

na lista nos termos das alíneas a) e b) do n.º 10 da Resolução n.º 2146 (2014), tal como prorrogada e modificada pelo n.º 2 da Resolução n.º 2362 (2017) (proibição de carga, transporte ou descarga; proibição de entrada nos portos). Nos termos do n.º 11 da Resolução n.º 2146, esta designação é válida de 2 de Agosto a 2 de Novembro de 2017, a menos que o Comité ponha termo à mesma mais cedo nos termos do n.º 12 da Resolução n.º 2146. Estado de bandeira: São Vicente e Granadinas. Em 26 de Julho de 2017, o navio foi localizado em águas internacionais, aproximadamente cinquenta milhas náuticas a sudeste do Chipre.

第 19/2018 號行政長官公告

Aviso do Chefe do Executivo n.º 19/2018

鑑於中華人民共和國是國際海事組織的會員國及《經1978年議定書修訂的1973年國際防止船舶造成污染公約的1997年議定書》(下稱“《1997年議定書》”)的締約國;

國際海事組織海上環境保護委員會分別於二零一四年四月四日和十月十七日在其第六十六屆和第六十七屆會議上,透過第MEPC.251(66)號和第MEPC.258(67)號決議通過了《1997年議定書》附則修正案,該等修正案分別於二零一五年九月一日和二零一六年三月一日在國際法律秩序上生效,包括對中華人民共和國及澳門特別行政區生效;

基於此,行政長官根據第3/1999號法律《法規的公佈與格式》第五條(一)項和第六條第一款的規定,命令公佈海上環境保護委員會的以下決議:

——二零一四年四月四日通過的包含《防污公約》附則VI和《2008年氮氧化物技術規則》修正案的MEPC.251(66)號決議的中文和英文正式文本;及

——二零一四年十月十七日通過的包含《防污公約》附則VI修正案的MEPC.258(67)號決議的中文和英文正式文本。

上指《1997年議定書》已透過第76/2016號行政長官公告公佈於二零一六年十一月二十三日第四十七期《澳門特別行政區公報》第二組副刊。

二零一八年三月二十三日發佈。

行政長官 崔世安

Considerando que a República Popular da China é um Estado Membro da Organização Marítima Internacional (OMI) e um Estado Contratante do Protocolo de 1997 que altera a Convenção Internacional para a Prevenção da Poluição por Navios, 1973, tal como modificada pelo Protocolo de 1978 a ela relativo (daqui em diante designado por «Protocolo de 1997»);

Considerando igualmente que, em 4 de Abril e em 17 de Outubro de 2014, respectivamente, nas suas 66.^a e 67.^a sessões, o Comité de Protecção do Meio Marinho da Organização Marítima Internacional, através das suas resoluções MEPC.251(66) e MEPC.258(67), adoptou emendas ao Anexo do Protocolo de 1997 e que tais emendas entraram em vigor na ordem jurídica internacional, incluindo a República Popular da China e a sua Região Administrativa Especial de Macau, respectivamente, em 1 de Setembro de 2015 e em 1 de Março de 2016;

O Chefe do Executivo manda publicar, nos termos da alínea 1) do artigo 5.º e do n.º 1 do artigo 6.º da Lei n.º 3/1999 (Publicação e formulário dos diplomas), as seguintes resoluções do Comité de Protecção do Meio Marinho:

— Resolução MEPC.251(66), adoptada em 4 de Abril de 2014, que contém emendas ao Anexo VI da MARPOL e ao Código No_x 2008, nos seus textos autênticos em línguas chinesa e inglesa; e

— Resolução MEPC.258(67), adoptada em 17 de Outubro de 2014, que contém emendas ao Anexo VI da MARPOL, nos seus textos autênticos em línguas chinesa e inglesa.

O *supra* mencionado Protocolo de 1997 encontra-se publicado, através do Aviso do Chefe do Executivo n.º 76/2016, no Suplemento do *Boletim Oficial da Região Administrativa Especial de Macau* n.º 47, II Série, de 23 de Novembro de 2016.

Promulgado em 23 de Março de 2018.

O Chefe do Executivo, *Chui Sai On*.

第MEPC.251（66）號決議

2014年4月4日通過

《經1978年議定書修訂的1973年國際防止船舶造成污染公約的1997年議定書》附則的修正案

（《防污公約》附則VI第2、13、19、20和21條和IAPP證書附件以及根據《2008年氮氧化物技術規則》的雙燃料發動機發證的修正案）

海上環境保護委員會，

憶及《國際海事組織公約》第三十八條第（一）款關於防止和控制船舶造成海洋污染的國際公約賦予海上環境保護委員會的職能，

注意到《1973年國際防止船舶造成污染公約》（以下稱《1973年公約》）第16條，《1973年國際防止船舶造成污染公約1978年議定書》（以下稱《1978年議定書》）第VI條，以及《經1978年議定書修訂的1973年國際防止船舶造成污染公約的1997年議定書》（以下稱《1997年議定書》）第4條共同規定了《1997年議定書》的修正程序和賦予本組織的相關機構審議並通過《經1978年和1997年議定書修訂的1973年公約》修正案的職能，

注意到《1973年公約》以《1997年議定書》納入的、題為“防止船舶造成空氣污染規則”的附則VI（以下稱“附則VI”），

進一步注意到《防污公約》附則VI第13條，該條使《船用柴油機氮氧化物排放控制技術規則》（《2008年氮氧化物技術規則》）根據該附則具有強制性，

還注意到第MEPC.176（58）號決議通過的經修訂的附則VI以及第MEPC.177（58）號決議通過的《2008年氮氧化物技術規則》已於2010年7月1日生效，

審議了經修訂的附則VI和《2008年氮氧化物技術規則》的修正案，

1. 按照《1973年公約》第16（2）（d）條，通過附則VI和《2008年氮氧化物技術規則》的修正案，其文本載於本決議附件；
2. 按照《1973年公約》第16（2）（f）（iii）條，決定該修正案將在2015年3月1日視為被接受，除非在此日期之前，有不少於三分之一的締約國或其合計商船隊佔世界商船隊總噸位不少於50%的締約國通知本組織其反對該修正案；
3. 請各締約國注意，按照《1973年公約》第16（2）（g）（ii）條，所述修正案在按上述第2段被接受後，將於2015年9月1日生效；
4. 要求秘書長按照《1973年公約》第16（2）（e）條，將本決議及其附件中的修正案文本的核證無誤副本分發給所有《經1978年和1997年議定書修訂的1973年公約》的締約國；
5. 進一步要求秘書長將本決議及其附件的副本分發給非《經1978年和1997年議定書修訂的1973年公約》締約國的本組織會員國。

附件

《防污公約》附則VI和《2008年氮氧化物技術規則》修正案

《防污公約》附則VI修正案

第1章－總則

第2條－定義

1 第26款修正如下：

“26 與本附則第4章有關的 *氣體運輸船* 係指除本條第38款所界定的液化天然氣運輸船外的、經建造或改建用於散裝運輸任何液化氣體的貨船。”

2 在現有第37款之後新增第38至43款如下：

“38 與本附則第4章有關的 *液化天然氣運輸船* 係指經建造或改建用於散裝運輸液化天然氣（LNG）的貨船。

39 與本附則第4章有關的 *豪華郵輪* 係指無貨物甲板且專門設計用於對海上航行中過夜住宿乘客進行商業運輸的客船。

40 與本附則第4章有關的 *常規推進* 係指主要以往復式內燃機為原動機並且直接或通過齒輪箱連接推進軸的推進方式。

41 與本附則第4章有關的 *非常規推進* 係指除常規推進以外的推進方式，包括柴油－電力推進、渦輪推進以及混合推進系統。

42 與本附則第4章有關的具有破冰能力的貨船係指設計為當冰層厚度為1.0m或以上且冰層彎曲強度至少為500 kPa時，以至少2節航速獨立破冰的貨船。

43 2019年9月1日或以後交付的船舶係指：

- .1 2015年9月1日或以後簽訂建造合同；或
- .2 如無建造合同，2016年3月1日或以後安放龍骨或處於類似建造階段；或
- .3 2019年9月1日或以後交付的船舶。”

