



**SUITABILITY OF IMO LIABILITY AND COMPENSATION REGIMES
WITH RESPECT TO ALTERNATIVE FUELS**

**Submitted by Antigua and Barbuda, Australia, Canada, Denmark, Finland, France, the
Kingdom of the Netherlands, New Zealand, Poland, Republic of Korea, Spain, CMI,
ITOPF, ICS and P&I Clubs**

SUMMARY

Executive summary: Interested Member States and international organizations (Interested Parties), who worked on the new output during the intersessional period on an informal basis, found that gaps exist in the current liability and compensation regime regarding some of the emerging fuels used by the marine industry.

They concluded that there is currently no international civil liability regime in force to deal with incidents involving alternative fuels when used as a fuel, and as such, there is no adequate international regime determining liability nor compensation for loss arising from the risks associated with alternative fuels when used for the operation and propulsion of a ship.

Strategic direction, if applicable: 1, 2 and 7

Output: 7.51

Action to be taken: Paragraph 16

Related documents: LEG 112/13/2 and LEG 112/13/5

Introduction and Background

1 The Legal Committee, at its 112th session, approved a new work output on the suitability of the IMO liability and compensation regimes with respect to alternative fuels when used for the operation and propulsion of a ship.

2 Following this session, interested parties agreed to work on the new output during the intersessional period on an informal basis. Australia, Antigua and Barbuda, Belgium, Canada, Cyprus, Denmark, Finland, France, Fiji, Germany, Japan, Liberia, the Marshall Islands, the Kingdom of the Netherlands, New Zealand, Norway, Poland, Singapore, the Republic of Korea, Solomon Islands, Spain, Tuvalu, International Association of Dry Cargo Shipowners (INTERCARGO), International Chamber of Shipping (ICS), Comité Maritime International (CMI), International Union of Marine Insurance (IUMI), International Group of Protection and Indemnity Associations (P&I Clubs), ITOPF, Methanol Institute (MI), World Shipping Forum, and Nuclear Energy Maritime Organization Ltd. (NEMO) registered interest in this work.

3 The interested parties completed three tasks:

- .1 analysed the adequacy of the current international liability and compensation regimes in providing compensation for losses arising from risks associated with alternative fuels when used for operation/propulsion;
- .2 identified the essential characteristics of a liability and compensation regime necessary to appropriately address claims related to injury, pollution and damage related to use of alternative fuels; and
- .3 examined approaches for implementing these characteristics effectively, such as through an existing instrument or creating a new instrument.

Summary of work accomplished

Analysis of current regimes, characteristics of a liability regime for alternatively fuelled ships, advantages and disadvantages of instruments and terms of reference

4 The interested parties prepared a comprehensive overview of the scope of each existing liability convention (Annex 1), including *the International Convention on Civil Liability for Bunker Oil Pollution Damage, 2001* (Bunkers Convention), the *International Convention on Civil Liability for Oil Pollution Damage* (CLC), the *International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances* (HNS Convention), the *Convention on Limitation of Liability for Maritime Claims, 1996* (LLMC) and the *Nairobi International Convention on the Removal of Wrecks, 2007* (WRC). The analysis considered what types of damage and substances were covered, whether liability was assigned (i.e. strict), limitations of liability, who was liable, and how amendments could be made, including a comparison of the conventions.

5 The Bunkers Convention is limited to hydrocarbon mineral oils and does not cover personal injury and loss of life. The CLC is limited to persistent hydrocarbon mineral oils whether carried on board a ship as cargo or in the bunkers of such a ship. The WRC does not respond to claims from third parties. The HNS Convention sets out adequate liability provisions for alternative fuels, but only when carried in bulk as cargo for the listed alternative fuels. Overall, the group concluded that the existing regimes do not adequately deal with incidents involving alternative fuels when used for the operation or propulsion of a ship.

6 Annex 2 sets out the necessary characteristics of a liability and compensation regime to properly address claims arising from injury, pollution and damage related to alternative fuels.

7 Annex 3 sets out the advantages and disadvantages of the different instrument options available for establishing an alternative fuels liability regime.

8 Annex 4 sets out a draft terms of reference for a correspondence group to continue the work of this new output, as outlined in paragraph 3 of this annex.

Other Matters

9 In the course of the discussions, questions relating to three broader issues were raised that require further attention from the Legal Committee.

10 The first issue is whether damage caused by incidents involving nuclear fuels should be included in this new instrument. Considering the substantially disparate risks presented by

nuclear fuels (e.g. radioactivity half-life), it is recommended that the Legal Committee consider establishing a new output on development of a civil liability regime for incidents caused by nuclear fuel used in the propulsion and operation of commercial ships.

11 Several participants also suggested developing guidance on how the Bunkers Convention applies to biofuel/biofuel blends/synthetic/vegetable-derived fuels. It was noted that MEPC 83 approved MEPC.1/Circular.917, *Interim Guidance on the Carriage of Blends of Biofuels and MARPOL Annex 1 Cargoes by Conventional Bunker Ships*, indicating that oil tankers may transport blends of not more than 30% by volume of biofuel. While clarity may be needed on this issue for the application of the Bunkers Convention, it is not required for the purposes of completing this work output. Any new instrument could be drafted broadly to ensure that it complements the Bunkers Convention. It is recommended that the Legal Committee consider whether a new output should be established to address this matter, given the potential uncertainty related to the application of the Bunkers Convention in the event of a spill of biofuel blends.

12 Participants acknowledged that most alternative fuel options (e.g. LNG, LPG, methanol, ammonia, biofuels, batteries and hydrogen) would fall within the scope of the HNS Convention when carried as cargo. However, several participants suggested that a gap analysis be conducted to determine whether any alternative fuel substances are not covered by the HNS Convention. Several participants also suggested further interpretation was necessary to understand how liability would be applied: when a ship uses its cargo as fuel for the operation/propulsion of the ship; and in relation to the LNG heel (the small amount of cargo that is retained on board following discharge to keep the tanks cool and that can be used as fuel). It is likely that such situations are addressed by the definition of damage, which clarifies that where it is not reasonably possible to separate damage caused by the HNS from that caused by other factors, all such damage shall be deemed to be caused by the HNS. It is recommended that these questions be considered by the Assembly of the HNS Fund upon its creation.

