

# Amendments to MARPOL Annex VI on Regulations for the Prevention of Air Pollution from Ships by Inclusion of New Regulations on Energy Efficiency for Ships Resolution MEPC.203(62) adopted at London on 15 July 2011

## Introduction

- 2.1 On 22 November 2011, the *Amendments to MARPOL Annex VI on Regulations for the Prevention of Air Pollution from Ships by Inclusion of New Regulations on Energy Efficiency for Ships Resolution MEPC.203(62) adopted at London on 15 July 2011*, was tabled in the Commonwealth Parliament.

## Background

- 2.2 The Annex VI Amendments are designed to mitigate greenhouse gas emissions by introducing mandatory carbon dioxide (CO<sub>2</sub>) emissions standards for ships in order to reduce greenhouse gas emissions from international shipping.<sup>1,2,3</sup>

---

1 National Interest Analysis [2011] ATNIA 34 with attachment on consultation *Amendments to MARPOL Annex VI on Regulations for the Prevention of Air Pollution from Ships by Inclusion of New Regulations on Energy Efficiency for Ships, Resolution MEPC.203(62) adopted at London on 15 July 2011* [2011] ATNIF 25 (Hereafter referred to as the 'NIA'), para 2.

2 A 2009 OECD discussion paper on the issue can be found at:  
<<http://www.internationaltransportforum.org/jtrc/discussionpapers/DP200911.pdf>>.

- 2.3 The proposed amendments introduce mandatory CO<sub>2</sub> emissions standards, termed a 'required Energy Efficiency Design Index (EEDI)', for international trade ships that are new, or that undergo a major conversion, after 1 January 2013. All existing international ships of 400 gross tonnage and above would also require a Ship Energy Efficiency Management Plan (SEEMP).<sup>4</sup>
- 2.4 The proposed amendments also include consequential changes in Chapters 1 and 2 of Annex VI to clarify the regulations, and the survey and certification requirements of ships engaged in international trade.<sup>5</sup>
- 2.5 The Annex VI Amendments represent the first mandatory greenhouse gas emission reduction measures for an international industry sector, and help to close a gap in the existing international climate change framework, which currently excludes the shipping sector from emissions reduction targets.<sup>6</sup>
- 2.6 Adoption of the measures is expected to remove between 45 and 50 million tonnes of CO<sub>2</sub> from the atmosphere annually by 2020, compared with current emissions. For 2030, the reduction is expected to be between 180 and 240 million tonnes annually.<sup>7</sup>
- 2.7 The proposed amendments introduce mandatory CO<sub>2</sub> emissions standards, termed a 'required Energy Efficiency Design Index (EEDI)', for international trade ships that are new, or that undergo a major conversion, after 1 January 2013. All existing international ships of 400 Gross Tonnage and above would also require a Ship Energy Efficiency Management Plan (SEEMP).<sup>8</sup>
- 2.8 The proposed amendments also include consequential changes in Chapters 1 and 2 of Annex VI to clarify the regulations, and the survey and certification requirements of ships engaged in international trade.<sup>9</sup>

---

3 A flyer from the International Chamber of Shipping on the topic can be found at: <http://www.shippingandco2.org/CO2%20Flyer.pdf>.

4 NIA, para 5.

5 NIA, para 5.

6 NIA, para 6.

7 NIA, para 7.

8 NIA, para 5.

9 NIA, para 5.

## Energy Efficiency Design Index

- 2.9 The EEDI is a non-prescriptive, performance-based mechanism that sets the emission target for each new ship. The choice of technologies to use in a specific ship design to meet the emission target is left to the industry.<sup>10</sup>
- 2.10 Regulation 20 of the amended Annex VI requires that an 'attained EEDI' shall be calculated for each ship in accordance with IMO guidelines. The attained EEDI is specific to each ship and measures that ship's estimated energy efficiency performance. To meet the requirements of amended Annex VI, the attained EEDI needs to be no greater than the 'required EEDI' - which represents the energy efficiency target each class ship is required to meet.<sup>11</sup>
- 2.11 The EEDI requirement would apply to new bulk carriers, gas carriers, tankers, container ships, general cargo vessels, refrigerated ships and combination carriers. Other vessels, such as passenger vessels and vehicle carriers, are not included as further analysis of data on these vessels is incomplete. The required EEDI would be reduced over three phases - 2015, 2020 and 2025 - with the amount of reduction varying according to ship type.<sup>12</sup>
- 2.12 The EEDI will apply to all ships of 400 gross tonnage and above, excluding the ships solely engaged in voyages within waters subject to the jurisdiction of the flag state, and only to new ships and ships that have undergone a major conversion.<sup>13</sup>

