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Antarctic Shipping

Antarctic Shipping

Information paper submitted by ASOC to the XXXI ATCM, Kiev, 2-14 June 2008

ATCM Agenda Items 5 & 11 and CEP Agenda Item 13

Summary

Traffic has increased significantly in Antarctic waters over the past decade both in terms of overall numbers and the different types of vessels operating in the area, which raises a number of intrinsic environmental and marine safety issues. While it might appear that there is considerable effort underway to improve the standards of shipping in the Antarctic region, not all proposed measures apply to all vessels operating in the region, and many international shipping instruments developed and adopted by the International Maritime Organization (IMO) over the past decades have not been ratified.

In this paper ASOC reviews recent developments and makes several recommendations to the ATCM. These include conducting a assessment of the threats resulting from the full range of vessels operating in the region, which could be done jointly by the ATCM and IMO; increasing collaboration between national-level IMO and ATCM representatives on proposals to improve Antarctic shipping operations; urgent ratification and full implementation of existing shipping instruments by ATCPs; and greater control by Flag and Port States over vessels operating in the Antarctic region in order to ensure strict compliance with the highest safety and environmental standards.

1. Introduction

Traffic has increased significantly in Antarctic waters over the past decade both in terms of overall numbers and the different types of vessels operating in the area. ASOC is concerned that the increasing number of vessel, their concentrations in particular seasons and areas, and the fact that many are not ice-strengthened, raises a number of intrinsic environmental and marine safety issues, particularly given the extreme remoteness of the region, the sensitivity of Antarctic ecosystems and the vulnerability of marine wildlife and habitats to threats from shipping activities. The increased risks are highlighted by the number of recent shipping incidents in the Southern Ocean, which are summarized in a paper (MEPC Inf. 19) submitted by ASOC through one of its member organizations - Friends of the Earth International (FOEI) - to the International Maritime Organization's (IMO) Marine Environment Protection Committee's 57th Session which met from 31st March – 4th April, 2008¹. This paper is attached here as Annex A.

ASOC submits that recent incidents demonstrate the potential for serious loss of life and adverse impacts on the highly sensitive and vulnerable Antarctic marine ecosystem. It is not, however, only the risks of accidents that are a cause for concern. Operational impacts of shipping², such as ballast water discharges and sewage discharges, have the potential to be equally destructive to the Antarctic environment.

ASOC's vision for the future is for the highest standards to be agreed, in legally binding instruments setting out standards and operations for vessels operating in the Antarctic region, to protect the sensitive environment and to avoid loss of human life.

¹ Recent incidents include the sinking of the M/S Explorer, a commercial tourism vessel in November 2007, the grounding of two cruise ships: the M/V Lybov Orlova and the M/V Nordkapp at Deception Island in the South Shetland Islands in November 2006 and January 2007 respectively, the cruise ship M/S Fram losing power on December 30 2007 along the Antarctic Peninsula and drifting into an iceberg, the trawler Argos Georgia adrift for 15 days after losing power while fishing in the Ross Sea off Antarctica's northern coast on December 23 2007, and the explosion and fire on the Nisshin Maru, a Japanese whale processing ship in February 2007, which resulted in the loss of life and loss of power for several days.

² Operational threats to the environment and wildlife of the Antarctic and Southern Ocean include illegal discharges of oils and chemicals, leaks from refueling operations, discharges of treated and untreated sewage and grey water, illegal discharges of garbage, introduction of alien species through ballast water discharges and on ships' hulls, emissions from anti-fouling systems, air emissions, underwater noise.

2. Recent developments

Since ASOC's paper was submitted to the IMO's Marine Environment Protection Committee in January 2008, some progress has been made on some issues that were already under active consideration.

