

Guide for the development of SEEMP Part III: Ship Operational Carbon Intensity Plan

GUI/043

Effective from 1 August 2022

GENERAL CONDITIONS

Definitions:

"Administration" means the Government of the State whose flag the Ship is entitled to fly or under whose authority the Ship is authorised to operate in the specific case.

"IACS" means the International Association of Classification Societies.

"Interested Party" means the party, other than the Society, having an interest in or responsibility for the Ship, product, plant or system subject to classification or certification (such as the owner of the Ship and his representatives, the ship builder, the engine builder or the supplier of parts to be tested) who requests the Services or on whose behalf the Services are requested.

"Owner" means the registered owner, the ship owner, the manager or any other party with the responsibility, legally or contractually, to keep the ship seaworthy or in service, having particular regard to the provisions relating to the maintenance of class laid down in Part A, Chapter 2 of the Rules for the Classification of Ships or in the corresponding rules indicated in the specific Rules.

"Rules" in these General Conditions means the documents below issued by the Society:

- (i) Rules for the Classification of Ships or other special units;
- (ii) Complementary Rules containing the requirements for product, plant, system and other certification or containing the requirements for the assignment of additional class notations;
- (iii) Rules for the application of statutory rules, containing the rules to perform the duties delegated by Administrations;
- (iv) Guides to carry out particular activities connected with Services;
- (v) Any other technical document, as for example rule variations or interpretations.

"Services" means the activities described in Article 1 below, rendered by the Society upon request made by or on behalf of the Interested Party.

"Ship" means ships, boats, craft and other special units, as for example offshore structures, floating units and underwater craft.

"Society" or "TASNEEF" means Tasneef and/or all the companies in the Tasneef Group which provide the Services.

"Surveyor" means technical staff acting on behalf of the Society in performing the Services.

Article 1

1.1. The purpose of the Society is, among others, the classification and certification of ships and the certification of their parts and components. In particular, the Society:

- (i) sets forth and develops Rules;
- (ii) publishes the Register of Ships;
- (iii) issues certificates, statements and reports based on its survey activities.

1.2. The Society also takes part in the implementation of national and international rules and standards as delegated by various Governments.

1.3. The Society carries out technical assistance activities on request and provides special services outside the scope of classification, which are regulated by these general conditions, unless expressly excluded in the particular contract.

Article 2

2.1. The Rules developed by the Society reflect the level of its technical knowledge at the time they are published. Therefore, the Society, although committed also through its research and development services to continuous updating of the Rules, does not guarantee the Rules meet state-of-the-art science and technology at the time of publication or that they meet the Society's or others' subsequent technical developments.

2.2. The Interested Party is required to know the Rules on the basis of which the Services are provided. With particular reference to Classification Services, special attention is to be given to the Rules concerning class suspension, withdrawal and reinstatement. In case of doubt or inaccuracy, the Interested Party is to promptly contact the Society for clarification.

The Rules for Classification of Ships are published on the Society's website: www.tasneef.ae.

2.3. The Society exercises due care and skill:

- (i) in the selection of its Surveyors
- (ii) in the performance of its Services, taking into account the level of its technical knowledge at the time the Services are performed.

2.4. Surveys conducted by the Society include, but are not limited to, visual inspection and non-destructive testing. Unless otherwise required, surveys are conducted through sampling techniques and do not consist of comprehensive verification or monitoring of the Ship or of the items subject to certification. The surveys and checks made by the Society on board ship do not necessarily require the constant and continuous presence of the Surveyor. The Society may also commission laboratory testing, underwater inspection and other checks carried out by and under the responsibility of qualified service suppliers. Survey practices and procedures are selected by the Society based on its experience and knowledge and according to generally accepted technical standards in the sector.

Article 3

3.1. The class assigned to a Ship, like the reports, statements, certificates or any other document or information issued by the Society, reflects the opinion of the Society concerning compliance, at the time the Service is provided, of the Ship or product subject to certification, with the applicable Rules (given the intended use and within the relevant time frame).

The Society is under no obligation to make statements or provide information about elements or facts which are not part of the specific scope of the Service requested by the Interested Party or on its behalf.

3.2. No report, statement, notation on a plan, review, Certificate of Classification, document or information issued or given as part of the Services provided by the Society shall have any legal effect or implication other than a representation that, on the basis of the checks made by the Society, the Ship, structure, materials, equipment, machinery or any other item covered by such document or information meet the Rules. Any such document is issued solely for the use of the Society, its committees and clients or other duly authorised bodies and for no other purpose. Therefore, the Society cannot be held liable for any act made or document issued by other parties on the basis of the statements or information given by the Society. The validity, application, meaning and interpretation of a Certificate of Classification, or any other document or information issued by the Society in connection with its Services, is governed by the Rules of the Society, which is the sole subject entitled to make such interpretation. Any disagreement on technical matters between the Interested Party and the Surveyor in the carrying out of his functions shall be raised in writing as soon as possible with the Society, which will settle any divergence of opinion or dispute.

3.3. The classification of a Ship, or the issuance of a certificate or other document connected with classification or certification and in general with the performance of Services by the Society shall have the validity conferred upon it by the Rules of the Society at the time of the assignment of class or issuance of the certificate; in no case shall it amount to a statement or warranty of seaworthiness,

structural integrity, quality or fitness for a particular purpose or service of any Ship, structure, material, equipment or machinery inspected or tested by the Society.

3.4. Any document issued by the Society in relation to its activities reflects the condition of the Ship or the subject of certification or other activity at the time of the check.

3.5. The Rules, surveys and activities performed by the Society, reports, certificates and other documents issued by the Society are in no way intended to replace the duties and responsibilities of other parties such as Governments, designers, ship builders, manufacturers, repairers, suppliers, contractors or sub-contractors, Owners, operators, charterers, underwriters, sellers or intended buyers of a Ship or other product or system surveyed.

