MARINE ENVIRONMENT PROTECTION COMMITTEE
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Agenda item 4

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PREVENTION OF AIR POLLUTION FROM SHIPS

Comments on the outcome of the United Nations Climate Change Conference held in Copenhagen, Denmark

Submitted by OCIMF and INTERTANKO

SUMMARY

Executive summary:	This document comments on document MEPC 60/4/9, Outcome of the United Nations Climate Change Conference held in Copenhagen, Denmark from 7 to 18 December 2009, note by the Secretariat, and outlines one activity that the shipping industry is involved in to reduce actual emissions from oil tankers, pursuant to paragraphs 7, 20, and paragraphs 1 and 7 of the annex to document MEPC 60/4/9
Strategic direction:	7.3
High-level action:	7.3.1
Planned output:	7.3.1.3
Action to be taken:	Paragraph 14
Related document:	MEPC 60/4/9

Introduction

1 This document is submitted in accordance with paragraph 4.10.5 of the Guidelines on the organization and method of work of the Maritime Safety Committee and the Marine Environmental Protection Committee and their subsidiary bodies (MSC-MEPC.1/Circ.2) and provides comments on document MEPC 60/4/9 by the Secretariat.

2 OCIMF and INTERTANKO would like to express its thanks and support for the IMO's efforts and leadership to achieve understanding and appreciation for its work on the limitation or reduction of GHG emissions from international shipping at the United Nations Climate Change Conference held in Copenhagen, Denmark (UNFCCC COP 15). The co-sponsors remain convinced that the complex challenges associated with managing greenhouse gas emissions from shipping are best properly addressed within IMO.

3 It was stated in paragraph 7 of document MEPC 60/4/9 that the extension of the *ad hoc* working group on long-term cooperative action under the convention (AWG-LCA) will consider policy approaches and measures to limit and reduce greenhouse gas emissions from international maritime transportation. Likewise, in paragraph 20 of document MEPC 60/4/9, the SBSTA invited the Secretariats of both ICAO and the IMO to continue reporting, at future sessions of the SBSTA, on relevant work on this issue. The co-sponsors would like to inform the Committee of one activity that industry is involved in to reduce actual emissions and fuel usage on vessels which is supportive of the Copenhagen Accord, paragraphs 7 and 20 of document MEPC 60/4/9.

Virtual arrival

4 The following outlines a process whereby inefficiencies within the maritime supply chain are identified and, with mutual agreement, removed by agreeing a revised arrival time at a port and then optimizing the vessel speed to achieve that time. The industry has called this process "Virtual Arrival" as it compares a calculated arrival time taking into account the meteorological factors upon the vessel, i.e. "virtual arrival time" with the actual required arrival time of the vessel to meet actual berth availability and determining the emission savings made. It is not a blanket reduction of speed influenced by economic market forces which may be eroded upon market recovery, or resulting in a need for additional tonnage to deliver the same cargos, but a removal of an identified inefficiency within the supply chain delivering absolute reductions in emissions from the vessel's propulsion to deliver the same cargos.

5 Within the industry there are many voyages undertaken where a delay at the port of discharge has been identified well in advance, yet the vessel still proceeds at full speed to that port to arrive within the contractual agreement made between the parties involved. An example of this is where there is insufficient tank capacity at the discharge port or terminal to receive the cargo.

6 By mutually agreeing a revised arrival time of the vessel at the port in question, utilizing a structured and managed reduction in the vessel's speed, taking into account forecasted weather conditions, the vessel's voyage can be adjusted to arrive at an agreed arrival time at the port. Thus reducing inefficiencies in the supply chain and absolute emissions for the voyage and cargo carried without requiring additional tonnage to maintain the same overall delivery of cargo. This is shown pictorially in annex 1 to this document.

7 To allow the Master to manage the reduction in passage speed, it is necessary to closely monitor the forecasted weather conditions for the remainder of the voyage. There are many specialized entities who already provide this advice to the vessel's Master and a number are currently undergoing an external verification of their methodology for calculation of the influence of weather upon the voyage, and consequently the effect this has upon the arrival time. This may also enhance the safety of the vessel by the provision of detailed weather information to the Master.