13 Additionally, data will be needed to assess risks and potential damage from alternative-fuelled ships as the work progresses, as well as current and projected usage. This data will help determine several matters, including liability limits and compulsory insurance thresholds.

14 Finally, it was suggested that the title of the work output be renamed to "develop a liability regime for alternative fuels and technologies when used for the operation/propulsion of a ship". This will more accurately reflect the work and adapt to ultimate outcomes.

Next Steps

15 With the informal correspondence group having determined that there is currently no international civil liability regime in force to deal with incidents involving alternative fuels when used for the operation/propulsion of a ship, it submits the attached annexes for consideration by a working group, or a correspondence group in lieu of a working group, at LEG 113.

Action requested of the Committee

16 The Committee is invited to:

- .1 note the information contained in this document;
- .2 consider the analysis contained in the draft documents found in annexes 1 to 3;

- .3 consider renaming the output approved at LEG 112 (as mentioned in paragraph 1) to read "develop a liability regime for alternative fuels and technologies when used for the operation/propulsion of a ship"; and
- .4 establish, at LEG 113, a working group, should the Committee want to advance this work quickly, or alternatively, an intersessional correspondence group in lieu of a working group, to continue work on this output, according to the proposed terms of reference in annex 4.

ANNEX 1

1 Introduction

In accordance with the work outputs approved at the 112th session of the Legal Committee, the working group to be established at LEG 113 is to analyse the suitability of the existing IMO liability and compensation regimes for alternative fuels. Its task will be to determine whether the existing regimes provide adequate compensation for losses arising from risks associated with alternative fuels.

This document will set out the analysis of the current liability regime under the *International Convention on Civil Liability for Bunker Oil Pollution Damage, 2001* (Bunkers), the *International Convention on Civil Liability for Oil Pollution Damage, 1992* (CLC), the *Hazardous and Noxious Substances Convention, 2010* (HNS), the *Convention on Limitation of Liability for Maritime Claims, 1996* (LLMC), and the *Nairobi International Convention on the Removal of Wrecks, 2007*.

2 Analysis

What is covered by the existing conventions?

CONVENTION	LLMC 1996 IN FORCE	BUNKERS IN FORCE	CLC IN FORCE	HNS NOT IN FORCE	NAIROBI WRECK REMOVAL CONVENTION IN FORCE
COVERAGE	This is a limitation of liability regime which covers loss of life, personal injury, and property damage arising on board or in direct connection with the operation of the ship (Article 2). Claims are excluded if covered by other liability conventions such as CLC.	Bunker oil, meaning any hydrocarbon mineral oil, including lubricating oil, used or intended to be used for the operation or propulsion of the ship and any residues of such oil.	Oil carried in bulk (tankers) and the bunker fuel for the operation of the ship oil, meaning any persistent hydrocarbon mineral oil (and residues) such as crude oil, fuel oil, heavy diesel oil and lubricating oil, whether carried on board a ship as cargo or in the bunkers of such a ship.	Hazardous and noxious substances, meaning any substances, materials and articles carried on board a ship as cargo and residues from the previous carriage in bulk of substances referred to in (a) (i) to (iii) and (v) to (viii) of HNS 2010, including various types of alternative fuels, such as LNG, methanol and ammonia. May cover bunker fuel when it is not reasonably possible to separate damage caused by the cargo from that caused by the fuel.	Wrecks in the Convention area In accordance with Article 1.4 of the Convention: "Wreck", following upon a maritime casualty, means: (a) a sunken or stranded ship; or (b) any part of a sunken or stranded ship, including any object that is or has been on board such a ship; or (c) any object that is lost at sea from a ship and that is stranded, sunken or adrift at sea; or (d) a ship that is about, or may reasonably be expected, to sink or to strand, where effective measures to assist the ship or any property in danger are not already being taken. Alternative fuels could be regarded as "an object" in the meaning of art. 1.4(b) and (c).
LIABILITY	Article 1 – persons entitled to limit liability include shipowners, charterers, managers, operators, salvors and insurers. Article 6 – limits of liability depend on the nature of the claim and tonnage of the vessel.	Article 3(1) – strict liability	Article 3(1) – strict liability * IOPC Funds liable in certain circumstances.	Article 7(1) – strict liability * HNS Fund liable in certain circumstances.	Article 10(1) – strict liability