第2章 – 檢驗、發證和控制手段

第5條 – 檢驗

3 在第4.2款的第1句中，“船舶”一詞由“新船”替代。

第3章 – 船舶排放控制要求

第13條 – 氮氧化物（NO_x）

4 第2.2款修正如下：

“2.2 如重大改裝涉及船用柴油機被非完全相同的柴油機替代，或涉及新增安裝柴油機，則須適用在替代或新增柴油機時的本條標準。僅對替代柴油機而言，如其不能符合本條5.1.1所述

標準（III級，如適用），則該替代柴油機應符合本條第4款所述標準（II級），並考慮本組織制定的導則。

5 第5.1和5.2款修正如下：

“III級

5.1 本附則第3條適用的同時，在根據本條第6款指定的III級氮氧化物排放控制區內，對船上安裝的柴油機：

.1 除非該柴油機氮氧化物排放量（按氮氧化物總加權排放量計算）在下列極限值內，其中 n 為發動機額定轉速（每分鐘曲軸轉速），否則須禁止使用：

.1 3.4g/kWh，當 n 小於130rpm；

.2 $9 \cdot n^{(-0.2)}$ g/kWh，當 n 等於或大於130rpm，但小於2,000rpm；

.3 2.0g/kWh，當 n 等於或大於2,000rpm；

若：

.2 船舶在2016年1月1日或以後建造並且在北美排放控制區內或美國加勒比海排放控制區內航行；

若：

.3 船舶在本條6指定的III級氮氧化物排放控制區（除本條5.1.2所述的排放控制區外）內航行，並且在該排放控制區通過日期或以後建造，或在指定III

級氮氧化物排放控制區的修正案中規定的日期或以後建造，以較晚者為準。

5.2 本條第5.1.1項所述標準不適用於：

- .1 船長 L （如本公約附則I第1.19條所界定）小於24m、經特殊設計並僅用於娛樂目的的船上安裝的船用柴油機；或
- .2 船上安裝的、其銘牌顯示柴油機推進功率之和小於750kW的船用柴油機，如證明，並使主管機關確信，該船因設計或構造限制而不能符合本條第5.1.1項所述標準；或
- .3 船長 L （如本公約附則I第1.19條所界定）等於或大於24m、經特殊設計並僅用於娛樂目的、在2021年1月1日之前建造、且小於500總噸的船舶上安裝的船用柴油機。”

6 刪除第10款。

第4章 – 船舶能效規則

第19條 – 適用範圍

7 新增第2.2項如下：

“.2 非機動船，以及包括浮式生產、儲存和卸載設施

(FPSO)、浮式儲存裝置(FSU)和鑽井裝置等平台，不論其推進方式如何。”

8 修正第3款如下：

“3 本附則第20和21條不適用於具有非常規推進的船舶，但第20和21條適用於第2條第43款界定的、2019年9月1日或以後交付的具有非常規推進的豪華郵輪和採用常規推進或非常規推進的液化天然氣運輸船。第20和21條不適用於具有破冰能力的貨船。”

第20條－實際能效設計指數（實際EEDI）

9 第1款由以下文字替代：

“1 對屬於本附則第2.25至2.35、2.38和2.39條所界定的一類或多類船型的下列船舶，須計算實際EEDI：

- .1 每艘新船；
- .2 每艘經過重大改建的新船；和
- .3 每艘經過重大改建且因改建範圍過大而被主管機關視為新造船舶的新船或現有船舶。

實際EEDI應具體到各船舶，並應表明船舶能效方面的預估性能，且附有EEDI技術案卷，案卷中包含計算實際EEDI所必要的信息並說明計算過程。實際EEDI應經主管機關或經其正式授權的任一組織*基於EEDI

* 參見以第MEPC.237(65)號決議通過並可能經修正的《被認可組織規則》(《RO規則》)。”

技術案卷進行驗證。

第21條 – 所要求的EEDI

10 第1款由以下文字替代：

“1 對屬於第2.25至2.31、2.33至2.35、2.38和2.39條所界定的類別之一並且適用於本章的下列每艘：

- .1 新船；
- .2 經過重大改建的新船；和
- .3 經過重大改建且因改建範圍過大而被主管機關視為新造船舶的新船或現有船舶，

其實際EEDI須為如下所示：

$$\text{實際EEDI} \leq \text{所要求的EEDI} = (1 - X/100) \times \text{基線值}$$

式中，X為表1所規定的相對於EEDI基線的、所要求的EEDI的減小係數。”

11 在第2款表1中，新增有關滾裝貨船（車輛運輸船）、液化天然氣運輸船、採用非常規推進的豪華郵輪、滾裝貨船和滾裝客船等數行，且新增**標記和***標記及其註釋如下：

“

船舶類型	尺度	第0階段 2013.1.1.— 2014.12.31	第1階段 2015.1.1.— 2019.12.31	第2階段 2020.1.1.— 2024.12.31	第3階段 2025.1.1 及以後
液化天然氣運輸船***	10,000DWT 及以上	n/a	10**	20	30
滾裝貨船 (車輛運輸船)***	10,000DWT 及以上	n/a	5**	15	30
滾裝貨船***	2,000DWT 及以上	n/a	5**	20	30
	1,000 - 2,000DWT	n/a	0-5***	0-20*	0-30*
滾裝客船***	1,000DWT 及以上	n/a	5**	20	30
	250 - 1,000 DWT	n/a	0-5***	0-20*	0-30*
採用非常規 推進的豪華 郵輪***	85,000DWT 及以上	n/a	5**	20	30
	25,000 - 85,000DWT	n/a	0-5***	0-20*	0-30*

* 表示根據船舶尺度由小到大的減小係數。這兩個值之間取線性插值低的減小係數應用於小的船舶尺度。

** 對此類船舶，第1階段於2015年9月1日開始。

*** 減小係數適用於第2條43所界定的、2019年9月1日或以後交付的船舶。

註： n/a 表示沒有適用的所要求的 EEDI。”

12 在第3款表2中，新增有關滾裝貨船（車輛運輸船）、液化天然氣運輸船、採用非常規推進的豪華郵輪、滾裝貨船和滾裝客船等數行如下：

“

第2條所界定的船型	a	b	c
2.33 滾裝貨船（車輛運輸船）	如 $DWT/GT < 0.3$ ， (DWT/GT) ^{-0.7} ·780.36 如 $DWT/GT \geq 0.3$ ， 1812.63	船舶載重噸	0.471
2.34 滾裝貨船	1405.15	船舶載重噸	0.498
2.35 滾裝客船	752.16	船舶載重噸	0.381
2.38 液化天然氣運輸船	2253.7	船舶載重噸	0.474
2.39 採用非常規推進的豪華郵輪	170.84	船舶總噸	0.214

”

附錄1－國際防止大氣污染（IAPP）證書格式（第8條）

13 國際防止大氣污染證書（IAPP證書）附件的腳註修正如下：

“* 僅用於2016年1月1日或以後建造的經特殊設計並僅用於娛樂目的、根據第13.5.2.1和13.5.2.3條不適用於第13.5.1.1條規定的氮氧化物排放極限的船舶填寫。”

《2008年氫氧化物技術規則》修正案

縮寫、下標和符號

14 表4由下列替代：

“表4—燃料成份的符號

符號	定義	單位
W_{ALF}^*	燃料的氫含量	%m/m
W_{BET}^*	燃料的碳含量	%m/m
W_{GAM}	燃料的硫含量	%m/m
W_{DEL}^*	燃料的氮含量	%m/m
W_{EPS}^*	燃料的氧含量	%m/m
α	摩爾比率 (H/C)	1

* 下標 “g” 表示氣體燃料比。

“L” 表示液體燃料比。”

第1章—總則

15 第1.3.10項由以下文字替代：

“1.3.10 船用柴油機係指第13條適用的、以液體或雙燃料運行的任何往復式內燃機，包括增壓/複合系統（如使用）。

如果發動機通常擬在氣體模式下運轉，即氣體燃料作為主要燃料而液體燃料作為點火或平衡燃料，僅此運轉模式必須滿足第13條的要求。在發生故障時由於氣體供應受限而造成發動機以純液體燃料運轉，則須對駛往下個港口進行故障修理的航次予以免除。”

