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**CONVENTION ON THE PREVENTION OF MARINE POLLUTION BY DUMPING
OF WASTES AND OTHER MATTER, 1972 AND ITS 1996 PROTOCOL**

REVISED GUIDANCE ON THE MANAGEMENT OF SPOILT CARGOES

1 The *Revised Guidance on the management of spoilt cargoes* was prepared by the Joint London Convention/MEPC Correspondence Group to clarify boundary issues between the London Convention and Protocol (LC/LP) and MARPOL Annex V.

2 The *Revised Guidance on the management of spoilt cargoes* was adopted by the governing bodies of the LC/LP at its joint session in October 2012 and subsequently forwarded to the Marine Environment Protection Committee for approval. MEPC, at its sixty-fifth session (13 to 17 May 2013), approved the revised Guidance, and agreed to circulate it through a joint LC-LP/MEPC circular, as set out in the annex. The revised Guidance revokes LC-LP.1/Circ.30, issued in 2009 on the same topic*.

3 Member Governments are invited to bring the Revised Guidance to the attention of all parties concerned.

4 Member Governments and observer organizations are also invited to provide information on the outcome and experiences in applying the revised Guidance to future sessions of the governing bodies of the LC/LP and to the MEPC.

* The Revised Guidance is also issued as MEPC.1/Circ.809, revoking MEPC.1/Circ.688.

ANNEX

REVISED GUIDANCE ON THE MANAGEMENT OF SPOILT CARGOES

Introduction

1 Occasionally during a voyage, cargo may spoil and mariners are faced with the need to manage the problem. This Guidance on managing spoilt cargoes is intended to provide guidance to Governments, shipowners, ship operators, ships' crews, cargo owners, port reception facility operators, insurance agents and equipment operators.

2 The ideal way to manage cargo that spoils during a voyage would be to offload it from the ship to be managed on land – either to sell for an alternate use, recycle salvageable materials, or to be disposed of in an environmentally safe manner. Spoilt cargo should only be considered for disposal at sea when there is a marked degree of urgency, facilities on land are unavailable, and it will not cause harm to the environment or human health.

Applicability of the London Convention and Protocol (LC/LP) and MARPOL Annex V to the management of spoilt cargoes

3 The London Convention and Protocol regulate the dumping of wastes or other matter at sea. The London Convention was one of the first global conventions to protect the marine environment from human activities and has been in force since 1975. A so-called "black and grey list" approach is applied for wastes, which can be considered for disposal at sea according to the hazard they present to the environment. For the blacklist items, dumping is prohibited. Dumping of the grey-listed materials requires a special permit from a designated national authority under strict control and provided certain conditions are met. All other materials or substances can be dumped after a general permit has been issued. The London Protocol was adopted to modernize the Convention and, eventually, replace it. The purpose of the Protocol is similar to that of the Convention, but the Protocol is more restrictive: application of a "precautionary approach" is included as a general obligation; and a "reverse list" approach is adopted, whereby all dumping is prohibited unless explicitly permitted. Only those materials listed in annex I of the Protocol can be permitted for dumping at sea. Under the Convention and Protocol dumping does not include the disposal at sea of wastes or other matter incidental to, or derived from, the normal operations of vessels.

4 MARPOL Annex V regulates the prevention of pollution by garbage from ships. Amendments to Annex V were adopted in 2011 (resolution MEPC.201(62)) and enter[ed] into force on 1 January 2013. Under the amended MARPOL Annex V, discharge of all garbage is now prohibited, except as specifically permitted in the regulations of MARPOL Annex V. (Before these amendments, discharge of garbage was generally allowed unless provided otherwise in MARPOL Annex V, depending on the nature of the garbage and defined distances from shore.) Regulation 7 provides limited exceptions to the MARPOL Annex V restrictions in emergency and non-routine situations. Generally, discharge is restricted to food wastes, identified cargo residues, animal carcasses, and identified cleaning agents and additives and cargo residues entrained in washwater which are not harmful to the marine environment. It is recommended that ships use port reception facilities as the primary means of discharge for all garbage.