WHO IS LIABLE	The LLMC does not allocate liability, but only provides for limitation of liability established on another basis. Parties entitled to limit are set out in Article 1 – shipowner, charterer, manager, operator, salvors, and their insurers.	Article 3(1) – the shipowner at the time of an incident shall be liable. Article 1(3) – "shipowner" means the owner, including the registered owner, bareboat charterer, manager and operator of the ship. Article 1(1) – "ship" means any seagoing vessel and seaborne craft, of any type whatsoever.	Article 3(1) – the owner of a ship at the time of an incident shall be liable. Article 1(3) – "owner" means the person/persons registered as the owner of the ship, or the person/persons owning the ship (in the absence of registration), or a company where a ship is owned by a State and operated by a company in which that State is registered as the ship's operator. No claim for compensation... ..may be made against servants, agents, pilots, charterer, etc. Article 1(1) – "ship" means any sea-going vessel and seaborne craft of any type whatsoever constructed or adapted for the carriage of oil in bulk as cargo, provided that a ship capable of carrying oil and other cargoes shall be regarded as a ship only when it is actually carrying oil in bulk as cargo and during any voyage following such carriage unless it is proved that it has no residues of such carriage of oil in bulk aboard.	Article 7(1) – the owner at the time of an incident shall be liable. Article 1(3) – "owner" means the person/persons registered as the owner of the ship, or the person/persons owning the ship (in the absence of registration), or a company where a ship is owned by a State and operated by a company which in that State is registered as the ship's operator. No claim for compensation... ..may be made against servants, agents, pilots, charterer, etc. Article 1(1) – "ship" means any seagoing vessel and seaborne craft, of any type whatsoever.	Article 10(1) – the registered owner shall be liable for the costs of locating, marking and removing the wreck determined to be a hazard Article 1(8) – "Registered owner" means the person or persons registered as the owner of the ship or, in the absence of registration, the person or persons owning the ship at the time of the maritime casualty. However, in the case of a ship owned by a State and operated by a company which in that State is registered as the operator of the ship, "registered owner" shall mean such company.
WHAT ARE THEY LIABLE FOR	Limitation is possible for the types of damage set out in Article 2(1) – claims for loss of life or personal injury; loss of or damage to property; claims arising from delay; and pollution damage, unless governed by other international conventions.	Article 3(1) – for pollution damage caused by any bunker oil on board/originating from the ship (including a series of occurrences if the same origin exists). Applicable if no oil has escaped or been discharged, as long there is a grave and imminent threat.	Article 3(1) – for any pollution damage caused by oil which has escaped or been discharged from the ship as a result of the incident (including a series of occurrences if the same origin exists). Applicable if no oil has escaped or been discharged, as long there is a grave and imminent threat.	Article 7(1) – for damage caused by any hazardous and noxious substances in connection with their carriage by sea on board the ship (including a series of occurrences if the same origin exists). Applicable if no HNS has escaped or been discharged, as long as there is a grave and imminent threat.	Article 10(1) – costs of locating, marking and removing the wreck.
DAMAGE COVERED	Broad, including pollution and damage caused by hazardous substances unless another specific convention applies. Specifically: Article 2(1) – damage includes personal injury or death (on board or outside the ship), property damage,	Article 1(9) – "pollution damage" means: - loss or damage caused outside the ship by contamination resulting from the escape or discharge of bunker oil from the ship, provided compensation for impairment of the environment other than loss of profit shall be limited to costs of	Article 1(6) – "pollution damage" means: - loss or damage caused outside the ship carrying oil by contamination resulting from the escape or discharge of oil from the ship, wherever such escape or discharge may occur, provided compensation for impairment of the environment other than loss of profit from such impairment shall be limited to costs of reasonable measures	Article 1(6) – "damage" means: - Loss of life or personal injury on board or outside the ship carrying the hazardous and noxious substances caused by those substances. - Loss or damage to property outside the ship carrying the	The costs of locating, marking and removing a wreck deemed to be a hazard.

	and pollution damage, where not otherwise covered by specific conventions. No compensation for nuclear damage or oil pollution damage governed by other instruments (Article 3).	reasonable measures of reinstatement actually undertaken/to be undertaken. - Costs of preventive measures and further loss or damage caused by preventive measures. Article 1(7) – "preventive measures" means any reasonable measures taken by any person after an incident has occurred to prevent or minimize pollution damage.	of reinstatement actually undertaken or to be undertaken - Costs of preventive measures and further loss or damage caused by preventive measures. Article 1(7) – "preventive measures" means any reasonable measures taken by any person after an incident has occurred to prevent or minimize pollution damage.	hazardous and noxious substances caused by those substances. - Loss or damage by contamination of the environment caused by the hazardous and noxious substances, provided that compensation for impairment of the environment other than loss of profit from such impairment shall be limited to costs of reasonable measures of reinstatement actually undertaken or to be undertaken. The costs of preventive measures and further loss or damage caused by preventive measures. Article 1(7) – "preventive measures" means any reasonable measures taken by any person after an incident has occurred to prevent or minimise damage.	
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To what extent are incidents involving alternative fuels within the scope of the existing conventions?

CONVENTION	LLMC 1996	BUNKERS	CLC	HNS	NAIROBI WRECK REMOVAL CONVENTION
	IN FORCE	IN FORCE	IN FORCE	NOT IN FORCE	IN FORCE
SCOPE OF APPLICATION – ALTERNATIVE FUELS	CONVENTION MAY COVER DAMAGE FROM ALTERNATIVE FUELS when not covered by other regimes. Covers general personal injury, property damage, and pollution damage, including from fuel explosions or leaks (Article 2). No definition of specific substances; no compulsory insurance requirement, no strict liability.	CONVENTION DOES NOT COVER ALTERNATIVE FUELS BROADLY BUT MAY COVER CERTAIN BLENDS Article 1(5) - "bunker oil" means any hydrocarbon mineral oil, including lubricating oil, used or intended to be used for the operation or propulsion of the ship, and any residues of such oil. * Unclear to what extent the Bunkers Convention covers biofuel/biofuel blends.	CONVENTION DOES NOT COVER ALTERNATIVE FUELS Article 1(6) – "pollution damage" means loss or damage caused outside the ship by contamination resulting from the escape or discharge of oil from the ship, provided that compensation for impairment of the environment other than loss of profit shall be limited to costs of reasonable measures of reinstatement actually undertaken/to be undertaken and the costs of preventive measures and further loss or damage caused by preventive measures. Article 1(5) – "oil" means any persistent hydrocarbon mineral oil such as crude oil, fuel oil, heavy diesel oil and lubricating oil, whether carried on board a ship as cargo or in the bunkers	CONVENTION COVERS MOST ALTERNATIVE FUEL SUBSTANCES BUT ONLY WHEN CARRIED AS CARGO OR IF IT IS NOT REASONABLY POSSIBLE TO SEPARATE DAMAGE CAUSED BY THE CARGO FROM THAT CAUSED BY THE FUEL (...) Article 1(5) – "hazardous and noxious substances" means any substances, materials and articles carried on board a ship as cargo referring to: - (iv) dangerous hazardous and harmful substances, materials and articles in packaged form covered by the International	CONVENTION MAY TAKE INTO ACCOUNT ALTERNATIVE FUELS In accordance with Article 1.4 of the Convention: "Wreck", following upon a maritime casualty, means: (a) a sunken or stranded ship; or (b) any part of a sunken or stranded ship, including any object that is or has been on board such a ship; or (c) any object that is lost at sea from a ship and that is stranded, sunken or adrift at sea; or (d) a ship that is about, or may reasonably be expected, to sink or to strand, where effective measures to assist the ship or any property in danger are not already being taken. Alternative fuels could be regarded as 'an object' in the meaning of art. 1.4(b) and (c). Article 1(5) – "Hazard" means any condition or threat that:

			of such a ship. This also includes residues of such oil.	Maritime Dangerous Goods Code (IMDG) - (v) liquified gasses as listed in chapter 19 of the International Code for the Construction and Equipment of Ships carrying Liquefied Gasses in Bulk (GC Code)	(a) poses a danger or impediment to navigation; or (b) may reasonably be expected to result in major harmful consequences to the marine environment, or damage to the coastline or related interests of one or more States. Article 6 – Determining a hazard: (h) nature and quantity of the wreck's cargo, the amount and types of oil (such as bunker oil and lubricating oil) on board the wreck and, in particular, the damage likely to result should the cargo or oil be released into the marine environment;
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What are the key elements of and differences between the existing conventions? (Differences have been expressed in bold)

CONVENTION	LLMC 1996	BUNKERS	CLC	HNS	NAIROBI WRECK REMOVAL CONVENTION
	IN FORCE	IN FORCE	IN FORCE	NOT IN FORCE	IN FORCE
PURPOSE	To provide for the limitation of liability in respect of maritime claims, ensuring a fallback mechanism for compensation where no specific convention applies.	To ensure adequate compensation is available to persons who suffer damage caused by spills of oil used in the operation or propulsion of the ship.	To ensure adequate compensation is available to persons who suffer oil pollution damage resulting from maritime casualties involving tankers carrying persistent oil as cargo, or residues.	To ensure adequate compensation to those who have suffered from damage resulting from the maritime transport of hazardous and noxious substances as cargo.	Provides legal basis for States to remove, or have removed, at the shipowner's cost, wrecks that pose a danger or impediment to navigation, or may result in major harmful consequences to the marine environment, or damage to the coastline or related interests of one or more States.
JURISDICTION OF DAMAGE CAUSED	State party's territory (including territorial sea), exclusive economic zone, and possibly beyond depending on national implementation (Article 15).	State party's territory (including territorial sea), exclusive economic zone (or area beyond and adjacent to territorial sea). Preventive measures, wherever taken, to prevent or minimize such damage.	State party's territory (including territorial sea), exclusive economic zone (or area beyond and adjacent to territorial sea). Preventive measures, wherever taken, to prevent or minimize such damage.	BROADER State party's territory (including territorial sea), exclusive economic zone (or area beyond and adjacent to territorial sea), outside the territory (including territorial sea) for damage other than by contamination of the environment. Preventive measures, wherever taken, to prevent or minimize such damage.	EEZ (or area beyond and adjacent to the territorial sea and not extending more than 200 nm from baseline). Note: A State Party can extend the jurisdictional scope of the application of the Convention to include its territorial seas
LIABILITY	Right to limit liability unless the claimant proves the loss resulted from the personal act or omission of the liable person committed with intent or recklessly and with knowledge that such loss would probably result (Article 4).	Strict liability. Article 3(3): No liability for pollution damage shall attach to the shipowner if the shipowner proves that: (a) the damage resulted from an act of war,	Strict liability. Article III(2): No liability for pollution damage shall attach to the owner if he proves that the damage: (a) resulted from an act of war, hostilities, civil war, insurrection or a natural phenomenon of an exceptional, inevitable and	Strict liability. Article 7(1): No liability shall attach to the owner if the owner proves that: (a) the damage resulted from an act of war, hostilities, civil war, insurrection or a natural phenomenon of an exceptional, inevitable and irresistible character; or (b) the damage was wholly caused by an	Strict liability. Article 10(1): Subject to article 11, the registered owner shall be liable for the costs of locating, marking and removing the wreck under articles 7, 8 and 9, respectively, unless the registered owner proves that the maritime casualty that caused the wreck: (a) resulted from an act of war, hostilities, civil war,

CONVENTION	LLMC 1996	BUNKERS	CLC	HNS	NAIROBI WRECK REMOVAL CONVENTION
	IN FORCE	IN FORCE	IN FORCE	NOT IN FORCE	IN FORCE
		hostilities, civil war, insurrection or a natural phenomenon of an exceptional, inevitable and irresistible character; or (b) the damage was wholly caused by an act or omission done with the intent to cause damage by a third party; or (c) the damage was wholly caused by the negligence or other wrongful act of any Government or other authority responsible for the maintenance of lights or other navigational aids in the exercise of that function. 4. If the shipowner proves that the pollution damage resulted wholly or partially either from an act or omission done with intent to cause damage by the person who suffered the damage or from the negligence of that person, the shipowner may be exonerated wholly or partially from liability to such person.	irresistible character, or (b) was wholly caused by an act or omission done with intent to cause damage by a third party, or (c) was wholly caused by the negligence or other wrongful act of any Government or other authority responsible for the maintenance of lights or other navigational aids in the exercise of that function. 3. If the owner proves that the pollution damage resulted wholly or partially either from an act or omission done with intent to cause damage by the person who suffered the damage or from the negligence of that person, the owner may be exonerated wholly or partially from his liability to such person.	act or omission done with the intent to cause damage by a third party; or (c) the damage was wholly caused by the negligence or other wrongful act of any Government or other authority responsible for the maintenance of lights or other navigational aids in the exercise of that function; or (d) the failure of the shipper or any other person to furnish information concerning the hazardous and noxious nature of the substances shipped either (i) has caused the damage, wholly or partly; or (ii) has led the owner not to obtain insurance in accordance with article 12; provided that neither the owner nor its servants or agents knew or ought reasonably to have known of the hazardous and noxious nature of the substances shipped. 3. If the owner proves that the damage resulted wholly or partly either from an act or omission done with intent to cause damage by the person who suffered the damage or from the negligence of that person, the owner may be exonerated wholly or partially from liability to such person.	insurrection, or a natural phenomenon of an exceptional, inevitable and irresistible character; (b) was wholly caused by an act or omission done with intent to cause damage by a third party; or (c) was wholly caused by the negligence or other wrongful act of any Government or other authority responsible for the maintenance of lights or other navigational aids in the exercise of that function.
COMPULSORY INSURANCE	N/A	Gross tonnage greater than 1,000	Carrying more than 2,000 tons of oil in bulk as cargo	Actually carrying HNS	300 gross tonnage and above