These documents and activities do not relieve such parties from any fulfilment, warranty, responsibility, duty or obligation (also of a contractual nature) expressed or implied or in any case incumbent on them, nor do they confer on such parties any right, claim or cause of action against the Society. With particular regard to the duties of the ship Owner, the Services undertaken by the Society do not relieve the Owner of his duty to ensure proper maintenance of the Ship and ensure seaworthiness at all times. Likewise, the Rules, surveys performed, reports, certificates and other documents issued by the Society are intended neither to guarantee the buyers of the Ship, its components or any other surveyed or certified item, nor to relieve the seller of the duties arising out of the law or the contract, regarding the quality, commercial value or characteristics of the item which is the subject of transaction.

In no case, therefore, shall the Society assume the obligations incumbent upon the above-mentioned parties, even when it is consulted in connection with matters not covered by its Rules or other documents.

In consideration of the above, the Interested Party undertakes to relieve and hold harmless the Society from any third party claim, as well as from any liability in relation to the latter concerning the Services rendered.

Insofar as they are not expressly provided for in these General Conditions, the duties and responsibilities of the Owner and Interested Parties with respect to the services rendered by the Society are described in the Rules applicable to the specific Service rendered.

Article 4

4.1. Any request for the Society's Services shall be submitted in writing and signed by or on behalf of the Interested Party. Such a request will be considered irrevocable as soon as received by the Society and shall entail acceptance by the applicant of all relevant requirements of the Rules, including these General Conditions. Upon acceptance of the written request by the Society, a contract between the Society and the Interested Party is entered into, which is regulated by the present General Conditions.

4.2. In consideration of the Services rendered by the Society, the Interested Party and the person requesting the service shall be jointly liable for the payment of the relevant fees, even if the service is not concluded for any cause not pertaining to the Society. In the latter case, the Society shall not be held liable for non-fulfilment or partial fulfilment of the Services requested. In the event of late payment, interest at the legal current rate increased by 1.5% may be demanded.

4.3. The contract for the classification of a Ship or for other Services may be terminated and any certificates revoked at the request of one of the parties, subject to at least 30 days' notice to be given in writing. Failure to pay, even in part, the fees due for Services carried out by the Society will entitle the Society to immediately terminate the contract and suspend the Services.

For every termination of the contract, the fees for the activities performed until the time of the termination shall be owed to the Society as well as the expenses incurred in view of activities already programmed; this is without prejudice to the right to compensation due to the Society as a consequence of the termination.

With particular reference to Ship classification and certification, unless decided otherwise by the Society, termination of the contract implies that the assignment of class to a Ship is withheld or, if already assigned, that it is suspended or withdrawn; any statutory certificates issued by the Society will be withdrawn in those cases where provided for by agreements between the Society and the flag State.

Article 5

5.1. In providing the Services, as well as other correlated information or advice, the Society, its Surveyors, servants or agents operate with due diligence for the proper execution of the activity. However, considering the nature of the activities performed (see art. 2.4), it is not possible to guarantee absolute accuracy, correctness and completeness of any information or advice supplied. Express and implied warranties are specifically disclaimed.

Therefore, except as provided for in paragraph 5.2 below, and also in the case of activities carried out by delegation of Governments, neither the Society nor any of its Surveyors will be liable for any loss, damage or expense of whatever nature sustained by any person, in tort or in contract, derived from carrying out the Services.

5.2. Notwithstanding the provisions in paragraph 5.1 above, should any user of the Society's Services prove that he has suffered a loss or damage due to any negligent act or omission of the Society, its Surveyors, servants or agents, then the Society will pay compensation to such person for his proved loss, up to, but not exceeding, five times the amount of the fees charged for the specific services, information or opinions from which the loss or damage derives or, if no fee has been charged, a maximum of AED5,000 (Arab Emirates Dirhams Five Thousand only). Where the fees charged are related to a number of Services, the amount of the fees will be apportioned for the purpose of the calculation of the maximum compensation, by reference to the estimated time involved in the performance of the Service from which the damage or loss derives. Any liability for indirect or consequential loss, damage or expense is specifically excluded. In any case, irrespective of the amount of the fees charged, the maximum damages payable by the Society will not be more than AED5,000,000 (Arab Emirates Dirhams Five Millions only). Payment of compensation under this paragraph will not entail any admission of responsibility and/or liability by the Society and will be made without prejudice to the disclaimer clause contained in paragraph 5.1 above.

5.3. Any claim for loss or damage of whatever nature by virtue of the provisions set forth herein shall be made to the Society in writing, within the shorter of the following periods: (i) THREE (3) MONTHS from the date on which the Services were performed, or (ii) THREE (3) MONTHS from the date on which the damage was discovered. Failure to comply with the above deadline will constitute an absolute bar to the pursuit of such a claim against the Society.

Article 6

6.1. These General Conditions shall be governed by and construed in accordance with United Arab Emirates (UAE) law, and any dispute arising from or in connection with the Rules or with the Services of the Society, including any issues concerning responsibility, liability or limitations of liability of the Society, shall be determined in accordance with UAE law. The courts of the Dubai International Financial Centre (DIFC) shall have exclusive jurisdiction in relation to any claim or dispute which may arise out of or in connection with the Rules or with the Services of the Society.

6.2. However,

- (i) In cases where neither the claim nor any counterclaim exceeds the sum of AED300,000 (Arab Emirates Dirhams Three Hundred Thousand) the dispute shall be referred to the jurisdiction of the DIFC Small Claims Tribunal; and
- (ii) for disputes concerning non-payment of the fees and/or expenses due to the Society for services, the Society shall have the

right to submit any claim to the jurisdiction of the Courts of the place where the registered or operating office of the Interested Party or of the applicant who requested the Service is located.