5 Under regulation 1 of MARPOL Annex V, "garbage" is defined as "*all kinds of food wastes, domestic wastes and operational wastes, all plastics, cargo residues, incinerator ashes, cooking oil, fishing gear, and animal carcasses generated during the normal operation of the ship and liable to be disposed of continuously or periodically except those substances which are defined or listed in other Annexes to the present Convention. Garbage does not include fresh fish and parts thereof generated as a result of fishing activities undertaken during the voyage, or as a result of aquaculture activities which involve the transport of fish including shellfish for placement in the aquaculture facility and the transport of harvested fish including shellfish from such facilities to shore for processing*".

6 Spoilt cargo is not considered garbage under MARPOL Annex V, as amended, and so its discharge is not regulated under MARPOL Annex V. Spoilt cargo may be subject to the London Convention and Protocol if dumping at sea is being considered.

7 The London Convention and Protocol regulate ocean dumping of wastes or other matter. They set out a system requiring a permit be obtained in advance of dumping. Thus, a permit needs to be obtained from the State where the cargo was loaded (if that State is a Party to the London Convention or Protocol) or the vessel's flag State (if that State, but not the loading State, is a Party). A permit would also generally be needed from the State in whose jurisdiction (e.g. EEZ) the dumping would occur. Only those materials found to be acceptable under the London Convention or Protocol may be considered for dumping at sea.

Specific spoilt cargoes

8 Types of spoilt cargoes and the conditions in which cargo may spoil vary widely, and may depend on the cargo type, length of voyages, types of vessels and environmental conditions involved. Factors that may contribute to cargo spoilage include faulty operation or management of equipment designed to secure cargo holds, weather, or other environmental conditions. Examples of cargo spoilage include cereals, grains, fruit, frozen cargo (meat, dairy, fish), non-comestible cargoes (coal, fertilizers and cement). Some animal carcasses may, however, be treated as garbage under Annex V as discussed further in paragraphs 32 to 38 below. Environmental risks from disposal of spoilt cargo vary depending on the type of cargo and quantities. Safety of crew members can be a factor if hazardous or poisonous gases are generated from the spoilt cargo. A list of spoilt cargoes that have been considered for sea disposal and permits issued are included in the annex.

Treatment of spoilt food cargoes (cereals, grains, fruits and vegetables)

9 There are many circumstances in which food cargoes may spoil, such as water damage, contamination, equipment failure or catastrophic events. In the case of contaminated food or over-ripe fruit, removal from the cargo hold can prevent further contamination. Options for management of spoilt food cargo may depend on availability of onboard storage facilities; need to prevent further contamination and quantities of spoilt food cargo.

Treatment of spoilt frozen cargo

10 Spoilt frozen cargo may result from equipment failure and subsequent thawing and can often involve the entire cargo.

Treatment of spoilt non-comestible cargoes such as coal, fertilizers and cement

11 Non-comestible cargoes may spoil due to catastrophic events or non-catastrophic loss of hull integrity. The environmental risk of disposal of spoilt non-comestible cargoes depends on the type and quantity of spoilt cargo.

Treatment of cargo residues

12 Cargo residues, whether from cargo that is spoiled or not, are considered garbage under MARPOL Annex V. Under regulations 4.1.3 and 6.1.2 of Annex V, cargo residues may only be discharged under certain conditions and only when they cannot be recovered using commonly available methods for unloading and they do not contain any substances classified as harmful to the marine environment.

Contingency plans for the management of spoilt cargo

13 The shipowner or their representative may consider developing contingency plans to facilitate timely decision-making by State regulatory authorities and minimize delays to a ship.

14 It would be useful for ships, especially those carrying the same cargo type over time, to have contingency plans established for dealing with their specific type of cargo should it spoil. Ships engaged in spot contract services could have general contingency plans in the event of cargo spoilage. Contingency plans should consider:

- .1 an assessment of the potential for cargo spoilage to occur over a given route, including the risks, potential quantities and measures available to reduce spoilage;
- .2 a process to notify the cargo owner, port authorities and regulatory authorities of the port State or the ship's flag State;
- .3 a process to decide if the spoilt cargo is to be managed as waste for disposal on land or sold for an alternative use;
- .4 a process to determine available land-based facilities that are authorized to receive the spoilt cargo, and make arrangements;
- .5 if land-based options are not available, or practicable, a communications process setting out who is to be contacted for a permit for dumping at sea; and
- .6 if dumping is selected, a process and the information needed to obtain a permit.

