Guidelines for Improving Safety and Implementing the SOLAS Container Weight Verification Requirements

July 1, 2015

Summary

In November 2014, the International Maritime Organization (IMO) adopted mandatory amendments to the International Convention for the Safety of Life at Sea (SOLAS) Chapter VI, Part A, Regulation 2 - Cargo information. The SOLAS convention is applicable global law. The SOLAS amendments become effective on 1 July 2016 for packed containers received for transportation (gate-in or off-rail). They place a requirement on the shipper of a packed container, regardless of who packed the container, to verify and provide the container's gross verified weight to the ocean carrier and port terminal representative prior to it being loaded onto a ship. A verified container weight is a condition for loading a packed container aboard a vessel for export. The vessel operator and the terminal operator are required to use verified container weights in vessel stowage plans and are prohibited from loading a packed container aboard a vessel for export if the container does not have a verified container weight.

This document provides an outline of what the implementation of the SOLAS amendments requires of the various commercial parties.

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1. Introduction

1.1 In order to address safety problems at sea and on shore arising from container shipments that have incorrect weight declarations, the International Maritime Organization (IMO) adopted amendments to the Safety of Life at Sea (SOLAS) Convention, Chapter VI Regulation 2 – Cargo information regarding a mandatory container gross weight verification, together with associated guidelines published as MSC.1/Circ. 1475 (hereinafter referred to as the IMO Guidelines).[1]

1.2 The SOLAS amendments were adopted in November 2014 and will enter in to force on 1 July 2016. The intervening period should be considered to be the transition or planning period. All regulated parties need to be prepared to implement and abide by the container weight verification requirements by 1 July 2016. This period should also allow time for regulated parties to prepare for required process and documentation changes and to test information transmission enhancements in advance of the effective date.

1.3 The effect of these requirements on containerized supply chains is that the verification of the gross weight of a packed export container will be required before the container is loaded aboard a ship. To ensure compliance with the SOLAS amendments, participants within the supply chain (especially shippers, carriers, and terminal operators) will need to establish and implement processes to ensure that the verified container weights are provided to the necessary parties in a timely fashion and are used by the terminal operator and vessel operator in the vessel's container stowage plan.

1.4 These Guidelines have been drafted by the World Shipping Council, in consultation with its member companies, as advice on implementing the SOLAS amendments. These Guidelines identify elements both of the regulatory requirements and of a non-regulatory nature that companies with commercial roles and activities within the international containerized transport supply chain will need to consider.

2. Scope

2.1 Unless specified in paragraph 2.2, the SOLAS requirements to verify the gross weight of a packed export container apply to all packed containers to which the IMO's Convention for Safe Containers (CSC) applies and which are to be loaded onto any ship in international maritime traffic.

2.2 The provisions of SOLAS Chapter VI, Part A, Regulation 2 do not apply to:

[1] The text of both the SOLAS amendments and the IMO Guidelines Regarding the Verified Gross Mass of Container Carrying Cargo may be accessed via web links found in Section 10 below, page 10. The terms "gross mass" and "gross weight" are interchangeable.

(i) A packed container on a chassis or trailer to be driven on a ro-ro ship which is engaged on short international voyages;[2]

(ii) Cargo items tendered by a shipper to the master for packing into a container already on board the ship; or

(iii) "Offshore containers" to which the CSC, according to the IMO Guidelines for the approval of offshore containers handled in open seas (MSC/Circ.860) and the IMO Revised recommendations on harmonized interpretation and implementation of the International Convention for Safe Containers, 1972, as amended (CSC.1/Circ.138/Rev.1), does not apply.

2.3 No provision or agreement in a contract of sale, a transportation contract, or a stevedoring contract may override or conflict with the obligation to abide by the SOLAS requirements.

3. Main Principles

3.1 The purpose of the SOLAS amendments is to obtain an accurate gross weight of packed containers that are moved through the supply chain prior to loading aboard the ship.