第5章 – 試驗台氮氧化物排放的測量程序

16 刪除現有第5.3.4項，在現有第5.3.3項之後新增第5.3.4、5.3.5和5.3.6項如下：

“5.3.4 雙燃料試驗用的氣體燃料應根據試驗目的選用。如果無法獲得適當的標準氣體燃料，經主管機關批准，可使用其他氣體燃料。母型機試驗時應收集氣體燃料的試樣，並通過分析獲得燃料成份和燃料規格。

5.3.5 對氣體燃料溫度，須做測量，並連同測量點的位置一併做記錄。

5.3.6 對於以液體燃料作為點火或平衡燃料的雙燃料發動機，其氣體模式的運轉須使用最大液體和氣體燃料比進行試驗，該最大比係指不同的試驗循環模式下所核准的液體和氣體比的最大設定值。燃料的液體部分應符合第5.3.1、5.3.2和5.3.3項。”

17 在現有第5.12.3.3目之後新增一句如下：

“如果使用雙燃料，須根據第5.12.3.1至5.12.3.3目進行計算。但是， q_{mf} 、 W_{ALF} 、 W_{BET} 、 W_{DEL} 、 W_{EPS} 、 f_{fw} 值須根據下表進行計算：

公式 (6) (7) (8) 的因數	=	因數公式
q_{mf}	=	$q_{mf,G} + q_{mf,L}$
W_{ALF}	=	$\frac{q_{mf,G} \times W_{ALF,G} + q_{mf,L} \times W_{ALF,L}}{q_{mf,G} + q_{mf,L}}$
W_{BET}	=	$\frac{q_{mf,G} \times W_{BET,G} + q_{mf,L} \times W_{BET,L}}{q_{mf,G} + q_{mf,L}}$
W_{DEL}	=	$\frac{q_{mf,G} \times W_{DEL,G} + q_{mf,L} \times W_{DEL,L}}{q_{mf,G} + q_{mf,L}}$
W_{EPS}	=	$\frac{q_{mf,G} \times W_{EPS,G} + q_{mf,L} \times W_{EPS,L}}{q_{mf,G} + q_{mf,L}}$

”

18 在 5.12.5.1 目中，表 5 由下表替代：

“表 5—原始廢氣的係數 u_{gas} 和燃料特性參數

氣體		NO _x	CO	HC	CO ₂	O ₂
ρ_{gas} kg/m ³		2.053	1.250	*	1.9636	1.4277
	p_c^\dagger	係數 u_{gas}^\ddagger				
液體燃料**	1.2943	0.001586	0.000966	0.000479	0.001517	0.001103
油菜籽甲基酯	1.2950	0.001585	0.000965	0.000536	0.001516	0.001102
甲醇	1.2610	0.001628	0.000991	0.001133	0.001557	0.001132
乙醇	1.2757	0.001609	0.000980	0.000805	0.001539	0.001119
天然氣	1.2661	0.001621	0.000987	0.000558	0.001551	0.001128
丙烷	1.2805	0.001603	0.000976	0.000512	0.001533	0.001115
丁烷	1.2832	0.001600	0.000974	0.000505	0.001530	0.001113

* 取決於燃料

** 提取自石油

† p_c 是廢氣的名義密度

‡ $\lambda = 2$ ，濕空氣，273K，101.3kPa

表 5 中的 u 值基於理想氣體特性。

對於多種燃料類型的情況，所使用的 u_{gas} 值應根據所用燃料比與上表中燃料適用值成比例計算得到。”

第6章 – 船上證明符合氮氧化物排放極限值的程序

19 第6.3.1.4目由以下文字替代：

“6.3.1.4 在實際情形裏，一旦發動機業已安裝上船，再測量燃油消耗往往不可行。為簡化船上程序，發動機的前期發證中台架試驗的燃油消耗測量結果可予以接受。在這種情形裏，特別有關重油（根據ISO 8217：2005的RM級燃油）的運轉和雙燃料的運轉，須對相應的計算誤差進行估算。因為計算中所用的燃油流量（ q_{mf} ）必須與試驗中抽取的燃油試樣所確定的燃油成份相關，須根據試驗台與試驗燃油、氣體之間的淨熱值差異，對試驗測量結果 q_{mf} 進行修正。由於上述原因，應對最終排放誤差加以計算，並報告排放測量的結果。”

20 在第 6.3.2.1 目中，表 6 由下表替代：

“表 6—應測量和記錄的柴油機參數

符號	術語	單位
H_a	絕對濕度（發動機吸入空氣水分質量與乾燥空氣質量之比）	g/kg
$n_{d,i}$	發動機轉速（在循環過程中的第 i 個模式時）	min^{-1}
$n_{\text{turb},i}$	渦輪增壓器轉速（如適用）（在循環過程中的第 i 個模式時）	min^{-1}
P_b	總大氣壓（在 ISO 3046-1:1995 中： $p_x=P_x$ =現場環境總壓力）	kPa
$P_{c,i}$	增壓空氣冷卻器後的增壓空氣壓力（在循環過程中的第 i 個模式時）	kPa
P_i	制動功率（在循環過程中的第 i 個模式時）	kW
$q_{\text{mf},i}$	燃油（如果是雙燃料發動機，應為燃油和氣體）（在循環過程中的第 i 個模式時）	kg/h
S_i	燃料齒條位置（每個氣缸，如適用）（在循環過程中的第 i 個模式時）	
T_a	空氣入口溫度（在 ISO 3046-1:1995 中： $T_x=TT_x$ =現場環境熱力空氣溫度）	K
$T_{\text{SC},i}$	增壓空氣冷卻器後的增壓空氣溫度（如適用）（在循環過程中的第 i 個模式時）	K
T_{caclin}	增壓空氣冷卻器，冷卻劑進口溫度	°C
T_{cncout}	增壓空氣冷卻器，冷卻劑出口溫度	°C
$T_{\text{Exh},i}$	採樣點的排氣溫度（在循環過程中的第 i 個模式時）	°C
$T_{\text{Fuel-L}}$	發動機前的燃油溫度	°C
T_{Sea}	海水溫度	°C
$T_{\text{Fuel-G}}^*$	發動機前的氣體燃料溫度	°C

* 僅針對雙燃料發動機。”

21 在現有第6.3.4.2目之後新增第6.3.4.3目如下：

“6.3.4.3 如果使用雙燃料發動機，所使用的氣體燃料應是船上可得到的氣體燃料。”

22 第6.3.11.2目由以下文字替代：

“6.3.11.2 發動機的氮氧化物排放會隨燃油着火性能和燃油結合氮而變化。如果沒有在燃燒過程中着火性能影響氮氧化物形成的充分資料，並且燃油結合氮轉換率取決於發動機的效率，則以RM級燃油（ISO 8217：2005）進行的船上試驗，可以允許10%的容許偏差，但船上前期發證試驗除外。所使用的燃油和氣體燃料應對其碳、氫、氮、硫成份以及在（ISO 8217：2005）和（ISO 8178-5：2008）規定範圍內所必要的任何附加成份進行分析。”

23 在第6.4.11.1目中，表9由下表替代：

“表9－默認燃油參數

	碳	氫	氮	氧
	W_{BET}	W_{ALF}	W_{DEL}	W_{EPS}
蒸餾燃油（ISO 8217：2005DM級）	86.2%	13.6%	0.0%	0.0%
重油（ISO 8217：2005RM級）	86.1%	10.9%	0.4%	0.0%
天然氣	75.0%	25.0%	0.0%	0.0%

對於其他燃油，應為經主管機關批准的默認值。”

附錄 VI—廢氣質量流量計算（碳平衡法）

24 在現有第2.4款之後，新增第2.5款如下：

“2.5 如果雙燃料發動機以氣體模式運轉，公式（1）的 q_{mf} 、 W_{ALF} 、 W_{BET} 、 W_{DEL} 、 W_{EPS} 、 f_{fd} 參數須如下計算：