Considerations for documenting spoilt cargo

15 Existing documents that ships carry can provide much of the information needed for managing spoilt cargo. Key documents include bills of lading, cargo manifests, ship's logs, and the Garbage Record Book under regulation 10 of Annex V.

16 Otherwise, documentation should include information necessary to obtain a dumping permit under the London Convention or Protocol, including descriptions of:

- .1 the quantities and properties of the waste or other matter;
- .2 how the cargo was spoiled;
- .3 how the spoilt cargo is packaged and how it would be released;
- .4 the proposed dumping site including geographical position (latitude and longitude), depth of water and distance from nearest coast; and
- .5 the potential effects and expected human health and environmental consequences of the disposal of the spoilt cargo.

State regulatory authorities may request additional information

17 The master or ship's owner should consult with the cargo owner to ensure information on the nature of the cargo is complete. A local shipping agent may be able to obtain advice on selecting a suitable dumpsite. Dumpsite selection is part of the permitting process and, therefore, it is necessary to consult the Government issuing the permit on the selection of a suitable dumpsite.

Applying for a permit

18 The London Convention requires consideration of the practical availability of alternative land-based methods of treating, disposal or elimination. The London Protocol states that ocean dumping permits shall be refused if the permitting authority determines that appropriate opportunities exist to reuse, recycle or treat the waste without undue risk to human health or the environment or disproportionate costs. Therefore, options to manage spoilt cargo other than ocean dumping need to be considered. Such options may include resale for alternate use, recycling, landfill, secure landfill, incineration, composting and treatment for use or landfill.

19 The ship's owner, master, or a designated officer in consultation with the owner of the cargo should prepare the permit application. The owner of the cargo may prefer to apply for the permit. It should be submitted to the Government of the State in whose jurisdiction (e.g. EEZ) the dumping is planned to occur. If the dumping is planned to take place in waters outside of national jurisdiction, the permit application should be submitted to the State where the cargo was loaded (if that State is a Party to the London Convention or Protocol), or the vessel's flag State (if that State, but not the loading State, is a Party). Contacts for the appropriate State Government can be obtained from the Office for the London Convention and Protocol at the International Maritime Organization (IMO) at olcp@imo.org.

Emergency permits

20 In emergencies posing an unacceptable threat to human health, safety or the marine environment and admitting no other feasible solution, an emergency permit may be issued. Disposal at sea under an emergency permit would need to be conducted in a manner that minimizes the impact on the marine environment. State regulatory authorities may wish to consult "Procedures and criteria for determining and addressing emergency situations", 2006 (see LC 28/15, annex 11, refer to: http://www.imo.org/blast/blastData.asp?doc_id=13647&filename=Emergency%20procedures.pdf), which addresses force majeure and emergency situations.

21 A disposal at sea permit requires a detailed assessment of the waste and other requirements and can take a significant amount of time to obtain. Contingency measures should be in place to temporarily allow for storage of the material to be disposed of while a permit is obtained, allowing the transporting vessel to proceed with its normal activities.

22 Another aspect to consider, if disposal at sea is the preferred option to manage a spoilt cargo, is that the configuration of the ship where the cargo spoiled may not be amenable to dumping it at sea. In such a case, contingency plans could consider arrangements for temporary storage either on land or another vessel, and subsequent loading onto suitable equipment for dumping.

23 Plans for temporary storage would need to be considered in any permit application review and should include location, logistics for transportation and handling, expected time frames, containment measures, emergency response (if needed) and contingencies.

Mitigation for invasive species and pathogens in some spoilt cargoes

24 Some spoilt cargoes pose concerns for transferring invasive species or harmful pathogens, potentially from living organisms present in the cargo, or transported as the cargo. Invasive species of concern could be terrestrial species potentially transferred from port to port or marine species introduced through contamination of the cargo with seawater, a concern if the material is dumped at sea. Management measures may include special considerations for disposal or storage site selection, containment if storage is required, and containment at the disposal site including capping or other confined disposal. Treatment such as comminution or land-based incineration could also be considered depending on facilities and type of organism suspected.

25 Mariners engaged in the transport of cargo that presents risks for transferring invasive species should include measures in their management plans to manage spoilt cargo. Advice may be available from regulatory authorities in the importing country.