In the case of actions taken against the Society by a third party before a public Court, the Society shall also have the right to summon the Interested Party or the subject who requested the Service before that Court, in order to be relieved and held harmless according to art. 3.5 above.

Article 7

7.1. All plans, specifications, documents and information provided by, issued by, or made known to the Society, in connection with the performance of its Services, will be treated as confidential and will not be made available to any other party other than the Owner without authorisation of the Interested Party, except as provided for or required by any applicable international, European or domestic legislation, Charter or other IACS resolutions, or order from a competent authority. Information about the status and validity of class and statutory certificates, including transfers, changes, suspensions, withdrawals of class, recommendations/conditions of class, operating conditions or restrictions issued against classed ships and other related information, as may be required, may be published on the website or released by other means, without the prior consent of the Interested Party.

Information about the status and validity of other certificates and statements may also be published on the website or released by other means, without the prior consent of the Interested Party.

7.2. Notwithstanding the general duty of confidentiality owed by the Society to its clients in clause 7.1 above, the Society's clients hereby accept that the Society may participate in the IACS Early Warning System which requires each Classification Society to provide other involved Classification Societies with relevant technical information on serious hull structural and engineering systems failures, as defined in the IACS Early Warning System (but not including any drawings relating to the ship which may be the specific property of another party), to enable such useful information to be shared and used to facilitate the proper working of the IACS Early Warning System. The Society will provide its clients with written details of such information sent to the involved Classification Societies.

7.3. In the event of transfer of class, addition of a second class or withdrawal from a double/dual class, the Interested Party undertakes to provide or to permit the Society to provide the other Classification Society with all building plans and drawings, certificates, documents and information relevant to the classed unit, including its history file, as the other Classification Society may require for the purpose of classification in compliance with the applicable legislation and relative IACS Procedure. It is the Owner's duty to ensure that, whenever required, the consent of the builder is obtained with regard to the provision of plans and drawings to the new Society, either by way of appropriate stipulation in the building contract or by other agreement.

In the event that the ownership of the ship, product or system subject to certification is transferred to a new subject, the latter shall have the right to access all pertinent drawings, specifications, documents or information issued by the Society or which has come to the knowledge of the Society while carrying out its Services, even if related to a period prior to transfer of ownership.

Article 8

8.1. Should any part of these General Conditions be declared invalid, this will not affect the validity of the remaining provisions.

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1 GENERAL

1.1 The scope of this Guide is to support the implementation of regulation 26.3 of MARPOL Annex VI requiring, for certain categories of ships (see Note 1) of 5,000 GT and above, on or before 1 January 2023, the development of a Ship Operational Carbon Intensity Plan (Part III of the Ship Energy Efficiency Management Plan (SEEMP)).

Note 1: Bulk Carrier, Combination carrier, Containership, Cruise passenger ship, Gas carrier, General cargo ship, LNG carrier, Refrigerated cargo carrier, Ro-ro cargo ship, Ro-ro cargo ship (vehicle carrier), Ro-ro passenger ship, Tanker.

1.2 SEEMP Part I provides a generic approach to monitor ship and fleet efficiency performance over time and describes various energy efficiency measures to improve the ship's energy efficiency performance and reduce carbon intensity.

SEEMP Part II provides a description of the methodologies that will be used to collect the fuel oil consumption (method of fuel collection, fuel type and quantity), distance travelled and hours underway.

SEEMP Part III specifically focuses on implementation plan on how the attained annual operational CII will be maintained below the required annual operational CII in the next three years. It also describes the required data for the calculation of CII and methodologies to obtain relevant data if not addressed in SEEMP Part II.

1.3 Regulation 26.3.1 of MARPOL Annex VI specifies that, for certain categories of ships of 5,000 GT and above, on or before 1 January 2023, the SEEMP Part III shall include:

1. a description of the methodology that will be used to calculate the ship's attained annual operational CII required by regulation 28 of MARPOL Annex VI and the processes that will be used to report this value to the ship's Administration;
2. the required annual operational CII, as specified in regulation 28 of MARPOL Annex VI, for the next 3 years;
3. an implementation plan documenting how the required annual operational CII will be achieved during the next three years; and
4. a procedure for self-evaluation and improvement.

This Guide provides guidance for ships to which regulation 26.3 of MARPOL Annex VI applies.

1.4 Ships of 5,000 gross tonnage and above that are subject to regulations 26.3 and 28 of MARPOL Annex VI are strongly encouraged to review Part I of their SEEMP to revise it as needed to reflect the actions taken to achieve the ship's CII requirements.

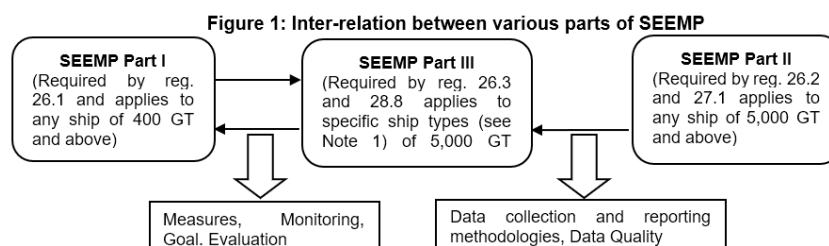
1.5 The following sections of SEEMP Part I should be reviewed and aligned with SEEMP Part III to maintain consistency with the requirements of regulation 28 of MARPOL Annex VI:

- Measures (consistent with list of measures considered and implemented in three-year implementation plan);
- Monitoring (consistent with data required for calculation methodology of attained annual operational CII, milestones described in three-year implementation plan);
- Goal (consistent with the required annual operational CII); and
- Evaluation (consistent with the self-evaluation and improvement described in three-year implementation plan).

