

Working document presented at Intersessional IMO meeting to discuss greenhouse gas (GHG) from shipping - Oslo, 23-27 Jun 2008

Preliminary draft for Implementation and Verification of new ship design CO₂ index

(NOTE1: This draft was developed based on the document GHG-1/2/1, and some technical and editorial modifications were made.)

(NOTE2: There was a widely supported view that the new ship design CO₂ index would be used in recommendation basis for a period to verify and check the methodology of calculation, gain experience of the application and improve it, if necessary. While using the new ship design CO₂ index as recommendation basis, the baseline and goal can be well established by IMO in transparent manner.)

(NOTE3: There was another widely supported view that, even it would be premature to prepare any concrete proposal of method(s) of mandatory implementation of new ship design CO₂ index, it would be worth discussing and drafting a possible method(s) for implementing and verifying the new ship design CO₂ index. The group followed this opinion, and prepared this draft.)

(NOTE4: There was an opinion that they could not accept starting such discussion mentioned in NOTE3 above.)

[Regulation (n)] ***Application***

(NOTE: Following is the proposed text in GHG-1-2-1)

[1 The provisions of this Part shall apply to ships of [150] [400] [X] gross tonnage and above, delivered on or after [date] and [engaged in trade outside the jurisdiction of the flag state].]

(NOTE: The concept of “engaged in trade outside the jurisdiction of the flag state” would be worth considering, however the words would create a problem, because it would be difficult to define such area of “outside the jurisdiction of the flag state”. On the other hand, it was noted that similar expression is now used in the draft international convention for ship recycling, and can be used the words appeared in the draft.)

(NOTE: Following is an example of usual application clause of MARPOL, which received many supports in the informal group.)

[1 The provisions of this Part shall apply to ships of not less than [150] [400] [X] gross tonnage:

.1 for which the building contract is placed on or after [date of implementation]; or

.2 in the absence of a building contract, the keels of which are laid or which are at a similar

stage of construction on or after [date of implementation]; or

.3 the delivery of which is on or after [3 (or X) years after the implementation date].

Regulation (n+1)

[Attained] New ship design CO₂ index

(Following is an example for the case the [attained] new ship design CO₂ index is specified in separate Guidelines)

1 The [attained] new ship design CO₂ index shall be calculated in accordance with the Guidelines developed by the Organization. The results of the calculation and data and simulation method, if applicable, shall be verified by the Administration or an organization recognized by the Administration.

(NOTE1: Opinions were expressed that it is impossible for the Administrations to conduct such verification and certify the index, because the index is based on data in a commercial contract document. Another view was that such contract document is an official document and can be used for verification.)

(NOTE2: There was a discussion on the word “attained”. The value of new ship design CO₂ index will be calculated based on the design data, but such value would not be “attained” in real operation. “Attained” would mean “has reached in reality”. It is apparent that the new ship design CO₂ index is the value of ship’s design characteristics, but not the value obtained in real operation, nor value required to the ship.)

2 The attained new ship design CO₂ index shall be kept on board the ship.

Regulation (n+2)

Baseline

1 The baseline shall be determined in accordance with the following equation:

$$\text{Baseline value} = a \times b^{-c}$$

Where *a*, *b* and *c* is parameters taken from the following table for the relevant ship type, and the value of *b* shall be the value which is used for the calculation of [attained] new ship design CO₂ index :

Ship type	<i>a</i>	<i>b</i>	<i>c</i>
Dry Bulk		DWT	
Tankers		DWT	
Gas carriers		Tank volume	
Container ships		DWT	
General cargo ships		DWT	
Ro-ro cargo ships		GT	
Passenger ships		GT	

(NOTE1: Questions were raised what shall do for ship other than those types listed in the table.)

(NOTE2: While the equation of the regression curve was generally supported, it was recognized that the value of *a* and *c* should be determined in line with the newly drafted equation of the new ship design CO₂ index. The process of determining *a* and *c* should be conducted within a framework of IMO in a transparent manner based upon well recognized and widely representing data of existing ships.)

(NOTE3: It was expressed by some members that the parameters of *a* and *c* would depend on the (range of) size of ships within one type of ship. In other words, more than one regression curve (Baseline = $a \times b^{-c}$) would be necessary for a type of ship, e.g. tankers, depending on the size ranges. Tankers might need to be further categorized, e.g., oil tankers, chemical tankers, etc.)

Regulation (n+3)

Requirement for new ship design CO₂ index

1 The [attained] new ship design CO₂ index obtained in accordance with the regulation (n+1) shall be [equal to or] lower than the required design CO₂ index for the relevant ship type. The required design CO₂ index is:

$$\text{Required CO}_2 \text{ index} = \left(1 - \frac{X}{100}\right) \times \text{baseline value}$$

Where:

- .1 *X* is the reduction factor of the design CO₂ index in percent compared to the baseline value.
- .2 *baseline value* shall be obtained in accordance with regulation (n+2) for the type and size of the ship concerned using applicable *a*, *b* and *c*.

2 The required design CO₂ index shall apply:

- .1 For ships built on or after [1. January 2012 and before 31 December 2014] *X* is [*p*]
- .2 For ships built on or after [1. January 2015 and before 31 December 2017] *X* is [*q*]
- .3 For ships built on or after [1. January 2018] *X* is [*z*]

(NOTE1: There was no proposal of the value of *p*, *q* or *z*. but suitability and applicability of these values, when determined, should be reaffirmed before implementing them at the fixed date.)

(NOTE2: This clause 2 was not considered by the informal group.)

]

- - -