3.2 The responsibility for obtaining and documenting the verified gross weight of a packed container lies with the shipper. *SOLAS Chapter VI, Regulation 2; IMO Guidelines, paragraph 4.1.*

3.3 Verified container weights are to be used by the terminal operator and the vessel operator in ship stowage planning.

3.4 A container packed with packages and cargo items shall not be loaded onto a ship to which the SOLAS amendments apply unless the vessel master or his representative and the terminal representative have obtained, in advance of vessel loading, the verified gross weight of the container. *SOLAS Chapter VI, Regulation 2, paragraph 6*; *IMO Guidelines, paragraph 4.2.* Availability to both the terminal representative and to the master or his representative of the verified gross mass of a packed container sufficiently in advance to be used in the ship stowage plan is a prerequisite for the container to be loaded onto a ship to which the SOLAS regulations apply. *IMO Guidelines, paragraph 14.1*

3.5 If a packed container is received at a port facility for export without a verified gross weight, it shall not be loaded on a vessel until a verified gross weight is obtained. The measures that may be taken to obtain such a verified weight for such a container are for the commercial parties to determine. Any costs incurred by the vessel operator or terminal

[2] SOLAS regulation III/2 defines "short international voyage" as an international voyage in the course of which a ship is not more than 200 miles from a port or place in which the passengers and crew could be placed in safety, and which does not exceed 600 miles in length between the last port of call in the country in which the voyage begins and the final port of destination.

operator for obtaining a verified gross weight if a shipper has failed to provide one in a timely manner and any recovery of those costs are also commercial matters for the parties to determine. *IMO Guidelines, paragraph 13.1.*

3.6 The gross weight of a packed inbound container being delivered by a SOLAS vessel to a port facility (i.e., an import or transhipped container) will be the verified container weight used by the vessel operator and port facility at the vessel's loading port. A port facility and a vessel operator do not need to re-weigh a packed inbound container that is to be transshipped if that container has been delivered by a SOLAS vessel with a verified weight from the previous leg of the voyage. *IMO Guidelines, paragraph* 8.1.2.

4. Methods for obtaining the verified gross mass of a packed container

4.1 The SOLAS regulations prescribe two methods by which the shipper may obtain the verified gross mass of a packed container.

4.1.1 ***Method No. 1***:

- Upon the conclusion of packing and sealing a container and using calibrated and certified equipment, the shipper may weigh, or have arranged that a third party weigh, the packed container. *SOLAS Regulation, paragraph 4.1; IMO Guidelines, paragraph 5.1.1.* The scale, weighbridge, lifting equipment or other devices used to verify the gross mass of the container must meet the applicable accuracy standards and requirements of the State in which the equipment is being used. *IMO Guidelines, paragraph 7.1.*

- Method No. 1 is appropriate to use for any packed container and any kind of goods.

4.1.2 ***Method No. 2***:

- The shipper (or, by arrangement of the shipper, a third party) may weigh all packages and cargo items, including the mass of pallets, dunnage and other packing and securing material to be packed in the container, and add the tare mass of the container to the sum of the single masses of the container's contents. *IMO Guidelines, paragraph 5.1.2.*

- The weighing equipment used to weigh the contents of the container must meet the applicable accuracy standards and requirements of the State in which the equipment is being used. *IMO Guidelines, paragraph 7.1.*

- The tare mass of the particular container is visible on the exterior of the container and should be used. *IMO Guidelines, paragraph 12.1.*

- Estimating the weight of a container's contents is not permitted.

- The party packing the container cannot use the weight somebody else has provided, except in one specific set of defined circumstances where the cargo has been

previously weighed and that weight is clearly and permanently marked on the surface of the goods.[3]

- Method No. 2 is "inappropriate and impractical" for "certain types of cargo items (e.g., scrap metal, unbagged grain and other cargo in bulk)" that "do not easily lend themselves to individual weighing of the items to be packed in the container." *IMO Guidelines, paragraph 5.1.2.2.* Method No. 2 is also inappropriate for "flexitanks". For such cargoes, Method No. 1 must be used.

- The method used for weighing the container's contents under Method No. 2 is subject to certification and approval as determined by the competent authority of the State in which the packing and sealing of the container was completed. *IMO Guidelines, paragraph 5.1.2.3.* Shippers are responsible for complying with any certification and approval requirements that may be established by the State in which the container packing is done, or, in a case where a container is packed in multiple places, any certification and approval requirements that may be established by the State where the last contents were packed into the container.

4.2 Regardless of whether Method No. 1 or Method No. 2 is used to obtain the verified weight of the container --

- The SOLAS amendments and the IMO Guidelines are clear that the shipper named on the ocean carrier's bill of lading is the party responsible for providing the packed container's verified gross mass. *IMO Guidelines, paragraph 5.1.3*. Thus, for example, if a freight forwarder/NVOCC is co-loading the cargo shipments of other freight forwarders in a container, the "master" forwarder named on the ocean carrier's bill of lading is the party responsible for the accurate cargo weight verification of all the cargo and all packing or securing material from all the co-loading forwarders using the container.

