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Item 5 of the provisional agenda*

Montreal Protocol treatment of ozone-depleting substances used to service ships (decision XXIII/11)

Information on ozone-depleting substances used to service ships

Note by the Secretariat

I. Executive summary

1. In its decision XXIII/11, the Twenty-Third Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer requested the Secretariat to prepare a document collecting current information about the sale of ozone-depleting substances for onboard servicing and other uses on board ships, including ships "from other flag States".[1] The document was to include any guidance and information previously provided to parties regarding sales to ships; information on how parties calculated consumption with regard to such sales; and information on how international bodies such as the International Maritime Organization (IMO) and the World Customs Organization (WCO) treated ozone-depleting substance trade and use in respect of ships, along with a general overview of the framework applied by those bodies to manage relevant activities.

2. In order to facilitate the preparation of the document, the Meeting requested Parties to provide the Secretariat, by 1 April 2012, with information on their current treatment of ozone-depleting substances for use on ships. A similar approach had been agreed upon by a contact group discussing the issue at the thirty-first meeting of the Open-ended Working Group. The information submitted by Parties in response to the deliberations of that contact group is reproduced for the current meeting in annex I of document UNEP/OzL.Pro.WG.1/32/INF/4.

3. In response to decision XXIII/11, the Secretariat examined available historical documents, reviewed the information submitted by parties and consulted with the Technology and Economic Assessment Panel and the secretariats of IMO and WCO. Its major findings are summarized in the paragraphs 4–14 below.

4. The issue of reporting on the supply of ozone-depleting substances for the purpose of refilling the refrigeration and fire-extinguishing systems of ships in ports was addressed by the Third and Fifth Meetings of the Parties, in 1991 and 1993, respectively, in decisions III/9 and V/5, by which the Parties adopted formats for reporting data under Article 7 of the Montreal Protocol. According to the introduction to those formats "the quantities of controlled substances used for refilling the refrigeration

* UNEP/OzL.Pro.WG.1/32/1.

1 The term flag State is to be understood to mean the State under whose laws a ship is registered or licensed.

and fire-extinguishing systems of ships in ports should be regarded as forming part of consumption of the country with jurisdiction over the port and should therefore not be included in its exports figures".[2]

5. The data reporting formats prepared by the Secretariat for the use of the Parties between 1991 and 1997 included instructions for reporting on imports and exports related to the refilling of ships' equipment as well as the treatment of ozone-depleting substances in free trade zones. No guidance has ever been provided, however, on how to treat ozone-depleting substances that are supplied to a ship in quantities that are sufficient to meet its servicing requirements (or exceed the total capacity of the equipment in which they could be installed) but are not in fact used for servicing (either by the company providing the substances or by the ship's crew) during the vessel's stay in port.

6. In 1997 the Parties adopted decision IX/28 in an effort to simplify the data reporting forms. This resulted in the exclusion of the instructions advising parties to treat the use of ozone-depleting substances for refilling equipment on board flag ships in their ports as part of their domestic consumption. As a consequence, the current data reporting formats include instructions only on transhipment as opposed to imports and re-exports.

7. A total of 21 parties, including the European Union on behalf of its 27 member States, submitted information to the Secretariat in response to a directive from the Open-ended Working Group at its thirty-first meeting and decision XXIII/11. While four of those parties did not provide in their submissions explicit information on how they treated such sales relative to consumption, the remaining 17 parties (including the European Union on behalf of its member States) reported that they were treating the supply of ozone-depleting substances to ships in their territories for servicing purposes as part of their domestic consumption. A few of those parties stated that such treatment related to onboard uses in general rather than servicing uses only.

8. Of the 17 parties mentioned above, however, three (including one party reporting on behalf of its 27 member States) reported that they differentiated between ozone-depleting substances provided for servicing a ship's equipment and ozone-depleting substances simply supplied to a ship (in quantities that either met or exceeded its servicing requirements) but not necessarily used to refill the ship's equipment while the ship was in port. Two of those parties stated that they treated such supply as an export to the flag State, while the third specified that it did so only if the supplied substances exceeded the total capacity of the equipment to be serviced.

9. A few parties indicated that they had no official statistics on the sales or uses of ozone-depleting substances on foreign flag ships because such substances were not taken into consideration by their licensing and quota systems.

10. With regard to the submission of additional data called for by decision XXIII/11, one party reported data on ozone-depleting substances on its ships amounting to 242 metric tonnes of HCFCs. Data on ozone-depleting substance exports to foreign flagged ships were reported by just two parties. One of those parties reported such data for the period 2008–2010, while another (reporting on behalf of its 27 member States) submitted such data for the period 2009–2010. The amount reported by the former party for 2008 was 14.4 metric tonnes (mostly HCFCs), while the combined HCFC consumption reported by both parties totalled 608 and 483 metric tonnes in 2009 and 2010, respectively.

11. In addition to the information from parties mentioned above, a search of the Secretariat's database has shown that to date three parties have specified in some of their annual data reports ozone-depleting substance exports to ships of other flag States. The substances are primarily hydrochlorofluorocarbons (HCFCs) and range in amount from approximately 37 metric tonnes in 2005 to approximately 67 metric tonnes in 2010. It is important to note, however, that as there is no separate line on the reporting formats for reporting exports to ships there may be some parties that include such figures in their overall export data reports without specifying the purpose of such exports.

