Implications of the New IMO Weight Verification Rule
Introduction

Effective on July 1, 2016, an amendment to the Safety of Life at Sea (SOLAS) convention takes effect on essentially a global basis requiring virtually all shipping containers moving in international waterborne commerce to be physically weighed before being loaded onto a vessel, with the shipper of the goods attesting through a signed document that the cargo has been weighed and that the resulting weight is accurate. Given that complying with the rule will involve considerations that stretch back to the origins of ocean container supply chains possibly hundreds or thousands of miles inland from seaports, the rule has immense ramifications for the global containerized supply chain and global trade more generally.

Roughly 300,000 container loads get shipped each day globally and an estimated 44 percent of international merchandise trade moves via ocean container, according to estimates from IHS. Following approval by the Maritime Safety Committee of the International Maritime Organization of an amendment to SOLAS in May, 2014, the rule became law in each of the 162 nations that are party to the SOLAS convention effective on July 1. SOLAS has international legal status within each country that is party to the convention so there is no need for any further implementing legislation within those countries.

A key challenge in implementing the rule stems from the fact that while it holds the shipper responsible for providing a signed Verified Gross Mass (VGM), based on an actual weighing of the container and its contents, and the terminal and the carrier responsible for not loading a container for which a VGM has not been provided, it has left it to the commercial parties - the shipper, forwarder, carrier, terminal, IT providers and others - to work out among themselves how the rule will be implemented in practice, with little practical guidance provided. Since each of those parties potentially will incur incremental costs without an obvious or guaranteed means of recouping those costs through fees or other revenue, progress in implementing the rule as the July 1 effective date has been slow. This accounts for growing expressions of frustration on the part of various parties who seem to be looking to others, especially to national maritime administrations, for guidance, and growing concern that implementation of the rule could result in trade disruption in the runup and aftermath of the July 1 effective date. Indeed, referring to U.S. terminals, the U.S. ratings agency Fitch warned on Feb. 11: The VGM rule, it said, “could raise already chronic congestion at the ports that are slowed by chassis management issues, higher cargo loads from larger vessels and inadequate inland or intermodal links.”

Who is held responsible under this rule, and for what?

Under the rule, the shipper named on the ocean bill of lading is the party responsible for providing the container carrier and the terminal operator with a signed VGM for a packed container, based on an actual weighing of the goods. The shipper can weigh a packed container or can weigh the contents and add that to the tare (or unladen) weight of the container to arrive at the VGM. Separately there is a requirement that carrier and terminal operator not load a packed container aboard a ship unless they are in possession of the shipper-provided VGM for that container, and must use the VGM in creating a seaworthy stowage plan for the ship. The “shipper” according to MSC 1 / Circ. 1475 (the IMO’s guidance on VGM), is “a legal entity or person named on the bill of lading or sea waybill or equivalent multimodal transport document as shipper, and/or who (or in whose name
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or on whose behalf) a contract of carriage has been concluded with a shipping company.” This responsibility of the shipper doesn’t go away if a shipper uses a forwarder to pack and weigh a container, forward it to the port and even make the booking with the carrier. If the forwarder is acting purely on the instructions of the shipper to undertake that work on his behalf, and the shipper’s name is still what appears on the bill of lading, it’s the shipper that is responsible for verifying the gross mass weight and for the VGM weight provided to the carrier. The shipper will have to ensure that it’s satisfied with the integrity of the forwarders’ or manufacturers’ weighing process if it’s relying on the measurement of an outside party. On the other hand, some ocean freight intermediaries, called non-vessel operating common carriers, or NVOCCs, ship their customers’ goods under their own bills of lading and thus become the party responsible for providing the VGM.

The responsibility that the terminal and carrier have to not load a container without the VGM is expected to be taken seriously by those parties, given the potentially huge legal liability they would face if an accident or casualty takes place and it was discovered that a container that may have contributed was loaded without the VGM. “It is law, and the liabilities (for a carrier) associated with not complying are really enormous,” World Shipping Council Chairman Ron Widdows told JOC.com on Jan. 19. The WSC is the Washington-based trade group representing container carriers which over several years pushed for the rule to be adapted. Hapag-Lloyd in a brochure on the issue said “A packed container, for which a verified gross mass has not been obtained, will not be loaded on the vessel.”