CONVENTION	LLMC 1996	BUNKERS	CLC	HNS	NAIROBI WRECK REMOVAL CONVENTION
	IN FORCE	IN FORCE	IN FORCE	NOT IN FORCE	IN FORCE
WHO IS LIABLE	The LLMC does not allocate liability, but only provides for limitation of liability established on another basis. Parties entitled to limit are set out in Shipowner, charterer, manager, operator, salvors and insurers (Article 1).	BROADER Article 3(1) – the shipowner at the time of an incident shall be liable. Article 1(3) – "shipowner" means the owner, including the registered owner, bareboat charterer, manager and operator of the ship. *Lacks channelling provisions excluding various parties from victim's claims. Article 1(1) – "ship" means any seagoing vessel and seaborne craft, of any type whatsoever.	Article 3(1) – the owner of a ship at the time of an incident shall be liable. Article 1(3) – "owner" means the person/persons registered as the owner of the ship, or the person/persons owning the ship (in the absence of registration), or a company where a ship is owned by a State and operated by a company in which that State is registered as the ship's operator. Article 1(1) – "ship" means any sea-going vessel and any seaborne craft of any type whatsoever, actually carrying oil in bulk as cargo, or residues. * IOPC Fund liable in certain circumstances.	Article 7(1) – the owner at the time of an incident shall be liable. Article 1(3) – "owner" means the person/persons registered as the owner of the ship, or the person/persons owning the ship (in the absence of registration), or a company where a ship is owned by a State and operated by a company which in that State is registered as the ship's operator. Article 1(1) – "ship" means any seagoing vessel and seaborne craft, of any type whatsoever. * HNS Fund liable in certain circumstances.	Shipowner. Article 1(8) - "Registered owner" means the person or persons registered as the owner of the ship or, in the absence of registration, the person or persons owning the ship at the time of the maritime casualty. However, in the case of a ship owned by a State and operated by a company which in that State is registered as the operator of the ship, "registered owner" shall mean such company. Article 1(2) – "ship" means a seagoing vessel of any type whatsoever and includes hydrofoil boats, air-cushion vehicles, submersibles, floating craft and floating platforms, except when such platforms are on location engaged in the exploration, exploitation or production of seabed mineral resources.
WHAT IS THE SHIPOWNER LIABLE FOR	Limitation of liability is possible for loss of life or personal injury, loss of or damage to property, and pollution damage not governed by other liability instruments (Article 2).	Pollution damage caused by any bunker oil on board/originating from the ship. Applicable if no oil has escaped or been discharged, as long as there is a grave and imminent threat.	Any pollution damage caused by oil which has escaped/been discharged from the ship because of the incident. Applicable if no oil has escaped or been discharged, as long as there is a grave and imminent threat.	BROADER Damage caused by any hazardous and noxious substances in connection with their carriage by sea on board the ship. Applicable if no HNS has escaped or been discharged, as long as there is a grave and imminent threat..	Costs of locating, marking and removing a wreck.
DAMAGES COVERED	• Personal injury or death; • property damage; • pollution; • delay; • removal of wreck (where included under national law). Excludes nuclear and CLC/IOPC-covered pollution (Articles 2 and 3).	• Clean-up and preventive measures; • Property damage; • Economic loss; • Consequential loss; • Claims for pure economic loss; • Environmental damage and	• Clean-up and preventive measures; • Property damage; • Economic loss; • Consequential loss; • Claims for pure economic loss; • Environmental damage; and • Use of advisers.	BROADER • Response, including clean-up and preventive measures; • Property damage; • Consequential loss; • Use of economic models; • Environmental damage; • Loss of life or personal injury; and • Use of advisers.	N/A – the Convention does not contemplate "damages" similarly to the other three conventions. Instead, the Convention focuses on the removal of <i>wrecks</i>. "wreck", following upon a maritime casualty means: - a sunken/stranded ship, - any part of a sunken/stranded ship (including object that is/has been on board such a ship)