公式（1）的因數		因數公式
q_{mf}	=	$q_{mf_G} + q_{mf_L}$
W_{ALF}	=	$\frac{q_{mf_G} \times W_{ALF_G} + q_{mf_L} \times W_{ALF_L}}{q_{mf_G} + q_{mf_L}}$
W_{BET}	=	$\frac{q_{mf_G} \times W_{BET_G} + q_{mf_L} \times W_{BET_L}}{q_{mf_G} + q_{mf_L}}$
W_{DEL}	=	$\frac{q_{mf_G} \times W_{DEL_G} + q_{mf_L} \times W_{DEL_L}}{q_{mf_G} + q_{mf_L}}$
W_{EPS}	=	$\frac{q_{mf_G} \times W_{EPS_G} + q_{mf_L} \times W_{EPS_L}}{q_{mf_G} + q_{mf_L}}$

”

RESOLUTION MEPC.251(66)**(Adopted on 4 April 2014)****AMENDMENTS TO THE ANNEX OF THE PROTOCOL OF 1997 TO AMEND
THE INTERNATIONAL CONVENTION FOR THE PREVENTION OF
POLLUTION FROM SHIPS, 1973, AS MODIFIED BY THE
PROTOCOL OF 1978 RELATING THERETO****(Amendments to regulations 2, 13, 19, 20 and 21 and the Supplement to
the IAPP Certificate under MARPOL Annex VI and certification of
dual-fuel engines under the NO_x Technical Code 2008)**

THE MARINE ENVIRONMENT PROTECTION COMMITTEE,

RECALLING article 38(a) of the Convention on the International Maritime Organization concerning the functions of the Marine Environment Protection Committee conferred upon it by international conventions for the prevention and control of marine pollution from ships,

NOTING article 16 of the International Convention for the Prevention of Pollution from Ships, 1973 (hereinafter referred to as the "1973 Convention"), article VI of the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973 (hereinafter referred to as the "1978 Protocol") and article 4 of the Protocol of 1997 to amend the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (hereinafter referred to as the "1997 Protocol"), which together specify the amendment procedure of the 1997 Protocol and confer upon the appropriate body of the Organization the function of considering and adopting amendments to the 1973 Convention, as modified by the 1978 and 1997 Protocols,

NOTING that, by the 1997 Protocol, Annex VI entitled Regulations for the Prevention of Air Pollution from Ships was added to the 1973 Convention (hereinafter referred to as "Annex VI"),

NOTING FURTHER regulation 13 of MARPOL Annex VI which makes the Technical Code on Control of Emission of Nitrogen Oxides from Marine Diesel Engines (NO_x Technical Code 2008) mandatory under that Annex,

NOTING ALSO that both the revised Annex VI, adopted by resolution MEPC.176(58) and the NO_x Technical Code 2008, adopted by resolution MEPC.177(58) entered into force on 1 July 2010,

HAVING CONSIDERED draft amendments to the revised Annex VI and the NO_x Technical Code 2008,

1 ADOPTS, in accordance with article 16(2)(d) of the 1973 Convention, the amendments to Annex VI and the NO_x Technical Code 2008, the text of which is set out in the annex to the present resolution;

2 DETERMINES, in accordance with article 16(2)(f)(iii) of the 1973 Convention, that the amendments shall be deemed to have been accepted on 1 March 2015, unless prior to that date, not less than one third of the Parties or Parties the combined merchant fleets of which constitute not less than 50% of the gross tonnage of the world's merchant fleet, have communicated to the Organization their objection to the amendments;

3 INVITES the Parties to note that, in accordance with article 16(2)(g)(ii) of the 1973 Convention, the said amendments shall enter into force on 1 September 2015 upon their acceptance in accordance with paragraph 2 above;

4 REQUESTS the Secretary-General, in conformity with article 16(2)(e) of the 1973 Convention, to transmit to all Parties to the 1973 Convention, as modified by the 1978 and 1997 Protocols, certified copies of the present resolution and the text of the amendments contained in the annex;

5 REQUESTS FURTHER the Secretary-General to transmit to the Members of the Organization which are not Parties to the 1973 Convention, as modified by the 1978 and 1997 Protocols, copies of the present resolution and its annex.

ANNEX

AMENDMENTS TO MARPOL ANNEX VI AND THE NO_x TECHNICAL CODE 2008

AMENDMENTS TO MARPOL ANNEX VI

Chapter 1 – General

Regulation 2 – Definitions

1 Paragraph 26 is amended to read as follows:

"26 *Gas carrier* in relation to chapter 4 of this Annex means a cargo ship, other than an LNG carrier as defined in paragraph 38 of this regulation, constructed or adapted and used for the carriage in bulk of any liquefied gas."

2 New paragraphs 38 to 43 are added after existing paragraph 37 as follows:

"38 *LNG carrier* in relation to chapter 4 of this Annex means a cargo ship constructed or adapted and used for the carriage in bulk of liquefied natural gas (LNG).

39 *Cruise passenger ship* in relation to chapter 4 of this Annex means a passenger ship not having a cargo deck, designed exclusively for commercial transportation of passengers in overnight accommodations on a sea voyage.

40 *Conventional propulsion* in relation to chapter 4 of this Annex means a method of propulsion where a main reciprocating internal combustion engine(s) is the prime mover and coupled to a propulsion shaft either directly or through a gear box.

41 *Non-conventional propulsion* in relation to chapter 4 of this Annex means a method of propulsion, other than conventional propulsion, including diesel-electric propulsion, turbine propulsion, and hybrid propulsion systems.

42 *Cargo ship having ice-breaking capability* in relation to chapter 4 of this Annex means a cargo ship which is designed to break level ice independently with a speed of at least 2 knots when the level ice thickness is 1.0 m or more having ice bending strength of at least 500 kPa.

43 A ship *delivered on or after 1 September 2019* means a ship:

- .1 for which the building contract is placed on or after 1 September 2015; or
- .2 in the absence of a building contract, the keel of which is laid, or which is at a similar stage of construction, on or after 1 March 2016; or
- .3 the delivery of which is on or after 1 September 2019."

Chapter 2 – Survey, certification and means of control

Regulation 5 – Surveys

3 In the first sentence of paragraph 4.2, the words "a ship" are replaced with the words "a new ship".

Chapter 3 – Requirements for control of emissions from ships

Regulation 13 – Nitrogen oxides (NO_x)

4 Paragraph 2.2 is amended to read as follows:

"2.2 For a major conversion involving the replacement of a marine diesel engine with a non-identical marine diesel engine, or the installation of an additional marine diesel engine, the standards in this regulation at the time of the replacement or addition of the engine shall apply. In the case of replacement engines only, if it is not possible for such a replacement engine to meet the standards set forth in paragraph 5.1.1 of this regulation (Tier III, as applicable), then that replacement engine shall meet the standards set forth in paragraph 4 of this regulation (Tier II), taking into account guidelines developed by the Organization.

5 Paragraphs 5.1 and 5.2 are amended to read as follows:

"Tier III

5.1 Subject to regulation 3 of this Annex, in an emission control area designated for Tier III NO_x control under paragraph 6 of this regulation, the operation of a marine diesel engine that is installed on a ship:

.1 is prohibited except when the emission of nitrogen oxides (calculated as the total weighted emission of NO_x) from the engine is within the following limits, where n = rated engine speed (crankshaft revolutions per minute):

.1 3.4 g/kWh when n is less than 130 rpm;

.2 $9 \cdot n^{(-0.2)}$ g/kWh when n is 130 or more but less than 2,000 rpm;

.3 2.0 g/kWh when n is 2,000 rpm or more;

when:

.2 that ship is constructed on or after 1 January 2016 and is operating in the North American Emission Control Area or the United States Caribbean Sea Emission Control Area;

when:

.3 that ship is operating in an emission control area designated for Tier III NO_x control under paragraph 6 of this regulation, other than an emission control area described in paragraph 5.1.2 of this regulation, and is constructed on or after the date of adoption of such an emission control area, or a later date as may be specified in the amendment designating the NO_x Tier III emission control area, whichever is later.