26 Mortalities of live animal cargoes such as certain shellfish and livestock can be a key concern, notably for countries that rely on maritime shipping for trading livestock. In case of livestock, advice of the Food and Agriculture Organization is that livestock mortalities should be stored for landing ashore and incineration. Onboard storage of mortalities should be segregated to prevent pathogen transmission among the other animals on board.

27 Managing risks of disease transmission on land may also involve some specific considerations. In some cases, land-based disposal options may present a higher risk to human health and the environment. The comparative risks between land disposal and sea disposal should be assessed as related to the specific circumstances and potential impacts posed to human health and the environment. Local regulatory authorities in the port State receiving the mortalities should be contacted for advice. Shipping agents, prior to arrival, should facilitate contact with the port State.

28 Other measures may include mechanical handling to avoid exposure to seafarers and dockside workers, site selection considerations (avoiding potential conflicts with other users of the sea), containment if storage is required, and containment on site including capping or other confined disposal. If the pathogen is known, measures may be set for monitoring worker health (for human health risks) or for monitoring the local environment (if the material presents a risk to wildlife). Treatment could also be considered depending on the facilities and type of organism suspected.

Alternative options when dumping at sea is not allowed

29 State regulatory authorities may make a decision not to allow dumping at sea based on the type of spoilt cargo or a sensitivity of the receiving environment even in cases where practical or appropriate options are not available.

30 Where a dumping permit would not be allowed for a type of spoilt cargo, plans should be made for offloading in port. If there are no available facilities at a given port, as part of the contingency planning process, ports and local authorities should be consulted either on:

- .1 the potential to establish facilities;
- .2 options for the potential spoilt cargo to be used in local industry; or
- .3 feasibility of transport to an authorized facility within the jurisdiction.

31 If no facilities are available within a port State, contingency plans should consider retention of the spoilt cargo on board and sailing to the nearest port with facilities for offloading either on a direct route or on the planned route for other cargo shipments. To manage costs, these plans should be developed in consultation with insurance organizations and cargo owners.

Treatment of animal carcasses

32 There may be circumstances where MARPOL Annex V will apply to the regulation and treatment of animal carcasses, and other circumstances in which the London Convention and Protocol may apply. The regulation and treatment of animal carcasses will, therefore, need to be managed on a case-by-case basis and according to the particular circumstances and relevant guidelines.

33 The *2012 Guidelines for Implementation of MARPOL Annex V* (adopted by resolution MEPC.219(63)) includes special guidance on the treatment of animal carcasses. The master of the ship is expected to have responsibility for shipboard livestock operational issues, animal health and welfare, and conditions for the control and reporting of animal mortality on board. Ships carrying live animal cargo consignments are expected to have animals that die during voyage. The mortality numbers are generally low and are operational issues to be controlled as part of cargo management practice. These mortalities are considered to be generated during the normal operation of the ship and liable to be discharged of continually or periodically and, therefore, subject to Annex V regulations and Guidelines.

34 Regulation 4.1.4 of MARPOL Annex V permits the discharge into the sea of animal carcasses generated during the normal operation of a ship, but only if the ship is en route, outside a special area, as far as possible from the nearest land and taking into account IMO guidelines. To comply with regulation 4.1.4 of MARPOL Annex V, it is recommended that the discharge into the sea should take place greater than 100 nautical miles (nm) from the nearest land and in the maximum water depth possible. Discharge of animal carcasses needs to be recorded in the Garbage Record.

35 Carcasses of animals resulting from mortalities in excess of those generated during the normal operation of a ship are not "garbage" under Annex V and are not covered under the Annex V Guidelines. "Mortalities in excess of those generated during the normal operation of a ship" refers to animal mortalities in excess of those expected to die during a voyage. While this could be a number of animals dying at the same time or within a short period of time, the number of mortalities that exceed those generated during the normal operation of a ship will depend upon the animal species and the total number and/or species carried in the consignment.

36 Circumstances that may result in mortalities that exceed those generated during the normal operation of the ship include:

- malfunctioning of ventilation or watering systems;
- weather events such as heat waves or storm systems;
- infectious disease outbreaks; and
- refusal of cargo offloading by authorities at destination, leading to the need to euthanize some or all of the live animal cargo.

37 In the case of animal mortalities in excess of those generated during the normal operation of a ship, the animal carcasses may be considered as spoilt cargo and may be subject to the London Convention and Protocol when dumping at sea is being considered. To assist in managing these situations, masters should contact the flag State of the ship and, where appropriate, port and/or coastal State(s) to seek guidance on the appropriate legal regimes and requirements, as well as consult relevant IMO guidelines and circulars.