CONVENTION	LLMC 1996 IN FORCE	BUNKERS IN FORCE	CLC IN FORCE	HNS NOT IN FORCE	NAIROBI WRECK REMOVAL CONVENTION IN FORCE
		post-spill studies; and • Use of advisers.			- any object that is lost at sea from a ship and that is stranded, sunken or adrift at sea, - a ship that is about, or may reasonably be expected, to sink or to strand, where effective measures to assist are not already taken. "maritime casualty" means a collision of ships, stranding, other incident of navigation, or other occurrence on board a ship/external to it resulting in material damage, or imminent threat of material damage to a ship/its cargo. Alternative fuels could be regarded as 'an object' in the meaning of art. 1.4(b) and (c) "removal" means any form of prevention, mitigation or elimination of the hazard created by a wreck
INSURANCE FUNDS	Shipowner's limitation fund is open to other types of claims	NARROWER Shipowner's liability (in accordance with the Convention on Limitation of Liability for Maritime Claims). Shipowner can limit their liability.	Shipowner's liability (CLC); The International Oil Pollution Compensation Fund 1992 (where the CLC shipowner fund is inadequate); Supplementary Fund. Shipowner can limit their liability.	Shipowner's liability (HNS); HNS Fund (where the HNS shipowner fund is inadequate). Shipowner can limit their liability.	Shipowner's liability (any national or international regime but not exceeding amounts in accordance with the LLMC).
SHIP	Any seagoing ship or seaborne craft, including hovercraft (Article 1).	Any seagoing vessel and seaborne craft.	NARROWER Any sea-going vessel and seaborne craft of any type whatsoever constructed or adapted for the carriage of oil in bulk as cargo, provided that a ship capable of carrying oil and other cargoes shall be regarded as a ship only when it is actually carrying oil in bulk as cargo and during any voyage following such carriage unless it is proved that it has no residues of such carriage of oil in bulk aboard'	Any seagoing vessel and seaborne craft (when carrying HNS as cargo).	Any seagoing vessel including, hydrofoil boats, air-cushion vehicles, submersibles, floating craft and floating platforms (except when platforms are engaged in exploration, exploitation or production of seabed mineral resources).
FUEL/HARMFUL SUBSTANCE	No definition of specific fuels. Covers consequences of incidents involving alternative fuels unless covered by other instruments.	Any hydrocarbon mineral oil used or intended to be used for the operation/propulsion of ship + residues.	NARROWER Any persistent hydrocarbon mineral oil such as crude oil, fuel oil, heavy diesel oil and lubricating oil, whether carried on board a ship as cargo or	POTENTIAL COVERAGE OF ALTERNATIVE FUEL SUBSTANCES (when carrying HNS as cargo; noting that some alternative fuels may not meet the	N/A – although note "hazard" means any condition or threat that: - poses a danger or impediment to navigation, or may reasonably be expected to result in major harmful consequences to marine environment or

CONVENTION	LLMC 1996	BUNKERS	CLC	HNS	NAIROBI WRECK REMOVAL CONVENTION
	IN FORCE	IN FORCE	IN FORCE	NOT IN FORCE	IN FORCE
			in the bunkers of such a ship and any residues of such oils.	definition of HNS). Does not apply to pollution damage as defined in the CLC.	damage to coastline or related interests of one or more States.
REVISION or AMENDMENT	Article 20. 1. A Conference for the purpose of revising or amending this Convention may be convened by the Organization. 2. The Organization shall convene a Conference of the States Parties to this Convention for revising or amending it at the request of not less than one-third of the Parties. 3. After the date of the entry into force of an amendment to this Convention, any instrument of ratification, acceptance, approval or accession deposited shall be deemed to apply to the Convention as amended, unless a contrary intention is expressed in the instrument. Article 21. Revision of the limitation amounts and of Unit of Account or monetary unit 1. Notwithstanding the provisions of Article 20, a Conference only for the purposes of altering the amounts specified in Articles 6 and 7 and in Article 8, paragraph 2, or of substituting either or both of the Units defined in Article 8, paragraphs 1 and 2, by other units shall be convened by the Organization in accordance with paragraphs 2 and 3 of this Article. An alteration of the amounts shall be made only because of a significant change in their real value. 2. The Organization shall convene such a Conference at the request of not less than one fourth of the States Parties. 3. A decision to alter the amounts or to substitute the Units by other	Article 16 1. A conference for the purpose of revising or amending this Convention may be convened by the Organization. 2. The Organization shall convene a conference of the States Parties for revising or amending this Convention at the request of not less than one-third of the States Parties.	Article 14 1. A conference for the purpose of revising or amending the 1992 Convention on Liability may be convened by the Organization. 2. The Organization shall convene a conference of the States Parties for revising or amending the 1992 Convention on Liability at the request of not less than one-third of the States Parties.	Article 47 1. A conference for the purpose of revising or amending the Convention, as amended by this Protocol, may be convened by the Organization. 2. The Secretary-General shall convene a conference of the States Parties to this Protocol, for revising or amending the Convention, as amended by this Protocol, at the request of six States Parties or one-third of the States Parties, whichever is the higher figure. 3. Any instrument of ratification, acceptance, approval or accession deposited after the date of entry into force of an amendment to the Convention, as amended by this Protocol, shall be deemed to apply to the Convention as amended.	Article 14. 1. At the request of not less than one-third of States Parties, a conference shall be convened by the Organization for the purpose of revising or amending this Convention. 2. Any consent to be bound by this Convention, expressed after the date of entry into force of an amendment to this Convention, shall be deemed to apply to this Convention, as amended.

CONVENTION	LLMC 1996	BUNKERS	CLC	HNS	NAIROBI WRECK REMOVAL CONVENTION
	IN FORCE	IN FORCE	IN FORCE	NOT IN FORCE	IN FORCE
	units of account shall be taken by a two-thirds majority of the States Parties present and voting in such Conference. 4. Any State depositing its instrument of ratification, acceptance, approval or accession to the Convention, after entry into force of an amendment, shall apply the Convention as amended.				

3 Conclusion:

As demonstrated by the analysis set out above, there are gaps in the current liability and compensation regime under the Bunkers, CLC, HNS Convention, LLMC and WRC regarding some of the emerging alternative fuels used by the marine industry.

The Bunkers convention is restricted to liability for pollution damage from a spill, and a grave and imminent threat of a spill, of a hydrocarbon mineral oil. The CLC and IOPC Funds system establishes liability and provides compensation for pollution damage resulting from the bulk carriage of persistent oil. LLMC sets out a regime for the limitation of liability including the limits of liability for claims of loss of life and personal injury as well as any other claims. The WRC covers the costs of determining a hazard, the amount and types of oil on board the wreck, and the damage likely to result should the cargo or oil be released into the marine environment. None of these would be suitable for alternative fuels and technology used for the propulsion and operation of a ship, for which the potential for damage is wider than merely pollution damage. Moreover, the WRC does not respond to claims from third parties.