Officially, the rule is an amendment to the Safety of Life at Sea convention administered by the International Maritime Organization, and approved at a meeting of the IMO Maritime Safety Committee in May 2014. At its heart, the essential element of the new regulation is:

The shipper is responsible for the verification of the gross mass of a container carrying cargo (hereinafter “a packed container”). The shipper is also responsible for ensuring that the verified gross mass is communicated in the shipping documents sufficiently in advance to be used by the ship’s master or his representative and the terminal representative in the preparation of the ship stowage plan. In the absence of the shipper providing the verified gross mass of the packed container, the container should not be loaded on to the ship unless the master or his representative and the terminal representative have obtained the verified gross mass through other means. (MSC.1/Circ.1475, 1.1)

The amendment sets out two methods that shippers have for determining the gross mass of a container. The first (Method 1) is to physically weigh the entire container. The second is to weigh the components of the load (cargo and packing materials), add that to the tare weight, or unladen weight, of the container and submit the total.

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Why was the rule implemented?

The reason the rule was put into effect is that some shippers — not all of them but unfortunately still too many — misdeclare cargo on the bill of lading, whether out of sloppiness, negligence or willful intent to ship more cargo than allowed while paying the same rate to the ocean carrier. However there is a disconnect between the limited number of offending shippers, who are often sellers of low value commodities shipped in bulk like scrap where there is commercial advantage to overstuffing a container - and the universal mandate of the rule which puts the same requirement for weighing and presenting a VGM on all shippers irrespective of the commodity they they ship. Thus the thousands of multinational companies that operate under strict legal compliance rules are held to the same standard of compliance as categories of shippers more commonly known to under-declare weights on the bill of lading. That has led to criticism of the rule. As the logistics director for a major multinational put it: “A narrow range of participants developed global regulations to address important safety issues using a “shotgun” approach to address problems that really can be tied back to specific shippers in specific industries and parts of the world. Ocean carriers today know which shippers are responsible and which are not. As a result, we find ourselves where we are today – every shipper is going to ultimately incur higher costs – time, resources, money – to comply with presently unclear regulations, and stakeholder interpretations thereof, with no guarantee of uniformity or equity within the industry and around the world.”

Indeed, the issue has long been on the radar of container lines. Container shipping founder Malcolm McLean, who launched the first container ship in 1956, raised the issue frequently with subordinates and was strict in scrutinizing the declared weights of containers shipped with his companies. The impact on safety to workers, ships and cargo from overweight containers be catastrophic, as these examples indicate. According to the World Shipping Council, “It is not uncommon for actual total cargo weight aboard ship to be 3-7% greater than the declared weight.” Mis-declarations can apply both to weight and cargo descriptions. The SOLAS rule addresses only the issue of mis-declarations of weight. Mis-declarations of cargo such as hazardous materials - themselves held responsible for major maritime casualties - are covered under various other international rules and regulations. When cargo is misdeclared, since cargo carried within containers isn’t visible and the ship master, his knowledge of the cargo on board the ship is limited to what is stated on shipping documents. “Misdeclared container weights have been a long-standing problem for the transportation industry as they present safety hazards not only for ships and their crews but for other cargo on board as well as workers in port facilities handling containers and on roads,” Matthew Gore of the law firm Holman Fenwick Willan wrote in a 2014 bulletin.

The pricing system for shipping containers creates an incentive for importers and exporters to load as much product as possible into the container so as to lower the per-unit cost of the delivered goods. For many goods typically shipped in containers, such as electronics, apparels, toys or household items, the issue is largely moot because a container filled to capacity won’t exceed a maximum weight limit (and shippers of such goods will not be relieved of the requirement to produce the VGM). For other goods such as scrap metal and paper or agricultural commodities shipped in bulk, containers occasionally are stuffed to a point that exceeds safety specifications for the container itself, with resulting danger for crew, other cargo or the vessel itself. Overloaded containers have been known to collapse upon themselves or lose their flooring, crush lighter containers loaded beneath them, and unbalance and subsequently topple stacks of containers when loaded onto the top. In addition to property damage, such events can put longshore labor and seafarers in harm’s way. Life-threatening, overweight containers also can threaten ship safety. Like a canoe or dinghy, large ships can become unbalanced if weight isn’t distributed evenly. As a result, a ship can run into trouble at sea, especially in heavy weather. The MSC Napoli, for example, was lost in 2007 in the English Channel due in part to balance problems caused by overweight containers. “…The stresses acting upon a container ship’s hull cannot be accurately controlled unless containers are weighed before embarkation,” the U.K.’s Marine Accident Investigation concluded in its report on the wreck. “The commercial advantages of containerisation and intermodalism such as speed and quick turnarounds appear to have become the focus of the industry at the expense of the safe operation of its vessel.”
Challenges to implementation

The challenges to implement the rule are many, complex and profound, to the point that some believe that trade disruption is unavoidable and are suggesting that implementation get phased or delayed. The origin of many of the challenges stems from the rule leaving it to commercial parties such as the shipper, carrier and terminal to determine among themselves how the rule will get implemented, when each of those parties will be reluctant to come to an agreement on procedures if it results in additional, non-recoverable costs to themselves. Though as of early February, 2016 there was no official movement towards a delay in the rule, according to sources at the IMO, and there is no precedent for delaying implementation of an IMO convention.

