EUROPEAN COMMISSION
DIRECTORATE-GENERAL FOR MOBILITY AND TRANSPORT
Directorate D - Logistics, maritime & land transport and passenger rights
D.1 - Maritime transport & logistics

Document reference
[5a]

European Sustainable Shipping Forum
6th Plenary Meeting

Brussels, 28 June 2016

Final Report Submission from the ESSF sub-groups

Submission from:

ESSF sub-group on MRV shipping Verification &Accreditation

This document reflects the outcomes of deliberations of the MRV V&A subgroup of the European Sustainable Shipping Forum of which the European Commission is part. It is not an official document adopted by the European Commission.

1. Introduction

Background

Maritime transport emits around 1000 million tonnes of CO2 annually and is responsible for about 2.5% of global greenhouse gas emissions (3rd IMO GHG – greenhouse gases - study).

Shipping emissions are predicted to increase between 50% and 250% by 2050 – depending on future economic and energy developments. This is not compatible with the internationally agreed goal of keeping global temperature increase to well below 2°C compared to pre-industrial levels, which requires worldwide emissions to be at least halved from 1990 levels by 2050.

The Regulation on monitoring, reporting and verification of carbon dioxide emissions from maritime transport and amending Directive 2009/16/EC ("thereinafter the MRV Regulation") adopted on 29 April 2015 creates an EU-wide legal framework for the monitoring, reporting and verification of CO2 emissions from maritime transport. It also helps the EU generate momentum for the best possible outcome in the international discussions.

The MRV shipping Regulation requires large ships (over 5 000 gross tons) calling at EU ports from 1st January 2018 to collect and later report verified annual data on CO2 emissions and other relevant information.

Submission of robust aggregated annual data verified by an accredited third party is the backbone of the MRV Regulation. Essential aspects of the verification and accreditation process are already part of the MRV Regulation. According to the MRV Regulation, verifiers will be required to:

I. assess the conformity of monitoring plans;

II. assess the conformity of emissions reports;

III. issue a verification report with an opinion statement on the emissions report and specifying issues spotted during the verification process and not corrected before the verification process is finalised;

IV. issue and communicate to the Commission a document of compliance indicating that the emissions report can be considered satisfactory.

In order for a legal entity to carry out verification activities under the MRV Regulation, it shall be accredited by a national accreditation body, pursuant to Regulation 765/2008.

The MRV subgroup on Verification and Accreditation

The Commission set the mandate, the adopted Terms of Reference (ToR), the membership, the objectives, the tasks and "modus operandi" of the MRV subgroup on Verification and Accreditation issues established under the European Sustainable Shipping Forum (ESSF) and endorsed by its Plenary on 16 June 2015.

As indicated in its Terms of reference the MRV verification and accreditation subgroup should play a central role in expressing views on main elements to be translated into verification and accreditation rules under the delegated acts required under Articles 15 (5) and 16 (3) of the MRV Regulation.

The focus of the subgroup mandates was to decide on options to be translated into rules for a delegated act to be adopted by the Commission. Discussion concentrated on the elements as identified under Annex III of Regulation 2015/757.

- Competencies of the verifiers;
- Documents to be provided by companies to verifiers;
- Risk assessment to be carried out by the verifier;
- Assessment of the conformity of the monitoring plan;
- Verification of the emission report;
- Materiality level;
- Reasonable assurance to be reached by the verifier;

- Misstatements and non-conformities;
- Content of the verification report;
- Recommendations for improvements;
- Communications between company, verifier and Commission.

Its work has included sharing of expertise and best practices relevant to verification and accreditation activities, in order to identify the way these best practices can be converted into applicable rules under the MRV Regulation.

In accordance with the ToRs the Subgroup included members drawn from:

- The European Commission (DG-CLIMA and DG MOVE);
- The European Maritime Safety Agency (EMSA);
- Member States (MS);
- Ship Owner/ Operator Associations;
- Classification Societies;
- Environmental Non-Governmental Organisations;
- Independent greenhouse gas emissions verifiers;
- Representatives of voluntary schemes with the relevant expertise;
- European Accreditation National Accreditation Bodies.

Four meetings of the MRV Verification and Accreditation Subgroup were held on 7th July, 28th October 2015, 20-21 January 2016, 5-6 April 2016 and a final meeting on 25 May 2016 where the subgroup agreed on the recommendations to be addressed to the ESSF Plenary.

According to points 2.3 and 3.4 of the ToR on timetable and on duration, the MRV Verification and Accreditation Subgroup is to disband as soon as its core mandate was fulfilled. However some need for guidance has been identified as indicate in Annex IV.

However, at the last meetings of the MRV Subgroup it became clear that there are issues where guidance would be needed and the members have requested to continue the work of the MRV subgroup as appropriate in the future. Moreover, at its last meeting on 25th May 2016, ESSF Plenary members requested the Commission to extend the mandate and to continue the work beyond spring 2016.

2. Chapters based on list of deliverables (ToR)-Analysis of findings

Deliverable 1: VERIFICATION

Deliverable 1.1: Best verification practices compendium.

In order for the subgroup to complete its deliverables, existing standards were used as the basis for defining the verification procedures for the EU MRV regulation.

The following relevant internationally accepted standards for verification of GHG emissions statements have been identified:

- EN ISO 14065:2013 International Standard on Greenhouse gases – Requirements for greenhouse gas validation and verification bodies for use in accreditation or other forms of recognition; specifies principles and requirements for bodies that undertake validation or verification of greenhouse gas (GHG) assertions as a basis for rule for verification of emissions report;

- EN ISO 14064-3:2006 International Standard on Greenhouse gases - Specification with guidance for the validation and verification of greenhouse gas assertions; specifies principles and requirements and provides guidance for those conducting or managing the validation and/or verification of greenhouse gas (GHG) assertions;

- EN ISO 14066:2011 International Standard on Greenhouse Gases - Competence requirements for greenhouse gas validation teams and verification teams; specifies competence requirements for validation teams and verification teams.

ISO 14064-3, ISO 14065 and ISO 14066 are mandatory standards to follow for accredited verifiers.

