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ANY OTHER BUSINESS

Addressing Marine Pollution from Oil-based Lubricants during Normal Operations

Submitted by WWF and FOEI

SUMMARY

Executive summary:	In this document, WWF and Friends of the Earth International (FOEI) raise specific concerns over the extent of oil-based lubricant pollution, as an example of the scale of operational chemical pollution, and the inadequacy of existing IMO regulations and industry operating practices to reduce its impact on the marine environment. The volume of chemicals used by the shipping industry also raises concerns about the environmental risks of spills in the case of accidents.
Strategic direction:	7.1
High-level action:	7.1.1
Planned output:	–
Action to be taken:	Paragraph 17
Related documents:	MEPC 58/INF.22, MEPC.1/Circ.671 and MEPC/Circ.399

Addressing marine pollution from oil-based lubricants during normal operations

1 The purpose of this document is to highlight the increasing concern regarding the extent of spills, leaks and discharges of chemicals by ocean-going vessels. Oil-based chemicals that routinely leak into the sea during normal operations include fuel oils, gear oils, hydraulic oils, marine lubricants, greases and cleaning oils, and can reach concentrated levels with serious local impacts on water quality, impacting bathers, fisheries, wildlife and recreational boating. The volume of chemicals used by the shipping industry also raises concerns about the environmental risks of spills in the case of accidents.

2 In this document, WWF and Friends of the Earth International (FOEI) would like to raise specific concerns over the extent of oil-based lubricant pollution, as an example of the scale of operational chemical pollution, and the inadequacy of existing IMO regulations and industry operating practices to reduce its impact on the marine environment.

The scale of operational lubricant pollution

3 Marine lubricants are used to lubricate machinery in various parts of the ship, including stern tubes, thrusters and horizontal stabilisers, outboard motors, on-deck and on-shore machinery (crane hydraulics, winch/windlass gears, process pumps), ship cables and exposed gears, and enclosed machinery (engines, gearboxes, cargo pump drives). Operational discharges into the sea occur through discharges during normal operations, equipment wear and failure, and wash-off.

4 The mixture of mineral oil base and additives in lubricants results in persistent, bioaccumulative and toxic chemicals accumulating in the marine environment, particularly near coasts, where 80% of shipping movements occur. The use of engine oils in a large number of stern tubes, rather than less toxic stern tube oils, exacerbates these pollution effects.

5 In the first authoritative study of the scale of operational lubricant pollution, a 2009 report by Environmental Research Consulting (the "Etkin Report") has found that between 33,000 tonnes and 61,000 tonnes of oil-based lubricants – approximately one and a half times the amount of oil spilled from the **Exxon Valdez** – are discharged each year into port and harbour waters alone, due to operational leaks and discharges.

6 This is a significant level of pollution, equating to an additional 10% over the most recent estimates of total oil inputs from all sources into marine waters (GESAMP 2007, NRC 2003) – which did not take into account marine lubricant discharges from propulsion and most other operational discharges not related to oil cargo.

7 Lubricant leakage and discharges across the entire marine environment, including open seas, populated coastal waters, ecologically sensitive areas and ports and harbours, can be projected to as much as 244,000 tonnes a year, based on the amount of time ships are at sea. In other words, since the **Exxon Valdez** disaster in 1989, the equivalent of 137 similarly-sized spills has leaked, been discharged or spilled into the world's estuaries, coastal waters and oceans, due to lubricant discharge-source pollution.

8 Since industry sources estimate volumes of lubricants consumed by the shipping industry totalled between 2.5 and 2.8 million tonnes in 2009 (down from 3 million tonnes in 2008), the amount of lubricating oil pollution may be significantly higher than these estimates. Anecdotal evidence of lubricants contributing to significant localized pollution, along with engine oils, supports this view.

9 The large amount of lubricants in transit or in use by the fleet creates significant risks of catastrophic pollution in the event of accidents. Levels of spills on the open sea are difficult to ascertain, but the Etkin Report estimates nearly a thousand tonnes of lubricating oil are spilled into the world's port and harbour areas each year. This is considered to be conservative, given that it is based on spillage rates from vessels subject to the generally higher vessel maintenance and financial responsibility standards and regulations applicable to vessels entering United States waters than those in other jurisdictions. Once again, spills across all marine waters are likely to be significantly higher, since monitoring is dependent on reported incidents, as occurred with the cruise liner **Clelia II** which ran aground in Antarctica over Christmas 2009.

Further observations

10 WWF and FOEI have specific concerns over discharges of lubricants below the waterline from stern tubes and thrusters, since these are almost impossible for authorities to observe. Introducing monitoring systems and abatement mechanisms for this type of marine pollution would improve detection rates of mechanical failure and aid in efficiency of operation.

11 WWF and FOEI are also concerned about the lack of data available on the disposal of used lubricants at port reception facilities. The MEPC Guide to Good Practice for Port Reception Providers and Users (MEPC.1/Circ.671) should include specific references to used lubricants, given the scale of their use in the industry. At the same time, it should be understood that port reception facilities will not solve the problem of direct operational discharges into the sea raised in the Etkin Report.

12 The scale of lubricant use illustrates the wider necessity of MEPC to consider pollution levels from all onboard chemicals that are not adequately dealt with, either by regulation or by shipping industry practices, to achieve the goal of "zero pollution" from ships set by IMO Member States and international shipping associations.

13 We also believe that operationalizing such zero discharge philosophy should be part of flag State responsibility and would go some way towards achieving aspirations on bettering performance.

Conclusions

14 Existing IMO regulations may stipulate minimal operational oil loss from ships into the sea, but the Etkin Report indicates little enforcement of these, and either a lack of awareness, a high level of tolerance of leaks or discharges, or complacency regarding their minimization (or all of these), in the industry.

15 Reducing the impacts of marine lubricant use on the marine environment could be achieved relatively easily with regulation aimed at reducing the amounts of oil-based lubricants, for example:

.1 the wide availability of sustainably-produced low mineral oil content-lubricants with low levels of toxicity and bioaccumulation potential, and high levels of biodegradability, means the shipping industry can already significantly reduce the impacts of using lubricants at sea. Highly biodegradable lubricants are already recommended for use in Arctic regions (MEPC/Circ.399) and by some national authorities, but regulatory action from the IMO is required to ensure wider adoption. This should include minimum requirements on toxicity and bioaccumulation, as well as biodegradability, as required of the North Sea offshore industry by OSPAR HMCS standards; and

.2 water-separated stern tube designs (MEPC 58/INF.22) that do not require oil-based lubricants could also reduce the impact of stern tube oil seepage, estimated by the Etkin Report to contribute between 12% and 46% of total lubricant pollution in ports and harbours.

16 More frequent inspections by flag States and port authorities of the equipment highlighted above would also reduce lubricant loss to the sea, since old and faulty equipment is a major contributor.

Action requested of the Committee

17 The Committee is invited to consider the information provided with a view to endorsing further, more detailed, discussion around mechanisms for addressing this issue at the next session of the Committee in September 2010 (MEPC 61).

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