12. With regard to the issues noted by the parties that provided information in response to decision XXIII/11, a few parties stated that the lack of recording of ozone-depleting substances supplied to flag ships could provide a loophole for illegal trading as such amounts, not subject to import/export authorization, might be passed on to other flag ships operating on the high seas or in other ports. In addition, a number of parties expressed concern that the supply of ozone-depleting substances to ships flying their flags in foreign ports might be treated by the port States as exports to the flag States rather than as domestic consumption of the port States. They noted, in particular, that such an approach could potentially lead them into non-compliance, as their baselines for the phase-out of HCFCs did not take into account amounts used on board their flag ships engaging in international traffic and existing

2 UNEP/OzLPro.5/12, annex I, para.8.

domestic controls did not extend to licensing or setting quotas for the normal servicing requirements of such ships. A few small island States also expressed the concern that such an approach would compromise the ability and capacity of their businesses and industries to make the most of HCFCs at a time when developing countries were engaged in the mandatory transition process necessary to freeze and eventually phase out HCFC consumption as required by the Montreal Protocol.

13. As requested, the Secretariat consulted with IMO and WCO regarding their treatment of ozone-depleting substances and ships. IMO rules require ships of 400 gross tons and above to list systems and equipment containing ozone-depleting substances, that are not permanently sealed, in the supplement to the international air pollution prevention certificate issued by the ship's flag State; such ships must also maintain an ozone-depleting substance record book and register in it the amounts of ozone-depleting substance for supply, recharging, repair, discharge and disposal operations. While ships are required to carry and fill out such records, IMO has no mandate to review them; enforcement of the requirement is rather undertaken by port State control officers in ports of contracting parties to Annex VI of the International Convention for the Prevention of Pollution from Ships (MARPOL). No international compliance obligation exists in this regard.

14. WCO rules do not specifically address the trade of ozone-depleting substances for use on board ships or such use itself. The quantities of ozone-depleting substances supplied to a vessel during its stay in a customs territory are exempted from duties and taxes but according to a recommended practice should be recorded on any relevant declaration required by customs authorities. This practice, however, has to date been accepted by just 16 WCO member States. Recording of such Customs data remains the prerogative of the country concerned. WCO has no mandate to review such information, and no international compliance obligation exists in this regard. On the other hand, WCO revised in 2012 its International Convention on the Harmonized System and relevant tools, which include nomenclature for ozone-depleting substances. These tools facilitate the collection and comparison of such data.

II. Introduction

15. The Twenty-Third Meeting of the Parties to the Montreal Protocol adopted decision XXIII/11 on the Montreal Protocol treatment of ozone-depleting substances used to service ships, including ships from other flag States, seeking to clarify issues related to the appropriate reporting of sales of ozone-depleting substances for use on ships and expressing the concern that differing party interpretations with regard to such sales might result in miscalculation of consumption or disparities in the reporting of consumption.[1]

16. In that decision, set out in annex I to the present note, the Ozone Secretariat was requested to prepare a document collecting information about the sale of ozone-depleting substances to ships for on-board servicing and other on-board uses. The document was to include, in summary, information on how parties calculated consumption with regard to such sales, any guidance previously provided to the parties on the issue, and a general overview on any framework or specific requirements used by IMO or WCO to address trade in ozone-depleting substances for use on board ships and the use of such substances on board ships. Finally, the document, which is to be submitted to the Open-ended Working Group at its thirty-second meeting, was to identify issues relevant to the treatment of the consumption of ozone-depleting substances used to service ships.

17. To support the Secretariat in this effort, parties were requested to provide to it, by 1 April 2012, information on the current system used by the parties, if any, to regulate and report on ozone-depleting substances supplied for the purpose of servicing ships, on how they calculated consumption with regard to such ozone-depleting substances and on any relevant cases in which they had supplied, imported or exported such ozone-depleting substances.

18. The Secretariat has prepared the present note in response to the request of the Parties in decision XXIII/11. It is divided into five sections. Section I above is an executive summary that consolidates the main findings of the Secretariat. The present section serves as an introduction, while section III contains additional details relating to the historical guidance and information on the issue provided to the parties. Section IV discusses the information submitted by parties, including issues identified during the review. Section V provides an overview of the framework applied by IMO and WCO to manage relevant activities and outlines key points derived from the Secretariat's consultations with those bodies.

19. There are two annexes to the present note. Annex I reproduces, for ease of reference, decision XXIII/11. Annex II sets out information submitted by parties in 2012, in response to decision XXIII/11, on their treatment of ozone-depleting substances used to service ships. As noted in section I

above, parties also provided relevant information in 2011 in response to a request made by a contact group of the Open-ended Working Group at its thirty-first meeting; that information has been reproduced in annex I to document UNEP/OzL.Pro.WG.1/32/INF/4. Information received from IMO and WCO is reproduced in annexes II and III, respectively, of the same document. All information presented in the annexes to the latter and in annex II to the present note is reproduced as received by the Secretariat, without formal editing.

III. Historical guidance and information

A. Parties' guidance on the definition of substances in bulk versus products

20. The discussion on this issue begins with a review of the term "controlled substance", which is defined in article 1, paragraph 4, of the Montreal Protocol to mean "… a substance in Annex A, Annex B, Annex C or Annex E to this Protocol, whether existing alone or in a mixture. It includes the isomers of any such substance, except as specified in the relevant Annex, but excludes any controlled substance or mixture which is in a manufactured product other than a container used for the transportation or storage of that substance".

21. In paragraph A of its decision I/12, adopted in 1989, the First Meeting of the Parties clarified further the definition of the term "controlled substance", providing that any amount of a controlled substance or a mixture of controlled substances that was not part of a use system containing the substance was a controlled substance for the purposes of the Protocol (i.e., a bulk chemical). It was also clarified that "if a substance or mixture must first be transferred from a bulk container to another container, vessel or piece of equipment in order to realize its intended use, the first container is in fact utilized only for storage and/or transport, and the substance or mixture so packaged is covered by Article 1, paragraph 4 of the Protocol".

