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AIR POLLUTION AND ENERGY EFFICIENCY

Guidelines for onboard sampling and the verification of the sulphur content of the fuel oil used on board ships

Submitted by Denmark and Norway

SUMMARY

Executive summary: This document provides comments and suggestions for follow-up from the proposals to and discussions at MEPC 64 on the issue of a procedure for onboard sampling of fuel oil for port State control and flag State inspection from the fuel oil service system

Strategic direction: 7.3

High-level action: 7.3.1

Planned output: 7.3.1.1

Action to be taken: Paragraph 11

Related documents: BLG 10/14/2; BLG 16/8/2, BLG 16/8/3, BLG 16/6; MEPC 59/24/Add.1; MEPC 62/4/12, MEPC 62/24; MEPC 64/WP.11 and MEPC 64/23

Background

1 At its sixty-second session, the Marine Environment Protection Committee agreed to develop an appropriate procedure for sampling of the fuel oil being used for port State control and flag State inspection, and noted that there remained concerns related to fuel oil sampling which the Committee needed to address. The Committee agreed that the matter should be reconsidered by the BLG Sub-Committee and instructed the Sub-Committee to develop appropriate guidelines for a sampling procedure to enable effective control and enforcement of liquid fuel oil being used on board ships under the provisions of regulations 14.4 and 14.6 of MARPOL Annex VI (MEPC 62/24, paragraph 4.56.1).

2 At its sixteenth session, the BLG Sub-Committee held a discussion on the subject and agreed to report back to the Committee on this and not to develop either guidelines or guidance for the sampling of fuel oil used on board ships at that session. At its sixty-fourth session, the Marine Environment Protection Committee noted the view of the Working Group

on Air pollution and energy efficiency relating to procedures on sampling of fuel being used on board (MEPC 64/WP.11, paragraph 14.2) that, for further consideration on this matter, it would be necessary to consider further submissions that identify the compelling need for procedures and include concrete proposals, e.g. draft amendments to MARPOL Annex VI or draft unified interpretation as well as draft guidelines on sampling fuel oil being used on board ships.

Discussion

3 While ships are operating within an emission control area (ECA), the sulphur content of "fuel oil used on board ships" shall not exceed 0.10% m/m on and after 1 January 2015. Most ships will use separate fuel oils to comply with regulation 14 of MARPOL Annex VI and perform a fuel oil changeover when entering and leaving an ECA, and therefore it might not be sufficient to base the inspections only on bunker delivery notes and log books.

4 The co-sponsors have noted the increased focus on compliance with sulphur limits following the requirements that entered into force in ECAs on 1 January 2015, both from industry in order to ensure a level playing field, but also from the different ECA countries in order to reap the health and environmental benefits of these new requirements.

5 In some port State controls, samples of the fuel oil being used are taken directly from the ship's tanks and/or the fuel service system. In our view, such onboard spot sampling is currently the most appropriate way to verify the sulphur content of the "fuel oil used on board ships". However, there is no harmonized IMO guidance on this process or the subsequent actions to be taken in order to verify compliance.

6 Following consultation with the European Sustainable Shipping Forum, the EU has recently adopted binding regulation for onboard sampling on board vessels when in EU ports as laid down in document C-2015/253 of 16 February 2015. In accordance with these rules, EU port and flag State authorities are now required to apply uniform requirements for the onboard spot sampling of fuels oils for onboard combustion at dedicated positions in the fuel service system followed by analysis. All vessels calling at an EU port may be subject to onboard spot-sampling for fuel oil being used. These rules will facilitate compliance verification with either regulation 14.1 or 14.4 in a safe and standardized manner.

7 The relevant provisions in the EU legislation are based on the International Standard ISO 3170:2004 "Petroleum liquids – Manual sampling" – Third edition. The purpose of this International Standard is to standardize conditions and practices for obtaining a sample of liquid/semi-liquid hydrocarbons from a tank, drum or pipeline by manual means. This third edition includes the addition of procedures for tank sampling under restricted and closed system conditions, and procedures for the taking of manual spot samples from pipelines containing high vapour pressure liquids as well as relevant safety precautions.

8 In our view, the fact that some port States already started to sample fuel oil being used on board ships justifies the development of separate IMO guidelines in order to ensure a consistent and safe approach when sampling and analysing the fuel oil being used on board ships during inspections.