38 Fish, including shellfish, carried on board as cargo that have died or been euthanized on board during the voyage are considered to be animal carcasses and should, to the extent practicable, be treated in the manner set out in section 2.12 of the *2012 Guidelines for Implementation of MARPOL Annex V*. Governments may want to consider additional actions to reduce the risk of spreading parasitic or pathogenic organisms.

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ANNEX

SPOILT CARGOES CONSIDERED FOR SEA DISPOSAL

1 The following list illustrates the spoilt cargoes that have been considered for sea disposal in recent years and have been brought to the attention of IMO. However, it should be noted that not all these materials have actually been dumped at sea:

- .1 sheep and cattle that had died when being transported on board a vessel specialized in livestock transport;
- .2 frozen beef in a damaged container;
- .3 spoilt kidney beans;
- .4 wheat cargo that had been infected with a fungus and the import of which had been refused;
- .5 cement packed in bags spoilt by water ingress;
- .6 water contaminated magnesite granules;
- .7 corn saturated by ingress of water;
- .8 citrus pellets, the sugar contents of which had started fermenting following injection with seawater;
- .9 alumina spoilt by water ingress;
- .10 bagged sugar spoilt by water ingress;
- .11 spoilt vinegar carried in bulk;
- .12 bagged garlic spoilt by ingress of seawater;
- .13 spoilt rice;
- .14 lentils spoilt by ingress of seawater;
- .15 steam coal spoilt by ingress of seawater;
- .16 stearine that had become semi-solid after failure of heating equipment;
- .17 ruined condensed milk;
- .18 spoilt potatoes;
- .19 fire-extinguishing water containing coal dust;
- .20 contaminated iron ore;
- .21 hardened Portland cement;
- .22 rotting mink fodder (mince meat);
- .23 fertilizers spoilt by ingress of seawater;
- .24 wheat cargo spoilt by ingress of seawater; and
- .25 sulphuric acid diluted in seawater.

* * *

2 The following table shows the permits issued for sea disposal of spoilt cargoes, as notified to IMO:

YEAR	COUNTRY	CARGO
2009	Philippines ¹	4,890,000 tonnes of damaged bulk cement
2008	Malta	5 permits issued for a total of 5,526 tonnes of water damaged rice
2007	Greece	81.5 tonnes of damaged corn
2007	Malta	5,000 tonnes of water damaged corn
2007	Liberia	100 tonnes of damaged frozen chicken
2007	Liberia	716 tonnes of water damaged corn
2007	Russian Federation	135 tonnes of water damaged wheat
2006	Cyprus	55 tonnes of damaged rice
2006	Panama	300 tonnes of damaged soy beans
2004	Cyprus	700 tonnes of spoilt wheat
2004	Malta	370 tonnes of spoilt wheat and soy beans
2004	Malta	24,000 tonnes of bulk cement
2003	Saint Vincent and the Grenadines	10,000 tonnes of diammonium phosphate on board a stranded vessel
2003	Antigua and Barbuda	70 tonnes of lentils spoilt by seawater
2002	Cyprus	1,300 tonnes of steam coal spoilt by seawater
2002	Norway	350 tonnes of rotting mink fodder (mincemeat) dumped in internal waters
2001	South Africa	15,000 tonnes of potassium nitrates, sulphates and chlorides on board a stranded vessel
2000	Liberia	800 tonnes of fire-extinguishing water containing coal dust
2000	United States	14,000 tonnes of hardened Portland cement
1999	South Africa	800 tonnes of spoilt wheat grain
1999	Brazil	Damaged tanker containing 3,700 tonnes of sulphuric acid diluted with seawater

¹ Permit was not utilized as material was offloaded to a landward destination.

YEAR	COUNTRY	CARGO
1997	Panama	280 tonnes of spoilt bananas
1996	South Africa	68 tonnes of spoilt kidney beans
1996	South Africa	156 tonnes of wheat infected with a fungus
1995	Panama	6,581 tonnes of spoilt potatoes in natural jute bags
1993	Canada	305 tonnes of spoilt sugar
1988	South Africa	3,242 tonnes of spoilt rice
1984	Canada	1,200 tonnes of spoilt grain