22. In 1991, in decision III/15, the Third Meeting of the Parties adopted as Annex D to the Protocol a list of products containing controlled substances specified in Annex A to the Protocol. Under the new Annex D, commercial refrigeration and air-conditioning/heat pump equipment and portable fire extinguishers, as well as insulation boards, panels and pipe covers, are considered to be products and thus subject to the definition of controlled substances in paragraph 4 of Article 1.

23. In accordance with the provisions noted above, ozone-depleting substances contained in equipment existing on board ships are a part of use systems and are therefore considered to be products not controlled under the Protocol. It is evident, however, that ozone-depleting substances sold or supplied to ships for on board servicing and other on board uses (normally in containers utilized for storage and/or transport) are to be seen as controlled substances that should be accounted for in parties' data reporting.

B. Parties' guidance on data reporting issues related to ozone-depleting substance trade on board ships

24. Recognizing the difficulties that some countries faced in reporting data as required by Article 7 of the Protocol, the Second Meeting of the Parties (London, 27-29 June 1990) adopted decision II/9, by which it established an ad hoc group of experts with the mandate to consider the reasons leading to such difficulties, to develop recommendations on possible solutions for the Parties concerned and to report on its progress to the Third Meeting of the Parties.

25. The Ad Hoc group of Experts on the Reporting of Data that was then established identified in the report of its first meeting (Nairobi, 6 and 7 December 1990) a number of trade-related issues that were problematic in terms of data reporting and adopted corresponding recommendations.[3] Among the issues addressed were:

(a) Quantities of controlled substances used for refilling refrigeration and fire-extinguishing systems in ports;

(b) Free-trade zones;

(c) Trans-shipment as opposed to imports and subsequent re-exports.

26. It is important to note that in line with the definition of a free-trade zone (an area where a group of countries have agreed to reduce or eliminate trade barriers), ozone-depleting substances supplied to ships in such a zone may be handled without the intervention of customs authorities. Trans-shipment (technically a kind of transit), on the other hand, is defined by WCO as a customs

3 UNEP/OzL.Pro/WG.2/1/4.

procedure under which goods are transferred under customs control from the importing means of transport to the exporting means of transport within the area of one customs office, which is considered to be both the office of importation and the office of exportation. It can be of relevance in cases where ozone-depleting substances are supplied to a flag ship by one foreign State while the ship is in a port of another foreign State.

(a) Refilling refrigeration and fire-extinguishing systems in ports

27. In its decision III/7, the Third Meeting of the Parties took note of the Ad Hoc Group's report and the suggestions that it contained. In its decision III/9, the Third Meeting of the Parties adopted revised formats for reporting data under the Protocol, which had at that time been recently amended.

28. The revised formats, which were set out in annex XI to the report of the Third Meeting of the Parties, included an "introduction sheet" that provided instructions for their use. Paragraph 8 of the introduction sheet provides as follows:

> In accordance with the recommendation of the Ad Hoc Group of Experts on the Reporting of Data, which held its first meeting at Nairobi on 6 and 7 December 1990, the quantities of controlled substances used for refilling the refrigeration and fire-extinguishing systems of ships in ports should be regarded as forming part of consumption of the country with jurisdiction over the port and should therefore not be included in its exports figures.

29. With the adoption of the Copenhagen Amendment by the Fourth Meeting of the Parties in 1992, it became necessary to revise the formats for reporting data under article 7 of the Protocol in order to include additional controlled substances and to account for imports and exports of used and recycled substances. Upon considering recommendations on the subject by the Implementation Committee[4] the Fifth Meeting of the Parties in 1993 adopted decision V/5, by which it approved such revised formats.[5] The revised formats were again accompanied by an information sheet, paragraph 8 of which was identical to that adopted by the Third Meeting of the Parties in decision III/9.

30. By the time of the Eighth Meeting of the Parties in 1996, the Parties had agreed to investigate ways to reduce the reporting requirements under the Protocol, which were daunting for some parties, especially those that had already totally phased out certain ozone-depleting substances or that were very low-consuming countries. As a consequence, the Eighth Meeting of the Parties adopted decision VIII/21, by which it requested the Secretariat to prepare a report delineating all reporting mandated by the Protocol and all reporting requests set out in the decisions of the Parties. In preparing that report, the Secretariat was to seek the views of parties regarding which reporting provisions were essential for assessing compliance and which might no longer be necessary. In the same decision, the Implementation Committee was requested to review the Secretariat's report, consider which reporting provisions were essential for assessing compliance and which might no longer be necessary, and make recommendations to the Ninth Meeting of the Parties on potential ways to streamline reporting under the Protocol, taking into consideration any proposals for streamlining submitted by parties.

31. The Implementation Committee considered the issue at its next three meetings (the seventeenth, eighteenth and nineteenth meetings), all of which took place in 1997, and forwarded a proposed version of the revised reporting formats to the Ninth Meeting of the Parties for its consideration. By decision IX/28, the parties then approved the revised formats for reporting data set out in annex VII to the report of that meeting.[6] The formats as so adopted had been revised substantially and were, along with the accompanying instructions, similar to the versions used at present. Of particular importance for the present note is the fact that paragraph 8 in the introduction sheet for the previous reporting formats, which had provided guidance on the treatment of controlled substances used for refilling the refrigeration and fire-extinguishing systems of ships in ports, was deleted from the instruction sheet for the revised reporting formats. The exact reason for its exclusion is not indicated in the historic documentation. Since the revised formats were based on the views of the parties, it appears, however, that the retention of paragraph 8 in the revised introduction sheet was not considered necessary at the time.