One key challenge concerns shipping documentation. Documentation for roughly half of the approximately 300,000 container loads shipped globally each day is still transferred from the shipper to the container line via non-electronic means, in other words hard copies of bills of lading, or faxes, according to the ocean container portal Inttra. Given that it will be illegal under the rule for a container for which a VGM has not been provided to be loaded on a ship, and the VGM must be used for stowage planning (and received far enough in advance to allow for that), the process of getting the required VGM into the hands of the container line and the marine terminal with enough advanced notice is a significant challenge. One major container line is telling its U.S. customers that even if documentation is submitted manually the VGM will have to be submitted electronically through the carrier’s website. Efforts were under way as of early 2016 that Inttra was helping lead to create a new shipping document for transferring the VGM down the supply chain, but it was unclear when this white paper was published whether the effort will be successful.

Another challenge is the question of whether terminals will accept containers through their gates for which no VGM has been provided. Still more challenges exist further back in the supply chain, in terms of determining who will perform the actual required weighing of cargo and, in the many cases where that party is not the shipper on the bill of lading (i.e. the party responsible for providing an accurate VGM) how the shipper will legally protect itself from violations if the VGM provided for its container is determined by maritime authorities in the country of export to be inaccurate beyond allowable tolerances. That is why as of late January, 2016 there was growing pressure on national maritime administrations to issue guidelines for implementation, with a particular focus on what variances from the stated VGM they will allow before a container is considered to be in violation.

There is thus the potential for disruption of the flow of global containerized trade from a problematic implementation of the SOLAS rule. There are several areas where disruption could stem from. One concerns the marine terminal, through which all containers must flow through prior to loading on the ship. As discussed elsewhere in this white paper, the question of whether or not marine terminals will accept containers through their ingates without a VGM having been received is a particular area of focus, with key regional differences in approach emerging. Other areas, as mentioned above, concern the question of how the VGM will flow from the shipper to the carrier to the terminal, along the supply chain. The potential for disruption stems from what appears to be a bottom line position by the terminals and container lines, that due to the need to be in legal compliance and to avoid liability, under no circumstances will they load a container for which a bona-fide VGM hasn’t been received.
Issues for the Shipper

The shipper as named on the bill of lading is confronted with major challenges stemming from its legal responsibility to provide a signed VGM based on an actual weighing of the container and its cargo, for each container it ships. It is also presenting shippers with significant challenges to ensure they are legally compliant by the July 1 effective date, despite the absence of guidance from official bodies or industry consensus on many aspects of how the rule will be implemented. The rule itself provides little guidance on how shippers should ensure they are in compliance and do so in a way that doesn't disrupt its supply chain. For example, the specifics of how to implement the rule (weighing the container and communicating the information to the ocean carrier) and how to handle exceptions (weighing and/or storing containers without the required weight certification) are left up to “commercial agreements” between the parties in the SOLAS amendment. But in order to implement the rule to ensure compliance is achieved, shippers - especially large multinational companies with far flung supply chains and a non-negotiable commitment to 100 percent legal compliance throughout their business - are having to undergo a huge and in some cases costly effort to ensure their systems and processes can support the goal of achieving 100 percent compliance.

One large U.S. shipper is purchasing $80,000 scales to implement Method 1 (weighing of the sealed container) for at least some of their cargo but as of mid-February did not know who will certify the scales to ensure they're in compliance. They also didn’t know who will certify non-owned scales they may use.

For shippers there is clarity as to a few, but not many, details. That is because the rule as approved at the IMO leaves most of the details of implementation up to commercial parties to figure out among themselves. One of the basic compliance issues faced by shippers is what constitutes its required “signature” that certifies that a weight has been determined and that it’s accurate. The SOLAS rule requires that the shipper communicates the verified gross mass in a “shipping document.” It must be signed by a person - not merely a company name - duly authorized by the shipper, with a first and last name. The signature may take electronic form or may be replaced by the name in capitals of the person authorized to sign it. The VGM and signature can be part of the shipping instructions communicated via electronic data interchange (EDI), or be contained within a separate communication including a hard copy document. There is an effort under way to create and standardize an entirely new shipping document solely to convey the VGM along the supply chain. Irrespective of the actual form it takes, the document should clearly highlight that the gross mass provided is the “verified gross mass.” There is no requirement that a so-called “weight ticket” generated by a weighbridge be presented, but national implementing regulations may require that shippers using Method 1 (weighing of the cargo and container as one) produce weight tickets or other documentation upon request.