- 5.2 The standards set forth in paragraph 5.1.1 of this regulation shall not apply to:
- .1 a marine diesel engine installed on a ship with a length (L), as defined in regulation 1.19 of Annex I to the present Convention, of less than 24 metres when it has been specifically designed, and is used solely, for recreational purposes; or
 - .2 a marine diesel engine installed on a ship with a combined nameplate diesel engine propulsion power of less than 750 kW if it is demonstrated, to the satisfaction of the Administration, that the ship cannot comply with the standards set forth in paragraph 5.1.1 of this regulation because of design or construction limitations of the ship; or
 - .3 a marine diesel engine installed on a ship constructed prior to 1 January 2021 of less than 500 gross tonnage, with a length (L), as defined in regulation 1.19 of Annex I to the present convention, of 24 m or over when it has been specifically designed, and is used solely, for recreational purposes."

6 Paragraph 10 is deleted.

Chapter 4 – Regulations for energy efficiency of ships

Regulation 19 – Application

7 A new subparagraph 2.2 is added as follows:

"2 ships not propelled by mechanical means, and platforms including FPSOs and FSUs and drilling rigs, regardless of their propulsion."

8 Paragraph 3 is amended to read as follows:

"3 Regulations 20 and 21 of this Annex shall not apply to ships which have non-conventional propulsion, except that regulations 20 and 21 shall apply to cruise passenger ships having non-conventional propulsion and LNG carriers having conventional or non-conventional propulsion, delivered on or after 1 September 2019, as defined in paragraph 43 of regulation 2. Regulations 20 and 21 shall not apply to cargo ships having ice-breaking capability."

Regulation 20 – Attained Energy Efficiency Design Index (attained EEDI)

9 Paragraph 1 is replaced with the following:

"1 The attained EEDI shall be calculated for:

- .1 each new ship;
- .2 each new ship which has undergone a major conversion; and
- .3 each new or existing ship which has undergone a major conversion, that is so extensive that the ship is regarded by the Administration as a newly-constructed ship,

which falls into one or more of the categories in regulations 2.25 to 2.35, 2.38 and 2.39 of this Annex. The attained EEDI shall be specific to each ship and shall

indicate the estimated performance of the ship in terms of energy efficiency, and be accompanied by the EEDI technical file that contains the information necessary for

the calculation of the attained EEDI and that shows the process of calculation. The attained EEDI shall be verified, based on the EEDI technical file, either by the Administration or by any organization duly authorized by it*.

* Refer to *Code for Recognized Organizations (RO Code)*, adopted by the MEPC by resolution MEPC.237(65), as may be amended."

Regulation 21 – Required EEDI

10 Paragraph 1 is replaced with the following:

"1 For each:

- .1 new ship;
- .2 new ship which has undergone a major conversion; and
- .3 new or existing ship which has undergone a major conversion that is so extensive that the ship is regarded by the Administration as a newly-constructed ship,

which falls into one of the categories in regulations 2.25 to 2.31, 2.33 to 2.35, 2.38 and 2.39 and to which this chapter is applicable, the attained EEDI shall be as follows:

$$\text{Attained EEDI} \leq \text{Required EEDI} = (1-X/100) \times \text{reference line value}$$

where X is the reduction factor specified in table 1 for the required EEDI compared to the EEDI reference line."

11 New rows are added to table 1 in paragraph 2 for ro-ro cargo ships (vehicle carrier), LNG carrier, cruise passenger ship having non-conventional propulsion, ro-ro cargo ships and ro-ro passenger ships, and marks ** and *** and their explanations are added, as follows:

"

Ship Type	Size	Phase 0 1 Jan 2013 – 31 Dec 2014	Phase 1 1 Jan 2015 – 31 Dec 2019	Phase 2 1 Jan 2020 – 31 Dec 2024	Phase 3 1 Jan 2025 and onwards
LNG carrier***	10,000 DWT and above	n/a	10**	20	30
Ro-ro cargo ship (vehicle carrier)***	10,000 DWT and above	n/a	5**	15	30
Ro-ro cargo ship***	2,000 DWT and above	n/a	5**	20	30
	1,000 – 2,000 DWT	n/a	0-5* **	0-20*	0-30*
Ro-ro passenger ship***	1000 DWT and above	n/a	5**	20	30
	250 – 1,000 DWT	n/a	0-5* **	0-20*	0-30*
Cruise passenger ship*** having non-conventional propulsion	85,000 GT and above	n/a	5**	20	30
	25,000 – 85,000 GT	n/a	0-5* **	0-20*	0-30*

* Reduction factor to be linearly interpolated between the two values dependent upon ship size. The lower value of the reduction factor is to be applied to the smaller ship size.

** Phase 1 commences for those ships on 1 September 2015.

*** Reduction factor applies to those ships delivered on or after 1 September 2019, as defined in paragraph 43 of regulation 2.

Note: n/a means that no required EEDI applies."

12 New rows are added to table 2 in paragraph 3 for ro-ro cargo ship (vehicle carrier), LNG carrier, cruise passenger ship having non-conventional propulsion, ro-ro cargo ships and ro-ro passenger ships as follows:

"

Ship type defined in regulation 2	a	b	c
2.33 Ro-ro cargo ship (vehicle carrier)	$(DWT/GT)^{0.7} \cdot 780.36$ where $DWT/GT < 0.3$ 1812.63 where $DWT/GT \geq 0.3$	DWT of the ship	0.471
2.34 Ro-ro cargo ship	1405.15	DWT of the ship	0.498
2.35 Ro-ro passenger ship	752.16	DWT of the ship	0.381
2.38 LNG carrier	2253.7	DWT of the ship	0.474
2.39 Cruise passenger ship having non-conventional propulsion	170.84	GT of the ship	0.214

"

Appendix I – Form of International Air Pollution Prevention (IAPP) Certificate (regulation 8)

13 The footnote in the Supplement to International Air Pollution Prevention Certificate (IAPP Certificate) is amended to read as follows:

"* Completed only in respect of ships constructed on or after 1 January 2016 that are specially designed, and used solely, for recreational purposes and to which, in accordance with regulation 13.5.2.1 and regulation 13.5.2.3, the NO_x emission limit as given by regulation 13.5.1.1 will not apply."

AMENDMENTS TO THE NO_x TECHNICAL CODE 2008

Abbreviations, subscripts and symbols

14 Table 4 is replaced by the following:

"Table 4 – Symbols for fuel composition

Symbol	Definition	Unit
W_{ALF}^*	H content of fuel	% m/m
W_{BET}^*	C content of fuel	% m/m
W_{GAM}	S content of fuel	% m/m
W_{DEL}^*	N content of fuel	% m/m
W_{EPS}^*	O content of fuel	% m/m
α	Molar ratio (H/C)	1

* Subscripts "_g" denotes gas-fuel fraction.
 "_l" denotes liquid-fuel fraction."

Chapter 1 – General

15 Paragraph 1.3.10 is replaced by the following:

"1.3.10 *Marine diesel engine* means any reciprocating internal combustion engine operating on liquid or dual fuel, to which regulation 13 applies, including booster/compound systems, if applied.

Where an engine is intended to be operated normally in the gas mode, i.e. with the gas fuel as the main fuel and with liquid fuel as the pilot or balance fuel, the requirements of regulation 13 have to be met only for this operation mode. Operation on pure liquid fuel resulting from restricted gas supply in cases of failures shall be exempted for the voyage to the next appropriate port for the repair of the failure."

Chapter 5 – Procedures for NO_x emission measurements on a test bed

16 Existing paragraph 5.3.4 is deleted and new paragraphs 5.3.4, 5.3.5 and 5.3.6 are added after existing paragraph 5.3.3 as follows:

"5.3.4 The selection of gas fuel for testing for dual fuel depends on the aim of tests. In case where an appropriate standard gas fuel is not available, other gas

fuels shall be used with the approval of the Administration. A gas fuel sample shall be collected during the test of the parent engine. The gas fuel shall be analysed to give fuel composition and fuel specification.

5.3.5 Gas fuel temperature shall be measured and recorded together with the measurement point position.

5.3.6 Gas mode operation of dual fuel engines using liquid fuel as pilot or balance fuel shall be tested using maximum liquid-to-gas fuel ratio, such maximum ratio means for the different test cycle modes the maximum liquid-to-gas setting certified. The liquid fraction of the fuel shall comply with 5.3.1, 5.3.2 and 5.3.3."