2.1 IMO's Bulk Liquids and Gases (BLG) Sub-Committee

IMO's Bulk Liquids and Gases (BLG) Sub-Committee at its 11th session considered a proposal submitted by Norway (MEPC 54/6/3 and BLG 11/14/3) for a ban on the use and carriage of heavy grade fuel oil. At the BLG 12th session, in February 2008, the item was considered further (BLG 12/16). While there was support for the proposal, the work was not completed and the BLG Sub-Committee requested that the Marine Environment Protection Committee support a new work item for the BLG Sub-Committee at the next meeting. BLG will meet again early in 2009 and it is anticipated that this work will be completed by 2010.

2.2 IMO's Ship Design and Equipment (DE) Sub-Committee

In 2004, IMO's Maritime Safety Committee received submissions on behalf of Antarctic Treaty Consultative Parties (ATCPs) (MSC 79/8/2 and MSC 79/INF.2) to extend the existing Guidelines for ships operating in Arctic ice-covered waters (MSC/Circ.1056 – MEPC/Circ.399) to cover Antarctic waters. The submission was referred to the Ship Design and Equipment (DE) Sub-Committee for consideration. In addition, at the 51st Session of DE in February 2008, a Correspondence Group was established to consider updating and extending these Guidelines. The Correspondence Group will report to the 52nd Session of DE in 2009.

2.3.1 IMO's Marine Environment Protection Committee (MEPC)

IMO's Marine Environment Protection Committee (MEPC) agreed at the 57th Session from 31st March – 4th April 2008, a new work programme item for the Bulk Liquids and Gases (BLG) Sub-Committee for the completion of a ban on the use and carriage of heavy grade fuel oil in the Southern Ocean. In addition, in response to the ASOC Paper submitted by FOEI (MEPC 57/Inf. 19, attached here as Annex A), a number of delegations at MEPC recognised the need for further efforts to ensure that shipping in the Antarctic region does not pose a threat to human safety or to the environment. IMO's public notice on the progress of the meeting³ notes that "*Member Governments were invited to submit relevant proposals to future meetings of the Committee, ...*".

2.3.2 Intersessional Contact Group

ATCM XXX established an informal, open-ended Intersessional Contact Group (ICG) charged with examining issues pertaining to passenger vessels operation in the Antarctic Treaty Area. The report of the ICG on Issues Concerning Passenger Ships Operating in Antarctic Waters (WP036), which includes recommendations focused on the need for ATCPs to work actively within the IMO framework, will be considered further at ATCM XXXI under agenda item 11. ASOC participated actively in this ICG, including circulating our IMO paper for comment and review by the group. The Report from the ICG chair lays out a number of important steps that the ATCM, CEP and IMO bodies should take, which ASOC endorses. There is large scope for rapid progress if this IGC and other ATCM bodies work closely with the appropriate IMO bodies.

3. Actions needed

While it might appear that there is considerable effort underway to improve the standards of shipping in the Antarctic region, it needs to be recognised that not all measures apply to all vessels operating in the region. For example, the current Guidelines for ships operating in Arctic ice-covered waters (MSC/Circ.1056 – MEPC/Circ.399) exclude fishing vessels, pleasure yachts, wooden ships of primitive build, cargo ships of less than 500 gross tonnage and naval vessels.

In addition, many international shipping instruments have been developed and adopted by the International Maritime Organization (IMO) over the past decades. If these instruments are fully implemented, they would introduce higher standards globally which would automatically provide greater protection for the Antarctic marine environment. Yet, a quick assessment of the current status of some of these instruments by ATCPs

³ IMO confirms environmental credentials as MEPC makes major progress, <http://www.imo.org/home.asp>

shows that there are significant gaps in ratification, and therefore presumably in implementation too (see Annex B).