From a marine specific perspective, the following recognized maritime international standards were taken into consideration, with respect to specific maritime sector management practices:

International Safety Management Code (ISM) - this Code is to provide an international standard for the safe management and operation of ships and for pollution prevention;

The Ship Energy Efficiency Management Plan (SEEMP) – this plan is an operational measure that establishes a mechanism to improve the energy efficiency of a ship in a cost-effective manner. The SEEMP also provides an approach for shipping companies to manage ship and fleet efficiency performance over time. This is a mandatory requirement under MARPOL Annex VI.

Deliverable 1.2: Assessment of the elements contained in the Commission Regulation 600/2012 and in international rules/standards (as for example EN ISO 14065) applicable to verification under the MRV Regulation.

EN ISO 14065 contains a number of principles that legal entities undertaking GHG verification should be able to demonstrate, and it provides specific requirements that reflect these principles. These requirements concern not only the verification process itself but also the internal administrative and organizational procedures of the verifier, its legal structure and responsibilities. EN ISO 14065 is a GHG programme neutral: it provides a general and standardized framework that can be used in any GHG programme. This implies that if a specific GHG programme is applicable, the particular requirements of that programme are additional to the requirements of EN ISO 14065. With this respect Commission Regulation 600/2012 on the verification of GHG emission reports and the accreditation of verifiers under the EU ETS ("thereinafter the AVR") contains a number of detailed and EU ETS specific requirements against which the verifier checks the GHG emissions and how and what to report after the verification has been completed.

Having in mind this framework the subgroup decided to continue to get inspiration from the AVR but at the same time to develop Maritime Sector's specific examples. In fact, starting from the AVR this approach will allow developing a level-playing field for ship operators but at the same time this should be integrated by Maritime specific references as it was agreed with respect to Risk Assessment.

Another example is the Verification of the Emission Report, where a compromise solution was agreed by the subgroup, according to which relevant inspiration should be drawn from EN ISO 14065. In fact, the aim for developing the EU MRV Regulation is to develop set of adequate rules as simple as possible for its purpose, a MRV system. Under accreditation ISO 14065 is the applicable standard for verification, hence it would make sense to translate the relevant requirements of ISO 14065 for specifying further rules for maritime, without adding unnecessary elements. However, at the same time the subgroup decided to consider the relevant articles in the AVR.

Deliverable 1.3: Define procedures for the assessment of the monitoring plans.

The monitoring plan (Article 6 EU MRV Regulation) is a document in which the company describes the design of the management system the ship has in place in order to monitor and report emissions and transport work for the EU MRV Regulation.

In accordance with Article 13.1 of the regulation verifiers are required to assess the conformity of the monitoring plan with the requirements in Articles 6 and 7, however there are no specific procedures on how to do this. The subgroup discussed the need to define a minimum set of procedures in order to create a level playing field among verifiers and ensure companies that all accredited verifiers perform at least the minimum required procedures.

The subgroup discussed whether there was a need for additional rules and how specific the rules needed to be, concluding that additional rules that address the assertions that have to be fulfilled by the verifier in assessing the monitoring plan are required and that these assertions could be: completeness, relevance and conformity with the EU MRV Regulation.

The EU MRV Regulation contains clear requirements related to impartiality. The subgroup discussed options on whether additional rules needed to be developed to mitigate the threat of self-review.

It was concluded that the provisions in EN ISO 14065 are adequate to mitigate this as the standard specifies that the verifier should take appropriate measures to manage such conflicts and to ensure that verifiers remain independent and impartial throughout the verification process. Therefore, verifiers need to avoid self-review by avoiding providing consultancy / advisory work on the monitoring plan if the verifier is also assessing the monitoring plan and verifying the emission report.

Together with specific procedures for assessing the monitoring plan in the delegated act these provisions in the standard should guarantee that the verifier does not develop a conflict of interest when assessing the monitoring.

Verifiers will need to estimate the time required for assessing the monitoring plan and in accordance with Article 7 of the EU MRV Regulation, verifiers are required to perform a re-assessment of the monitoring plan as a result of updates due to identified non-compliances or certain changes to the ship's monitoring and reporting system. It was concluded with regards to this that provisions in EN ISO 14064 are adequate and no further rules are necessary.

The subgroup also considered whether further rules are necessary to provide verifiers the option to charge additional time as a result of re-assessments of the monitoring plan.

It was concluded that time and budget determination is part of the commercial and contractual process between verifiers and shipping companies. This includes agreement on dealing with re-assessments of monitoring plans. Based on this it was concluded that no further rules will be needed.

The recommendations from the subgroup on the assessment of conformity of the monitoring plan are presented in Annex I.

Deliverable 1.4: Define procedures for the verification of the emissions reports.

Article 13.2 EU MRV Regulation requires verifiers to assess the conformity of the emission report with the requirements laid down in Articles 8 to 12 and Annexes I and II. Procedures on how to carry out the verification activities are not specific and can be further detailed in verification activities. This contributes to a level playing field for verifiers, and in particular it would ensure that verification will be performed in a harmonized way and companies are able to prepare better, knowing which type of activities verifiers will perform.

For the purpose of verification under the EU MRV Regulation, the verification engagements consist of a combination of two elements: the verification of the correct implementation of the management system for monitoring & reporting, and data verification.

Verification of monitoring & reporting systems and aggregated reported data typically includes inspection of information retained in documents related to:

- Identification of the company, the ship and the monitoring and reporting system including design of processes, systems, risks and controls - summarized and referenced to in the monitoring plan;

- Monitoring and reporting CO2 emissions and Transport Work, including documents providing evidence for the reported data points for fuel, distance, time and cargo per voyage, documents demonstrating execution of internal controls and documents demonstrating adequate calculations, aggregation and consolidation of data.

In order to reach the conclusion and define the procedures for the verification of the emissions report, materiality, uncertainty, risk analysis and site visits were discussed and recommendations agreed. In addition, the subgroup also had to consider the following relevant issues; full details and recommendations of which can be found in Annex II:

- Competencies of the verifiers;
- Documents to be provided by companies to verifiers;
- Verification of the emissions report;
- Reasonable assurance to be reached by the verifier;
- Misstatements and non-conformities;
- Content of the verification report;
- Recommendations for improvements.