1.6 The goal setting, as referred to in paragraph 4.1.7 in Part I of IMO "2022 Guidelines for the development of a Ship Energy Efficiency Management Plan (SEEMP)" (Resolution MEPC.346(78)), should be consistent with the requirements of regulation 28 of MARPOL Annex VI and should include the ship's required annual operational CII for the next three years following the updating of the SEEMP.

1.7 Part III of the ship's SEEMP should be updated in case of voluntary modifications or necessary corrective actions are involved (inclusion of a Plan of corrective actions for ships rated as E or Rated as D for the third consecutive year) and, in any case, at least every three years.

1.8 The inter-relation between the various parts of SEEMP is shown in Fig 1.



1.9 Documentation to be submitted by the company along with its SEEMP Part III

The company should submit the following documentation along with its SEEMP Part III; other documents may be requested by the Administration or organization duly authorized by it (i.e. Recognized Organization (RO)).

1.9.1 Attained Annual Operational CII Calculation Methodology

Verified SEEMP Part II on methodologies on the Fuel Oil Data Collection System pursuant to regulation 27 of MARPOL Annex VI (to verify that the data and relevant data collection process used for the calculation of ship's attained annual operational CII are in line with this methodology).

1.9.2 Required Annual Operational CII For Next Three Years

Documentation supporting the applied method of calculation of the CII in accordance with regulation 28 of MARPOL Annex VI and taking into account the IMO Guidelines listed in [3.1].

1.9.3 Three-Year Implementation Plan

Supporting information/documentation necessary to describe:

- a) The list of measures planned to be taken to continue to achieve the required annual operational CII over the next three-year period.
- b) How, when the listed measures are implemented, the required operational CII will be achieved, taking into consideration their combined effect. A simulation of the ship performance in terms of fuel consumptions and miles run, for an operational profile based on historical data but modified taking into account the implemented measures (e.g. reduced speed, lower SFOC, carbon factors of alternative fuels, waste energy recovery, reduced laytime) and an advance calculation of the expected Attained CII, including voyage adjustments and corrections. Other methods giving an equivalent prediction of Attained CII may be considered.
- c) Possible impediments to the effectiveness of the above-mentioned measures, including possible contingency measures put in place to overcome these impediments.

1.9.4 Process for Self-Evaluation and Improvement

Supporting information relevant to:

- a) Internal shipboard and company audits to verify the implementation and the effectiveness of the system (reference to [5.4]) including CII investigation study, if applied.
- b) Periodical review of the SEEMP and associated documents.

1.9.5 Plan of Corrective Actions (ships rated D for three consecutive years or E for one year)

Supporting information relevant to:

- a) Analysis of the cause for the inferior CII rating.
- b) Analysis of the performance of implemented measures.
- c) Possible impediments to the effectiveness of the measures for improving the energy efficiency and reducing the carbon intensity of the ship, including possible additional contingency measures put in place to overcome these impediments.

2 ATTAINED ANNUAL OPERATIONAL CII CALCULATION METHODOLOGY, DATA COLLECTION PLAN AND DATA QUALITY

2.1 Calculation of attained CII is basically extension of verified fuel oil consumption data collected by implementation of methodologies described in SEEMP Part II.

2.2 The ship's attained annual operational carbon intensity is to be calculated taking into account the following IMO Guidelines:

- 2022 Guidelines on operational carbon intensity indicators and calculation methods (CII Guidelines, G1) (Resolution MEPC.352(78)), and
- 2022 Interim Guidelines on correction factors and voyage adjustments for CII calculations (G5) (Resolution MEPC.355(78)).

2.3 Taking into account the IMO Guidelines in [2.2], Part III of the SEEMP provides detailed information on how the ship's attained annual operational CII will be calculated, using the data collected in accordance with Regulation 27 (Fuel Oil Data Collection System).

2.4 In describing the calculation methodology, Part III of the SEEMP should include a detailed description of the data required for the calculation of the attained annual operational CII. The data collection should follow the relevant

methodology and requirements on the Fuel Oil Data Collection System pursuant to regulation 27 of MARPOL Annex VI.

2.5 In case of a ship transferred from another company, all relevant data necessary for the calculation of the attained annual operational CII should be obtained from the former company within one month after the date of transfer. The data should have been verified by the Administration or any RO according to regulation 6.7 of MARPOL Annex VI before they are transferred to the receiving company.

The data should be transferred using the format in Appendix 1 and such that the receiving company can use them in the calculations of the attained annual operational CII for the whole year, in which the transfer takes place.

It is suggested to foreseen in contractual arrangements that:

- in case of a ship transferred after 1 April, the data relevant to the current year should be obtained from the former company; and
- in case of a ship transferred before 1 April, the data relevant to the current year and those relevant to previous year, if not yet reported to the relevant Administration/RO, should be obtained from the former company.

2.6 In case the former company does not transfer the required data, the receiving company may require the Administration to make available relevant data submitted to the IMO Fuel Oil Consumption Database. In case of a transfer of both company and Administration concurrently, the company may require the incoming Administration to request the IMO for access to the data according to regulation 27.11 of MARPOL Annex VI. If such data are not made available, the Attained annual operational CII may be calculated and verified using the available data covering a period of the preceding calendar year as long as practically possible.

2.7 Part III of the SEEMP should include:

1. a detailed description of the data required for the calculation of:
 - a) the voyage adjustment factor $FC_{voyage,j}$ and any associated distance travelled D_x
 - b) the corrections factors (i.e. $FC_{electrical}$, FC_{boiler} , FC_{others} , f_i , f_m , f_c for chemical tankers, $f_{i,VSE}$), as well a detailed description of the data required for the calculation of the factor TF_j for STS or shuttle tanker operation
2. the method of reporting data to the Administration, which should preferably be according to the form in Appendix 2.