17 A new sentence is added at the end of existing paragraph 5.12.3.3, as follows:

"In case of the use of dual fuel, the calculation shall be in accordance with paragraphs 5.12.3.1 to 5.12.3.3. However, q_{mf} , W_{ALF} , W_{BET} , W_{DEL} , W_{EPS} , f_{fw} values shall be calculated in accordance with the following table:

Factors in the formula (6) (7) (8)	=	Formula for factors
q_{mf}	=	$q_{mf_G} + q_{mf_L}$
W_{ALF}	=	$\frac{q_{mf_G} \times W_{ALF_G} + q_{mf_L} \times W_{ALF_L}}{q_{mf_G} + q_{mf_L}}$
W_{BET}	=	$\frac{q_{mf_G} \times W_{BET_G} + q_{mf_L} \times W_{BET_L}}{q_{mf_G} + q_{mf_L}}$
W_{DEL}	=	$\frac{q_{mf_G} \times W_{DEL_G} + q_{mf_L} \times W_{DEL_L}}{q_{mf_G} + q_{mf_L}}$
W_{EPS}	=	$\frac{q_{mf_G} \times W_{EPS_G} + q_{mf_L} \times W_{EPS_L}}{q_{mf_G} + q_{mf_L}}$

18 In paragraph 5.12.5.1, table 5 is replaced by the following:

"Table 5 – Coefficient u_{gas} and fuel-specific parameters for raw exhaust gas

Gas		NO _x	CO	HC	CO ₂	O ₂
	ρ_{gas} kg/m ³	2.053	1.250	*	1.9636	1.4277
	ρ_e †	Coefficient $u_{\text{gas}}^{\ddagger}$				
Liquid fuel**	1.2943	0.001586	0.000966	0.000479	0.001517	0.001103
Rapeseed Methyl Ester	1.2950	0.001585	0.000965	0.000536	0.001516	0.001102
Methanol	1.2610	0.001628	0.000991	0.001133	0.001557	0.001132
Ethanol	1.2757	0.001609	0.000980	0.000805	0.001539	0.001119
Natural gas	1.2661	0.001621	0.000987	0.000558	0.001551	0.001128
Propane	1.2805	0.001603	0.000976	0.000512	0.001533	0.001115
Butane	1.2832	0.001600	0.000974	0.000505	0.001530	0.001113

* Depending on fuel.

** Petroleum derived.

† ρ_e is the nominal density of the exhaust gas.

‡ At $\lambda = 2$, wet air, 273 K, 101.3 kPa.

Values for u given in table 5 are based on ideal gas properties.

In multiple fuel type operation, the u_{gas} value used shall be determined from the values applicable to those fuels in the table set out above proportioned in accordance with the fuel ratio used."

Chapter 6 – Procedures for demonstrating compliance with NO_x emission limits on board

19 Paragraph 6.3.1.4 is replaced by the following:

"6.3.1.4 In practical cases, it is often impossible to measure the fuel oil consumption once an engine has been installed on board a ship. To simplify the procedure on board, the results of the measurement of the fuel oil consumption from an engine's pre-certification test-bed testing may be accepted. In such cases, especially concerning residual fuel oil operation (RM-grade fuel oil according to ISO 8217:2005) and dual fuel operation, an estimation with a corresponding estimated error shall be made. Since the fuel oil flow rate used in the calculation (q_{mf}) must relate to the fuel oil composition determined in respect of the fuel sample drawn during the test, the measurement of q_{mf} from the test-bed testing shall be corrected for any difference in net calorific values between the test bed and test fuel oils and gases. The consequences of such an error on the final emissions shall be calculated and reported with the results of the emission measurement."

20 In paragraph 6.3.2.1, table 6 is replaced by the following:

"Table 6 – Engine parameters to be measured and recorded"

Symbol	Term	Unit
H_a	Absolute humidity (mass of engine intake air water content related to mass of dry air)	g/kg
$n_{d,i}$	Engine speed (at the i^{th} mode during the cycle)	min ⁻¹
$n_{turb,i}$	Turbocharger speed (if applicable) (at the i^{th} mode during the cycle)	min ⁻¹
P_b	Total barometric pressure (in ISO 3046-1:1995: $p_x = P_x =$ site ambient total pressure)	kPa
$P_{G,i}$	Charge air pressure after the charge air cooler (at the i^{th} mode during the cycle)	kPa
P_i	Brake power (at the i^{th} mode during the cycle)	kW
$q_{mf,i}$	Fuel oil (in case of dual fuel engine, it would be fuel oil and gas) (at the i^{th} mode during the cycle)	kg/h
s_i	Fuel rack position (of each cylinder, if applicable) (at the i^{th} mode during the cycle)	
T_a	Intake air temperature at air inlet (in ISO 3046-1:1995: $T_x = TT_x =$ site ambient thermodynamic air temperature)	K
$T_{5C,i}$	Charge air temperature after the charge air cooler (if applicable) (at the i^{th} mode during the cycle)	K
T_{caclin}	Charge air cooler, coolant inlet temperature	°C
$T_{caclout}$	Charge air cooler, coolant outlet temperature	°C
$T_{Exh,i}$	Exhaust gas temperature at the sampling point (at the i^{th} mode during the cycle)	°C
$T_{Fuel_{L-L}}$	Fuel oil temperature before the engine	°C
T_{Sea}	Seawater temperature	°C
$T_{Fuel_{G}^*}$	Gas fuel temperature before the engine	°C

* Only for dual-fuel engine."

- 21 A new paragraph 6.3.4.3 is added after existing paragraph 6.3.4.2 as follows:
- "6.3.4.3 In case of a dual fuel engine, the gas fuel used shall be the gas fuel available on board."
- 22 Paragraph 6.3.11.2 is replaced by the following:

"6.3.11.2 The NO_x emission of an engine may vary depending on the ignition quality of the fuel oil and the fuel-bound nitrogen. If there is insufficient information available on the influence of the ignition quality on the NO_x formation during the combustion process and the fuel-bound nitrogen conversion rate also depends on the engine efficiency, an allowance of 10% may be granted for an on board test run carried out on an RM-grade fuel oil (ISO 8217:2005), except that there will be no allowance for the pre-certification test on board. The fuel oil and gas fuel used shall be analysed for its composition of carbon, hydrogen, nitrogen, sulphur and, to the extent given in (ISO 8217:2005) and (ISO 8178-5:2008), any additional components necessary for a specification of the fuel oil and gas fuel."

23 In paragraph 6.4.11.1, table 9 is replaced by the following:

"Table 9 – Default fuel oil parameters

	Carbon	Hydrogen	Nitrogen	Oxygen
	W_{BET}	W_{ALF}	W_{DEL}	W_{EPS}
Distillate fuel oil (ISO 8217:2005, DM grade)	86.2%	13.6%	0.0%	0.0%
Residual fuel oil (ISO 8217:2005, RM grade)	86.1%	10.9%	0.4%	0.0%
Natural gas	75.0%	25.0%	0.0%	0.0%

For other fuel oils, default value as approved by the Administration."