1. Materiality Level

The EU MRV Regulation does not define materiality and does not specify the acceptable materiality level when verifying the emissions report. Specifying materiality thresholds contributes to a level playing field in verification and enables more efficient verification and lower verification cost for companies.

In accordance with relevant international standards (EN ISO 14065) a certain risk of misstatements in the emissions report is acceptable. This concept is called materiality. According to the AVR, 'materiality level' means the quantitative threshold or cut- off point above which misstatements, individually or when aggregated with other misstatements, are considered material by the verifier.

The subgroup discussed whether the level of materiality should be prescribed by the delegated act and concluded that the materiality level should be:

- CO2 emissions: 5%;
- Transport work: 5%;
- Other relevant information: 5%.

The suggested definition of materiality, in line with the AVR, would be as following:

'Materiality level' means the quantitative threshold or cut- off point above which misstatements, individually or when aggregated with other misstatements, are considered material by the verifier.

2. Maximum permissible uncertainty

According to 6.2.f.iv, Annex I.B and Article 11.3.c, the company should indicate in the monitoring plan and in the emissions report the level of uncertainty associated with the monitoring method (s) used and have a procedure in place to ensure that the total uncertainty of fuel measurements is consistent with the requirements established pursuant to the EU MRV Regulation. The subgroup discussed the options for uncertainty levels and concluded that the requirements for uncertainty for shipping companies should be the recommendation of the EU MRV Monitoring sub group and that the Verification & Accreditation subgroup should set recommendations for the rules for verifiers when checking uncertainty levels as described in the monitoring plan and disclosed in the emission report are compliant with the regulation and adequately disclosed.

Therefore, the final report of the MRV Monitoring subgroup should be referred to for maximum permissible uncertainty levels.

3. Risk analysis

The requirement of a risk assessment to be carried out by verifiers contributes to a level playing field for verifiers to develop effective and efficient verification plans, focusing on areas of higher risk. Procedures for carrying out risk assessments under the EU MRV Regulation are not specific and performing a risk assessment is the starting point of the verification engagement. Based on the identified risks, verifiers will develop a verification approach (verification plan), which includes nature, depth and timing of planned specific verification activities.

The EU MRV Regulation requires verifiers to perform a risk assessment for each ship, since the verification of the emission report shall be performed on ship level. In assessing risk, verifiers shall compare reported CO2 emissions with estimated data based on ship tracking data (e.g. AIS) and characteristics such as the installed engine power. Furthermore the verifier shall identify potential risks related to the different

calculation steps by reviewing all data sources and methodologies used, and take into consideration any effective risk control methods applied by the company to reduce levels of uncertainty associated with the accuracy specific to the monitoring methods used.

The subgroup discussed the need to specify rules for the execution of the risk assessment which sets a basic framework in line with existing best practice in Key guidance note II.2 with additional guidance about carrying out the risk assessment with regard to site visits.

It was concluded that the verifier shall identify and analyse inherent risk, control risk and detection risk in order to design, plan and implement an effective verification of the emissions report and in doing so shall consider the following assertions:

- Completeness;
- Accuracy;
- Consistency;
- Transparency;
- Relevance;
- Occurrence;
- Cut-off.

The outcome of the risk assessment forms the basis for the preparation of the approach to verification. The verifier shall consider areas of higher verification risk when determining where in the verification approach focus is laid on.

4. Site Visits

The EU MRV Regulation does not specify in which cases site visits should be performed. A common approach on site visits contributes to a level playing field in verification, limiting the administrative burden for companies. Throughout the verification process for the EU MRV Regulation, verifiers need to gain an understanding of the company, the control environment (how is monitoring and reporting for the EU MRV Regulation managed from an organizational perspective) and the implementation of the systems, processes and control activities.

When considering site visits, the subgroup took into consideration the cost / benefit as requiring verifiers to visit all ships on annual basis would be a logistical challenge and very time consuming and costly and for this reason concluded that the option for mandatory site visits on board is not feasible and the verification should take place at the office, where the critical mass of data is kept and unless the risk assessment proves it is not necessary.

The recommendations for site visits are described in Annex II.

Deliverable 2: ACCREDITATION

Deliverable 2.1: Best practices compendium.

In order for the subgroup to complete its deliverables, existing requirements were used as the basis for debating and defining the accreditation process for accrediting verifiers for verification for the EU MRV regulation.

The following relevant European and internationally accepted requirements for accreditation bodies have been identified:

- Regulation (EC) No 765/2008 of the European Parliament and of the Council setting out the requirements for accreditation and marker surveillance relating to the marketing of products (The accreditation Regulation);

- EN ISO/IEC 17011:2011 Conformity assessment – General requirements for accreditation bodies accrediting conformity assessment bodies.

The accreditation process is well defined in the above mentioned documents and further supported by guidance documents issued by European co-operation for Accreditation (EA) and the International Accreditation Forum (IAF) in which interpretation of the requirements as well as best practices for accreditation are reflected.

During the discussions in the Subgroup also best practices and experience from accreditation of the EU ETS verifiers according to Regulation 600/2012 (AVR) have been introduced.

The standard to be used by accreditation bodies when accrediting verifiers is EN ISO 14065:2013.

Deliverable 2.2: Assessment of the elements from the Commission Regulation 600/2012 applicable to accreditation under the MRV Regulation.

EN ISO 17011 provides general requirements for National Accreditation Bodies (NABs) assessing and accrediting conformity assessment bodies (verifiers). These requirements concern not only the accreditation process but also the structure of the NAB, its impartiality and competence, the management and internal controls, procedures, subcontracting, appeals and complaints. EN ISO 17011 only contains generic requirements on accreditation of verifiers, whereas Commission Regulation 600/2012 includes EU ETS specific requirements. Examples are:

- Tailored provisions on what documentation to submit in an application for accreditation;

- Specific requirements on what to check during the accreditation, including the actual performance of the NAB;

- EU ETS specific requirements on the competence of the assessment team, e.g. ensuring that at least one person in the team has the technical knowledge required to be able to assess the verifier's performance in a specific sector for which the verifier seeks accreditation;

- EU ETS specific requirements on the competence of individual persons of the assessment team;

- EU ETS specific provisions on administrative measures that can be imposed on the verifier if it is not carrying out the activities in line with the AVR;

- Information exchange requirements between NAB and CA.