- ASOC submits that the uniqueness of the Antarctic region, its extreme remoteness, the difficulties of enforcement and the absence of emergency response capability in many situations will require new approaches and measures to be developed. For example, ASOC urges that consideration be given to the introduction of “no sewage discharge zones”, mandatory ice-strengthening for all vessels operating in the region, the development of a vessel traffic monitoring and information system for the Antarctic, and the development of a legally binding instrument for standards and operations for vessels operating in the Antarctic region. When considering higher standards for Antarctic shipping, the ATCPs should consider the development of innovative measures in accordance with the uniqueness of the region, as well as the implementation of existing measures included in IMO treaties and regulations. All this would be in agreement with ASOC’s vision of the need to achieve the highest standards for this sensitive and highly vulnerable region, which the Parties to various Antarctic Treaty instruments also share.

ASOC makes the following recommendations to this ATCM:

- A comprehensive assessment of the increasing threat from the full range of vessels operating in the region is necessary, along with the development of mitigation measures to ensure the safety of life at sea and provide greater protection for the Antarctic environment and its wildlife. Such an assessment should be undertaken jointly by the ATCM and IMO, and address the full range of threats – both accidental and operational.
- The ATCM should act on the recognition in the ICG report on Issues Concerning Passenger Ships Operating in Antarctic Waters (WP036) that national maritime experts who participate in IMO processes are a key resource to focus ATCM attention, and that this expertise can benefit the development of ATCM proposals for consideration at the IMO. In support of the recommendations of the ICG, the ATCM and IMO should undertake broader consideration of the impacts of passenger shipping in the Southern Ocean, including the impacts of operational wastes such as sewage (treated and untreated), grey water, sulphur oxides emissions, and ballast water discharges.
- There should be much greater collaboration between national IMO representatives and national ATCM representatives in the development of proposals to improve shipping operations in the Antarctic region, including agreeing on appropriate ice-strengthening standards and classifications for tourism and other vessels operating in the Southern Ocean.
- The ATCPs should urgently ratify existing shipping instruments and ensure full implementation of such instruments, and this commitment should be reflected in a Resolution at this ATCM.
- Flag and Port States should increase their inspections and controls over vessels operating in the Antarctic region in order to ensure strict compliance with the highest safety and environmental standards.

Annex A

MEPC 57/Inf.19 as submitted by FOEI on behalf of ASOC to IMO's Marine Environment Protection Committee

MEPC 57/ Inf.19
January 25, 2008
Original: ENGLISH

MARINE ENVIRONMENT PROTECTION COMMITTEE
57th Session
Agenda Item 20

Information Paper on Southern Ocean Vessel Issues Submitted by Friends of the Earth International⁴

SUMMARY

Executive Summary: This paper sets forth information on the increased number and type of vessels operating in the Southern Ocean, and recent incidents. Given that IMO has designated the Southern Ocean a special area, the paper suggests subjects for the IMO to consider, including vessel ice-strengthening standards; banning use of heavier grade fuel oils; discharges of oily substances, sewage, graywater and waste; introduction of alien species through ballast water, hull fouling and other pathways; and establishment of a vessel traffic monitoring and information system for vessels operating in the Southern Ocean.

Action to be Taken: The information in this paper is provided as background for all delegations.

Related Documents: BLG 11/5/16, BLG 12/6/12

I. Introduction

1. Shipping traffic has increased significantly in the Antarctic over the past decade, including both large and small commercial tourism vessels, private yachts, fishing vessels - both authorized under the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR) and Illegal, Unreported and Unregulated (IUU), whaling fleets (catcher, processing and refueling vessels), research vessels, and vessels supplying Antarctic scientific research stations.

2. The increasing number of vessels, their concentrations in particular seasons and areas, and the fact that many are not ice-strengthened, raises a number of intrinsic environmental and marine safety issues given the realities of the environment in the region, the sensitivity of Antarctic ecosystems, and the vulnerability of marine mammals and other species to environmental degradation.

3. In 1990 the IMO designated the Southern Ocean south of 60 degrees South Latitude as a "special area" under Annexes I (oil) and V (garbage) under MARPOL 73/78, banning the disposal, at sea or on shore, of oily residues, chemicals and garbage from ships.⁵ This laid the foundation for the IMO to establish appropriate rules concerning vessels operating in that region. To this point in time, few specific rules have been set by the IMO for the Antarctic. However, there was some progress in 2007, discussed below.

