

Amendments to SOLAS and MARPOL

Introduction

- 3.1 This chapter examines two treaty actions:
- *International Code for Ships Operating in Polar Waters (Polar Code)*; and
 - *International Code for Safety of Ships using Gases or other Low-flashpoint Fuels (IGF Code)*.
- 3.2 To bring the Polar Code into effect the following treaty actions, tabled in the Parliament on 3 December 2015, are required:
- *International Code for Ships Operating in Polar Waters (Polar Code) Resolution MSC.385(94)*
 - *Amendments to the International Convention for the Safety of Life at Sea, 1974, as amended Resolution MSC.386(94)*;
 - *International Code for Ships Operating in Polar Waters (Polar Code) Resolution MEPC.264(68)*; and
 - *Amendments to the Annex of the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973. Amendments to MARPOL, Annexes I, II, IV and V Resolution MEPC.265(68)*.
- 3.3 To bring the IGF Code into effect the following treaty actions, tabled in the Parliament on 2 February 2016, are required:
- *International Code of Safety for Ships using Gases or other Low-flashpoint Fuels (IGF Code) Resolution MSC.391(95)*;
 - *Amendments to the International Convention for the Safety of Life at Sea, 1974, as amended Resolution MSC.392(95)*;
 - *Amendments to the Protocol of 1978 relating to the International Convention for the Safety of Life at Sea, 1974 Resolution MSC.394(95)*;

- Amendments to the Protocol of 1988 relating to the *International Convention for the Safety of Life at Sea, 1974* Resolution MSC.395(95);
- Amendments to the *International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW), 1978, as amended* Resolution MSC.396(95); and
- Amendments to Part A of the *Seafarers' Training, Certification and Watchkeeping (STWC) Code* Resolution MSC.397(95).

Background

- 3.4 The International Maritime Organization (IMO) is the specialised agency of the United Nations (UN) responsible for setting and maintaining a comprehensive regulatory framework for international shipping addressing safety, environmental, legal, technical, security and efficiency of shipping.¹ The IMO has 171 Member States and Australia has been a member since 1952.
- 3.5 The IMO administers the *International Convention for the Safety of Life at Sea, 1974, as amended* (SOLAS) and the *International Convention for the Prevention of Pollution from Ships, 1973* (MARPOL). Australia has been a Party to SOLAS since 1983 and to MARPOL since 1988.
- 3.6 SOLAS and MARPOL address ship safety and security, and pollution from ships, respectively. SOLAS contains the safety requirements for different types of ships including in respect of construction standards, life-saving appliances, navigation, the carriage of cargoes and dangerous goods, radio-communications, and maritime security measures. MARPOL regulates ship-generated pollution by way of six technical annexes dealing with: oil, noxious liquid substances in bulk, harmful substances in packaged form; sewage, garbage, and air pollution.²

1 National Interest Analysis [2016] ATNIA 1 with attachment on consultation, *International Code of Safety for Ships using Gases or other Low-flashpoint Fuels* and related amendments, done at London on 11 June 2015[2015] ATNIF 38 (hereafter referred to as NIA IGF Code), para 1.

2 National Interest Analysis [2015] ATNIA 22 with attachment on consultation, *International Code for Ships Operating in Polar Waters* and related amendments, done at London on 21 November 2014 and 15 May 2015 [2015] ATNIF 30 (hereafter referred to as NIA Polar Code), para 2.

Overview

Polar Code

- 3.7 The Polar Code will be mandatory, replacing the existing non-mandatory *2009 IMO Guidelines for Ships Operating in Polar Waters*. It will apply to ships operating in polar waters in both the Antarctic and Arctic.³
- 3.8 The Department of Infrastructure and Regional Development (DIRD) explained that the main impact will be on the Arctic rather than the Antarctic, as the Antarctic Treaty system already imposes high environmental standards. However, increased shipping in the Arctic has seen a need for the implementation of a mandatory code.⁴
- 3.9 The Code addresses the specific risks of operating in polar waters, such as: poor weather conditions; the relative lack of both good navigational charts and aids, and communications systems and aids; the potential for ice to impose additional loads on the hull and propellers; reduced effectiveness of machinery components of the ship while in low air temperatures, high latitudes or ice covered waters; and environmental protection challenges.⁵
- 3.10 The Code addresses these risks by specifying a range of operational and structural measures for ships to improve their safety and promote protection of the polar environments. The measures cover design, construction, equipment and operational matters, as well as training, search and rescue, and environmental discharges.⁶
- 3.11 The Code is divided into two parts, the first covering safety and the second pollution prevention:
- **Part I** of the Polar Code requires ships to be constructed to a structural strength appropriate for polar conditions and for necessary equipment to be carried on board.⁷
 - **Part I** also specifies the ship must have a Polar Water Operational Manual (PWOM) that details ship-specific capability and limitation information, procedures to be followed in normal operating conditions, and procedures to be followed in the event of incidents or emergencies.⁸