(b) Free trade zones

32. Free trade zones are relevant to the present note inasmuch as ozone-depleting substances may be supplied to ships in such zones, which are subject to no or limited trade restrictions. Free trade

4 UNEP/OzL.Pro/ImpCom/6/3.

5 UNEP/OzL.Pro.5/12.

6 UNEP/OzL.Pro.9/12.

zones were addressed by the Third Meeting of the Parties in decision III/9. Paragraph 7 of the introduction sheet accompanying the reporting formats adopted by that decision provided as follows:

> In accordance with the recommendation of the Ad Hoc Group of Experts on the Reporting of Data, which held its first meeting at Nairobi on 6 and 7 December, 1990, countries having free-trade zones inside their territories should make a special effort to include in their data reporting production, import and export figures for such zones.

33. As in the case of refilling the refrigeration and fire-extinguishing systems of ships in ports, the above clarification on free-trade zones was retained in the introduction sheet for the revised formats on data reporting adopted by the Fifth Meeting of the Parties in 1993 but was removed from the introduction sheet adopted by the Ninth Meeting of the Parties in 1997.

(c) Trans-shipment as opposed to export and subsequent re-export

34. Trans-shipment and import and re-export may be relevant as a foreign flag ship in a port can purchase ozone-depleting substances from a third State via the port State. Ozone-depleting substances can either be imported from the third State to the port State before being supplied to the ship (import and subsequent re-export) or the port State can act as a broker/agent during a transaction (trans-shipment). Initial guidance on the distinction to be made between trans-shipment and import and subsequent re-exports was provided by the Ad-Hoc Group of Experts mentioned above, and further clarification was provided by the Fourth Meeting of the Parties in 1992 in decision IV/14.[7] That clarification was reiterated in decision IX/34 of the Ninth Meeting of the Parties in 1997.8 In pertinent part, the latter decision provides as follows:

> (a) [In] cases of trans-shipment of controlled substances through a third country … the country of origin of the controlled substances shall be regarded as the exporter and the country of final destination shall be regarded as the importer. In such cases, the responsibility for reporting data shall lie with the country of origin as the exporter and the country of final destination as the importer;
>
> (b) For cases of import and re-export, … import and re-export should be treated as two separate transactions; the country of origin would report shipment to the country of intermediate destination, which would subsequently report the import from the country of origin and export to the country of final destination, while the country of final destination would report the import.

35. Unlike the issues related to refilling and free-trade zones, the instructions on transhipment as opposed to imports and subsequent re-exports have been retained in the information accompanying the data reporting forms ever since the adoption of decision IV/14 (see the definitions in the existing data reporting guidelines, section 5, para. 5.7).[9]

C. Historical information provided by the Technology and Economic Assessment Panel

36. In an effort to retrieve historical guidance provided to the Parties on the treatment of ozone-depleting substances used on ships, the Secretariat consulted with the Technology and Economic Assessment Panel. The Panel referred to the information contained in the chapters on transport refrigeration of the quadrennial assessment reports of the Refrigeration, Air-Conditioning and Heat Pumps Technical Options Committee. A review of the information on transport refrigeration in the 1989, 1995, 1998, 2002, 2006 and 2010 assessment reports, however, revealed that such information related primarily to the types and estimated amounts of refrigerants used for refrigeration and air-conditioning on board ships of all types in excess of 100 gross tonnes (e.g., reefer ships and merchant marine, naval and fishing vessels). Hence, the Secretariat was unable to find any guidance given to the parties by the Technology and Economic Assessment Panel on the ozone-depleting substances for use on board ships. The Panel's review of this issue can be found on pages 61–63 of volume 1 of its 2012 progress report.

7 UNEP/OzL.Pro.4/15.

8 UNEP/OzL.Pro.9/12.

9 http://ozone.unep.org/Data_Reporting/Data_Reporting_Tools/Data-Reporting-Instructions-English.2009-01-26.pdf.

IV. Review of information submitted by parties on the treatment of consumption of ozone-depleting substances used on board ships

37. By the time of the Twenty-Third Meeting of the Parties, 18 Parties, including the European Union on behalf of its member States, had responded to the request of the Open-ended Working Group at its thirty-first meeting to provide information on their treatment of ozone-depleting substances used on ships. That information can be found in document UNEP/OzL.Pro.WG.1/32/INF/4. Since the adoption of decision XXIII/11 by the Twenty-Third Meeting of the Parties, five parties have provided information in response to that decision, two of which had also provided information prior to the Meeting.. The information submitted by those five parties is set out in annex II to the present note. In all, a review of the submitted information reveals the following:

(a) A total of 21 parties, including the European Union on behalf of its 27 member States, submitted information to the Secretariat in response to a prior directive from the Open-ended Working Group at it thirty-first meeting on the matter and decision XXIII/11. While four of those parties did not provide in their submissions explicit information on how they treated such sales relative to consumption, the remaining 17 parties (including the European Union and its member States) reported that they were treating the supply of ozone-depleting substances to ships in their territories for servicing purposes as part of their domestic consumption. A few of those parties stated that such treatment related to onboard uses in general rather than servicing uses only;