4. This paper sets forth information on the desirability of the IMO establishing additional rules for vessels operating in the Southern Ocean, including ice-strengthening standards; banning use of heavier grade fuel oils; preventing discharges of oily substances, sewage, graywater and waste; hull fouling; and establishment of vessel traffic monitoring and information system for Antarctic vessels.

⁴ This paper was prepared for the IMO's MEPC by the Antarctic and Southern Ocean Coalition (ASOC), an umbrella NGO with expert observer status at Antarctic Treaty Consultative Meetings and meetings of the Commission for the Convention on the Conservation of Antarctic Marine Living Resources, in collaboration with ASOC members FoEI, Friends of the Earth U.S., Friends of the Earth Australia, Greenpeace and WWF.

⁵ The amendments applying Annexes I and V entered into force March 17, 1992.

II. Areas of Concern for Maritime Activity in the Southern Ocean

5. The main international environmental NGOs active in Antarctica and the Southern Ocean (ASOC, FoEI, Greenpeace and WWF) submit that the IMO should be concerned about the following sets of shipping issues:

- Ice-strengthening standards for Antarctic national program, tourism, fishing and other vessels – many of which lack the sort of ice-strengthening and/or double hulls that is appropriate in a specially sensitive area like Antarctica;
- Use of heavier grade fuel oils in the Southern Ocean, which if spilled pose a much greater risk to the marine environment than lighter grades of diesel fuel;
- Discharges of sewage and black water in the Southern Ocean;
- Disposal of wastes of various origins by vessels operating in the Southern Ocean; and
- Introduction of alien species through ballast water, bio-fouling or by other means into the Antarctic marine ecosystem.⁶

6. A further major area of interest for ASOC and its member groups is the absence of a comprehensive system of vessel traffic monitoring for Antarctic vessels that includes those vessels' relevant characteristics, which is essential for establishing, applying and enforcing better standards for vessels operating in the Southern Ocean. CCAMLR maintains a list of legal fishing vessels and some tracking capacity, but it is not easily accessible and is incomplete. There is no methodical listing of IUU vessels operating in the Southern Ocean. The International Association of Antarctica Tour Operators (IAATO) maintains a registry of its members' vessels, but their membership is not 100% of commercial Antarctic tour operators and it leaves out most private yachts cruising to Antarctica.⁷ The Council of Managers of National Antarctic Programs (COMNAP)⁸ maintains a list of many research and supply vessels but it is far from complete. Taken together, these lists are far from comprehensive and, as they were not created for the purpose of enhancing safety of life at sea and protection of the environment, the data included on each vessel varies widely.

7. ASOC suggests that further consideration of the desirability of establishing an Antarctic vessel traffic monitoring and information system is urgently required, given that no other body presently maintains such a system for Antarctic vessels. Related to this is the desirability of annual cumulative tracking of vessel activity. Given present tourism patterns, escalating fishing, and the locations of most research stations, vessel traffic in the Antarctic is concentrated in particular areas and belts, which are thus focal areas for evaluating and avoiding adverse impacts. The IMO could usefully discuss the modalities needed to create a universal system covering all vessels coming into the Southern Ocean.

III. Role of the IMO on Antarctic issues

8. The Decisions and Measures adopted by the Antarctic Treaty Consultative Meeting (ATCM) and the Resolutions and Conservation Measures adopted under CCAMLR are in accord that protecting the Antarctic environment is a very high priority. Although some of these instruments are oriented towards establishing safety and environmental standards for vessels, the international expertise on this set of issues rests with the IMO. Therefore, it is essential for the IMO to work in closer cooperation and in concert with the Antarctic Treaty System's bodies to articulate appropriate standards.