3 NIA Polar Code, para 12.

4 Ms Stephanie Johanna Werner, General Manager, Maritime and Shipping Branch, Surface Transport Policy Division, Department of Infrastructure and Regional Development (DIRD), *Committee Hansard*, Canberra, 29 February 2016, p. 7.

5 NIA Polar Code, para 13.

6 NIA Polar Code, para 14.

7 NIA Polar Code, para 15.

8 NIA Polar Code, para 16.

- **Part II** of the Polar Code contains provisions for both existing and new ships. For existing ships operating in polar waters, the Polar Code imposes discharge restrictions for oil, noxious liquid substances, sewage, and garbage. For new ships it specifies structural provisions, such as the protective location of cargo, fuel, sludge and bilge tanks.⁹
- 3.12 The amendments are *deemed* amendments and will be accepted on 1 July 2016 unless, prior to that date, more than one third of the Parties to the Convention, or Parties the combined merchant fleets of which constitute not less than 50 per cent of the gross tonnage of the world's merchant fleet, have communicated to the IMO their objection to the amendments.¹⁰
- 3.13 DIRD advised that, as the decisions reflected in the IMO resolutions are reached by consensus, 'it is unusual for objections to be lodged once a resolution has been adopted'.¹¹
- 3.14 The Code applies to all ships that come under SOLAS and MARPOL regulations, that is ships that are over 500 tonnes, are not government operated research vessels, are not pleasure craft and are not fishing vessels.¹² Currently there are no privately-owned Australian-flagged vessels operating in Antarctic waters to which the Code will apply.¹³
- 3.15 DIRD told the Committee that currently all countries operating in the Antarctic are subject to the Code as all parties are members of the Antarctic Treaty System and, with the possible exception of Belarus, parties to both MARPOL and SOLAS.¹⁴
- 3.16 The Australian Marine Safety Authority (AMSA) is responsible for enforcing the Code with regard to Australian- flagged vessels and may also use Port State Control inspections to enforce it where applicable:
- ... were a ship to call into Tasmania ... on the way out of a visit to the Antarctic we could conduct a Port State Control inspection there and check that they are complying with the Polar Code.¹⁵
- 3.17 Penalties will be in place for non-compliance when the Code comes into effect. Penalties for foreign flagged vessels are primarily the responsibility of the country in which the vessel is flagged, in accordance with the

9 NIA Polar Code, para 17.

10 NIA Polar Code, para 9.

11 Ms Werner, DIRD, *Committee Hansard*, Canberra, 29 February 2016, p. 7.

12 Ms Werner, DIRD, *Committee Hansard*, Canberra, 29 February 2016, p. 8.

13 Ms Werner, DIRD, *Committee Hansard*, Canberra, 29 February 2016, p. 8.

14 Ms Werner, DIRD, *Committee Hansard*, Canberra, 29 February 2016, p. 8.

15 Ms Werner, DIRD, *Committee Hansard*, Canberra, 29 February 2016, p. 8.

United Nations Convention on the Law of the Sea.¹⁶ For Australian-flagged vessels penalties exist under the *Protection of the Sea (Prevention of Pollution from Ships) Act* (POPS Act):

The penalties that could be imposed reach up to the millions of dollars for breaches such as deliberate discharge of oil in contravention of our legislation.¹⁷

IGF Code

- 3.18 The purpose of the IGF Code is to provide an international standard for ships using low-flashpoint fuels.¹⁸ The Code establishes mandatory provisions for the arrangement, installation, control and monitoring of machinery, equipment and systems using low-flashpoint fuels, focusing initially on methane [ie liquefied natural gas (LNG) or compressed natural gas (CNG)], to minimise the risk to the ship, its crew and the environment, having regard to the nature of the fuels involved.¹⁹
- 3.19 The Code addresses all areas that need special consideration for the usage of low-flashpoint fuels, taking a goal-based approach, with goals and functional requirements specified for each section forming the basis for the design, construction and operation of ships using this type of fuel.²⁰
- 3.20 The amendments are *deemed* amendments and will be accepted on 1 July 2016 unless, prior to that date, more than one third of the Parties to the respective Conventions or Parties the combined merchant fleet of which constitute not less than 50 per cent of the gross tonnage of the world's merchant fleet, have communicated to the IMO their objection to the amendments.²¹