## Ship Energy Efficiency Management Plan

- 2.13 The SEEMP requires operators to improve the energy efficiency of ships during operations. The Amended Annex VI provides that each international ship, new and existing, of 400 gross tonnage and above, would be required to keep a Ship Energy Efficiency Plan, developed in accordance with IMO guidelines.<sup>14</sup> The Department of Infrastructure and Transport explained further:

The SEEMP establishes a mechanism that requires operators to improve the energy efficiency of ship steering operations...  
Adoption of the measures by the international shipping sector is

---

10 NIA, para 16.

11 NIA, para 18.

12 NIA, para 18.

13 NIA, para 17.

14 NIA, para 19.

expected to remove between 45 and 50 million tonnes of carbon dioxide from the atmosphere annually by 2020 compared with business as usual, depending upon the growth in world trade. This reduction is expected to be between 180 and 240 million tonnes annually by 2030. Australia's adoption of the proposed amendments would assist in ensuring broad international acceptance and would demonstrate our support for global efforts to reduce emissions from the transport sector.<sup>15</sup>

### Survey and Certification

- 2.14 Finally, the Amended Annex VI will provide that each ship of any of the prescribed types built for international trade will need to be surveyed by the Administration of the flag State or a recognised organisation delegated by the Administration to determine that the attained EEDI is in accordance with Regulation 21.<sup>16</sup>
- 2.15 The Administration will issue an "International Energy Efficiency Certificate" following successful completion of this survey. An International Energy Efficiency Certificate must be issued to a ship before that ship can undertake international voyages to ports or offshore terminals under the jurisdiction of other Parties.<sup>17</sup>

### Reasons for Australia to take the proposed treaty action

- 2.16 Worldwide seaborne trade has been increasing by approximately 4 percent a year. International shipping accounted for approximately 870 million tonnes, or 2.7 percent, of global emissions in 2007. According to the second IMO Greenhouse Gas Study (2009) greenhouse gas emissions from shipping can be expected to increase by between 150 – 250 percent by 2050 in the absence of mitigation efforts.<sup>18</sup>
- 2.17 The Kyoto Protocol to the *UN Framework Convention on Climate Change* (UNFCCC) expressly omits the international shipping sector from Developed Country Parties' national emission reduction targets. Instead, the Parties to the Kyoto Protocol agreed to pursue limitation or reduction of emissions from international shipping through the IMO.<sup>19</sup>

---

15 Ms Poh Aye Tan, Section Head, Maritime Policy Section, Maritime Policy Reform Branch, Surface Transport Policy Division, Department of Infrastructure and Transport, *Committee Hansard*, 6 February 2012, p. 13.