There are certain cases in which the HNS Convention would set out liability and compensation for the bulk carriage of alternative fuel substances, particularly in cases where it is not reasonably possible to separate the damage caused by HNS. However, it may not be suitable for the bulk carriage of all alternative fuels and does not provide sufficient cover for those fuels and technology used for the operation / propulsion of a ship. Once the HNS Convention enters into force there will be a regime that covers some but possibly, not all the alternative fuels carried as cargo.

In conclusion, there is currently no international civil liability regime in force to deal with incidents involving alternative fuels when being used as a fuel, and as such, there is no adequate international regime that sets out strict liability for loss arising from the risks associated with alternative fuels when used for the operation and propulsion of a ship.

ANNEX 2

Characteristics of a liability and compensation regime for alternative fuels

In accordance with the new outputs approved at the 112th session of the Legal Committee, the working group to be established at LEG 113 should analyse the suitability of the existing IMO liability and compensation regimes for alternative fuels.

With the analysis undertaken by the correspondence group having concluded that there is currently no international civil liability regime in force to deal with incidents involving alternative fuels when being used in the operation or propulsion of the ship, this document will seek to identify the characteristics of a liability and compensation regime necessary and appropriate to address claims arising from incidents related to alternative fuels.

Based on commonalities of the current liability and compensation regimes, the characteristics of an alternative fuels liability and compensation regime are set out below.

CHARACTERISTIC	DESCRIPTION AND/OR CONSIDERATIONS
PURPOSE	To provide uniform international rules for prompt and effective compensation to persons who suffer damage caused by alternative fuels and associated technologies used or intended to be used in the operation and propulsion of a ship. * Technology used in the operation or propulsion of the ship would include electric, hybrid and renewable sources (including batteries) to the extent they can cause damage. This excludes cargo, which would be covered by the HNS Convention. The HNS Convention also accounts for ships that use their cargo as fuel in the definition of damage. The HNS Convention also covers the components that make up batteries (e.g. lithium). The term "technology" is broad and would need to be refined to avoid a lack of clarity about the scope of a new convention or amendment to an existing regime.
DEFINITIONS	Definition of alternative fuels needed. Consideration must be given to how to accommodate new fuels being developed but not yet in existence.
SCOPE OF APPLICATION	Any damage in a state party's territory (including territorial sea), to damage by contamination of the environment caused in the exclusive economic zone (or area beyond and adjacent to territorial sea), outside the territory (including territorial sea) for damage other than by contamination of the environment if this damage has been caused by a substance carried on board a ship registered in a State Party. Preventive measures, wherever taken, to prevent or minimize such damage. Jurisdiction will need to be considered in terms of what is possible under international law.
LIABILITY	Establish strict liability of the owner subject to limited defences. No liability for damage shall attach to the shipowner if the shipowner proves that: - the damage resulted from an act of war, hostilities, civil war, insurrection or a natural phenomenon of an exceptional, inevitable and irresistible character; or

	- the damage was wholly caused by an act or omission done with the intent to cause damage by a third party; or - the damage was wholly caused by the negligence or other wrongful act of any Government or other authority responsible for the maintenance of lights or other navigational aids in the exercise of that function. If the shipowner proves that the damage resulted wholly or partially either from an act or omission done with intent to cause damage by the person who suffered the damage or from the negligence of that person, the shipowner may be exonerated wholly or partially from liability to such person.
LIABILITY LIMITS	Yes (in keeping with principles from other conventions, including virtually unbreakable limits). Based on ship tonnage but thresholds to be determined based on technical evidence, available data and potential for damage (e.g, nature and volatility of substance). As part of this assessment, the work of other IMO Committees to address the safety and regulatory framework as well as crew training should also be considered. Article 4 of the LLMC, Article V(2) of the CLC and Article 9(2) of the HNS Convention i.e. "...if it is proved that the damage resulted from the personal act or omission of the owner, committed with the intent to cause such damage, or recklessly and with knowledge that such damage would probably result" Consideration may be given to tiered compensation (i.e. a source beyond the shipowner's liability), taking into account the risks associated with alternative fuels. Tiered compensation for damage unrelated to cargo is uncommon, and it is unclear who would bear the additional costs in a liability framework for fuels. Existing second-tier compensation mechanisms typically rely on cargo interests, who have an economic stake in the transport of their goods, to share financial responsibility for amounts exceeding the shipowner's liability limit. Setting aside the feasibility of an additional tier, this issue should be considered using technical evidence and available data in discussing the limits of liability and the adequacy of a single tiered instrument.
COMPULSORY INSURANCE	Yes. Conditions/threshold to be determined. Each State party shall ensure that any ship entering or leaving any port on each territory, wherever registered, is provided with a valid insurance certificate in force.
INSURANCE CERTIFICATES	Yes. Conditions/threshold to be determined.
RIGHT OF DIRECT ACTION	Yes – Right of direct action against the shipowner's insurer, and compulsory insurance requirements, are subject to appropriate limits of liability, which are virtually unbreakable.
WHO IS LIABLE	Shipowner at the time of the incident shall be liable up to the limit of liability. Bunkers Convention: the owner, including the registered owner, bareboat charter, manager and operation of the ship. This is broader than the CLC and HNS Conventions, which channels liability to the registered owner. Injured parties are therefore allowed to seek compensation from different sources but only the registered owner is required to provide compulsory insurance.