With respect to Maritime MRV the group decided to rely on the specific requirements developed by the AVR but at the same time integrating them with Maritime Sector's specific issues, such as in the case of competence.

Deliverable 2.3: Define procedures related to accreditation.

1. Scope of accreditation

According to the EU MRV Regulation Article 13, the verifier shall assess monitoring plans and perform verification of emissions reports of ships. The verifiers performing both tasks were debated in the subgroup, and in this context the requirements on avoidance of conflict of interest in EN ISO/IEC 14065 shall be taken into account. The standard specifies that the verifier shall take appropriate measures to manage such conflicts and to ensure that verifiers remain independent and impartial throughout the verification process, which was agreed by the subgroup to be appropriate.

The EU MRV Regulation base monitoring of emissions on four different methods related to the type of vessels and complexity of the monitoring method.

The scope of accreditation need to be defined in order for the interested parties to know in which areas the verifiers are competent to perform assessment of the monitoring plan and verification of the emissions report.

The subgroup has agreed that it is preferred to have one single accreditation activity for both assessing the monitoring plan and carrying out the verification of the emissions report.

Further it was agreed to have one single accreditation for all monitoring methods.

This means that a verifier may be accredited to perform both the assessment of the monitoring plan and the verification of the emissions report for all monitoring methods and all vessel types.

2. Accreditation request

The EU MRV Regulation include obligations for both EU and non-EU companies. In relation to international trading principles non-EU based verifiers would also be able to obtain accreditation for verification in the maritime sector by an EU National Accreditation Body. Within the EU, the European co-operation for Accreditation (EA) safeguards consistent quality of National Accreditation Bodies (NABs) through peer reviewing.

EU based verifiers shall apply for accreditation to the NAB in the Member State where the verifier is registered. In case the NAB in that Member State is not providing accreditation services for the EU MRV Regulation, the Member State shall, as far as possible, have recourse to a NAB from another Member State, to which the verifier may apply for accreditation. If the Member State has no recourse with a NAB, the verifier is free to choose to which NAB he will apply for accreditation.

Based on the discussions in the subgroup it was agreed that non-EU Verifiers are allowed to choose freely an EU NAB.

There is no need identified for a non-EU based verifier to have a local EU office to perform its duties.

It is suggested to use Article 45 of the AVR as a basis to specify rules to request accreditation for the EU MRV Regulation and to tailor it to maritime. In addition, it is suggested to make reference to the harmonized standard, referred to in the Accreditation Regulation 765/2008, where specific requirements are detailed and used by NABs.

3. Assessment of verifiers by National Accreditation Bodies

3.1 Initial assessment in order to issue an accreditation certificate

The Accreditation Regulation (765/2008) specifies that EU NABs shall assess the application of verifiers. The accreditation process follow a structured and harmonized approach as specified in EN ISO/IEC 17011. In the AVR, articles 46 - 48 summarise the required procedures NABs have to follow in the processes of assessing verifiers applying for accreditation. It is suggested to include a similar summary adapted to MRV with references to the harmonized standard in the Delegated act.

For the purpose of assessing the conformity of verifications performed to EN ISO 14065, the MRV and any additional criteria in the Delegated act, NABs perform document review of the verifiers' quality management system and office visits to

the verifiers' premises to review documentation of the verification process and evidence collected to support the conclusion of the verification. During an office visit, the NAB assesses the implementation of the verifiers' quality management system.

For the purpose to assess the performance and competence of verifiers' staff, NABs perform witness of the verifier activities carried out in practice, e.g. visiting an organisation.

Based on the positive result of an office assessment and witness of a verifier, the NAB will evaluate and decide on granting accreditation by issuing an accreditation certificate for a limited validity period.

Based on the discussions in the subgroup it was agreed that accreditation certificates shall be given a maximum validity period of 5 years. This is in line with EN ISO/IEC 17011.

3.2 Surveillance to confirm continuation of verifier's accreditation and reassessment of verifiers

According to the Accreditation Regulation 765/2008, the NAB shall monitor the accredited verifier. Requirements for surveillance are defined in EN ISO/IEC 17011. Surveillance includes both an on-site visit to the verifier's premises (office) and witness activity in the field to witness the performance and competence of the verifier staff, carrying out verification activities. The on-site visit to the verifier's premises (office) includes assessment of the continued compliance of the verifier's quality management system with the accreditation criteria and review of verification files and personnel records on sampling basis.

According to EN ISO/IEC 17011, the first surveillance on-site assessment is recommended to be carried out no later than 12 months from the date of initial accreditation.

Requirements for reassessment of accredited verifiers are found in EN ISO/IEC 17011. The requirements are similar to requirements for initial assessment, except that experience gained from previous assessment shall be taken into account.

Reassessment shall be carried out in due time before expiry of the accreditation certificate in order for the NAB to determine whether the accreditation certificate may be granted with a new validity period.

When, during surveillance or reassessments, nonconformities are identified, the NAB shall define strict limits for corrective actions to be implemented.

Based on the discussions in the subgroup, it was agreed to have annual surveillance, including a visit to the verifier premises (office) and a witness of the verification activities in the field. This is in line with common practice under EN ISO/IEC 17011 for the accreditation of verifiers performing verification under EN ISO 14065 and AVR 600/2012 (EU ETS).

3.3 Administrative measures

Based on surveillance, re-assessment or an extraordinary assessment of the verifier's accreditation, a NAB may conclude that the accredited verifier does no longer comply with the requirements for accreditation for the EU MRV Regulation. If the verifier does not resolve nonconformities sufficiently, the NAB may need to suspend, withdraw or reduce the verifiers' scope of accreditation. The EU MRV Regulation does not specify the consequences for acceptance confirmations for monitoring plans, verification reports and Document of Compliance (DOC) issued by the verifier before the decision to suspend, withdraw or reduce the scope accreditation.