- The carrier and terminal operator may rely on a shipper's signed container weight verification to be accurate. The carrier and the terminal operator are not responsible

[3] The exception is as follows: "Individual, original sealed packages that have the accurate mass of the packages and cargo items (including any other material such as packing material and refrigerants inside the packages) clearly and permanently marked on their surfaces, do not need to be weighed again when they are packed into the container." *IMO Guidelines, paragraph 5.1.2.1 (underlining added).* This does not permit estimating the cargo weight, but permits using accurate weights that have been previously derived from weighing the product and that are clearly and permanently marked on individual, original sealed packages. For example, a shipper of identical television sets whose individual cartons are marked by the manufacturer with the shipping weight could calculate the shipment's weight by multiplying the number of television sets in the container by the weight of an individual set, and then adding that weight to the combined calculated weight of the packaging, pallets, packing and bracing material used and the container's tare weight. This approach has four required elements. It only applies to: 1) original, sealed packages, 2) that have been previously weighed, 3) with the accurate mass clearly and permanently marked on their surfaces, and, 4) such weights being added to the calculated weight of all packing, securing and other material that may have been used in the packing of the container.

for verifying the shipper's weight verification. Nor do the SOLAS amendments or IMO Guidelines require a carrier or terminal operator to verify that a shipper providing a verified weight according to Method 2 has used a method which has been certified and approved by the competent authority of the jurisdiction in which the packing and sealing of the container was completed. However, for the shipper's weight verification to be compliant with the SOLAS requirements, it must be "signed", meaning a specific person representing the shipper must be named and identified as having verified the accuracy of the weight calculation on behalf of the shipper.[4]

- Weights obtained by weighing the entire packed container under Method 1 or by weighing the contents of the container and adding those weights to the container tare weight under Method 2 are to be as accurate as the scales or weighing devices used, which must meet the applicable accuracy standards and requirements of the State in which the equipment is being used. Some cargo products may incur normal, minor changes in weight from the time of packing until delivery (e.g., due to evaporation, humidity changes, ice melt from fresh food products packed in ice, etc.) and some containers' tare weight may change over time and vary somewhat from the tare weight painted on the container; however, these variations should not present safety concerns.

- The party or parties packing the container should follow the provisions of the IMO/ILO/UNECE Code of Practice for Packing of Cargo Transport Units (CTU Code) in relation to load distribution and safe packing of the container. (*See*, page 11 for a link to the CTU Code and CTU Code Informative Materials.)

4.3 A shipper's participation or approval under a Customs authority's Authorized Economic Operator (AEO) or similar program does not modify or exempt the shipper from required compliance with the SOLAS requirements. Such status might be a relevant factor in a State's certification and approval requirements for Method No. 2 shippers. Shippers should be aware of any such applicable national requirements.

4.4 If a carrier or terminal operator has reason to believe that the verified weight of the container provided by the shipper is significantly in error, they may take such steps as may be appropriate in the interest of safety to determine what the accurate weight is. The terms of such arrangements and the recovery of the costs involved in any steps for obtaining an accurate weight are commercial matters for the parties to address.

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[4] "The shipping document shall be: .1 signed by a person duly authorized by the shipper; and .2 submitted to the master or his representative …." *SOLAS Chapter VI, Regulation 2, paragraph 5.* "This document can be part of the shipping instructions to the shipping company or a separate communication (e.g., a declaration including a weight certificate produced by a weigh station)." *IMO Guidelines, paragraph 2.1.13.* "[T]he document should clearly highlight that the gross mass provided is the "verified gross mass" as defined in paragraph 2.1." *IMO Guidelines, paragraph 6.1.* "Irrespective of its form, the document declaring the verified gross mass of the packed container should be signed by a person duly authorized by the shipper. The signature may be an electronic signature or may be replaced by the name in capitals of the person authorized to sign it." *IMO Guidelines, paragraph6.2.*

5. Documentation

5.1 The SOLAS regulations require the shipper to verify the gross mass of the packed container using Method No. 1 or Method No. 2 and to communicate the verified gross mass in a shipping document. This document can be part of the shipping instructions to the shipping company or a separate communication (e.g., a declaration including a weight certificate produced by a weigh station using calibrated and certified equipment on the route between the shipper's origin and the port terminal). In either case, the document should clearly highlight that the gross mass provided is the "verified gross mass". The verified weight should be expressed in kilograms or pounds, depending on which measure is used in that jurisdiction. Electronic methods of transmission such as Electronic Data Interchange (EDI) or Electronic Data Processing (EDP) may be used. *IMO Guidelines, paragraph 6.3.*

