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CONSISTENT IMPLEMENTATION OF REGULATION 14.1.3 OF MARPOL ANNEX VI

Draft amendments to appendix VI of MARPOL Annex VI

Submitted by the Institute of Marine Engineering, Science and Technology (IMarEST)

SUMMARY

Executive summary: This document provides a further development of the draft amendments to appendix VI of MARPOL Annex VI which were partly progressed at ISWG-AP 1

Strategic direction, if applicable: 1

Output: 1.17

Action to be taken: Paragraph 7

Related document: PPR 6/8, annex 3

Introduction

1 This document provides comment on paragraph 6 of annex 3 to the report of the Intersessional Meeting on Consistent Implementation of regulation 14.1.3 of MARPOL Annex VI (ISWG-AP 1) (PPR 6/8).

2 At ISWG-AP 1, a portion of the available time was spent on the amendment of the existing appendix VI to MARPOL Annex VI. This had a two-fold objective: to further refine the verification procedure applied in respect of the representative sample of fuel oil as supplied to a ship in accordance with regulation 18.8.1 and to add the verification procedure that would be applied to a sample drawn on board a ship by a Party in accordance with the *Guidelines for on board sampling for the verification of the sulphur content of the fuel oil used on board ships* (MEPC.1/Circ.864). However, as reflected in paragraph 76.8 of document PPR 6/8, the work on the appendix VI amendments was still under development.

Discussion

3 Taking the outcome of ISWG-AP 1 as the starting point, the draft appendix VI amendments have been further developed. However, the issue of the unresolved nomenclature of the samples has not been addressed and hence still retained in square brackets. In undertaking that work the following points should be highlighted:

- .1 The term "An Administration" has been added to apply the style used in regulation 13.7.1 in order to emphasize that it is not necessarily the flag State Administration that may initiate the testing in either case.
- .2 In order to clearly distinguish from the existing appendix VI and to have a consistent style between both part 1 and part 2 the references to the respective test results have been changed to 1A and 1B in part 1 and 2A and 2B in part 2. Furthermore, to again distinguish the average values now applied and to be consistent between the two parts new terms X and Z in respect of the averaged values have been applied.
- .3 In both parts a new sub-paragraph 2.4.4 has been added to avoid the limited volume sample from being used to resolve any repeatability issues.
- .4 Given that the procedures require various points concerning the seal condition to be given on the record in addition to test results a new paragraph 2.7, has been added to both parts to clearly indicate that it is the whole of this record which is to be supplied by the laboratory to the competent authority, not just the final test result outcome.
- .5 In the footnote associated with the title of table 2 the word 'ship' has been replaced by the term "Company", as used elsewhere in MARPOL Annex VI, to more correctly indicate the possible initiator of other fuel oil testing not connected with these procedures and the term "parties", although not capitalized in this instance, has been replaced by "entities" in order to clearly distinguish from the term "Parties" as used in IMO instruments.

4 In addition, a number of editorial changes have been applied in order for part 1 and part 2 to both read correctly and be consistent with each other. Also the footnotes have been rationalized so that they are not repeated separately for the two parts.

5 It is recognized that another outcome from ISWG-AP 1 was the proposal that a new definition be added to regulation 2 of MARPOL Annex VI covering sulphur content (PPR 6/8, annex 3, paragraph 1). If that is agreed as the way forward it would be considered more appropriate that the verification procedures given by appendix VI should directly refer to that definition. However, at this time the existing approach of cross-referencing appendix V has been retained.

6 The revised draft verification procedures, with ~~deletions~~ and additions, so marked, as compared to the outcome from ISWG-AP 1, is set out in the annex. The same paragraph numbering as applied in the ISWG-AP 1 outcome has been retained. However, it is suggested that it would be preferable that this be continuous, rather than repeated, through the appendix.

Action requested of the Sub-Committee

7 The Sub-Committee is invited to take into account the proposed modifications presented in the annex and the proposals in paragraphs 5 and 6 when considering the further development of the draft amendments to appendix VI of MARPOL Annex VI.

ANNEX

VERIFICATION PROCEDURES FOR A MARPOL ANNEX VI FUEL OIL SAMPLE (REGULATION 18.8.2 OR REGULATION 14 [A1])

The following relevant verification procedure shall be used to determine whether the fuel oil delivered to and used or carried for use on board a ship is compliant with the applicable sulphur limits ~~required by of~~ regulation 14 of this Annex ~~VI~~.