According to EN ISO /IEC 17011, the NAB shall establish procedures for suspension, withdrawal or reduction of scope of accreditation. When deciding on suspension, withdrawal or reduction of scope of accreditation, the NAB shall consider the impact on activities carried out before the decision. These considerations shall be based on the nature of the noncompliance identified to cause the NAB to make a decision.

The decision will typically include statement about previous activities and conditions for lifting the suspension or being granted accreditation after withdrawal

During the suspension period, after withdrawal or reduction of scope of accreditation the verifier is not allowed to perform verification activities under the concerned scope of accreditation.

In the subgroup the consequences for the confirmation of assessed monitoring plans, verification reports and DOC's issued by the verifier before the accreditation was suspended or withdrawn as well as verifications in progress at the time the accreditation is suspended or withdrawn, were discussed.

Depending on the timing and period of suspension or withdrawal, companies may need to engage with another accredited verifier that is accredited to assess the monitoring plan and/or verify the emissions report.

Based on the discussions it was agreed that Guidance should be developed on how verifiers and companies should deal with the situation in which the accreditation is suspended or withdrawn close to the planned issuing date of the Document of Compliance by the verifier. It should also be clear how port state authorities will deal with situations in which a ship calls at an EU port with a DOC issued by a verifier whose accreditation is suspended or withdrawn.

3.4 Competence requirements for national accreditation bodies to provide accreditation to verifiers for shipping activities.

The Accreditation Regulation 765/2008 set the general requirement for the NAB competence to perform its tasks. The requirements for NABs to provide accreditation services are further specified in EN ISO/IEC 17011.

During the process of preparing for accreditation of verifiers for the EU MRV the NAB's need to:

- Build capacity, knowledge, experience and resources;

- Training their own staff to obtain the required competence or make use of maritime sector experts when performing accreditation activities.

During the discussions in the subgroup it was agreed that there is no need for additional competencies to NAB's apart from those defined in Annex III to this report.

3.5 Communication between National Accreditation Bodies and the Commission.

There is a need for transparency on which verification body is accredited and on the status of the accreditation. This need is emphasized given the international context of the EU MRV Regulation, as it could become difficult to identify the verifiers accredited and the status of their accreditation.

Under the AVR, each NAB publishes a list of their accredited verifiers and the European co-operation for Accreditation (EA) publishes also links to each of the EU NAB list of accredited verifiers for EU ETS verification to provide easy access from a central point, which is beneficial for an international system.

During the discussions some concern was raised with respect to not having a compiled EU list of MRV accredited verifiers published. The Commission indicated that the EU MRV IT Tool should facilitate making such compiled information available.

Following the discussions of the subgroup it was agreed that the status of accreditation of verifiers will be communicated by the individual NABs to the Commission by use of a standardized format. A list of accredited verifiers will be published by the individual NABs and the EA through providing direct links to each NABs list of accredited verifiers under the EU MRV Regulation.

Deliverable 3.1: Recommendations or input regarding elements of the monitoring plan and emission report templates and related technical rules, relevant for verification activities.

A joint session was held between the MRV subgroup on verification and accreditation and the monitoring subgroup to discuss the monitoring plan template and the emission report template.

The subgroups agreed to add voluntary fields to the monitoring plan which would further describe the energy efficiency of the vessel and its operational activity. It was noted that any data or text added in a voluntary capacity would be subject to assessment by the verifier.

With regards to uncertainty which needs to be disclosed in the monitoring plan it is the verifiers role to verify whether the uncertainty thresholds described in the monitoring plan are compliant with the EU MRV Regulation and verify that shipping companies adequately disclose the applied uncertainty levels in the emission report. Therefore the requirements for uncertainty levels were subject to the Monitoring subgroup recommendation which could be default values provided by guidance documents or established specific values and the proposed rules on verifiers for checking uncertainty levels as described in the monitoring plan and disclosed in the emission report were accepted.

With regards to the procedures and responsibilities for tracking the completeness of the list of emission sources plus the type of fuels used, existing maritime practices were taken into account to allow an option to make reference to existing quality/procedural management systems (QMS) such as the ISM Code, as well as current mandatory certificates and record books i.e. IAPP and Oil-Record-Book.

The final report of the MRV Monitoring subgroup provides more detail on the recommendations for the monitoring plan and emission report templates.

3. Summary

During the 4 ESSF MRV Verification and Accreditation subgroup meetings, the subject matter of the forum was always dealt with by its members with a high level of commitment and dedication. The subgroup delivered on its tasks and agreed options and the approach for dealing with verification of CO2 emissions and accreditation of verifiers in line with the MRV Regulation and in the light of the delegated act to be adopted by the Commission.

In particular the subgroup followed an approach based on the relevant EN ISO Standards but at the same time getting inspiration from Commission Regulation 600/2012 on the verification of GHG emission reports and the accreditation of verifiers under the EU Emissions Trading System (AVR). At the same time specific maritime sector's relevant issues were considered and integrated in the discussion.

With this respect the subgroup agreed a common position on the following items in the fields of verification and accreditation:

1. With respect to the assessment of the monitoring plan the subgroup discussed whether there was a need for additional rules and how specific the rules needed to be, concluding that additional rules that address the assertions that have to be fulfilled by the verifier in assessing the monitoring plan are required and that these assertions could be: completeness, relevance and conformity with the EU MRV Regulation;

2. Regarding procedures for the verification of the emission report the subgroup agreed that the verification engagements consist of a combination of two elements: the verification of the correct implementation of the management system for monitoring & reporting, and data verification. In order to reach the conclusion and define the procedures for the verification of the emission report, materiality,

uncertainty, risk analysis and site visits were discussed and recommendations agreed;

3. With respect to procedures related to accreditation the subgroup considered the scope of accreditation and the need to request an accreditation by an EU National Accreditation Body (NAB). Furthermore procedures for assessment, surveillance and administrative measures in the accreditation framework were agreed. Furthermore competence requirements of NABs and communication procedures with the Commission were agreed.