(b) Of the 17 parties mentioned above, however, three (including one party reporting on behalf of its 27 member States) reported that they differentiated between ozone-depleting substances provided for servicing a ship's equipment and ozone-depleting substances simply supplied to a ship (in quantities that either met or exceeded its servicing requirements) but not necessarily used to refill the ship's equipment while the ship was in port. Two of those parties stated that they treated such supply as an export to the flag State, while the third one specified that it did so only if the supplied substances exceeded the total capacity of the equipment to be serviced;

(c) A few parties indicated that they had no official statistics on the sales or uses of ozone-depleting substances on foreign flag ships because such substances were not taken into consideration by their licensing and quota systems;

(d) With regard to submission of data called for by decision XXIII/11, one party reported data on ozone-depleting substance banks on its ships for 2009 amounting to 242 tonnes of HCFCs. Data on ozone-depleting substance exports to foreign flag ships were reported by just two parties. One of those parties reported such data for the period 2008–2010, while another (reporting on behalf of its 27 member States) submitted such data for the period 2009–2010; the amount reported by the former party for 2008 was 14.4 metric tonnes (mostly HCFCs), while the combined HCFC consumption reported by both parties totalled 608 and 483 metric tonnes in 2009 and 2010, respectively;

(e) In addition to the information from parties mentioned above, a search of the Secretariat's database has shown that to date three parties have specified in some of their annual data reports ozone-depleting substance exports to ships of other flag States The substances are primarily hydrochlorofluorocarbons (HCFCs) and range in amount from approximately 37 metric tonnes in 2005 to approximately 67 metric tonnes in 2010. It is important to note, however, that as there is no separate reporting line on the reporting formats for exports to ships there may be some parties that include such figures in their overall export data reports without specifying the purpose of such exports;

(f) With regard to the issues noted by the parties that provided information in response to decision XXIII/11, a few parties stated that the lack of recording of ozone-depleting substances supplied to flag ships could provide a loophole for illegal trading as such amounts, not subject to import/export authorization, might be passed on to other flag ships operating on the high seas or in other ports. In addition, a number of parties expressed concern that the supply of ozone-depleting substances to ships flying their flags in foreign ports might be treated by the port States as exports to the flag States rather than as domestic consumption of the port States. They noted, in particular, that such an approach could potentially lead them into non-compliance, as their baselines for the phase-out of HCFCs did not take into account amounts used on board their flag ships engaging in international traffic and existing domestic controls did not extend to licensing or setting quotas for the normal servicing requirements of such ships. A few small island States also expressed the concern that such an approach would compromise the ability and capacity of their businesses and industries to make the most of HCFCs at a time when developing countries were engaged in the mandatory transition processes necessary to freeze and eventually phase out HCFC consumption as required by the Montreal Protocol.

V. Consultations with international bodies

38. As requested by the parties in decision XXIII/11, the Ozone Secretariat brought the decision to the attention of the IMO and WCO Secretariats and requested their assistance in providing information to the parties. The responses of the two organizations are reproduced in annexes II and III, respectively, of document UNEP/OzL.Pro.WG.1/32/INF/4. The major points made and the framework applied by those bodies are outlined in the following paragraphs.

A. International Maritime Organization

39. Under IMO, ozone-depleting substances on board ships are regulated through the 1973/78 International Convention for the Prevention of Pollution from Ships (MARPOL) and its 1997 Protocol, which was adopted to add a new Annex VI to the Convention. While MARPOL Annex VI entered into force in May 2005, a revision of the regulations contained therein entered into force on 1 July 2010. As at 30 April 2012, 68 out of the 170 IMO member States had become contracting parties to the 1997 Protocol, representing approximately 91.16 per cent of the gross tonnage of the world's merchant shipping fleet.

40. In its response to the Secretariat’s request for information in accordance with paragraph 3 of decision XXIII/11, the IMO secretariat noted that IMO did not collect or hold information on trade in ozone-depleting substances for use on board ships. It also highlighted that the requirements for the treatment of ozone-depleting substances on board ships were contained in regulation 12 of MARPOL Annex VI, which regulates such substances in line with the Montreal protocol and prohibits all deliberate releases.

41. MARPOL Annex VI requires that ships of 400 gross tons and above list systems and equipment containing ozone-depleting substances that are not permanently sealed in the supplement to the international air pollution prevention certificate issued by the ship’s flag State; such ships must also maintain an ozone-depleting substance record book and register in it the amounts used for supply, recharging, repair, discharge and disposal operations. The purpose of this record keeping is to enable monitoring of the condition and quantity of ozone-depleting substances on board ships and may be used by flag States as the basis for data collection. While ships are required to carry and fill out such record books, IMO has no mandate to review them. Enforcement of the requirements is rather undertaken by port State control officers in ports of contracting parties to that annex. There is no global database that consolidates ozone-depleting substance data recorded in ships’ log books and there exists no explicit international obligation to review the ozone-depleting substance systems and equipment records on ships to assess the extent and volume of use of such substances in international shipping. Furthermore, there exists no international compliance obligation in this regard.

42. The IMO secretariat further noted that while ozone-depleting substances were used as blowing agents in insulation material during ship construction their main use on board ships was in rechargeable fire fighting and refrigerant systems. In addressing such uses in more detail, the IMO Secretariat noted the following:

(a) Refrigeration and air-conditioning systems on new ships must be clearly labelled, providing information on the refrigerants that they use. The quantity of such refrigerants may be difficult to determine, however;

(b) Along with information on the refrigerants used in each refrigeration system on board ships (type, quantity of charge, location), information on stored cylinders containing replacement refrigerant (number, size, content and location) should also be recorded in the ship’s refrigerant log book;

(c) New installations containing ozone-depleting substances are prohibited on all ships except those containing HCFCs, which are permitted until 1 January 2020. However, a ship is required to comply with any stricter legislation applied in its flag State;

(d) Installation of new fire-fighting systems using halons is prohibited. On existing ships, however, systems containing halons may remain in service until replaced or required to be removed by international, national or other legislation or other requirements;

(e) In case ozone-depleting-substance-containing rigid foam is replaced on board a ship or the ship is scrapped, the removed insulation must be sent to a suitable reception facility.