8 The benefit to the environment is the absolute reduction in vessel emissions by reducing identified inefficiency within the maritime transport system. An example: a recent voyage from the Black Sea to the United Kingdom, achieved an absolute reduction of 183.2 tonnes CO_2, 4.39 tonnes NO_x and 3.49 tonnes SO_x which represented a reduction of some 27% of CO_2 emissions against the anticipated voyage. It should be noted that the savings will differ due to the uniqueness of individual voyages. The fuel saved is also available for use on further voyages, which will reduce future bunkering needs and demand for carbon based fuels and refining industry with the associated environmental reduction. This example is contained within annex 2 to this document.

9 Further benefits from the adoption of a managed arrival process, is the ability to reduce the fatigue of the vessel's crew that is experienced when a vessel performs additional mooring operations, such as anchoring for a short periods, and then proceeding to the berth.

10 A reduction in port congestion and emissions from vessels waiting in the port area is achievable by scheduling the arrival of the vessels at the port taking into account identified and known delays. This reduction of the vessel's idling time off a port also reduces the congestion and associated risks to safe navigation that may be experienced off ports.

11 This method of managing the vessel's voyage and arrival, taking into account known delays, is equally applicable to any sphere of maritime transportation where similar limitations exist.

12 OCIMF and INTERTANKO have established a Virtual Arrival Project, which is also involving other industry representatives, with initially three working groups.

.1 the first is monitoring the additional trial voyages that are being organized;

.2 the second is producing guidance for use in the development of model charter party clauses and, *inter alia*, covers: the legal and contractual issues associated with Virtual Arrival charter parties (in particular on demurrage) on bills of lading, demurrage, liabilities, title to any emission credits, etc.; and

.3 the third is developing criteria for the certification of third party routing companies responsible for the post voyage analysis and verification of the vessel's performance.

In parallel other parties are developing model charter party clauses to complement this work and to incorporate terms to reflect the items identified by the above working groups.

13 It is the intention of the co-sponsors to keep the Committee advised of progress on the Virtual Arrival Project.

Action requested of the Committee

14 The Committee is invited to consider the observations and comments provided above and take action as appropriate.

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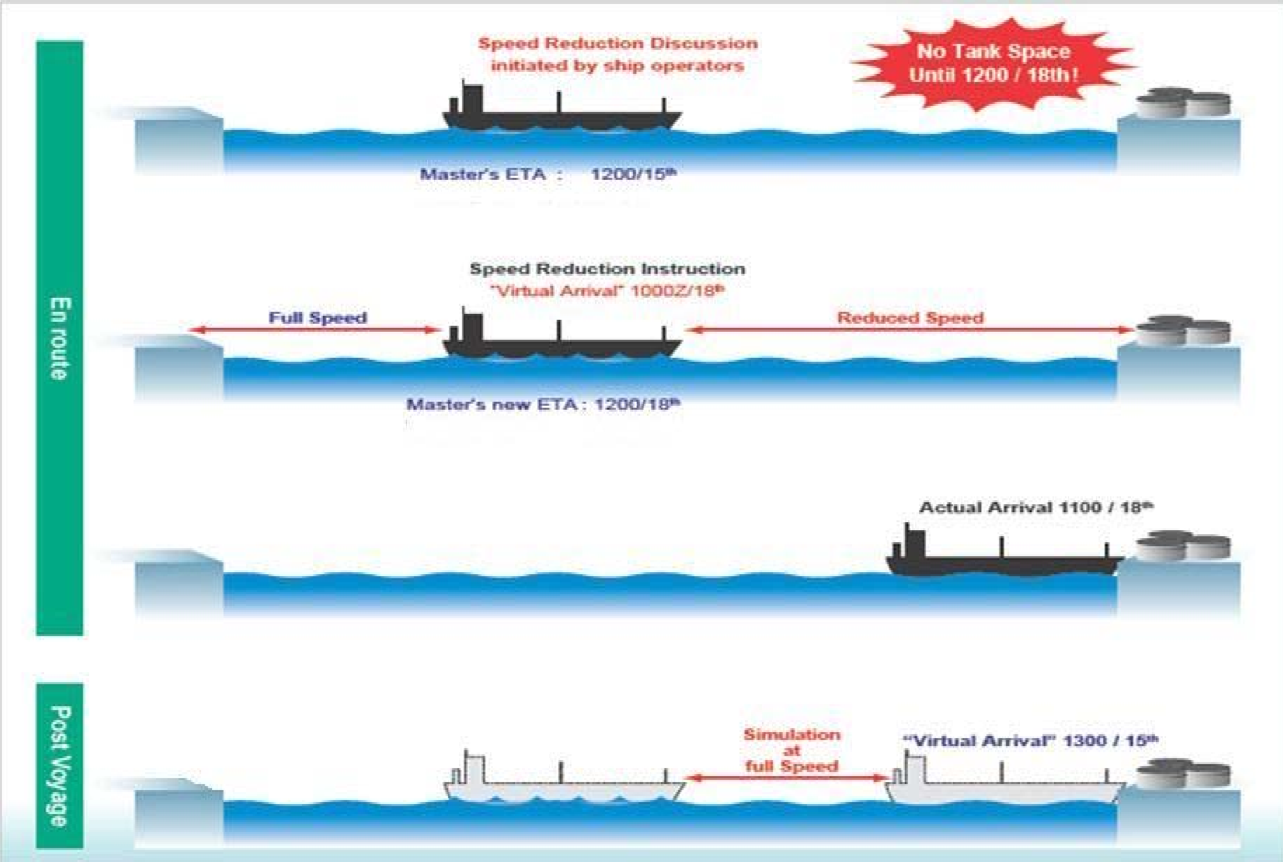
ANNEX 1