4. Request to the Plenary

The MRV verification & accreditation sub-group requests that the ESSF Plenary to note and endorse this report.

The subgroup requests that the ESSF Plenary extends the group's mandate for 1 year to develop further guidance.

Recommendations for further guidance are as follows:

1) Risk assessment to be carried out by verifiers - how verifiers should use ship's tracking data from an external source and how the verifier should interpret the information for the purpose of the verification of the emissions report.

2) Recommendations for improvements - the extent to which verifiers can make recommendations.

3) Materiality & verification of the emissions report - How sampling is relevant for EU MRV verification purposes, determining samples for data auditing and how verifiers apply the materiality principle.

4) Verification of the emissions report - How backward verification should be dealt with when the ship sails to an EU port of call in the reporting period which the company did not foresee and therefore did not submit a monitoring plan to the verifier timely.

5) Verification of the emissions report - To provide examples of how verification activities can be carried out by the verifier for ships reporting for the EU MRV Regulation.

6) Assessment of verifiers by National Accreditation Bodies in order to issue an accreditation certificate - How accreditation can be received in time during the initial phase (chicken and egg issue)

7) How verifiers and companies should deal with the situation in which the accreditation is suspended or withdrawn close to the planned issuing date of the Document of Compliance (DOC) by the verifier.

8) How port State Authorities will deal with situations in which a ship calls at an EU port with a DOC issued by a verifier who's accreditation is suspended or withdrawn or without a DOC because the verifier is suspended.

ANNEX I - Assessment of the Monitoring Plan

In developing the assessment plan, the verifier shall address the following assertions:

- Completeness of information provided in the monitoring plan;
- Accuracy of the information provided in the monitoring plan;
- Relevance of information provided in the monitoring plan; and
- Conformity of the information provided in the monitoring plan with the EU MRV Regulation.

As part of the initial assessment of the monitoring plan the verifier shall carry out at least the following activities;

- Assess that the company used the appropriate monitoring plan template and that information is provided for all mandatory items determined by the EU MRV Regulation;
- Validate that the information in the monitoring plan accurately describes the emissions sources and measurement equipment installed on the ship, systems used and procedures to monitor and report relevant information for the EU MRV Regulation;
- Assess that, when applicable, the ship has provided sufficient justification that conditions to apply the derogation for monitoring on a per voyage basis fuel and CO2 emission conform to Article 9.2 of the EU MRV Regulation will be fulfilled according to schedule;
- Take into consideration available information on existing management systems;
- Consider different types of activities for the assessment of the monitoring plan, including but not limited to inquiry, document inspection and observation;
- Based on the assessment, if the verifier concludes that the monitoring plan is in conformity with the EU MRV Regulation, formally inform the company of the acceptance of the monitoring plan;
- Ensure that competent personnel different from the verification team will review whether all assessment activities have been completed and conclude whether the monitoring plan provides a fair view on the ship's monitoring and reporting system and is in conformity with the EU MRV Regulation;
- Inform the company in writing about the conclusions of the assessment, or in case the monitoring voluntary modules of the MRV IT tool are used, provide acceptance within that tool.

A reassessment of conformity is necessary when, significant changes to the monitoring and reporting system occur (those mentioned under Article 7 § 2 letters b), c) and d) of the EU MRV Regulation).

- Assess that that information for all the relevant mandatory items determined by the EU MRV Regulation reflects the new situation;
- Validate that the information in the monitoring plan accurately describes the emissions sources and measurement equipment installed on the ship, systems used and procedures in place to monitor and report relevant information for the EU MRV Regulation.

ANNEX II – Verification procedures

Competencies of the verifiers

Specifying competence requirements for verifiers contributes to creating a level playing field, and accreditation will ensure companies that all accredited verifiers fulfil the needed competence requirements.

The verifier needs to establish, document, implement and maintain a continuous competence process to ensure that all personnel entrusted with verification activities are competent for the tasks that are allocated to them.

In order to fulfil this requirement the subgroup proposes a set of competence criteria for all personnel undertaking verification activities, including both the assessment of the monitoring plan and the verification of the annual emission report, as follows:

- Specific competence criteria for each function within the verifier undertaking verification activities, in particular for the MRV team leader, MRV auditor , auditor-in-training, independent reviewer and technical expert;
- A method to ensure the continued competence and regular evaluation of the performance of all personnel that undertake verification activities;
- A process for ensuring ongoing training of the personnel undertaking verification activities;
- A documented competence process and results thereof as part of the verifier's management system.

In addition to the previous section, for the purpose of assessment of the conformity of the monitoring plan and verification of the emission report according to the EU MRV Regulation the verifier shall have sufficient marine sector specific competence as below:

- Knowledge of the EU MRV Regulation, its Annexes, and delegated and implementing acts and relevant international standards;
- Knowledge of and experience in sector specific technical monitoring and reporting aspects, consisting of but not limited to:

- EU MRV Regulation including Annex I, II and III;
- Available templates concerning EU MRV Regulation;
- Understanding of the relevance of other International legislation, such as the International Convention for the Safety of Life at Sea (SOLAS), 1974 as amended in combination with relevant Maritime Safety Committee (MSC) Resolutions and the International Convention for the Prevention of Pollution from Ships (MARPOL) and its Protocols as amended in combination with relevant Marine Environment Protection Committee (MEPC) Resolutions. These references should include at least but not be limited to: MARPOL Annex VI (including the NOx Technical Code) and IMO Resolution MSC.267(85) - Intact Stability Code 2008;
- Understanding of overlap the EU MRV Regulation has with other relevant sector specific guidance (e.g. SEEMP);
- Understanding how companies and verifiers can leverage on existing maritime specific management systems, e.g. the ISM Code;
- Emission sources of the ships installation;
- Understanding of registration of voyages and the way completeness and accuracy of the list of voyages in ensured by the company;
- Understanding how fuel calculation methods are applied by ships in practice;
- Understanding of application of uncertainty levels in accordance with the EU MRV Regulation;
- Understanding how a fuel's carbon content is determined (e.g. which standard is used);
- Understanding of application of Emission factors for all fuels (IMOMEPC circ 245 (66)), including LNG, hybrid fuels, biofuels etc.;
- Knowledge about fuel handling onboard ships, fuel cleaning and tank systems;
- Understanding of the operation of the ship's Bunkering systems;
- Understanding of the machinery used on-board ships;
- Understanding of the ship's maintenance / quality control of metering equipment;
- Interpretation of a Bunker Delivery Note (BDN);
- Interpretation of operational logs, voyage abstract and port abstract, ship deck log;