3 REQUIRED ANNUAL OPERATIONAL CII FOR NEXT THREE YEARS

3.1 The required annual operational CII is to be calculated in accordance with regulation 28 and taking into account the following IMO Guidelines:

- 2022 Guidelines on the reference lines for use with operational carbon intensity indicators (CII reference lines guidelines, G2) (Resolution MEPC.353(78)); and
- 2021 Guidelines on the operational carbon intensity reduction factors relative to reference lines (CII reduction factors guidelines, G3) (Resolution MEPC.338(76)).

3.2 Part III of the SEEMP describes the required annual operational CII values for the ship for each of the next three years, calculated in accordance with regulation 28 of MARPOL Annex VI and taking into account the IMO Guidelines in [3.1], as the basis for those calculations.

4 THREE-YEAR IMPLEMENTATION PLAN

4.1 For an existing ship delivered before 1 January 2023, the ship specific SEEMP Part III should be developed for three years (2023, 2024 and 2025) considering year 2023 as the first year of the three-year implementation plan. Required annual operational CII for three years (2023, 2024 and 2025) should be calculated and used. The verified annual fuel oil consumption data for the previous year (2021) or any other significant period representing the annual average ship operational profile, may be used as a basis for determining an estimated attained CII value to be used as the starting point for the 3-year implementation plan, unless a more precise reference attained CII can be justified and documented.

For a ship delivered on or after 1 January 2023, the SEEMP Part III should be developed on the basis of an estimation of an attained CII carried out by the company e.g. based on operation of sister ships.

For SEEMP Part III which will be developed in 2025 to include implementation plan for next three years (2026-2028), the required annual operational CII for years 2027 and 2028 may be left blank and filled in once the reduction factors are decided by IMO, expectedly by the end of 2025.

4.2 The three-year implementation plan describes the measures the ship plans to take to continue to achieve the required annual operational CII over the next three-year period. These may include, but not be limited to, the best practices to be included in Part I of SEEMP as outlined in section 5 of the IMO “2022 Guidelines for the development of a Ship Energy Efficiency Management Plan (SEEMP)” (Resolution MEPC.346(78)).

4.3 The three-year implementation plan is to be ship specific.

4.4 The three-year implementation plan should be SMART (Specific, Measurable, Achievable, Realistic, and Time bound) to the extent envisaged and feasible. It should include:

- .1 List of measures that improve the energy efficiency and reduce the carbon intensity of the ship, with time and method of implementation, necessary for achieving the required operational CII;
- .2 Description of how, when the listed measures are implemented, the required operational CII will be achieved, taking into consideration the combined effect of the measures on operational carbon intensity;
- .3 The company personnel responsible for the three-year implementation plan, monitoring and recording performance throughout the year for the reviewing of the effectiveness of the three-year implementation plan; and
- .4 Identification of possible impediments to the effectiveness of the measures for improving the energy efficiency and reducing the carbon intensity of the ship, including possible contingency measures put in place to overcome these impediments.

4.5 The three-year implementation plan should be monitored and adjusted when necessary, and the data to be monitored should be identified. It should be updated in case of voluntary modifications.

5 PROCESS FOR SELF-EVALUATION AND IMPROVEMENT

5.1 The purpose of self-evaluation is to evaluate the effectiveness of the planned measures and their implementation, to deepen the understanding on the overall characteristics of the ship’s operation such as what types of measures can function effectively, and how or why, to comprehend the trend of the efficiency improvement of that ship, to understand trends in the ship’s utilization in terms of cargo carried and areas of operation, and to develop an improved action plan for the next cycle. This evaluation should produce meaningful feedback based on experience in the previous period, to enhance performance in the next period.

5.2 Procedures for self-evaluation of the ship’s energy usage and carbon intensity, should be developed and included in this section of the SEEMP. Self-evaluation should be carried out periodically based on data collected through monitoring. It is recommended to identify the cause-and-effect of the ship’s performance in the evaluated period to identify measures for improving performance during the next period.

5.3 The process of self-evaluation and improvement should consist of the following elements:

- .1 regular internal shipboard and company audits to verify implementation and the effectiveness of the system;
- .2 improvement, i.e. implementing preventive or modifying measures (responsible personnel within the company should evaluate such audit reports and implement corrective actions including preventive or modifying measures); and
- .3 periodical review of the SEEMP and associated documents, to update the SEEMP in a manner which minimizes any administrative and unnecessary burdens on company’s personnel and ships’ staff.

5.4 The content of the self-evaluation and improvement could include the following elements:

- .1 criteria for evaluation including elements to evaluate, such as quality of monitored data, record keeping, and achievement of the goal;
- .2 the evaluation of the effectiveness of the different measures taken, in terms of energy efficiency and carbon intensity (which measures contribute the most and how much, what measures do not contribute and are therefore not efficient, which ship and/or company-specific elements adversely affected the CII and how these could be improved);
- .3 timeline for starting the review process ahead of the end of the compliance period and for implementation of new measures in the subsequent year;
- .4 measures identified to address deficiencies and discrepancies including correction of data gaps and system weaknesses, new measures to improve implementation (e.g. training) as well as new carbon intensity improvement measures as needed;
- .5 where relevant, actions that will be taken to bring the ship into better CII ratings including estimated quantification of the additional expected reduction in carbon intensity;

- .6 where applicable, if a plan of corrective actions is required, the plan should include items listed under [7.4.6] to bring the ship out of inferior performance; and
- .7 where relevant, identification of critical factors that contributed to missing the CII target.

5.5 In this process, CII investigation study can be undertaken by the company. The measures described in the Implementation plan will be reflected in the CII investigation study. The CII investigation study when evaluating the performance should include the results of the measures which are described in the three-year implementation plan of SEEMP Part III. Varying technical parameters and varying operational parameters are related with the various contingency measures applied to achieve the required CII.

Alternative procedure can also be described and implemented to demonstrate impact of adopted energy efficiency measures through the self-evaluation and improvement process. In a simpler way, based data available in published form, approximate reduction potential of the energy efficiency measure can be considered to forecast attained annual operational CII.

