuracy of the data 'Art 14 §2(e))	If applicable, examine data flow and access controls are in place. Select a sample of voyages and perform substantive testing. Perform relevant plausibility checks on the data to get a sense on accuracy and completeness of data: - Plausibility checks with average fuel consumption per voyage / day / hour / distance - Plausibility checks of passenger data with the maximum number of passengers allowed (from the vessel's "Permit for carriage of Passengers") - Plausibility checks of cargo data with deadweight design or maximum cargo carried - Plausibility checks of fuel in tanks, bunker uptakes and fuel consumption data with maximum tanks' capacities - Check distances against distance on the shortest route using online distance calculator - Check time at sea based on departure and arrival times

List of abbreviations used

PMS	Planned Maintenance System
SMS	Safety Management System
MP	Monitoring Plan
ER	Emissions Report
EMS	Environmental Management System
SEEMP	Ship Energy Efficiency Management Plan
ORD	Oil Record Book
FOC	Fuel Oil Consumption
CTMS	Custody Transfer Measuring System
ROB	Rest On Board
BDN	Bunker Delivery Note
STS	Ship-to-ship transfer