- Commercial documentation e.g. charter party agreements, bill of lading etc.;
- How fuel density can be determined by ships in practice;
- Understanding of deviations from planned routes due to weather conditions, piracy etc.;
- Understanding of the determination and application for data flow processes for ship dependent cargo parameters;
- Distance travelled;
- Time at sea.

Minimum list of documents to be provided by the company to the verifier

Companies need to provide documents to verifiers to enable them to verify the compliance of the monitoring plan with the EU MRV Regulation and to verify the reported aggregated emissions and Transport Work.

With regards to the availability of documents, the subgroup discussed the need for a provision in the delegated act and agreed that the delegated act will specify that for documents whose original is kept onboard ships, it is acceptable for the purpose of verification that copies of these documents are available in the office of the shipping company. For documents whose originals are kept on-board ships, companies may make available to the verifier a copy, on paper and / or electronic, of original documents.

The subgroup discussed the retention period for documents and whether this should be in line with international maritime laws or whether there was a need to deviate from this. It concluded that international maritime laws should be used meaning a retention period of a minimum of 3 years should be set. However, the verifiers shall keep records of all relevant information used for the verification of emission report, including the assessment of the monitoring plan for at least five years as this is aligned with the accreditation cycle.

The subgroup discussed whether a minimum list of documents should be specified as follows:

- A list of all voyages of the ship including all relevant information needed to determine its CO_2 emissions, transport work and other relevant information on a on a per voyage basis voyage basis and in total for the concerned reporting period;
- Copies of relevant sections of the ship's official logbook and if separate the oil record book. The verifier shall select the sections deemed relevant for the purpose of the verification, e.g. for a sample of voyages;
- Copies of bunkering documents. The verifier shall select the relevant bunkering documents for the verification, e.g. for a sample of voyages;

- Copies of documents containing information about the number of passengers transported and / or the amount of cargo carried, the distance sailed and the time spent at sea for the ship's voyages in the reporting period. The verifies shall select the relevant documents for the verification, e.g. for a sample of voyages;
- Draft emissions report;
- A copy of the last monitoring plan, satisfactory assessed by an accredited verifier;
- For verification purposes and upon specific requests of the verifier, the company shall make available to the verifier other relevant documents, if applicable on the basis of the monitoring method applied;
- An overview of the IT-landscape visualizing the data flow of the relevant ship's data;
- Evidence of maintenance & accuracy / uncertainty of measurement equipment / flow meters (e.g. calibration certificates and manufacturer's instructions);
- Extract of activity data about fuel consumption from flow meters;
- Copy of evidence of fuel tank meter readings;
- Extract of activity data from direct emissions measurement systems.

Verification activities

The subgroup discussed two alternate approaches; using an adapted version of the procedures prescribed in Articles 13 to 21 of the Accreditation and Verification Regulation No 600/2012 (AVR) which provide a minimum level of verification activities to be performed, as well as high level guidance on how to execute these verification activities and whether to develop an alternative minimum level of verification activities to be performed, which similarly to the AVR would be based on EN ISO 14065.

Based on the outcome of the discussions it is recommended to use the minimum requirements of EN ISO 14065 as a basis, adding certain maritime specific elements and to use the structure of the AVR article 13 to 21 to the extent relevant for specifying further rules in the delegated act.

EN ISO 14065 requires verifiers to develop a verification plan, which, based on the outcome of the risk assessment, describes the different types of activities / methods that the verifier is planning to perform in order to obtain reasonable assurance on the reported data.

In summary, the main principles on how to carry out such verification are set in Articles 13-15 of the EU MRV Regulation and the verifier carries out verification activities to verify that the emission report is prepared in conformance with the accepted monitoring plan and that the reported data in relation to the EU MRV Regulation is free from material misstatements.

It is recommended that the verifier shall carry out and document at least a minimum set of verification activities during the verification process for the purpose of emissions, transport work and other relevant information.

The verifier shall consider at least, the following types of procedures to carry out:

- Inquiry with relevant staff;
- Observation;
- Document inspection;
- Walkthrough procedures, which includes gaining understanding of the reporting processes and a test of one example to confirm that the monitoring plan has been implemented;
- If applicable, test whether the requirements related to the derogation from monitoring fuel consumption on a per voyage basis (as described in Article 9.2 of the EU MRV Regulation) have been met by the ship.
- If applicable, test that internal control activities described in the monitoring plan are effectively implemented by the company. The verifier shall at least consider the following type of procedures:
- Test effectiveness of documented controls, based on sampling;
- Assess the reported data in the emissions report.

The verifier shall consider at least the following types of procedures:

- Detailed analytical procedures;
- Test of detail based on sampling;
- Test application of uncertainty and estimates.
- The verifier shall perform at least the following activities to complete the verification engagement after the verification activities have been carried out by the MRV Auditor:
- Confirm that all verification activities have been completed;
- Perform final analytical procedures to verify whether all misstatements and non-conformities identified during the verification process have been corrected by the company;
- Verify whether the information in the emission report is disclosed in compliance with the requirements of EU MRV Regulation;
- Form a conclusion on whether the emission report is in accordance with the accepted monitoring plan and whether the information reported is free from material misstatements;

- Have the verification documentation reviewed by the independent reviewer;
- Prepare and issue the verification report to the company;
- Prepare and issue the document of compliance to the company after having assessed satisfactorily the emissions report;
- Notify the Commission and the ship's flag state about the issuance of the document of compliance.