WHAT THEY ARE LIABLE FOR	Damage caused by any alternative fuel or associated technology used or intended to be used on board the ship for the operation or propulsion of the ship (including a series of occurrences if the same origin exists) and including any residues of such fuel. Also applicable if no alternative fuel has escaped or been discharged, as long as there is a grave and imminent threat. Excludes nuclear damage and damage covered under other liability/compensation conventions. Definition of alternative fuels to be determined.
DAMAGE COVERED	• Loss or damage resulting from or caused by alternative fuels, including: • loss of life or personal injury on board or outside the ship; • Loss of or damage to property outside the ship; • Loss or damage by contamination of the environment caused by the hazardous and noxious substances • the costs of preventive measures and further loss or damage caused by preventive measures.
TIME BARS	Time bar from (knowledge of) the date of the damage and lapse of time provision. TBD based on risk analysis.
SHIP	Any seagoing vessel and seaborne craft of any type whatsoever, except for warships, or other ship owned or operated by a State and used, at the time of the incident, only on Government non-commercial service
NO OVERLAP	Relationship to LLMC, HNS, CLC, and/or national law. Considering exclusion or coordination rules.

ANNEX 3

Advantages and disadvantages of instrument options for alternative fuels

In order to develop an instrument to provide adequate compensation for loss arising from the risks associated with alternative fuels, it will be important to consider the advantages and disadvantages of the available options. Amending the *International Convention on Civil Liability for Oil Pollution Damage* (CLC) is not considered below given it covers bulk carriage of oil and there are no linkages to alternative fuels being used to power or operate a ship. The *International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea, 2010* (HNS Convention) is also not considered as an option given that it is intended to cover the bulk carriage of HNS and any amendments to the HNS Convention would likely delay the entry into force of the Convention. Nonetheless, the advantages and disadvantages are included below for the sake of completeness.

	New Alternative Fuels Convention	Protocol to Bunkers	HNS Convention
Advantages	• <i>Facilitates development and adoption:</i> Avoids procedural and legal constraints of amending an existing convention • <i>Modernized framework:</i> Allows for a clean slate with modern principles and newly defined terms and concepts, including entry-into-force requirements. • <i>Clear legal identity:</i> Prevents the blending of fundamentally different liabilities (e.g. pollution damage vs. explosion and personal injury) • <i>Customized and tailored scope:</i> Allows for a purpose-built liability regime tailored to both environmental and non-pollution damage from alternative fuels avoiding structural constraints of existing conventions. • <i>Separate liability limits:</i> Facilitates establishment of dedicated liability limits, if appropriate • <i>Conditions for development:</i>	• <i>Potential for faster development:</i> Builds on an already established legal framework, potentially facilitating adoption. • <i>Precision changes:</i> Allows for the refinement of specific provisions / concepts • <i>Ratification and entry into force</i> May speed up ratification and entry into force once the text is settled	• <i>Uses existing framework</i> Builds on established instrument that already addresses substances that include alternative fuels.

	• May allow for faster development of convention text. <i>Legal coherence within IMO:</i> Developing a new regime would close a legal lacuna (alternative fuels) in terms of liability and compensation effectively.		
Disadvantages	• <i>Potentially slower development:</i> Would require full treaty negotiation, potentially resulting in a lengthier drafting process • <i>Amendments to LLMC</i> Possible need to amend the LLMC to exclude damage from alternative fuels if separate liability limits are imposed • <i>Ratification and entry into force:</i> As a brand-new instrument, may face slow uptake and delayed implementation • <i>Unable to differentiate between liable parties, i.e. cargo receiver and owner of the ship that runs on the alternative fuel, if the ship uses cargoes as fuel.</i>	• <i>Limited scope and purpose:</i> Fundamental changes required. Modifications and additions can only be made within original convention's structure, limiting issues that are broader than existing framework (e.g. damages) and may stretch its underlying rationale. Modifications would require expansion of scope to include new functions which do not exist for oil and additional types of damage/impact – particularly to loss of life and personal injury. • <i>Complexity of regime:</i> Multiple versions of instruments lead to a more confusing legal regime, which may reduce adoption. • <i>Combined limitation regime:</i> May not allow for a separate quantum of liability regime for alternative fuels. It is uncertain whether the (LLMC/national) limits are appropriate. • <i>Conditions for amendment:</i> May delay entry into force of text as the Convention requires 1/3rd of state parties to agree to a Conference of the Parties for amendments. • <i>Protocol approach risks partial coverage:</i> Could produce interpretative fragmentation if some States accept the Protocol while others remain bound only to the Bunkers Convention. • <i>Reluctance to reopen Convention:</i> Some States might view the Protocol as reopening settled negotiations of 2001, creating reluctance to participate.	• <i>Limited applicability to fuel use</i> Focuses on cargo, which could require significant reinterpretation • <i>Complex amendment process</i> The HNS Convention has not yet entered into force making amendments procedurally and politically challenging • <i>Delays to entry into force of HNS Convention</i> Given the convention has not yet entered into force, further amendments may either delay its entry into force or discourage further ratifications if it does enter into force • <i>Lack of clarity with regard to the HNS Fund</i> • May cause confusion as to what is covered by the HNS Fund

ANNEX 4

DRAFT TERMS OF REFERENCE FOR THE WORKING GROUP ON A LIABILITY REGIME FOR ALTERNATIVE FUELS AND TECHNOLOGIES TO BE ESTABLISHED AT LEG 113

Taking into account documents LEG 112/13/2, LEG 112/13/5 and LEG 113/14 and considering that it is demonstrated that no existing conventions provide an adequate strict liability regime for alternative fuels and technologies when used for the operation or propulsion of a ship, the Working Group is instructed to:

- .1 undertake an analysis of the suitability of current liability and compensation regimes to provide adequate compensation for loss arising from risks associated with alternative fuels and technology when used for the operation / propulsion of a ship;
 - .2 should such analysis conclude that the current regimes are not suitable, identify the characteristics of a liability and compensation regime necessary and appropriate to properly address claims arising from injury, pollution and damage related to alternative fuels when used for the operation / propulsion of a ship; and
 - .3 evaluate the strengths and limitations of each available legal instrument, based on the analysis in LEG 113/14, for implementing the liability regime, and identify and recommend the most suitable option, including by amending a current instrument or developing a new one.
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