Appendix VI – Calculation of exhaust gas mass flow (carbon balance method)

24 A new paragraph 2.5 is added after existing paragraph 2.4 as follows:

"2.5 q_{mf} , W_{ALF} , W_{BET} , W_{DEL} , W_{EPS} , f_{fd} parameters, in formula (1), in case of gas mode operation of dual-fuel engine, shall be calculated as follows:

Factors in formula (1)	=	Formula of factors
q_{mf}	=	$q_{mf_G} + q_{mf_L}$
W_{ALF}	=	$\frac{q_{mf_G} \times W_{ALF_G} + q_{mf_L} \times W_{ALF_L}}{q_{mf_G} + q_{mf_L}}$
W_{BET}	=	$\frac{q_{mf_G} \times W_{BET_G} + q_{mf_L} \times W_{BET_L}}{q_{mf_G} + q_{mf_L}}$
W_{DEL}	=	$\frac{q_{mf_G} \times W_{DEL_G} + q_{mf_L} \times W_{DEL_L}}{q_{mf_G} + q_{mf_L}}$
W_{EPS}	=	$\frac{q_{mf_G} \times W_{EPS_G} + q_{mf_L} \times W_{EPS_L}}{q_{mf_G} + q_{mf_L}}$

第 MEPC.258 (67) 號決議

(2014 年 10 月 17 日通過)

《經 1978 年議定書修訂的 1973 年國際防止船舶造成
污染公約的 1997 年修正議定書》附則修正案

《防污公約》附則 VI 修正案

(對第 2 和第 13 條及國際防止空氣污染 (IAPP) 證書附件
的修正)

海上環境保護委員會，

憶及《國際海事組織公約》關於防止和控制船舶造成海洋污染的
國際公約賦予海上環境保護委員會的職能的第 38 (a) 條，

注意到《1973 年國際防止船舶造成污染公約》(《1973 年公約》)
第 16 條，《1973 年國際防止船舶造成污染公約 1978 年議定書》(1978
年議定書) 第 VI 條和《經 1978 年議定書修訂的 1973 年國際防止船
舶造成污染公約的 1997 年議定書》(《1997 年議定書》) 第 4 條共同
規定的 1997 年議定書的修正程序和賦予本組織相關機構審議並通過
經 1978 年和 1997 年議定書修訂的 1973 年公約修正案的職能，

還注意到 1997 年議定書將《防止船舶造成空氣污染規則》納入
了《1973 年公約》，

進一步注意到以第 MEPC.176 (58) 號決議通過的經修訂的附則
VI 已於 2010 年 7 月 1 日生效，

審議了關於完全使用氣體燃料的發動機的經修訂的附則 VI 修正案，

1 按照《1973 年公約》第 16 (2) (d) 條，通過《防污公約》附則 VI 修正案，其文本載於本決議附件；

2 按照《1973 年公約》第 16 (2) (f) (iii) 條，決定該修正案於 2015 年 9 月 1 日須視為已被接受，除非在此日期之前，有不少於三分之一的締約國或擁有商船合計噸位數不少於世界商船總噸數 50% 的締約國通知本組織反對該修正案；

3 提請各締約國注意，按照《1973 年公約》第 16 (2) (g) (ii) 條，所述修正案在按上述第 2 段被接受後，將於 2016 年 3 月 1 日生效。

4 要求秘書長按照《1973 年公約》第 16 (2) (e) 條，將本決議及其附件中所含修正案文本的核准無誤副本分發給所有《經 1978 年和 1997 年議定書修訂的 1973 年公約》締約國；

5 進一步要求秘書長將本決議及其附件的副本分發給非《經 1978 年和 1997 年議定書修訂的 1973 年公約》締約國的本組織成員。

附件

《防污公約》附則 VI 修正案

(對第 2 和第 13 條及附錄 1 的修正)

《防污公約》附則 VI

防止船舶造成空氣污染規則

第 1 章

總則

第 2 條

定義

1 本條第 9 段中“燃油”的定義由下列替代：

“燃油係指為推進或船上運轉而交付船上的用於燃燒的任何燃料，包括氣體燃料、餾分燃油和殘餘燃油。”

2 本條第 14 段中“船用柴油機”的定義由下列替代：

“船用燃油機係指本附則第 13 條所適用的以液體或雙燃料運行的任何往復式內燃機，包括增壓/複合系統（如適用）。此外，2016 年 3 月 1 日或以後建造的船舶上安裝的氣體燃料發動機或在該日期或以後安裝的新增氣體燃料發動機或非完全相同的替代氣體燃料發動機也視為船用柴油機。”

第 3 章

船舶排放控制要求

第 13 條

氮氧化物 (NO_x)

3 本條第 7.3 段由下列替代：

“7.3 對於在 1990 年 1 月 1 日或以後但在 2000 年 1 月 1 日以前建造的船舶上安裝的輸出功率超過 5,000 kW、每缸排量在 90 升或以上的船用柴油機，其《國際防止空氣污染證書》，對於適用本條 7.1 的船用柴油機，須按下列情況之一予以標明：

- .1 已按照本條第 7.1.1 段應用經認可的方法；
- .2 已按照本條第 7.1.2 段對發動機予以核准；
- .3 按照本條 7.2 所述，尚無可商業獲得的經認可方法；或
- .4 經認可方法不適用。”

附錄 I

國際防止空氣污染（IAPP）證書格式（第 8 條）

國際防止空氣污染證書（IAPP 證書）補頁

- 4 與第 1.4 段相關的腳註由下列替代：

“* 僅就 2016 年 1 月 1 日或以後建造的經特殊設計並僅用於娛樂目的、根據第 13.5.2.1 條或第 13.5.2.3 條不適用於第 13.5.1.1 條規定的 NO_x 排放極限的船舶填寫。”

- 5 第 2.2.1 段由下列替代：

“2.2.1 下列船上安裝的船用柴油機符合第 13 條所示要求：

防污公約附則 VI 適用規則 (NTC = 2008 年 NO _x 技術規則) (AM = 經認可方法)		發動機 #2	發動機 #2	發動機 #3	發動機 #4	發動機 #5	發動機 #6
1	製造廠和型號						
2	系列號						
3	使用 (適用的應用循環-NTC3.2)						
4	額定功率 (kW) (NTC1.3.11)						
5	額定轉速 (RPM) (NTC1.3.12)						
6	第 13.1.1.2 條所免除的 2000 年 1 月 1 日或以後安裝的完全相同柴油機		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	按照第 13.1.1.2 條, 完全相同柴油機的安裝日期 (年/月/日)						
8a	重大改裝 (年/月/日)	13.2.1.1 & 13.2.2					
8b		13.2.1.2 & 13.2.3					
8c		13.2.1.3 & 13.2.3					
9a	I 級	13.3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9b		13.2.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9c		13.2.3.1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9d		13.2.3.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9e		13.7.1.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10a	II 級	13.4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10b		13.2.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10c		13.2.2 (不符合 III 級)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10d		13.2.3.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10e		13.5.2 (免除)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10f		13.7.1.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11a	III 級 (僅 ECA-NO _x)	13.5.1.1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11b		13.2.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11c		13.2.3.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11d		13.7.1.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12	Am*	已安裝	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13		本次檢驗時無可購者	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14		不適用	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

* 參見《2014 年認可方法程序指南》(第 MEPC.243 (66) 號決議)。

6 第 2.5 段由下列替代：

“2.5 船上焚燒（第 16 條）

該船裝有 1 台焚燒爐：

.1 2000 年 1 月 1 日或以後安裝，符合：

.1 經修正的第 MEPC.76（40）號決議*

.2 第 MEPC.244（66）號決議

.2 2000 年 1 月 1 日以前安裝，符合：

.1 經修正的第 MEPC.59（33）號決議**

.2 經修正的第 MEPC.76（40）號決議*

* 經第 MEPC.93（45）號決議修正。

** 經第 MEPC.92（45）號決議修正。”

RESOLUTION MEPC.258(67)**Adopted on 17 October 2014****AMENDMENTS TO THE ANNEX OF THE PROTOCOL OF 1997 TO AMEND
THE INTERNATIONAL CONVENTION FOR THE PREVENTION OF
POLLUTION FROM SHIPS, 1973, AS MODIFIED BY THE
PROTOCOL OF 1978 RELATING THERETO****Amendments to MARPOL Annex VI****(Amendments to regulations 2 and 13 and the Supplement to the IAPP Certificate)**

THE MARINE ENVIRONMENT PROTECTION COMMITTEE,

RECALLING Article 38(a) of the Convention on the International Maritime Organization concerning the functions of the Marine Environment Protection Committee conferred upon it by international conventions for the prevention and control of marine pollution from ships,

NOTING article 16 of the International Convention for the Prevention of Pollution from Ships, 1973 ("1973 Convention"), article VI of the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973 ("1978 Protocol") and article 4 of the Protocol of 1997 to amend the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto ("1997 Protocol"), which together specify the amendment procedure of the 1997 Protocol and confer upon the appropriate body of the Organization the function of considering and adopting amendments to the 1973 Convention, as modified by the 1978 and 1997 Protocols,