9. Awareness of this need has been heightened by a number of recent shipping incidents in the Southern Ocean, most prominently the sinking of the M/S Explorer, a commercial tourism vessel, in November 2007,

⁶ See UK Information Paper presented to ATCM XXX, Hull fouling as a source of marine invasion in the Antarctic, http://www.scar.org/treaty/atcmxxx/Atcm30_ip037_e.pdf. Note that in 2001 the IMO completed an international treaty to phase out organotins that will become legally binding in September, 2008. See Toxic Ship Paint Found in Antarctic Sediment, <http://www.ens-newswire.com/ens/may2004/2004-05-24-04.asp>

⁷ <http://www.iaato.org/bylaws.html>

⁸ www.comnap.aq/

which resulted in pollution from the diesel fuel and other materials on board⁹ Other recent incidents include the November 2006 grounding of the M/V Lybov Orlova at Deception Island in the South Shetland Islands, from which she could not emerge under her own steam and required assistance after more than 15 hours aground;¹⁰ the grounding of the M/V Nordkapp, another commercial tourism vessel, in January 2007 at Deception Island, which resulted in the spillage of an unknown amount of marine diesel at Port Foster¹¹; the M/S Fram, which lost power on December 30 along the Antarctic Peninsula and drifted into a glacier before restarting its engines, suffering some damage¹²; the UK-registered trawler Argos Georgia, which lost power while fishing in the Ross Sea on December 23 and required an air drop of a crucial engine part¹³; and a serious accident on the Nisshin Maru, the Japanese whale processing ship, in 2007, which suffered an explosion and fire with the loss of one life and lost power for several days while in an ice-covered area, but eventually was able to leave the Antarctic under its own power¹⁴. These recent incidents demonstrate the potential for serious loss of life and adverse impacts on the marine environment from vessels operating in the Antarctic.

10. There is broad support within the Antarctic Treaty System's bodies for IMO to develop Antarctic Shipping Guidelines or an Antarctic Shipping Code, and we believe that given the dramatic increases in vessel traffic in the Southern Ocean and the recent accidents, there is political support for the IMO to address the set of issues raised in this Information Paper.

IV. Recent Developments

11. Few rules specific to the Antarctic have been set by the IMO to date. However, in 2007 the IMO Assembly adopted a resolution on *Guidelines on voyage planning for passenger ships operating in remote areas* and on July 13, 2007 the MEPC adopted Resolution MEPC.163(56), *Guidelines For Ballast Water Exchange in the Antarctic Treaty Area*. This Resolution includes language that sets out some of the basis for IMO action in the Antarctic.

12. Ballast Water Exchange

“BEING AWARE of the designation of Antarctica as a Special Conservation Area and of the measures adopted under the Antarctic Treaty to protect the Antarctic environment and dependent and associated ecosystems,

BEING AWARE ALSO of the requirements of Annex II to the Protocol on Environmental Protection to the Antarctic Treaty regarding conservation of Antarctic fauna and flora and in particular of the precautions taken to prevent the introduction of non-native species to the Antarctic Treaty area...

CONSCIOUS of the potential for invasive marine organisms to be transported into, or moved between biologically distinct regions within the Antarctic Treaty area by ships in their ballast water...

1. *ADOPTS the Guidelines for ballast water exchange in the Antarctic Treaty area as set out in the annex to this resolution;*

2. *INVITES Governments to apply the Guidelines as soon as possible, as an interim measure for all ships entering the Antarctic Treaty area before the Ballast Water Management Convention comes into force; and*

⁹ See Antarctic Treaty Secretariat Circular No. 29/2007 concerning "Sinking of M/S Explorer" and Circular No. 01/2008 concerning "Location of the wreck of M/S Explorer".

¹⁰ See Final Report of the XXX ATCM, paragraphs 110-114 and 151-152; and Argentina and others IP 108, Report of the Deception Island Antarctic Specially Managed Area Management Group, presented to ATCM XXX in New Delhi (2007).