This appendix refers to the following representative MARPOL Annex VI fuel oil samples:

Part 1 – sample of fuel oil delivered¹ in accordance with 18.8.1 thereafter referred to as the ["MARPOL"] ["delivered"] sample.

Part 2 – sample of fuel oil in use,² intended to be used or carried for use on board, hereafter referred to as the ["in-use"] ["on_board"] sample.

Part 1 – (Representative) [MARPOL] [delivered] fuel oil sample

1 General Requirements

1.1 The representative fuel oil sample, which is required by regulation 18.8.1 (the ["MARPOL"] ["delivered"] sample) shall be used to verify the sulphur content of the fuel oil delivered to a ship.

1.2 An Administration of a Party, through its competent authority, shall manage the verification procedure.

1.3 A laboratory undertaking the sulphur testing procedure ~~set forth~~ given in this appendix is to have valid accreditation³ in respect of the test method to be used.

2 Verification ~~Procedure~~ Procedure Part 1

2.1 The [MARPOL] [delivered] sample shall be ~~brought~~ provided by the competent authority to the laboratory.

2.2 The laboratory shall:

- .1 record the details of the seal number and the sample label on the test record;
- .2 record that the condition of the seal ~~on~~ of the sample as received on the test record; and
- .3 reject any sample where the seal has been broken prior to receipt and record that rejection on the test record.

2.3 If the seal of the sample as received has not been broken, the laboratory shall proceed with the verification procedure and shall:

- .1 unseal the sample;
- .2 ensure that the sample is thoroughly homogenized;
- .3 draw two sub-samples from the sample; and
- .4 reseal the sample and record the new reseal details on the test record.

2.4 The two sub-samples shall be tested in succession, in accordance with the specified test method referred to in appendix V⁴. For the purposes of this part 1 verification procedure, the results of the test analysis shall be referred to as "A1A" and "B1B".

- .1 results "A1A" and "B1B" shall be recorded on the test record in accordance with the requirements of the test method; and
- .2 if the results of "A1A" and "B1B" are within the repeatability (r)⁵ of the test method, the results shall be considered valid; and or
- .3 if the results of "A1A" and "B1B" are not within the repeatability (r) of the test method, both results shall be rejected and two new sub-samples shall be taken by the laboratory and tested. The sample bottle shall be resealed in accordance with paragraph 2.3.4 ~~above~~ after the new sub-samples have been taken.
- .4 in the case of two failures to achieve repeatability between "1A" and "1B", the cause of that failure shall be investigated and resolved before further testing of the sample is undertaken. On resolution of that repeatability issue, two new sub-samples shall be taken in accordance with paragraph 2.3. The sample shall be resealed in accordance with paragraph 2.3.4 after the new sub-samples have been taken.

2.5 If the test results of "A1A" and "B1B" are valid, an average of these two results shall be calculated. That average value shall be thus giving the result referred to as "X" and shall be recorded on the test record:

- .1 if the result of "X" is equal to or ~~falls below~~ less than the applicable limit required by regulation 14, the fuel oil shall be considered to have met the requirement; and or
- .2 if the result of "X" is greater than the applicable limit required by regulation 14, the fuel oil shall be considered to have not met the requirement.

Table 1: Summary of Part 1 [MARPOL] [delivered] fuel oil sample procedure

On the basis of appendix V test method		
Applicable limit % m/m: V	Result 2.5.1: $X \leq V$	Result 2.5.2: $V < X$ Result 2.5.2: $X > V$
0.10	Met the requirement	Not met <u>the</u> requirement
0.50		
Result "X" reported to 2 decimal places		

2.6 The results obtained from this verification procedure are final.

2.7 The laboratory shall provide a copy of the test record to the competent authority managing the verification procedure.

Part 2 – The [in-use] [on_board] fuel oil sample

1 General Requirements

1.1 The [in-use] [on_board] fuel oil sample shall be used to verify the sulphur content of the fuel oil as represented by that sample fuel at the point of sampling.

1.2 An Administration of a Party, through its competent authority, shall manage the verification procedure.

1.3 A laboratory undertaking the sulphur testing procedure given by in this appendix is to have valid accreditation³ in respect of the test method to be used.

2 Verification Procedure Part 2

2.1 The [in use][on board] fuel oil sample shall be ~~delivered~~ provided by the competent authority to the laboratory.

2.2 The laboratory shall:

- .1 record the details of the seal number and the sample label on the test record;
- .2 record the condition of the seal ~~on~~ of the sample as received on the test record; and
- .3 reject any sample where the seal has been broken prior to receipt and record that ~~Rejection~~ rejection on the test record.