NOTING ALSO that, by the 1997 Protocol, Annex VI entitled Regulations for the prevention of air pollution from ships was added to the 1973 Convention,

NOTING FURTHER that the revised Annex VI, which was adopted by resolution MEPC.176(58), entered into force on 1 July 2010,

HAVING CONSIDERED draft amendments to the revised Annex VI concerning engines solely fuelled by gaseous fuels,

1 ADOPTS, in accordance with article 16(2)(d) of the 1973 Convention, amendments to Annex VI, the text of which is set out in the annex to the present resolution;

2 DETERMINES, in accordance with article 16(2)(f)(iii) of the 1973 Convention, that the amendments shall be deemed to have been accepted on 1 September 2015, unless prior to that date, not less than one third of the Parties or Parties, the combined merchant fleets of which constitute not less than 50% of the gross tonnage of the world's merchant fleet, have communicated to the Organization their objection to the amendments;

3 INVITES the Parties to note that, in accordance with article 16(2)(g)(ii) of the 1973 Convention, said amendments shall enter into force on 1 March 2016 upon their acceptance in accordance with paragraph 2 above;

4 REQUESTS the Secretary-General, in conformity with article 16(2)(e) of the 1973 Convention, to transmit to all Parties to the 1973 Convention, as modified by the 1978 and 1997 Protocols, certified copies of the present resolution and the text of the amendments contained in the annex;

5 REQUESTS FURTHER the Secretary-General to transmit to the Members of the Organization which are not Parties to the 1973 Convention, as modified by the 1978 and 1997 Protocols, copies of the present resolution and its annex.

ANNEX

AMENDMENTS TO MARPOL ANNEX VI

(Amendments to regulations 2 and 13 and appendix I)

MARPOL Annex VI

Regulations for the prevention of air pollution from ships

Chapter 1
General

Regulation 2

Definitions

- 1 The definition of "fuel oil" in paragraph 9 is replaced by the following definition:

"Fuel oil means any fuel delivered to and intended for combustion purposes for propulsion or operation on board a ship, including gas, distillate and residual fuels."
- 2 The definition of "marine diesel engine" in paragraph 14 is replaced by the following definition:

"Marine diesel engine means any reciprocating internal combustion engine operating on liquid or dual fuel, to which regulation 13 of this Annex applies, including booster/compound systems if applied. In addition, a gas fuelled engine installed on a ship constructed on or after 1 March 2016 or a gas fuelled additional or non-identical replacement engine installed on or after that date is also considered as a marine diesel engine."

Chapter 3

Requirements for control of emissions from ships

Regulation 13

Nitrogen oxides (NO_x)

- 3 Paragraph 7.3 is replaced by the following paragraph:
 - "7.3 With regard to a marine diesel engine with a power output of more than 5,000 kW and a per cylinder displacement at or above 90 litres installed on a ship constructed on or after 1 January 1990, but prior to 1 January 2000, the International Air Pollution Prevention Certificate shall, for a marine diesel engine to which paragraph 7.1 of this regulation applies, indicate one of the following:
 - .1 an approved method has been applied pursuant to paragraph 7.1.1 of this regulation;
 - .2 the engine has been certified pursuant to paragraph 7.1.2 of this regulation;
 - .3 an approved method is not yet commercially available as described in paragraph 7.2 of this regulation; or
 - .4 an approved method is not applicable."

Appendix I
Form of International Air Pollution Prevention (IAPP) Certificate (Regulation 8)

Supplement to the International Air Pollution Prevention Certificate (IAPP Certificate)

4 The footnote relating to paragraph 1.4 is replaced by the following footnote:

"* Completed only in respect of ships constructed on or after 1 January 2016 that are specially designed, and used solely for recreational purposes and to which, in accordance with regulation 13.5.2.1 or regulation 13.5.2.3, the NO_x emission limit as given by regulation 13.5.1.1 will not apply."

5 Paragraph 2.2.1 is replaced by the following paragraph:

"2.2.1 The following marine diesel engines installed on this ship are in accordance with the requirements of regulation 13, as indicated:

Applicable regulation of MARPOL Annex VI (NTC = NO _x Technical Code 2008) (AM = Approved Method)		Engine #1	Engine #2	Engine #3	Engine #4	Engine #5	Engine #6
1	Manufacturer and model						
2	Serial number						
3	Use (applicable application cycle(s) – NTC 3.2)						
4	Rated power (kW) (NTC 1.3.11)						
5	Rated speed (RPM) (NTC 1.3.12)						
6	Identical engine installed ≥ 1/1/2000 exempted by 13.1.1.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Identical engine installation date (dd/mm/yyyy) as per 13.1.1.2						
8a	Major	13.2.1.1 & 13.2.2					
8b	Conversion	13.2.1.2 & 13.2.3					
8c	(dd/mm/yyyy)	13.2.1.3 & 13.2.3					
9a	Tier I	13.3		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9b		13.2.2		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9c		13.2.3.1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9d		13.2.3.2		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9e		13.7.1.2		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10a	Tier II	13.4		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10b		13.2.2		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10c		13.2.2 (Tier III not possible)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10d		13.2.3.2		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10e		13.5.2 (Exemptions)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10f		13.7.1.2		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11a	Tier III (ECA-NO _x only)	13.5.1.1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11b		13.2.2		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11c		13.2.3.2		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11d		13.7.1.2		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12	AM*	installed		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13		not commercially available at this survey		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14		not applicable		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

* Refer to the 2014 Guidelines on the approved method process (resolution MEPC.243(66))."

6 Paragraph 2.5 is replaced by the following paragraph:

"2.5 Shipboard incineration (regulation 16)

The ship has an incinerator:

.1 installed on or after 1 January 2000 that complies with:

- | | | |
|----|--------------------------------------|--------------------------|
| .1 | resolution MEPC.76(40), as amended * | <input type="checkbox"/> |
| .2 | resolution MEPC.244(66) | <input type="checkbox"/> |

.2 installed before 1 January 2000 that complies with:

- | | | |
|----|---------------------------------------|--------------------------|
| .1 | resolution MEPC.59(33), as amended ** | <input type="checkbox"/> |
| .2 | resolution MEPC.76(40), as amended * | <input type="checkbox"/> |

-
- * As amended by resolution MEPC.93(45).
 ** As amended by resolution MEPC.92(45)."

二零一八年三月二十三日於行政長官辦公室

辦公室主任 柯嵐

Gabinete do Chefe do Executivo, aos 23 de Março de 2018.
 — A Chefe do Gabinete, *O Lam*.

保安司司長辦公室

批示摘錄

透過保安司司長二零一八年二月十三日的批示：

劉寶倩——根據現行第14/1999號行政法規《行政長官及司長辦公室通則》第十八條第一款、第二款、第五款、第十九條第十款及第十一款，以及按照第12/2015號法律《公共部門勞動合同制度》第四條第二款及第六條第一款的規定，以行政任用合同續任為本辦公室第一職階二等技術員，自二零一八年四月九日起為期一年。

二零一八年三月二十三日於保安司司長辦公室

辦公室主任 張玉英

GABINETE DO SECRETÁRIO PARA A SEGURANÇA

Extracto de despacho

Por despacho do Ex.^{mo} Senhor Secretário para a Segurança, de 13 de Fevereiro de 2018:

Lao Pou Sin — renovado o contrato administrativo de provimento, pelo período de um ano, como técnica de 2.ª classe, 1.º escalão, neste Gabinete, nos termos dos artigos 18.º, n.ºs 1, 2 e 5, e 19.º, n.ºs 10 e 11, do Regulamento Administrativo n.º 14/1999 (Estatuto do Gabinete do Chefe do Executivo e dos Secretários), vigente, e 4.º, n.º 2, e 6.º, n.º 1, da Lei n.º 12/2015 (Regime do Contrato de Trabalho nos Serviços Públicos), a partir de 9 de Abril de 2018.

Gabinete do Secretário para a Segurança, aos 23 de Março de 2018. — A Chefe do Gabinete, *Cheong Ioc Ieng*.