With the onus for providing a VGM squarely residing with the shipper, every business in international trade must at some point conduct a cost-benefit analysis of their supply chains to determine the most effective way to verify the weight of their containers. Such an analysis is likely to be affected by a multitude of company-specific variables but should certainly include consideration of the following: import-export mix, volume, uniformity of cargo, vendor concentration.

The shipper has two options to comply with the rule, Method 1 and Method 2. Under Method 1, upon the conclusion of packing and sealing of the container, the shipper or a representative that it authorizes weighs the packed container itself, or the shipper arranges for a third party to do it. Regardless of who weighs the container, the accuracy of the VGM is the responsibility of the shipper. The requirement for the signature of an individual may be problematic for companies that wish to avoid subjecting its employees to undue legal risk especially when attesting to a weight determined by a third party. Under Method 2, all the packages and stowage items in the container can be weighed separately from the container itself. These may include pallets, dunnage and other packing and securing material to be packed in the container. Under Method 2 the total mass of items packed into the container are added to the tare mass, or unladen weight, of the container. The tare mass of every container is marked on the exterior of every container at the time of manufacture. Shippers should use solely the tare mass number marked on the individual container being used, and should not use a standardized weight for a 20-foot or 40-foot container. Where the tare weight is missing, or believed to be inaccurate, the container operator should be contacted to take appropriate remedial action. The tare mass is one of the issues that has aroused concern as some shippers say it may not equate to the actual weight of the container (for example if the container had been repaired and a different grade of steel was used). Thus shippers are saying that the maritime administrations in each country that will enforce the SOLAS rule need to allow for variances to the VGM when conducting spot inspections and when deciding to issue violations. This is one reason why shippers and other parties are waiting with anticipation for the official rulemakings by the national maritime administrations, which had not been published as of January, 2016, just five months before the rule will take effect. There is no provision in the SOLAS rule for any allowable margin of error; the rule is only a physical weighing requirement, thus a VGM derived using compliant equipment and procedures will meet the legal requirements. Some cargo may incur normal, minor changes in mass from the time of packing and weighing until delivery (e.g. due to evaporation or humidity changes) and some containers’ tare mass may change over time and vary somewhat from the tare mass marked on the container.
The guidance from the maritime agencies will define how the rule will be implemented in different countries given the wide latitude that individual maritime administrations will have to implement the rule. Those official documents will define for example how much variation from the stated VGM will be allowed before a violation occurs, in situations where a container is subject to a spot weight test. They will also define other rules; for example some governments will require approval for those entities that carry out Method 2 weighing processes. The UK Maritime & Coastguard Agency (MCA) states this in an official document providing guidance to shippers on implementing the rule. Usage of Method 2 “requires that the MCA has to approve the certified method used by that shipper.”

Among the biggest challenges to date has been educating shippers about the new rule. With the exception of industry trade groups that focus on transportation issues, many importers and exporters are reported to be unaware or just learning about the new weight verification requirement. In fact, a survey by logistics and technology services provider InTrac found that only 30 percent of the company’s business customers were prepared for the new requirement.

Different shippers will be impacted differently by the rule. Shippers that don’t control origin transportation within countries that they source raw materials or finished product from could feel little or no impact from the rule. For example if a shipper buys on an FOB (free on board) basis and thus don’t take control or ownership of the goods until after they are loaded on the ship at the port or origin, it would have no direct responsibility for complying with the rule. Of course if the seller fails to comply it could result in delays of the shipment which would in turn affect the shipper’s supply chain. Many retailers and consumer product firms buy from Asia suppliers on an FOB basis, meaning that complying with the SOLAS rule will fall to their supplier, with the only potential supply chain disruption being indirect. However many large retailers and consumer product firms buy on an ex-factory basis where they take control of the goods at the factory and are the shipper on the bill of lading, and thus would have responsibility for complying with the rule.

In situations where the manufacturer loads the container, the shipper - again the responsible party under the rule for providing the VGM - will have to leverage vendor-compliance tools and processes to ensure that the weight the manufacturer states for the bill of lading is the real weight that will hold up in an inspection. But this opens the door to risk; according to one shipper interviewed by JOC.com in January, “what goes on the paper might not be what is in the box, and that will leave us with a serious problem. We will have to enforce the rule at all our vendors.” According to some sources, China factories will be reluctant to invest in weighing equipment and overall are shrugging off the impending rule.