¹¹ See Antarctic Treaty Secretariat Circular No. 4/2007 concerning "Follow-up notice regarding the cruise ship incident at Deception Island. See also Final Report of the XXX ATCM, paragraphs 110-114 and 151.

¹² See IAATO's January 2, 2008 *Fram* update.

¹³ See US Embassy, Wellington, NZ, USAF Antarctic Airdrop Rescues Stranded Ship http://wellington.usembassy.gov/fp_ant_rescue_ftl.html

¹⁴ See New Zealand IP 40 *Fire on Board the Japanese Whaling Vessel Nisshin Maru*, presented to ATCM XXX in New Delhi (2007).

3. AGREES to keep the Guidelines under review.”¹⁵

13. Passenger Ships Operating in Areas Remote from SAR Facilities

The IMO also has released MSC Circular 1184 - *Enhanced Contingency Planning for Passenger Ships Operating in Areas Remote from SAR Facilities*, and MSC Circular 1182 - *Guidance to Recovery Techniques Using Equipment Currently Available*, which contain advice for tourism vessels operating in the Antarctic and other remote areas.

V. Further Consideration by the IMO of Southern Ocean Vessel Issues

14. Nothing so far establishes the types of standards that ASOC and its member groups submit are appropriate, or that some Antarctic Treaty Consultative Parties have recommended. For example, in 2006 the Australian Government promulgated an updated Marine Notice for vessels coming to Antarctica, which includes the following:

“It is strongly recommended that no vessel should proceed into the Antarctic Treaty Area unless:

(a) the Master and Navigating Officers have:

- *training in high latitude navigation and ice operations (alternatively, an ice pilot with relevant experience of the area should be engaged);*
- *adequate hydrographic and meteorological information for the intended voyage;*
- *implemented watchkeeping procedures commensurate with the conditions;*
- *adequate communications equipment and trained operators onboard; and*

(b) the shipowners have ensured that:

- *the ship is properly strengthened for ice operations, preferably has a double hull below the water line for the full length of the vessel, no bunker fuel adjacent to the vessel’s outer hull, IMO Special Purpose Ships (SPS) classification and adequate watertight compartments;*
- *all the ship’s lifeboats and life rafts are fully enclosed, suitable for cold climate use, surveyed and operational;*
- *there are sufficient thermal protective survival suits for all on board;*
- *there are adequate arrangements to handle any medical emergencies that may arise in the course of the voyage;*
- *reserves of food, fresh water, fuel and spares for critical equipment are carried to provide for unforeseen delays and besetment; and marine pollution mitigation arrangements (including insurance) are in place in the event of a fuel or waste spill and the vessel has a Shipboard Oil Pollution Emergency Plan (SOPEP).”*

15. Recent events have created awareness within IMO to the need to assess Antarctic shipping. IMO Secretary-General Efthimios E. Mitropoulos, in commenting on the sinking of the M/V Explorer in IMO’s *Briefing 46*, 26 November 2007, stated:

“[T]he good work of this Organization in regulating vital safety aspects, such as survival craft and arrangements, evacuation procedures and search and rescue operations should, in cases like the Explorer’s, be acknowledged and appreciated.”

“[The IMO is] eager and ready to receive the report of the investigation into the Explorer casualty and see what lessons may be learnt to enhance the safety of ships and operations in ice-covered waters prior to considering any new measures that may be required in the circumstances.”

“The fact that cruise ships, in increasing numbers, choose remote and sensational areas for their

¹⁵ http://www.imo.org/includes/blastDataOnly.asp/data_id%3D19690/163%2856%29pdf

operations...made the need for expeditious action all the more important."¹⁶

16. There is good precedent for IMO to consider the most appropriate actions it can take to further protect the marine environment and enhance safety of life at sea within the Antarctic Treaty Area, and to consider the best definition of the Southern Ocean for purposes of IMO competence.