PICTORIAL EXPLANATION OF HOW THE VIRTUAL ARRIVAL PROCESS WORKS



During a voyage there is a delay identified at the discharge port which would mean that if the vessel continues at its current speed there will be a period of time spent idling off port waiting for its berth, as shown in the initial diagram above.

After discussion with all interested parties a mutually-agreed decision is made to adjust the vessel speed to achieve a new time of arrival. If required, the historic data of this voyage can be used, when adjusted for the influence of weather, to achieve a baseline good weather performance. This would give a virtual arrival time when weather is taken into account, as shown in the second diagram above.

The vessel achieves an actual arrival time, as shown in the third diagram above.

Using an approved mutually-agreeable party, a post-voyage analysis is conducted and the fuel and GHG emission saving is calculated for the voyage realized, as shown in the final part of the above diagram.

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ANNEX 2

AN EXAMPLE OF A VOYAGE WHERE VIRTUAL ARRIVAL HAS BEEN USED

An oil product tanker was booked to load at a Black Sea port for a voyage discharge to the United Kingdom. On conclusion of the loading of the vessel a delay at the receiving terminal was identified which would have the vessel arriving when the berth was not available.

It was mutually agreed with the Master of the vessel and all other interested parties to manage the vessel's voyage speed, subsequent to completion of the navigationally-challenging areas of the Dardanelles, to achieve a set arrival time at the port of discharge. This arrival time was within the normal working day of the vessel's crew, in daylight and allowed for minimal time idling off the port limits. This is shown pictorially below

A weather information provider was engaged and provided detailed meteorological information to the vessel's Master and also anticipated environmental emission savings that would be realized on the completion of the voyage. This allowed a great degree of transparency between all parties and also retained the Master's authority.

On completion of the voyage the weather information provider supplied a detailed voyage analysis, taking into account the weather encountered and the actual arrival time and the initially anticipated arrival time if the vessel had not reduced speed, and after applying a weather factor, the reduction in emissions and fuels used. The calculation of the weather factor is an independently verifiable process that is approved by the relevant authorities.

On this voyage, the savings against proceeding at full speed and waiting off the port, and the managed voyage speed approach, were a saving of 183.2 tonnes CO_2, 4.39 tonnes NO_x, 3.49 tonnes SO_x, an overall reduction of 27% CO_2 emissions and also a reduction 58.83 tonnes of heavy fuel oil.

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