For example, if an energy efficiency measure study shows that 5% reduction in fuel consumption can be achieved, this potential reduction is to be converted to attained CII by assuming that the distance travelled remains same for the whole year service. Relevant impediments and contingency should also be described and documented for each of the energy efficiency measure adopted by the ship.

Documentation relevant to self-evaluation and improvement should be maintained. In case the self-evaluation concludes that a certain energy efficiency measure is not effective towards achieving required CII, adequate actions should be identified for improvement by performing cause and effect analysis.

6 REVIEW AND UPDATE OF PART III OF THE SEEMP

6.1 Regulation 26.1 of MARPOL Annex VI provides: “Each ship shall keep on board a ship specific Ship Energy Efficiency Management Plan (SEEMP). This may form part of the ship's Safety Management System. The SEEMP shall be developed and reviewed, taking into account Guidelines adopted by the Organization”.

Regulation 26.3.2 of MARPOL Annex VI provides: “For ships rated as D for 3 consecutive years or rated as E, in accordance with regulation 28 of this Annex, the SEEMP shall be reviewed in accordance with regulation 28.8 of this Annex to include a plan of corrective actions to achieve the required annual operational CII”.

6.2 The company should ensure that the SEEMP is reviewed and updated, when necessary, as per [1.7].

6.3 The SEEMP should include a log for when it has been reviewed and updated and identify which parts have been changed.

7 PLAN OF CORRECTIVE ACTIONS

7.1 A plan of corrective actions is not required to be included in the SEEMP unless a ship has been rated D for three consecutive years or E for one year.

7.2 For a ship that is required to develop a plan of corrective actions in accordance with regulation 28.7 of MARPOL Annex VI, a revised SEEMP including the corrective actions for CII reduction shall be submitted to the Administration or any organization duly authorized by it for verification in accordance regulation 28.8 of MARPOL Annex VI. The revised SEEMP should be submitted together with, but in no case later than 1 month after reporting the attained annual operational CII in accordance with paragraph 2 of regulation 28.

7.3 Regulation 28.9 of MARPOL Annex VI further provides that “A ship rated as D for three consecutive years or rated as E shall duly undertake the planned corrective actions in accordance with the revised SEEMP.”

7.4 Developing the plan of corrective actions

7.4.1 The purpose of the plan of corrective actions is to set out what actions a ship that was rated D for three consecutive years or E for one year should take to achieve the required CII.

7.4.2 The plan of corrective actions is to be ship specific.

7.4.3 Many of the approaches described in Section 5 of the IMO “2022 Guidelines for the development of a Ship Energy Efficiency Management Plan (SEEMP)” (Resolution MEPC.346(78)) or any other suitable measure may be applied to a ship to improve its fuel efficiency and thus its CII rating.

7.4.4 The plan for corrective actions should describe the actions that the ship plans to take, the timeline in which those actions will be applied, and the expected impact their application will have on the ship's CII rating. It should demonstrate how the corrective actions will contribute to achieving the required annual operational CII, so as to ascertain the effectiveness of the corrective actions. Experience gained from previously taken corrective actions and their degree of effectiveness should be taken into account when selecting the proper corrective actions.

7.4.5 The corrective actions plan should start with investigation and determination of the root cause of the inferior CII rating taking into account all the aspects of ship operations where fuel is consumed referring to CII investigation study in section 5 of this Guide. Results of self-evaluation can also be used as the basis for the analysis. While developing the corrective actions, the company should identify those actions which are practically possible to implement and are achievable, measurable and time bound. Monitoring of implementation of the actions should be performed to identify further improvements in the corrective actions plan as necessary.

7.4.6 The plan of corrective actions should be SMART (Specific, Measurable, Achievable, Realistic, and Time bound). It should include:

- .1 analysis of the cause for the inferior CII rating;
- .2 analysis of the performance of implemented measures;
- .3 list of additional measures and revised measures to be added to the implementation plan with time and method of implementation, necessary for achieving the required operational CII;
- .4 designation of a company person to be responsible for the added and revised measures in the implementation plan, monitoring and recording performance throughout and reviewing of the effectiveness of the corrective actions; and
- .5 identification of possible impediments to the effectiveness of the measures for improving the energy efficiency and reducing the carbon intensity of the ship, including possible additional contingency measures put in place to overcome and how these impediments will be overcome.

7.4.7 The implementation of the plan of corrective actions should be monitored and adjusted when necessary. Additional measures should be taken to strengthen corrective actions in case of insufficient intermediate results.

7.4.8 The company should ensure that it is in a position to perform the actions set out in the plan of corrective actions and confirm that it is able to do so when submitting its updated SEEMP.

7.4.9 It is recommended that the attained annual operational CII and rating should be determined by the company as a self-assessment activity on periodical basis (e.g. monthly) to understand whether the ship needs a plan of corrective actions to be implemented for the following calendar year(s).

For example, for ships rated E in 2024 based on 2023 data, corrective action plan is to be implemented in 2024 and for ships rated E in 2025 based on 2024 data, corrective actions plan is to be implemented in 2025.

8 SAMPLE FORM OF SEEMP PART III: SHIP OPERATIONAL CARBON INTENSITY PLAN

8.1 Sample form of SEEMP Part III is presented in Appendix 3 for illustrative purposes.

APPENDIX 1: STANDARDIZED DATA REPORTING FORMAT FOR THE AGGREGATED DATA IN CASE OF A SHIP TRANSFERRED FROM ANOTHER COMPANY

APPENDIX 1

**STANDARDIZED DATA REPORTING FORMAT FOR THE AGGREGATED DATA
IN CASE OF A SHIP TRANSFERRED FROM ANOTHER COMPANY**

Name of the ship				IMO number									
Company				Year of delivery									
Flag				Ship type									
Gross tonnage				DWT									
Applicable CII		<input type="checkbox"/> AER; <input type="checkbox"/> cgDIST											
Attained EEDI (if applicable)													
Attained EEXI (if applicable)													
Date of transfer (dd/mm/yyyy)	Type of transfer (flag/ company/ both)	Reporting period		Distance Travelled (n.m)		Hours Under way (hh:mm)	Fuel Consumption (metric tons)						
		Date from (dd/mm/yyyy)	Date to (dd/mm/yyyy)	Total distance travelled	* distance to be deducted from CII calculation		total mass		* mass to be deducted from the total		** mass consumed in STS operations		
							***DO/GO	...	DO/GO	...	DO/GO	...	