43. The treatment of ozone-depleting substances on board ships engaging in international traffic has been on the agendas of several recent meetings of the IMO Maritime Environmental Protection Committee. The IMO secretariat remains ready to bring to the attention of the Committee any pertinent issues on which the parties to the Montreal Protocol may wish to seek clarification.

B. World Customs Organization

44. In its response to the Secretariat's request for information in accordance with decision XXIII/11, the WCO secretariat noted that the Organization did not specifically address trade of ozone-depleting substances for use on board ships nor their use on board ships. It did, however, provide some references to relevant sections of the International Convention on the Simplification and Harmonization of Customs Procedures, also known as the Kyoto Convention. Those references are briefly discussed below.

45. The Kyoto Convention entered into force in 1974 and was revised and updated in 1999 to meet the current demands of Governments and international trade. The revised Convention was adopted in June 1999 and entered into force on 3 February 2006; it has been ratified by 76 States to date.

46. The WCO Secretariat indicated that some guidance on the matter might be found in chapter 4 of the Conventions annex J, on stores. It defines "stores for consumption" to include "goods necessary for the operation and maintenance of vessels, … which are either on board upon arrival or are taken on board during the stay in the Customs territory of vessels….".

47. In addition, Standard 15 of the Convention's guidelines on stores provides as follows:

> [V]essels and aircraft which depart for an ultimate foreign destination shall be entitled to take on board, exempted from duties and taxes ……stores for consumption necessary for their operation and maintenance, in such quantities as are deemed reasonable for operation and maintenance during the voyage or flight having regard also to any quantities of such stores already on board.

48. Standard 15 thus requires Customs authorities to allow vessels bound for foreign destinations to take on board all reasonable stores necessary for their journeys, having regard to the stores already on board. In some Customs territories this facility is also granted to vessels and aircraft that leave the Customs territories although their ultimate destinations are not foreign. The supply of such stores for a voyage or a flight should generally include both the outward and return journeys and, for frequent and regular traffic on short routes, the Customs authorities should consider supplying, at any one time, quantities that would meet the requirements of several journeys. This is a facilitative measure that would avoid the need for additional paperwork, formalities and supervision by Customs authorities.

49. While the quantities of ozone-depleting substances supplied to vessels during their stays in a Customs territory are exempted from duties and taxes, they should, according to a recommended practice,[10] be recorded on any relevant regulation required by the Customs authorities. This practice, however, has been accepted by just 16 WCO member States to date. Recording of ozone-depleting substances by Customs authorities remains the prerogative of port States. There is no global database on ozone-depleting substance data recorded by national Customs authorities and there exists no international compliance obligation in this regard.

50. The WCO secretariat highlighted that Montreal Protocol parties could send to it any specific requests for the consideration of the WCO Management Committee at its annual meeting (next meeting to be held in October 2012) through their Customs administrations. Such a request could, for instance, be a proposal to compile a list of national practices relevant to the use of ozone-depleting substances on board ships.

10 Revised Kyoto Convention, Specific Annex J, Recommended Practice no. 8.

Annex I

Decision XXIII/11: Montreal Protocol treatment of ozone-depleting substances used to service ships, including ships from other flag states

Taking into account that Article 4B of the Montreal Protocol on Substances that Deplete the Ozone Layer requires parties to establish and implement systems for licensing imports and exports to phase out the production and consumption of Annex A, B, C, and E ozone-depleting substances,

Taking into account also that consumption is defined under the Montreal Protocol as production plus imports minus exports,

Recognizing that ships use equipment and technologies containing ozone-depleting substances onboard during operations in national and international waterways,

Mindful that many parties registered as flag States are unsure of the reporting requirements for ships under the Montreal Protocol,

Concerned that differing party interpretations of the Montreal Protocol with regard to the sale of ozone depleting-substances to ships may result in the miscalculation of consumption or disparities in the reporting of consumption,

1. To request the Ozone Secretariat to prepare a document that collects current information about the sale of ozone-depleting-substances to ships, including ships from other flag States, for onboard servicing and other onboard uses, including on how parties calculate consumption with regard to such sales, and that identifies issues relevant to the treatment of the consumption of ozone-depleting substances used to service ships, including flag ships, for onboard uses for submission to the Open-ended Working Group at its thirty-second meeting to enable the Twenty-Fourth Meeting of the Parties to take a decision on the matter;

2. To include in the document any guidance and/or information on ozone-depleting-substances previously provided to the parties regarding sales to ships for onboard uses;

3. To request the Ozone Secretariat in preparing the document referred to in paragraph 1 to consult as deemed necessary with relevant international bodies, in particular the International Maritime Organization and the World Customs Organization, to include in the document information on whether and how those bodies address:

(a) Trade in ozone-depleting substances for use onboard ships;

(b) Use of ozone-depleting substances onboard ships;

and to provide a general overview on the framework applied by those bodies to manage relevant activities;

4. To request that the document be made available to all parties at least six weeks before the thirty-second meeting of the Open-ended Working Group;