9 It is our impression from those port State controls, who are already taking samples from fuel oil being used, that it is usually possible to designate a proper sampling position. However, we believe it would be beneficial if ships would have designated sampling point(s) in order to ensure that a representative sample can be drawn in a safe manner from the ships fuel oil system. Our understanding is that some existing class rules already require sampling points to be installed, but do not specify where in the system or for what purpose.

Proposal

10 In order to improve and harmonize the enforcement of regulation 14 of MARPOL Annex VI, we propose the following:

- .1 the development of separate guidelines for onboard sampling and verification of the sulphur content of the fuel oil used onboard ships. A draft proposal for such guidelines is set out in annex 1 to this document;
- .2 an amendment to regulation 14 of MARPOL Annex VI to gradually phase in a requirement for ships to have designated sampling points for fuel oil. A draft proposal for such amendments is set out in annex 2 to this document; and
- .3 the Committee is also invited to consider if any consequential amendments are needed in regulation 18 of MARPOL Annex VI or in the 2009 Guidelines for port State control under the revised MARPOL Annex VI (resolution MEPC.181(59)).

Action requested of the Committee

11 The Committee is invited to consider the proposals in this document and to take action as appropriate.

ANNEX 1

PROPOSAL FOR GUIDELINES FOR ONBOARD SAMPLING AND THE VERIFICATION OF THE SULPHUR CONTENT OF THE FUEL OIL USED ON BOARD SHIPS

1 Sampling methods

The onboard sample of fuel oils should be obtained by a single or multiple samples at the location where a valve is fitted for the purpose of drawing a sample in the fuel service system identified as per regulation 14.11 of MARPOL Annex VI.

2 Alternative sampling location

2.1 In the absence of the location referred to in paragraph 1, the fuel sampling point should be the location where a valve is fitted for the purpose of drawing a sample and should fulfil all of the following conditions:

- .1 be easily and safely accessible;
- .2 take into account different fuel oil grades being used for the fuel oil combustion machinery item;
- .3 be downstream of the fuel oil in use from the service tank;
- .4 be as close to the fuel oil inlet of the fuel oil combustion machinery item as feasible and safely possible taking into account the type of fuel oils, flow rate, temperature, and pressure behind the selected sampling point; and
- .5 be proposed by the ship's representative and accepted by the inspector.

2.2 A fuel oil sample may be taken at more than one location in the fuel oil service system to determine whether there is a possible fuel cross-contamination in the absence of fully segregated fuel service systems, or in case of multiple service tank arrangements.

3 Sampling and sampling integrity

3.1 The sample should be collected in a sampling container from which at least three sample bottles can be filled and which is representative of the marine fuel being used.

4 Retained sample handling

4.1 The sample bottles should be sealed by the sulphur inspector with a unique means of identification installed in the presence of the ship's representative.

4.2 Two sample bottles should be taken ashore for analysis [in accordance with Appendix VI of MARPOL Annex VI].

4.3 One sample bottle is retained by the ship's representative for a period of not less than 12 months from the date of collection.

ANNEX 2

PROPOSAL TEXT OF ADDITION TO REGULATION 14 OF MARPOL ANNEX VI

To follow on after existing text as regulation 14.11:

"Onboard sampling"

14.11 In order to obtain a sample of the fuel oil being used, a sampling connection is to be fitted at an appropriate location in each fuel oil service system. The fuel sampling point shall fulfil all of the following conditions:

- .1 be easily and safely accessible;
- .2 take into account different fuel oil grades being used for the fuel oil combustion machinery item;
- .3 be downstream of the fuel oil in use from the service tank; and
- .4 be as close to the fuel oil inlet of the fuel oil combustion machinery item as feasible and safely possible taking into account the type of fuel oils, flow rate, temperature, and pressure behind the selected sampling point.

14.12 Where a Party requires a sample of the fuel oil in use to be drawn for the purposes of verifying compliance with the relevant requirements of this regulation that shall be performed taking into account the guidelines developed by the Organization* in respect of the sampling, sample documentation, sample distribution, sample analysis and the evaluation of the result obtained. That sampling shall be performed as expeditiously as possible without causing the ship to be unduly delayed.

14.13 The sampling connections required by paragraph 11 of this regulation are to be fitted to all ships constructed on or after [insert date]. For ships constructed before that date those sampling connections are to be fitted no later than the first renewal survey that occurs after [repeat above date].

* Refer to MEPC.XXX(XX), *Guidelines for onboard sampling and the verification of the sulphur content of the fuel oil used on board ships* (see annex I to this document).