- * Refer to the aggregated mass of fuel consumption to calculate FC_{voyage} , $FC_{electrical}$, FC_{boiler} and FC_{others} in Guidelines on correction factors and voyage adjustments for CII calculations (G5).
- ** Refer to the aggregated mass of fuel consumption to calculate $AFTanker$, STS in Guidelines on correction factors and voyage adjustments for CII calculations (G5).
- *** Refer to fuel types specified in 2018 Guidelines on the method of calculation of the attained Energy Efficiency Design Index (EEDI) for new ships (Resolution MEPC.308(73))

APPENDIX 2: STANDARDIZED DATA REPORTING FORMAT FOR THE DATA COLLECTION SYSTEM AND OPERATIONAL CARBON INTENSITY TO THE ADMINISTRATION

APPENDIX 2

STANDARDIZED DATA REPORTING FORMAT FOR THE DATA COLLECTION SYSTEM AND OPERATIONAL CARBON INTENSITY TO THE ADMINISTRATION

Name of the ship				IMO number										
Company				Year of delivery										
Flag				Ship type										
Gross tonnage				DWT										
Applicable CII				<input type="checkbox"/> AER; <input type="checkbox"/> cgDIST										
Attained annual operational CII before any correction (AER in g CO ₂ /dwt.nm or cgDIST in g CO ₂ /gt.nm)														
Attained annual operational CII (AER in g CO ₂ /dwt.nm or cgDIST in g CO ₂ /gt.nm)														
End date for annual CII (dd/mm/yy)														
Start date for annual CII (dd/mm/yy)														
Attained EEDI (if applicable)														
Attained EEXI (if applicable)														
EEPI (gCO ₂ /dwt.nm)														
cbDIST (gCO ₂ /berth.nm)														
clDIST (gCO ₂ /m.nm)														
EEOI (gCO ₂ /t.nm or others)														
End date for DCS (dd/mm/yy)														
Start date for DCS (dd/mm/yy)														
Date and time from (dd/mm/yyyy; hh:mm UTC)	* Date and time to (dd/mm/yyyy; hh:mm UTC)	Distance travelled (n.m)	Hours under way (hh:mm)	**exceptional conditions specified in Reg. 3.1 of MARPOL Annex VI (Y/N)	**Sailing in ice condition (Y/N)	**STS Operation (Y/N)	Fuel consumption (metric tons)							
							total mass		**mass to be ducted from the total					
									Consumed for production of electrical power (<i>FC_{electrical}</i>)		consumed by oil fired boiler for cargo heating/discharge on tankers (<i>FC_{boiler}</i>)		consumed by standalone engine driven cargo pumps during discharge operations on tankers (<i>FC_{others}</i>)	
***DO/GO	...	DO/GO	...	DO/GO	...	DO/GO	...	DO/GO	...					
Annual total														

* In the case of daily underlying data, this column would be left blank.

** Refer to Guidelines on correction factors and voyage adjustments for CII calculations (G5). Supporting documentation may be additionally submitted to facilitate the verification when necessary, such as Baplie files where the number of in-use reefer containers onboard are recorded. Note that voyages in different sailing or operational conditions should be recorded in separate rows so that the correction factors and voyage adjustments can be duly calculated and verified.

*** Refer to fuel types specified in the 2018 Guidelines on the method of calculation of the attained Energy Efficiency Design Index (EEDI) for new ships (Resolution MEPC.308(73))

Explanatory remarks: If bunker supply/correction data have been recorded in a company's electronic reporting system, the data is acceptable to be submitted in the existing format instead of submitting the data by this format.

APPENDIX 3: SAMPLE FORM OF SHIP OPERATIONAL CARBON INTENSITY PLAN (PART III OF THE SEEMP)

APPENDIX 3

SAMPLE FORM OF SHIP OPERATIONAL CARBON INTENSITY PLAN (PART III OF THE SEEMP)

1 Review and update log

Date/timeline	Updated parts	Developed by	Implemented by
01 November 2022	Initial SEEMP	XYZ	On-board: Master, Chief Engineer and Crew On-shore: Mr. Bianchi

2 Required CII over the next three years, attained CII and rating over three consecutive years

Name of the ship	XYZ		IMO number	96578XX
Company	XXX Shipping Line		Year of delivery	2020
Flag	YYYYYYYYYYYYYY		Ship type	Bulk carrier
Gross tonnage	32000		DWT	54000 tons
Applicable CII	<input checked="" type="checkbox"/> AER; <input type="checkbox"/> cgDIST			
Year	Required CII	Attained CII (before any correction factors)	Attained CII	Rating (A, B, C, D or E):
2020	NA	[5.36]	[5.36]	NA
2021	NA	[5.35]	[5.35]	NA
2022	NA			NA
	Required CII			
2023	5.133			
2024	5.025			
2025	4.917			

APPENDIX 3: SAMPLE FORM OF SHIP OPERATIONAL CARBON INTENSITY PLAN (PART III OF THE SEEMP)

3 Calculation methodology of the ship's attained annual CII, including required data and how to obtain these data as far as not addressed in Part II