5.2 Irrespective of its form, the document declaring the verified gross mass of the packed container must be signed by a person duly authorised by the shipper. The signature may be an electronic signature or may be replaced by the name in capitals of the person authorised to sign it. *IMO Guidelines, paragraph 6.2.*

5.3 Any discrepancy between a packed container's gross mass provided to a carrier by a shipper prior to the container's weight verification and its verified gross mass should be resolved by use of the verified gross mass. *IMO Guidelines, paragraph 9.1.* If a port terminal addresses an uncertainty about the gross mass of a packed container by weighing the container, the weight obtained by the port facility should be used for vessel stowage planning. *IMO Guidelines, paragraph 9.2 and 13.1.*

5.4 The shipper's container weight verification shall be made available to the terminal operator and to the master and to appropriate government officials upon request.

6. Information flow: Shipper, carrier and terminal interfaces

6.1 The SOLAS amendments are clear in assigning shippers', carriers' and terminal operators' responsibilities. The shipper is responsible for providing an accurate "verified gross mass" for each packed container it tenders to the carrier or its terminal representative, regardless of who actually packs the container. The vessel operator and the terminal operator are responsible for using verified gross weights in vessel stow planning and must not load a packed container aboard a vessel for export without a verified gross weight. These are regulatory obligations.

6.2 In order to implement the SOLAS regulatory obligations and to ensure the efficient and smooth flow of commerce, the parties in the supply chain will need to make arrangements for the timely transmission and exchange of verified container weight information. These are commercial and operational requirements, not regulatory requirements.

6.3 SOLAS requires that the container weight verification information be submitted sufficiently in advance of vessel loading to be used in the preparation of the ship stowage

plan. *IMO Guidelines, paragraph 6.3.2.* It is essential that the container's verified gross weight be obtained by the vessel operator and the terminal operator before a packed export container is physically loaded on to a ship.

6.4 Carriers will provide shippers with "cut-off times" within which the carrier must receive the required container weight verification from the shipper for ship stowage planning. These cut-off times may vary by carrier, may vary depending on the operational procedures or requirements of different terminal operators, and may vary from port to port. Shippers should learn of such documentation cut-off times from the carrier with whom they are doing business.

6.5 Where container weight verification is performed outside a container terminal, carriers shall transmit shippers' container weight verifications to the terminal operator, per agreed formats and standards, in a timely manner so that the terminal operator has this information upon the arrival of the packed container at the terminal.

6.6 Terminal operators will need to transmit to the carrier, per agreed formats and standards, in a timely manner any shipper provided container weight verification that the shipper provides to the terminal upon delivery of the packed container to the terminal operator, as well as weight verifications that occur when a terminal operator weighs a packed container on behalf of the shipper. *See,* Section 6.7 below.

6.7 Terminal operators and carriers will need to jointly decide in advance how they intend to handle packed containers that are received by a terminal operator for export when: a) the carrier has not informed the terminal operator of the container's verified weight, or b) when the shipper has not provided the carrier or terminal operator with the packed container's verified container weight.

6.8 If a terminal operator makes arrangements for determining the verified gross mass of a packed container that is delivered to the port by a shipper without a verified gross mass, the cost for such service will have to be borne according to the terms of the commercial arrangements among the affected parties, with the recognition that the SOLAS amendments place the obligation on the shipper to provide the verified weight in the first instance. A shipper should recognize that, if it fails to provide a verified container weight as called for by the SOLAS amendments and such failure requires a terminal operator to use Method No. 1 to obtain a verified container weight, there will be a cost for such services that the affected parties will need to address.

6.9 With respect to vessel sharing arrangements (VSAs) where more than one ocean carrier is using the vessel to transport goods, the vessel operator is responsible for the vessel stowage and for the vessel's compliance with SOLAS requirements. Each VSA partner is responsible for timely transmission of verified container weights for all packed containers to be loaded to the terminal operator and to the vessel operator.

6.10 The final vessel stow plan should include a check mark or notation that allows the master to see that each packed container in the stow plan has a verified weight, and the stow plan shall include the verified weights for every packed container aboard.[5]

7. Containers exceeding their maximum gross mass

SOLAS regulation VI/5 requires that a container not be packed to more than the maximum gross mass indicated on the Safety Approval Plate under the IMO's Convention for Safe Containers (CSC), as amended. A container with a gross mass exceeding its maximum permitted gross mass may not be loaded onto a ship.