VI. Banning Use of Heavier Grade Fuel Oils in the Southern Ocean

17. As Friends of the Earth International described in BLG 11/5/16, bunker fuel, in particular Heavy Fuel Oil (HFO), has a detrimental effect on marine life when spilled into the sea. The nature of HFO – viscous, sticky, hard to degrade, long lasting, poisonous – means it a substance that sea animals and the marine environment cannot cope with.

18. The recent sinkings, groundings and other incidents involving vessels in the Antarctic are evidence of the increasing risk of fuel spills in the Southern Ocean. To prevent the potential harm from such spills into sensitive marine environments, on June 1, 2007 the Norwegian Government imposed a ban on the use of Heavy Fuel Oil onboard ships inside the two large nature reserves covering most of the territorial waters of eastern Svalbard. The Government also decided that ships sailing in these waters are not allowed to carry more than 200 passengers.

19. The purpose of these restrictions was to avoid spills of Heavy Fuel Oil and other heavy fuels to the vulnerable coastal environment of eastern Svalbard. As the Antarctic environment is subject to equal, if not greater threats from bunker spills from marine vessels, the Svalbard model should be considered for implementation in the Southern Ocean.

20. We suggest that the IMO consider what appropriate mechanisms could be utilized to begin a phase out and ultimate ban of the use of bunker fuel as soon as practicable in the Antarctic under its status as a special area.

VII. Discharges of Raw or Treated Sewage, Sewage Sludge and Graywater in the Southern Ocean

21. Under Article 6 of Annex IV (Prevention of Marine Pollution) of the Protocol on Environmental Protection, ships operating in the Antarctic are not allowed to discharge untreated sewage within 12 miles of land or ice shelves, and when discharging from a holding tank the ship should have a speed of no less than 4 knots.

22. The Protocol is silent on treated sewage and graywater, both of which contain pollutants known to have the potential to harm the marine environment. Under Annex IV of MARPOL, ships can discharge sewage that has passed through an IMO certified marine sanitation device in any location. Between 4 and 12 miles from land, sewage must be comminuted and disinfected before discharge.

23. Graywater can be dumped anywhere because it is unregulated. Both sewage and graywater effluent from passenger vessels contain pathogens and pollutants that can be harmful to human health and the environment when discharged into the ocean. With increasing volumes of sewage and graywater being generated and discharged by larger cruise ships and other marine vessels, the potential environmental impact of these uncontrolled discharges should be evaluated and prohibitions considered to protect the long-term health of the Southern Ocean.¹⁷

¹⁶ Successful Antarctic rescue draws praise and highlights IMO's work
http://www.imo.org/Newsroom/mainframe.asp?topic_id=1472&doc_id=8743

¹⁷ The U. S. Environmental Protection Agency has conducted voluntary sampling of cruise ship effluent from ships operating in Alaska, and recently published a Cruise Ship Discharge Assessment Report that found cruise ships routinely dump massive amounts of poorly treated sewage and highly contaminated raw graywater into harbors and coastal waters. The EPA found that cruise ship discharges contain concentrations of bacteria, chlorine, nutrients, metals and other pollutants that often far exceed federal effluent and water quality standards and are harmful to human health and the marine environment. The report estimated that each cruise ship produces an average of 21,000 gallons per day of sewage and 170,000 gallons per day of raw graywater that can contain as much bacteria as sewage. Large volumes of sewage sludge and oily water are also routinely dumped overboard. A majority of sewage samples taken by the EPA from cruise ships equipped with Coast Guard-and/or IMO approved marine sanitation devices (Type II MSDs) violated national effluent limits for both ship and land-based sewage—and often exceeded national water quality criteria at

VIII. Closing remarks

24. This Information Paper raises a range of pressing issues concerning shipping in the Antarctica, for discussion and further consideration. Despite some recent positive developments, nothing so far establishes standards of the sort that ASOC and its member groups suggest are appropriate for the Southern Ocean, or that some Antarctic Treaty Consultative Parties have recommended. Over the next year, in the appropriate IMO fora, we will raise these issues with appropriate recommendations for action.

point of discharge. EPA determined that treated sewage and raw graywater from cruise ships contain such high concentrations of bacteria such as fecal coliform, contaminants like chlorine, and nutrients including ammonia that the discharges can degrade water quality, threaten shellfish beds and contaminate beaches and swimming areas—even when diluted.