Description
<p>Ship's attained annual CII is calculated using the formulation given in G1 guidelines (Resolution MEPC.352(78)) and G5 guidelines (Resolution MEPC.355(78)) based on the verified annual fuel oil consumption data reported under IMO DCS:</p> $\frac{\sum_j C_{Fj} \cdot \left\{ FC_j - \left(FC_{voyage,j} + TF_j + (0.75 - 0.03y_i) \cdot (FC_{electrical,j} + FC_{boiler,j} + FC_{others,j}) \right) \right\}}{f_i \cdot f_m \cdot f_c \cdot f_{iVSE} \cdot Capacity \cdot (D_t - D_x)}$ <p>Required data as reported under IMO DCS:</p> <ul style="list-style-type: none"> • Ship's capacity- DWT • Fuel oil consumption data (type, mass and carbon conversion factor) • total distance travelled <p>Additional data needed to calculate the Voyage adjustment and correction factors:</p> <ul style="list-style-type: none"> • $FC_{voyage,j}$ is the mass (in grams) of fuel of type j, consumed in voyage periods which may be deducted, i.e. under scenarios which may endanger safe navigation of a ship, or, for an ice-classed ship, in a sea area within the ice edge • D_x represents distance travelled (in nautical miles) for voyage periods which may be deducted • $TF_j = (1 - AFTanker) \cdot FCS_j$ represents the quantity of fuel j removed for STS or shuttle tanker operation • $AFTanker$ represents the correction factor to be applied to Shuttle tankers or STS voyages • $FC_{electrical,j}$ is the mass (in grams) of fuel type j, consumed for production of electrical power for refrigerated containers, cargo cooling/reliquefaction systems on gas carriers and LNG Carriers, or discharge pumps on tankers, which is allowed to be deducted • $FC_{boiler,j}$ is the mass (in grams) of fuel type j, consumed by the boiler for the purposes of cargo heating and cargo discharge on tankers • $FC_{others,j}$ is the mass (in grams) of fuel type j, consumed by standalone engine driven cargo pumps during discharge operations on tankers • f_i is the capacity correction factor for ice-classed ships • f_m is the factor for ice-classed ships having IA Super and IA • f_c represents the cubic capacity correction factors for chemical tankers • $f_{i,VSE}$ represents the correction factor for ship specific voluntary structural enhancement of self-unloading bulk carriers

APPENDIX 3: SAMPLE FORM OF SHIP OPERATIONAL CARBON INTENSITY PLAN (PART III OF THE SEEMP)

4 Three-year implementation plan

Description (Illustrative examples included, delete as appropriate):
1) since the CII calculated on the basis of the preceding year (2021) satisfies the required CII also for the years 2023, 2024 and 2025, the program is to continue ship operations according to previous practice.
2) given that the CII calculated on the basis of the preceding years satisfies the requirement only for the years 2023, [and 2024], the program is to implement the improvement actions indicated in the following paragraphs in the course of 2024 [and 2025]
3) since the CII calculated on the basis of the preceding years DOES NOT meet the required CII already from the year 2023, the program is to implement in 2023 and during subsequent years the improvement actions indicated in the following paragraphs.
4) ...

Company personnel to be responsible for the three-year implementation plan, monitoring and recording performance

The responsible for the three-year implementation plan, monitoring and recording performance is the [Technical manager at shore].

APPENDIX 3: SAMPLE FORM OF SHIP OPERATIONAL CARBON INTENSITY PLAN (PART III OF THE SEEMP)

List of measures to be considered and implemented

The measures to be considered and implemented may be operation-related, i.e. implementation of each measure may depend on actual operation of the ship (length of leg, displacement, trim, weather conditions, hull cleanliness, type of fuel in use); in such case, the conditions triggering implementation of each measure are to be clearly defined.

Measure	Impact on CII	Time and method of implementation and responsible personnel			Impediments and contingency measures	
		Milestone	Due	Responsible	Impediment	Contingencies
Measure 1 (e.g.: use of trim optimization software)	5-7% reduction	Install software system onboard	01.02.2023	Superintendent	Effectiveness depends on trade area, route and weather.	N/A
		Training	01.06.2023	Crew manager		
		Trials and tests	01.07.2023	Master	Less effective during slow steaming	Consider in conjunction with speed optimization
		Evaluation	Every quarter end	Technical manager at shore		
Measure 2 (e.g.: speed limitation)	4-7% reduction	Maximum speed is set at 75 % MCR/17.0 knots	01.02.2024	Master	Scheduled arrival times	Consider compensation with more severe reduction in other periods

Calculation showing the combined effect of the measures and that the required operational CII will be achieved

Year	Required annual operational CII	Targeted operational annual CII	Targeted rating
2023	5.133	5.13	C
2024	5.025	5.02	C
2025	4.917	4.91	C

APPENDIX 3: SAMPLE FORM OF SHIP OPERATIONAL CARBON INTENSITY PLAN (PART III OF THE SEEMP)

5 Self-evaluation and improvement

Description
Self-evaluation and improvement should include criteria for: <ul style="list-style-type: none"> • evaluation of the effectiveness of the different measures taken, • which measures contribute the most and how much, what measures do not contribute, • timeline for starting the review process, • measures to address deficiencies and discrepancies, • actions that will be taken to bring the ship back into better CII ratings, • identification if a Plan of Corrective action plan is required and • identification of critical factors that contributed to missing the CII target

6 Plan of corrective actions (if applicable)

This section is to be left blank unless the ship is rated D for three consecutive years or E for one year

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Analysis of causes for inferior CII rating

Cause	Analysis of effect	Actions

Analysis of measures in the implementation plan

Measure	Analysis of effect	Actions

List of additional measures and revised measures to be added to the implementation plan

Measure	Impact on CII	Time and method of implementation and responsible personnel			Impediments and contingency measures	
		Milestone	Due	Responsible	Impediments	Contingencies