2.3 If the seal of the sample as received has not been broken, the laboratory shall proceed with the verification procedure and shall:

- .1 unseal the sample;
- .2 ensure that the sample is thoroughly homogenized;
- .3 draw two sub-samples from the sample; and
- .4 reseal the sample and record the new reseal details on the test record.

2.4 The two sub-samples shall be tested in succession, in accordance with the specified test method referred to in appendix V⁴. For the purposes of this Part 2 verification procedure, the results obtained shall be referred to as "S_{42A}" and "S_{22B}":

- .1 results "S_{42A}" and "S_{22B}" shall be recorded on the test record in accordance with requirements of the test method; and
- .2 if the results ~~of~~ "S_{42A}" and "S_{22B}" are within the repeatability (r)⁵ of the test method, the results shall be considered valid; ~~and~~ or
- .3 if the results ~~of~~ "S_{42A}" and "S_{22B}" are not within the repeatability (r) of the test method, both results shall be rejected and two new sub-samples shall be taken by the laboratory and tested. The sample bottle shall be resealed in accordance with paragraph 2.3.4 ~~above~~ after the new sub-samples have been taken.

.4 in the case of two failures to achieve repeatability between "2A" and "2B", the cause of that failure shall be investigated and resolved before further testing of the sample is undertaken. On resolution of that repeatability issue, two new sub-samples shall be taken in accordance with paragraph 2.3. The sample shall be resealed in accordance with paragraph 2.3.4 after the new sub-samples have been taken.

2.5 If the test results of " S_{12A} " and " S_{22B} " are valid, an average of these two results shall be calculated. That average value shall be referred to as " S_{aveZ} " and shall be recorded on the test record:

- .1 if " S_{aveZ} " is equal to or less than the applicable limit required by regulation 14, the sulphur content of the on_board fuel oil as represented by the tested sample shall be considered to ~~meet~~ have met the requirement;
- .2 if " S_{aveZ} " is greater than the applicable limit required by regulation 14 but less than or equal to that applicable limit + 0.59R (where R is the reproducibility of the test method)⁶, the sulphur content of the on_board fuel oil as represented by the tested sample shall be considered to have met the requirement; and or
- .3 if " S_{aveZ} " is greater than the applicable limit required by ~~the~~ regulation 14 ~~applicable limit value~~ + 0.59R, the sulphur content of the on_board fuel oil as represented by the tested sample shall be considered to have not met the requirement.

Table 2: Summary of [in-use] [on_board] fuel oil sample procedure⁷

On the basis of Appendix V test method				
Applicable limit % m/m: V	Test margin value: W	Result 2.5.1: $S_{ave} \leq V$ $Z \leq V$	Result 2.5.2: $V < S_{ave} \leq W$ $V < Z \leq W$	Result 2.5.3: $S_{ave} > W$ $Z > W$
0.10	0.11	Met the requirement	Met the requirement	Not met <u>the</u> requirement
0.50	0.53			
Result " S_{aveZ} " reported to 2 decimal places				

2.6 The results obtained from this verification procedure are final.

2.7 The laboratory shall provide a copy of the test record to the competent authority managing the verification procedure.

Footnotes:

- 1 Samples taken in accordance with the *2009 Guidelines for the sampling of fuel oil for determination of compliance with the revised MARPOL Annex VI* (resolution MEPC.182(59)).
- 2 Samples taken in accordance with the *Guidelines for onboard sampling for the verification of the sulphur content of the fuel oil used on board ships* (Circular MEPC.1/Circ.864) [as may be amended].

- 3 Accreditation in accordance with ISO 17025:2005 or an equivalent standard.
- 4 Appendix V footnote: Fuel oil shall be tested in accordance with ~~the~~ ISO 8754:2003.
- 5 Repeatability (r) calculation ~~defined in the test method~~ in accordance with ISO 4259:2017-2 and as defined in the test method used.
- 6 ~~Defined in the test method~~ Reproducibility (R) calculation in accordance with ISO 4259:2017-2 and as defined in the test method used.
- 7 Results of testing undertaken by the ship Company or other parties entities are outside the MARPOL process and hence should be considered within the given approach given by of the ISO 4259:2017-2 regarding recipient drawn samples.