Site Visits

The verifier shall carry out a site visit to the company for the purpose of gaining sufficient understanding of the company and the ship's actual monitoring and reporting system unless the outcome of the risk assessment proves it unnecessary.

- The verifier shall determine the location or locations for the visit, the activities and time needed based on the risk assessment;
- For the purpose of avoiding the need of on-board verification on the ship, companies should ensure copies of all relevant information/documents of which the original is only kept on the ship are available at an onshore location of the company;
- In determining the location of locations, the verifier shall consider the location where the critical mass of relevant data is kept, including (electronic) copies of documents kept at the ship and where data flow activities take place;
- If the verifier, based on the outcome of a site visit to an onshore location concludes that an on-board verification is needed to reduce the risk of material misstatement in the emission report, the verifier may decide to perform a visit to the ship;
- During the site visit, the verifier shall consider relevant verification activities as described in the section "verification of the Emission report".

By way of derogation of the first bullet point above, the verifier may waive a site visit provided that based on the outcome of the risk assessment the verifier:

- Has sufficient understanding of the monitoring and reporting system for the ship, including the implementation (existence and effective operation) by the company;
- Concludes that the nature and complexity of the ship's monitoring and reporting system does not require a sit visit;
- All information the verifier needs to perform the verification engagement, including the outcome of the assessment of the monitoring plan and verification of the data in the emission report, can be obtained and assessed remotely;

- The verifier needs to document the justification and considerations for waiving the site visit.

Reasonable assurance to be reached by the verifier

The following definition, in line with the AVR, is recommended:

"'Reasonable assurance' means a high but not absolute level of assurance, expressed positively in the verification opinion, as to whether the company's report subject to verification is free from material misstatement".

Misstatements and non-conformities

The purpose of the verification is to ensure the emission report is free from material misstatements, verifiers may detect non-conformities and misstatements of the monitoring plan with the EU MRV Regulation and non-conformities and misstatements of data reported in the emission report. In Articles 13.3 and 13.4 the EU MRV Regulation specifies rules about dealing with non-conformities and misstatements detected during the verification process. Companies must correct these misstatements and non-conformities and timely submit a revised monitoring plan or emission report to the verifier.

Based on discussion in the subgroup it was concluded that the content of Article 22 of the AVR on addressing misstatements and non-conformities will be used, with the exception that non-material misstatements do not need to be corrected (except when aggregated non-material misstatements amount to a material misstatement).

- Where the verifier has identified non-conformities in the assessment of the monitoring plan or misstatements and non- conformities during the verification of the emission report, the verifier shall inform the company thereof on a timely basis and request relevant corrections.

- The company shall correct any communicated material misstatements or non-conformities.

- If the company does not correct communicated misstatements and non-conformities below the materiality level, the verifier shall evaluate the impact of these on his conclusion by assessing the remaining risk that uncorrected and undetected misstatements in aggregate or individually exceed the materiality threshold and that based on the size, nature and particular circumstances of their occurrence the uncorrected misstatements and non-conformities are considered material.

- The verifier shall document and mark as resolved, all misstatements, non-conformities that have been corrected by the company during the verification. This enables the independent reviewer to check that the MRV Auditor has carried out the verification work appropriately.

Content of the verification report

According to Article 13.3, the verifier shall issue a verification report to the Company stating that the emission report has been verified as satisfactory and the verification report shall specify all issues relevant to the work carried out by the verifier. The subgroup discussed whether the content needed to be specified and concluded that a list of minimum requirements should be prescribed as follows;

- Based on the information collected during the verification, the verifier shall issue a verification report to the company on each emission report that was subject to verification.

- The verification report shall at least, contain the following elements:

- Name of the company and identification of the ship;

- Title of document expressing that it is a verification report

- Objectives of the verification, including level of assurance and key requirements to be met by the emission report;

- Scope of the verification;

- Reference to the emissions report of the company;

- Reporting period subject to verification;

- Reference to the reporting criteria, as well as to the accepted monitoring plan;

- Information about the emissions, transport work and other relevant information in scope of the verification;

- Statement about inherent uncertainty in data reported;

- Responsibilities of company and verifier;

- Reference to verification / assurance standard used;

- Summary of the basis of work;

- Summary of significant changes identified during the reporting period in the monitoring plan and activity data;

- Verification opinion statement;

- Verified as satisfactory (unqualified); or

- Verified as satisfactory with comments (unqualified, but containing non-material misstatements or non-conformities); or

- Verified as non-satisfactory (qualified as the report contains material misstatements or non-conformities or due to scope limitations, the verifier is unable to express an opinion)

- Uncorrected misstatements and non-conformities (including description of nature and size, why it has material impact or not, to which element of the emission report it relates to), if applicable

- Recommendations for improvement, if applicable

- Date of the report

- Signature of authorized person from the verifier

- Identification of the verifier

Recommendations for improvements

The EU MRV Regulation does not specify the details of the recommendations for improvements. The subgroup discussed whether there was a need for further rules to be developed and concluded that rrules will be developed with regard to which recommendations for improvements could be made by the verifier. These rules will focus on limiting the recommendations to be made (e.g. no recommendations for improvements allowed for changing the monitoring method) as proposed below;

- The verifier shall consider communicating to the company recommendations for improvement to the company, in particular in relation to uncorrected non material misstatements and non-conformities;

- The verifier may communicate other recommendations for improvement, where the verifier, based on the outcome of the verification, deems this relevant.

- When providing recommendations to the company, the verifier shall remain impartial to the company, to the ship and to the monitoring and reporting system and shall not provide solutions.

Annex III - Competence requirements for NAB

For accrediting verifiers for the EU MRV a NAB should comply with the following sector specific requirements:

- Knowledge of the Regulation on MRV of CO2 emissions from maritime transport, relevant standards and other legislation as well as applicable guidelines published by the Commission;
- Knowledge of auditing the relevant data and information and the related verification activities.

- Understanding all requirements for the maritime MRV system;
- Understanding the characteristics of different types of vessels;
- Understanding the characteristics of the different monitoring methods.