In addition to not packing a container beyond its maximum gross mass, the party packing a container should be aware of and abide by cargo weight distribution and cargo securing requirements for the particular type(-s) of cargo packed into the container. *See*, CTU Code referred to in Section 9 below.

8. Definitions

For the purpose of these Guidelines:

Calibrated and certified equipment: means a scale, weighbridge, lifting equipment or any other device, capable of determining the actual gross mass of a packed container or of packages and cargo items, pallets, dunnage and other packing and securing material, that meets the accuracy standards and requirements of the State in which the equipment is being used.

Cargo items: has the same general meaning as the term "cargo" in the International Convention for Safe Containers, 1972, as amended (hereinafter referred to as "the CSC"), and means any goods, wares, merchandise, liquids, gases, solids and articles of every kind whatsoever carried in containers pursuant to a contract of carriage. However, ship's equipment and ship's supplies, including ship's spare parts and stores, carried in containers are not regarded as cargo.

Carrier: The party who, in a contract of carriage, undertakes to perform or to procure the performance of carriage by sea.

Container: has the same meaning as the term "container" in the CSC and means an article of transport equipment:

(a) of a permanent character and accordingly strong enough to be suitable for repeated use;

(b) specially designed to facilitate the transport of goods, by one or more modes of transport, without intermediate reloading;

[5] There may be a limited period of time after July 1, 2016 when electronic messaging software (EDI) changes to implement this capability will be in transition.

(c) designed to be secured and/or readily handled, having corner fittings for these purposes; and

(d) of a size such that the area enclosed by the four outer bottom corners is either:

(i) at least 14 m^2 (150 sq. ft.); or

(ii) at least 7 m^2 (75 sq. ft.) if it is fitted with top corner fittings.

Contract of carriage: means a contract in which a shipping company, against the payment of freight, undertakes to carry goods from one place to another. The contract may take the form of, or be evidenced by a document such as sea waybill, a bill of lading, or multi-modal transport document.

Gross weight or gross mass: means the combined weight of a container's tare weight and the weights of all packages and cargo items, including pallets, dunnage and other packing material and securing materials packed into the container (see also *"Verified gross mass"*).

Package: means one or more cargo items that are tied together, packed, wrapped, boxed or parcelled for transportation. Examples of packages include, but are not limited to, parcels, boxes, packets and cartons.

Packed container: means a container, as previously defined, loaded ("stuffed" or "filled") with liquids, gases, solids, packages and cargo items, including pallets, dunnage, and other packing material and securing materials.

Packing material: means any material used or for use with packages and cargo items to prevent damage, including, but not limited to, crates, packing blocks, drums, cases, boxes, barrels, and skids. Excluded from the definition is any material within individual sealed packages to protect the cargo item(s) inside the package.

Securing material: means all dunnage, lashing and other equipment used to block, brace, and secure packed cargo items in a container.

Ship: means any vessel to which SOLAS chapter VI applies. Excluded from this definition are roll-on/roll-off (ro-ro) ships engaged on short international voyages where the containers are carried on a chassis or trailer and are loaded and unloaded by being driven on and off the ship.

Shipper: means a legal entity or person named on the bill of lading or sea waybill or equivalent multimodal transport document (e.g., a "through" bill of lading) as shipper and/or who (or in whose name or on whose behalf) a contract of carriage has been concluded with a shipping company. The shipper may also be known as the sender.

Shipping document: means a document used by the shipper to communicate the verified gross weight of the packed container. This document can be part of the shipping instructions to the shipping company or a separate communication (e.g., a declaration including a weight certificate produced by a weigh station).

Tare weight: means the weight of an empty container that does not contain any packages, cargo items, pallets, dunnage, or any other packing material or securing material.

Terminal representative: means a person acting on behalf of a legal entity or person engaged in the business of providing wharfage, dock, stowage, warehouse, or other cargo handling.

Verified gross mass: means the total gross weight of a packed container as obtained by one of the methods described in Section 4 of these Guidelines.

9. Supplemental reference and source material

- The full text of the SOLAS regulations and the IMO Guidelines Regarding the Verified Gross Mass of Container Carrying Cargo (MSC.1/Circ.1474, 9 June 2014) can be found at: http://www.worldshipping.org/industry-issues/safety/cargo-weight

- The IMO/ILO/UNECE Code of Practice for Packing of Cargo Transport Units (CTU Code) and the CTU Code Informative Materials can be found at: http://www.worldshipping.org/industry-issues/safety/containers

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