Reasons for Australia to take the proposed treaty action

Polar Code

- 3.21 Australia has a strong national interest in Antarctica, including in the safety of shipping and the environmental protection of Antarctic waters and Antarctic operations. This also includes sea areas outside of these

16 Ms Werner, DIRD, *Committee Hansard*, Canberra, 29 February 2016, pp. 7–8.

17 Ms Werner, DIRD, *Committee Hansard*, Canberra, 29 February 2016, pp. 7–8.

18 NIA IGF Code, para 3.

19 NIA IGF Code, para 4.

20 NIA IGF Code, para 10.

21 NIA IGF Code, para 7.

waters for which Australia has search and rescue coordination responsibility.²²

- 3.22 Australia is one of the twelve original signatories to the Antarctic Treaty. The Australian Antarctic Territory covers 42 per cent of Antarctica, the largest territorial claim of any State.²³
- 3.23 According to the NIA, acceptance of the amendments to SOLAS and MARPOL making the Polar Code mandatory is consistent with Australia's interests and will demonstrate the Australian Government's ongoing commitment to effective regulation of shipping and environmental protection in Antarctica.²⁴
- 3.24 Australia has a direct interest in increasing the safety of vessels in polar waters as it is responsible for search and rescue coordination over a vast area including the East Indian, South-west Pacific and Southern Oceans, as well as Antarctic waters.²⁵

IGF Code

- 3.25 Australia has been an actively-engaged, long standing supporter of the IGF Code both at the maritime administration and industry level. Acceptance of the Code is in accordance with Australia's interests as the requirements provide clarity to the Australian shipping industry on regulatory standards, outline best practice in the use of gases or other low-flashpoint fuels and also ensure international regulatory consistency in ship building and seafarer training standards. The NIA maintains that the resultant outcome will increase maritime safety and security, enhance measures to protect the marine environment and promote smooth, effective and efficient international trade.²⁶
- 3.26 DIRD noted that the use of LNG has increased in recent years due to the lower cost of this type of fuel and tighter environment regulations:
- The IMO has imposed stricter requirements for diesel emissions ... that limit the emission of sulphur oxides, nitrogen oxides and particulate matters in ships' fuels, and LNG emits nearly no sulphur oxide or particulate matter, 90 per cent less nitrogen oxide and 20 to 25 per cent less carbon dioxide than existing fuels that are being used.²⁷

22 NIA Polar Code, para 20.

23 NIA Polar Code, para 22.

24 NIA Polar Code, para 23.

25 NIA Polar Code, para 26.

26 NIA IGF Code, para 17.

27 Ms Werner, DIRD, *Committee Hansard*, Canberra, 29 February 2016, p. 9.

3.27 A dramatic increase in the use of low-flashpoint fuels is expected in the future due to growing emission control areas world-wide:

... the IMO has established some sulphur emission control areas which seek to reduce emissions from ships around ports and within 200 miles of protected coastlines. They have been introduced in the Baltic Sea, the North Sea, the English Channel area, the North American area and the United States Caribbean Sea area meaning that, in effect, all of North America, Canada and the European seas are covered by these tighter restrictions on diesel emissions. Because of that ... there is a need for ships to look at lower emission fuel options. So, we do anticipate that in the future there will be a dramatic increase in the number of ships using LNG.²⁸

Obligations

Polar Code

3.28 **Part I** of the Polar Code contains safety measures and requires the Parties to:

- ensure that all new ships intended for operation in polar waters are of a structural strength appropriate for polar conditions;
- ensure that necessary equipment is carried on board ships, such as personal survival, communication and navigational equipment;
- issue a Polar Ship Certificate that certifies that the ship meets the requirements of the Polar Code, following a survey of the ship in accordance with the applicable safety-related provisions of the Polar Code; and
- ensure that ships carry a Polar Water Operational Manual, which includes information on ship-specific capabilities and limitations.²⁹

3.29 **Part II** of the Polar Code requires the Parties to:

- implement discharge restrictions for oil, noxious liquid substances, sewage, and garbage, on ships operating in polar waters; and
- for certain new ships, ensure additional structural provisions, for the protective location of fuel, oil and cargo tanks, when operating in polar waters.³⁰

28 Ms Werner, DIRD, *Committee Hansard*, Canberra, 29 February 2016, p. 9.

29 NIA Polar Code, para 31.

30 NIA Polar Code, para 32.

IGF Code

- 3.30 The IGF Code applies to new ships and to existing ships converting from the use of conventional oil fuel to the use of gases or other low-flashpoint fuels of more than 500 gross tonnage, on or after the date of entry into force of the Code. **Part A-1** contains specific requirements for ships using natural gas as fuel.³¹
- 3.31 The IGF Code covers:
- ship design and on-board arrangements (**Part A-1, Regulation 5**);
 - fuel containment systems (**Part A-1, Regulation 6**);
 - material and general pipe design (**Part A-1, Regulation 7**);
 - bunkering matters (**Part A-1, Regulation 8**);
 - fire safety and explosion prevention (**Part A-1, Regulation 12**);
 - ventilation and electrical installations (**Part A-1, Regulation 13 and 14**);
 - control, monitoring and safety systems (**Part A-1, Regulation 15**);
 - drills and emergency exercises (**Part C-1, Regulation 17**); and
 - operational procedures for the loading, storage, operation, maintenance and inspection of systems (**Part C-1, Regulation 18**).³²

Implementation

- 3.32 Amendments to some Marine Orders made under the *Navigation Act 2012* will be required to implement both Codes.³³
- 3.33 Additionally, for the Polar Code, minor amendments will be required to the POTS Act as well as amendments to Marine Orders under that Act.³⁴

Costs

Polar Code

- 3.34 The NIA states that the Agreement is not likely to impact on any existing

31 NIA IGF Code, para 22.

32 NIA IGF Code, para 23.

33 NIA Polar Code, para 35; NIA IGF Code, paragraphs 27–28.

34 NIA Polar Code, para 35.

private Australian flagged vessels, and any impact on other operators will be as a result of other countries' regulation.³⁵

IGF Code

- 3.35 The adoption of the IGF Code will come into effect after 1 January 2017 and the costs for new ship builds after that date will be included in the ship's construction budget.³⁶
- 3.36 The NIA points out that conversion costs for existing ships choosing to move from conventional fuels, to gases or other low-flashpoint fuels would be subject to commercial business considerations addressing the fuel containment system, the fuel process technology and the suitability of the engines for modifications and/or adaption.³⁷
- 3.37 The NIA suggests that the financial impact of the Agreement on the Australian ship building and shipping industries is not likely to be significant. Currently in Australia only one vessel has been constructed to use gas or low-flashpoint fuel with one other vessel under construction.³⁸
- 3.38 According to the NIA, implementation of the IGF Code is expected to have negligible administrative impact for business with compliance costs remaining low.³⁹
- 3.39 Likewise, training costs associated with the requirements under STCW and the STCW Code are expected to be minimal. Training experience already gained on liquefied gas carriers will fulfil the training qualification requirements, thus reducing any costs that may eventuate.⁴⁰

Conclusion

- 3.40 The Committee supports the ratification of both the Polar Code and the IGF Code and the two packages of resolutions for SOLAS and MARPOL required to ensure their implementation.

35 NIA Polar Code, para 38.

36 NIA IGF Code, para 32.

37 NIA IGF Code, para 33.

38 NIA IGF Code, para 34.

39 NIA IGF Code, para 35.

40 NIA IGF Code, para 36.

Recommendation 2

The Committee supports the *International Code for Ships Operating in Polar Waters (Polar Code)* and the concomitant amendments to the *International Convention for the Safety of Life at Sea, 1974, as amended (SOLAS)* and to the *International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978* and recommends that binding treaty action be taken.

Recommendation 3

The Committee supports the *International Code of Safety for Ships using Gases or other Low-flashpoint fuels (IGF Code)* and the concomitant amendments to the *International Convention for the Safety of Life at Sea, 1974, as amended (SOLAS)*, the *International Convention for the Prevention of Pollution from Ships, 1973*, the *International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW), 1978, as amended*, and the *Seafarers' Training, Certification and Watchkeeping (STCW) Code* and recommends that binding treaty action be taken.