5. To request parties to provide to the Ozone Secretariat, by 1 April 2012, information on the current system used by the parties, if any, to regulate and report on ozone-depleting substances supplied for the purpose of servicing ships, including ships from other flag States, for onboard use, on how they calculate consumption with regard to such ozone-depleting substances, and on any relevant cases in which they have supplied, imported or exported such ozone-depleting substances;

6. Requests the Secretariat to include the information provided pursuant to the preceding paragraph in an annex to the document called for in paragraph 1;

7. To request the Technology and Economic Assessment Panel to provide in its 2012 progress report a summary on the available data concerning the use of ozone-depleting substances on ships, including the quantities typically used on different types of ships, the estimated refrigerant bank on ships and an estimation of emissions;

8. To invite parties in a position to do so to provide, to the extent possible, relevant data concerning the use of ozone-depleting substances on ships, including the quantities typically used on different types of ships, the estimated refrigerant bank on ships and an estimation of emissions to the Panel by 1 March 2012.

Annex II

Information submitted by Parties to the Secretariat on the treatment of ozone-depleting substances used to service ships since the Twenty-Third Meeting of the Parties

A. Comments submitted by Brazil

1. I would like to refer to decision XXIII/11, adopted at the Twenty-Third Meeting of the Parties to the Montreal Protocol, on the Montreal Protocol treatment of ozone-depleting substances used to service ships including ships from other flags states.

2. Responding to paragraph 5, in Brazil, ODs consumers are individuals or enterprises that buy ODs for use, the resale of it, is not considered in the calculation. The use of ODs is declared by users through the annual report data of the on-line control system (Federal Technical Register of IBAMA) discriminating the substance, the quantity and the purpose of the use. Applications can be for: foaming, agricultural, manufacturing, pharmaceutical, maintenance equipment refrigeration, chemical or solvent. In this way, please be advised that the amount of ODs used in ships is reported in the maintenance application in refrigeration, whether for domestic or foreign flags ships. The use therefore is declared by the Brazilian company (classified as user) who bought the gas to perform maintenance.

3. Responding to paragraph 8, according to information of companies, the majority of fishing vessels uses ice holds for fishing storage. For other types of cargo vessels, transport is done through refrigerated containers. The average capacity of gas applied is 6 kg and the quantity used for maintenance varies from 2.5-3 kg of gas, on average. The substances used in the refrigeration systems are HFC-134a and HCFC-22.

B. Comments submitted by Canada

Paragraph 5 of decision XXIII/11

> 5. To request parties to provide to the Ozone Secretariat, by 1 April 2012, information on the current system used by the parties, if any, to regulate and report on ozone-depleting substances supplied for the purpose of servicing ships, including ships from other flag States, for onboard use, on how they calculate consumption with regard to such ozone-depleting substances, and on any relevant cases in which they have supplied, imported or exported such ozone-depleting substances

Canada's comments

Consumption of ODS on ships

4. Under Canadian domestic regulations it is prohibited to export an ozone-depleting substance without a permit. However, this requirement does not apply to an ozone-depleting substance that is sold in Canada to a foreign ship for the refilling or servicing of its refrigeration, air-conditioning or fire extinguishing equipment in a quantity that does not exceed the total capacity of the equipment. Any quantity in excess of the total capacity of the equipment would be considered an export and would require an export permit and, subsequently, an annual or quarterly report.

5. The servicing or refilling of equipment on a Canadian ship falls under the current licensing, permitting and reporting system in place in Canada. For example, if HCFCs are required for an air-conditioning system on a Canadian flagged ship, an authorization is required to import or manufacture HCFCs, whether they are virgin or used, recovered, recycled or reclaimed.

Use and handling of ODS on Canadian flagged ships

6. Additional domestic regulations control the use and handling of ozone-depleting substances and their halocarbon alternatives in air-conditioning, refrigeration, fire-extinguishing and solvent systems owned by federal works and undertakings, which includes ships.

7. These regulations currently prohibit installing or charging refrigeration and air-conditioning systems with CFCs in all Canadian flagged ships, with the exception of small systems (refrigeration capacity of less than 19 kW), and chillers that have not been overhauled. Note that these regulations will further prohibit the operation of chillers, including those on ships, on January 1, 2015; and the installation/charging of fire-extinguishing systems with halon are prohibited on ships in Canada unless authorized by a permit, except for systems for use on a military ship. These same regulations also apply to ODS systems on Canadian flagged ships in international waters or in waters belonging to another State.

Paragraph 8 of decision XXIII/11

> 8. To invite parties in a position to do so to provide, to the extent possible, relevant data concerning the use of ozone-depleting substances on ships, including quantities typically used on different ships, the estimated refrigerant bank on ships and an estimation of emissions to the Panel by 1 March 2012

Canada's comments

8. Based on a 2009 study on banks of ozone-depleting substances in Canada, it is estimate that 242 tonnes of ODS exist in systems on Canadian flagged ships. The table below explains the breakdown. The number of units is calculated based on Canada's share of global GDP for the number of estimated ships in each of the mobile refrigeration sub-sectors.