16 NIA, para 20.

17 NIA, para 21.

18 NIA, para 9.

19 NIA, para 10.

- 2.18 Australia has worked actively within the IMO to seek practical, non-discriminatory, non-trade distorting solutions to reducing greenhouse gas emissions from international shipping. In conjunction with eight other Parties to MARPOL, Australia sponsored the proposed amendments to Annex VI.
- 2.19 According to the NIA, various studies suggest that ships can reduce their CO<sub>2</sub> emissions by as much as 25 percent by adopting better hull designs, energy efficient technologies and energy efficient operations. The proposed amendments seek to influence expeditious uptake of these technologies by setting mandatory emissions standards for new ships. The measures do not discriminate between countries. They apply to ships entitled to fly the flag of a Party to MARPOL, and ships not entitled to fly the flag of a Party but which operate under the authority of a Party.<sup>20</sup>
- 2.20 The NIA speculates that International shipping would be slow in adopting available energy efficient technologies without international regulation. The NIA argues that the amendments should drive early adoption of energy efficient technologies by international shipping.<sup>21</sup>
- 2.21 By implementing the proposed amendments, Australia would be provided with a basis for requiring Australian ships to meet the EEDI and SEEMP specifications contained in the amended MARPOL Annex VI. If the amendments to Annex VI are not implemented in Australia, there is a material risk that Australian ships built after 1 January 2013 would be less energy efficient than foreign-flagged ships that do adhere to the new regulations and thus Australian ships would be unable to trade internationally if the amendments were implemented by other nations.<sup>22</sup>

## Implementation

- 2.22 Amendments to the *Navigation Act 1912* (Cth) (the Navigation Act), the *Protection of the Sea (Prevention of Pollution from Ships) Act 1983* (the Protection of the Sea Act) and *Marine Orders Part 97* would be required to implement the Amendments to Annex VI.<sup>23</sup>
- 2.23 As the Navigation Act gives effect to ship survey and construction requirements of MARPOL, for consistency it is envisaged that the new EEDI regulations would be included in that Act. The new SEEMP regulation is an operational requirement and would be achieved by
- 

20 NIA, para 11.

21 NIA, para 12.

22 NIA, para 14.

23 NIA, para 22.

amending the Protection of the Sea Act. Marine Orders Part 97 would be amended to prescribe matters and technical requirements for the purposes of the new regulations.<sup>24</sup>

- 2.24 Administration and enforcement would be through established procedures, mostly through port State control inspections. The Australian Maritime Safety Authority (AMSA) intends to enforce the new measure through its usual processes of port and flag state control. AMSA will also carry out investigations and prosecutions of alleged breaches where it has jurisdiction.<sup>25</sup>

## Costs

- 2.25 The proposed amendments would incur little or no cost on Australia as the EEDI regulations would only apply to prescribed ships that will be built after 1 January 2013 for international trade. These regulations would not apply to Australian ships that are currently in operation. Existing Australian international ships that are over 400 gross tonnage would be required to carry on board a SEEMP, an operational document, which can be achieved at a negligible cost.<sup>26</sup>
- 2.26 Given the significant number of MARPOL treaty amendments that occur, the Committee was interested if these additional obligations require AMSA to seek additional funding. The Department of Infrastructure and Transport responded:

No. When our marine surveyors go on board a ship to do what we call a port state control inspection, there is a fairly extensive list of documents they have to sight. I think the MARPOL Annex VI amendments will add one additional document to that; two additional documents if you count the SEEMP, the energy efficiency plan. So there will be two additional documents our marine surveyors will have to look at. It might take an extra time during the port state control inspection but at this stage we are not envisaging any additional resources needed for these amendments.<sup>27</sup>

---

24 NIA, para 23.

25 NIA, para 24.

26 NIA, para 25.

27 Mr Paul Nelson, Manager, Marine Environment Standards, Marine Environment Division, Australian Maritime Safety Authority, *Committee Hansard*, 6 February 2012, p. 17.

## Conclusion

- 2.27 The proposed amendments to Annex VI of MARPOL will result in a reduction of greenhouse gas emissions by introducing mandatory CO<sub>2</sub> emissions standards for ships in order to reduce greenhouse gas emissions from international shipping and in the process make a positive contribution to the broader issue of climate change.
- 2.28 The Committee notes that Australia has worked actively within the IMO to seek practical, non-discriminatory, non-trade distorting solutions to reducing greenhouse gas emissions from international shipping and that Australia has sponsored the proposed amendments to Annex VI.
- 2.29 The Committee supports the amendments and recommends that binding treaty action be taken.

### Recommendation 1

**The Committee supports the *Amendments to MARPOL Annex VI on Regulations for the Prevention of Air Pollution from Ships by Inclusion of New Regulations on Energy Efficiency for Ships Resolution MEPC.203(62) adopted at London on 15 July 2011* and recommends that binding treaty action be taken.**