Annex B: Current status of ratification of existing IMO instruments by ATCPs

N.B. Full titles of the Conventions and Protocols are given below.

ATCP	SOLAS Conv'n 74 ^a	SFV Protocol 93 ^b	STCW-F Conv'n 95 ^c	MARPOL 73/78 ^d Annex				OPRC 90 ^e	Bunkers Conv'n 01 ^f	AFS Conv'n 01 ^g	BMW Conv'n 04 ^h
				I/II	IV	V	VI				
Argentina	√			√	√	√		√			
Australia	√			√	√	√	√	√		√	
Belgium	√			√	√	√	√				
Brazil	√			√	√	√		√			
Bulgaria	√	√		√	√	√	√	√	√	√	
Chile	√			√	√		√	√			
China	√			√	√	√	√	√			
Ecuador	√			√	√	√		√			
Finland	√			√	√	√	√	√			
France	√	√		√	√	√	√	√		√	
Germany	√	√		√	√	√	√	√	√		
India	√			√	√	√		√			
Italy	√	√		√	√	√	√	√			
Japan	√			√	√	√	√	√		√	
Republic of Korea	√			√	√	√	√	√			
Netherlands	√	√		√	√	√	√	√			
New Zealand	√			√		√		√			
Norway	√	√	√	√	√	√	√	√	√	√	√
Peru	√			√	√	√		√			
Poland	√			√	√	√	√	√	√	√	
Russian Federation	√		√	√	√	√					
ATCP	SOLAS Conv'n	SFV Protocol	STCW-F Conv'n	MARPOL 73/78 ^d				OPRC 90 ^e	Bunkers Conv'n	AFS Conv'n 01 ^g	BMW Conv'n 04 ^h

	74 ^a	93 ^b	95 ^c	Annex					01 ^f		
				I/II	IV	V	VI				
South Africa	√			√		√					
Spain	√	√		√	√	√	√	√	√	√	√
Sweden	√	√		√	√	√	√	√		√	
Ukraine	√		√	√	√	√	√				
United Kingdom	√			√	√	√	√	√	√		
United States	√			√		√		√			
Uruguay	√			√	√	√		√			

- a. International Convention for the Safety of Life at Sea (SOLAS), 1974: regarded as the most important international shipping convention addressing safety.
- b. The Torremolinos International Convention for the Safety of Fishing Vessels (SFV) Protocol 1993: addresses safety requirements for the construction and equipment of fishing vessels of 24 metres in length and over.
- c. International Convention on Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel (STCW-F), 1995: makes standards for safety of crews of fishing vessels mandatory.
- d. International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 (MARPOL 73/78): covers prevention of pollution by ships from operational or accidental causes. Annex I oil, Annex II noxious liquid substances in bulk, Annex IV sewage, Annex V garbage, Annex VI air pollution.
- e. International Convention on Oil Pollution Preparedness, Response and Co-operation (OPRC), 1990: provides a global framework for international co-operation in combating major incidents or threats of marine pollution.
- f. International Convention on Civil Liability for Bunker Oil Pollution Damage (Bunkers Convention), 2001: provides for adequate, prompt, and effective compensation to persons who suffer damage caused by spills of oil, when carried as fuel in ships' bunkers.
- g. International Convention on the Control of Harmful Anti-fouling Systems on Ships (AFS), 2001: regulates harmful anti-fouling systems.
- h. International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM), 2004: regulates the control and management of ships' ballast water and sediments due to the threat of invasive species.