Mobile Refrigeration	Units (#)	HCFCs (tonnes)
Reefer Ships	30	61
Other Marine Ships	1,531	181

C. Comments submitted by China

9. According to the requirement of Decision XXIII/11, the parties are requested to provide to the Ozone Secretariat information on the current system used by the parties, if any, to regulate and report on ozone-depleting substances supplied for the purpose of servicing ships, including ships from other flag States, for onboard use, on how they calculate consumption with regard to such ozone-depleting substances, and on any relevant cases in which they have supplied, imported or exported such ozone-depleting substances. On behalf of the National focal Point of China, I would like here to provide the information of China as follows: All the ozone-depleting substances used for the purpose of servicing ships, including local ships and ships from other flag States, for onboard use in China, should be supplied by the refrigeration system servicing stations or enterprises, so such ODS was treated as the domestic consumption of China. The ODS used for servicing ships, as well as other ODS used for refrigeration system servicing, is treated as servicing purpose and regulated accordingly. In accordance with the Article 19 of Ozone-Depleting Substances Management Regulation issued by Chinese Government in 2010, any unit engaged in business activities such as maintenance of ODS-containing refrigeration equipment and systems shall register at the competent environmental protection department of the people's government of the county where it is located. However, the registration management system is still under construction given the large number of the servicing stations and enterprises and the difficulties of the management. So it is still unable to accurately distinguish the ODS consumption between the various fields, including ship servicing.

D. Comments submitted by the European Union

10. The EU has an advanced legislation on ODS which includes uses in the maritime sector. Note that for the sake of being concise the information below is simplified:

EU legislation prohibits all imports and exports of ODs. This includes products and equipment containing or relying on ODS such as vessels with an ODS based refrigeration system. This applies to all types of customs procedures, including for example transit or trans-shipments. Where exemptions to this prohibition apply (e.g. for feedstock uses), any shipment is subject to licensing except for a certain type of transit trade.

Movements of foreign means of transport are not considered as import or export and thus not subject to licensing or to import/export restriction if:

- they carry ODS for use onboard the means of transport, and
- the ODS or the means of transport is not imported into the European Union, and
- the means of transport benefits from the exemptions applicable for temporary admission under the relevant international conventions.

In short: a foreign vessel calling an EU port is not affected by the trade *bans provided that it leaves again unchanged.*

For the practical implementation servicing and supply is distinguished to accommodate the recornmendation made by the ad-hoc expert group on reporting in 1990.

(a) Servicing is considered as domestic consumption and not subject to licensing or reporting. In these cases an EU based company is executing the maintenance work onboard the means of transport bringing its own ODS, EU law on the ODS use applies (e.g. only non-virgin HCFC is permitted).

(b) Supply is the delivery of ODS to the ship currently in the EU harbour for onboard use but without servicing executed by the delivering company. In these cases the actual maintenance work is executed by the crew, usually while the ship is on the high seas.

De facto such situations do not occur for means of transport other than ships. However, in case of ships in almost all cases we deal with "supply" and not with "servicing".

On the import side, we would consider it as an import if ODS were delivered to means of transport flagged to an EU Member State or a territory of an EU Member State that is part of the EU ("EU ships"). Given that import of HCFC (virgin or not) for refrigeration uses into the EU is prohibited, such supply to EU ships in non-EU harbours would be prohibited as well. If servicing was taking place in a non-EU harbour by a company of the port state, this would only be permitted if reclaimed HCFC was used.

My service does not hold any information concerning technical aspects of the use of ODS 011 ships. Hence I cannot provide detailed information about quantities typically used on different types of ships, estimated refrigerant bank on ships or an estimation of emissions.

In 2010 about 475 metric tonnes (26 ODP-tonnes) of HCFC, almost entirely HCFC-22, were exported to ships. In 2009 about 600 metric tomes (33 ODP-tomes) of HCFC were exported to ships.

Between January 2010 and August 201 1 we licensed about 2000 deliveries. While we have not made a thorough analysis of the different deliveries we generally observe that fishing vessels account for the majority of it. Apparently, large amounts are also consumed by reefers and cruise ships. Individual deliveries to fishing vessels can reach several tons. 225 of these deliveries concerned quantities larger than 1 ton. We also observe that a number of ships call at EU ports several times a year requesting large volumes. This suggests that individual ships would have very high emission rates or pass refrigerant to other ships. In one case a ship loaded 53 tomes HCFC-22 during this period. In another case 31 tonnes were loaded. It appears unlikely that such volumes can be consumed for refrigeration purposes on a single ship which could suggest that these volumes are traded illegally.

E. Comments submitted by Saint Vincent and the Grenadines

11. St.Vincent and the Grenadines like many Caribbean islands, has an open ship registry for pleasure and commercial vessels. There are over some 2,000 flagships registered to the country. The Maritime Administration is the agency responsible for the monitoring of these flagships, but they do not have any reporting mechanism in place and do not receive or mandate the reporting of ODS consumption to these ships.

12. The National Ozone Unit, which is the implementing body of the Montreal Protocol, in its annual data reporting to the Ozone and Fund Secretariats accounts for only legal imports as defined by the Montreal Protocol. Moreover, legal imports as defined by Customs, is any item that is landed or passes through the prescribed ports of entry on any of the 8 inhabited islands of the country and consumed on island/ in state. In the case of ODS or other refrigerants, through the licensing and quota system of the Montreal Protocol Regulations, these items are regulated, monitored and reported for under Article 7 of the Protocol.

13. However, the licensing and quota system which monitors our imports of refrigerants does not take into consideration sale to ‘flagships” as the majority of these ships do not even come to port on the island and those that do are not usually serviced in state. In general there is not linkage or relationship between these “flagships” and the state other than being registered, as far as we were informed.

14. It is our sincere hope that some definition and clarification on this matter is given, clearly defining who is responsible for accounting for the imports/exports of these substances. However, consideration should also be given to the limitations that exist in most Article 5 countries bearing in mind that the monitoring of a significant number of ‘flagships’ that are not bounded to the reporting obligations under the MARPOL would inhibit and unfairly threaten the compliance status of most if not all countries.