As the cost of a dedicated weighing operation and equipment on a per-container basis declines with more volume, certain shippers may, if their cargo and supply chains allow it, opt to establish their own weighing system — by securing weighbridges or setting up a lease arrangement with a local weighbridge operator, for example — in conjunction with their loading operations. But that will only make sense in certain, limited situations where shippers control the loading of their containers.

This may be particularly essential to time-sensitive operations and inventory systems, where additional steps in the logistics chain add to the potential for coordination mistakes and delivery delays. Shippers with less freight volume but still controlling their own loading operations might find Method 2 of the IMO rule (adding up components of the shipment with the container’s tare weight) more cost-effective than establishing their own container-weighing operation, particularly if the shipments tend to be uniform and consistent in terms of product and size.

In addition to volume, the type of load may affect the cost effectiveness for the shipper of Method 1 versus Method 2. Shippers with consistent cargoes — each container holds 45 70-pound boxes of widgets, for instance, day in and day out, no exceptions — might find Method 2 the most pragmatic option. Indeed for shippers of “always the same” loads, the weight verification requirement may become a simple paperwork exercise once the initial loads are established. Indeed, Method 2 allows for a scenario where repetitive cargo doesn’t have to get physically weighted and still comply with the rule. Under Method 2 it is allowable under the rule to sum up the weight of individual sealed cartons where the weight is known in advance and use this figure in the total weight calculation. In other words in this scenario the cargo doesn’t actually have to get weighed. This method qualifies “so long as the weight is clearly and permanently marked on the surface of each individual sealed package to be stuffed into the container,” according to a World Shipping Council spokesperson. “And then the weight of any bracing and securing material, derived by weighing such material, is added along with the tare weight of the container to attain the verified gross mass (VGM) of the loaded container.” For example, according to the WSC, “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 to the weight of the combined calculated weight of the packaging, pallets, packing and bracing material 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.” The WSC spokesperson added: “We understand this exception will apply to a very small percentage of the total cargo to be moved.” However, shippers have pointed out that cartons are made and the weight printed well in advance of the product being packed inside, which could lead to possible discrepancies in the weight of the finished product and its accessories under the Option 2 method. With thousands of boxes in a container, even small discrepancies can make a significant difference to the declared weight.
Method 1, however, may be the only option for other shippers such as exporters moving cargo that varies in weight, such as agricultural goods or loose-packed scrap metal or wastepaper, where Method 1 is practically the only way to get an accurate measurement. This scenario also will be affected by whatever margin of error or variability allowance a regulating government imposes when implementing guidelines for enforcement of the weight verification requirement. There was still as of early 2016 little information forthcoming from national maritime administrations as to allowable variance levels from stated VGMs.

Some have speculated that Method 1 could be accomplished by weighing the truck that is hauling the container the port, given the prevalence of truck scales along highways to discourage overweight trucks that cause damage highways, and because some truck traffic is weighed in order to fulfill tax and inspection requirements. Also some marine terminals weigh incoming trucks with containers for purposes that include calculation of longshore labor benefits. But weighing the full truck is seen by many as an inadequate solution to the need to weigh the container to achieve compliance with the SOLAS container weight rule. How much truck tractors and container chassis weigh is uncertain, as these weights we have to be subtracted out to obtain a weight for the container, especially given the need to know for example how much fuel is in the fuel tank and how much that weighs.

The weighing equipment to be used must meet the applicable accuracy standards and requirements of the country in which the equipment is being used. There is no such thing as a “verified weigher” under the SOLAS rule. The only obligation under SOLAS for any party weighing a packed container is to use equipment certified by the relevant national standards. But some national standards depending on the country may get more specific, for example national maritime administrations may as part of their enforcement policies implement requirements applicable to owners of weighing equipment and could determine acceptable levels of accuracy of the weighing equipment used.

Like most business situations, the actual burden on the customer will depend on the economic leverage that can be brought to bear in its discussions with the carrier. In short, the bigger the shipper and the more important its business is to the carrier, the more likely it is that it will win accommodations for handling containers and complying with the IMO weight rule. Those accommodations will not include being able to ignore the rule, since the terminal and the carrier will face significant legal liability if they load a container unaccompanied by a VGM which then turns out to have played a role in an accident at the port or maritime casualty at sea.

For multinational shippers achieving compliance globally will involve coordination among multiple departments, everything from the initial brand design, to packaging, procurement, shipping and logistics. Ultimately the goal of large multinationals which seek 100 percent legal compliance throughout their operations, is to implement standard operating procedures on cargo weight that will stretch across all products made by a company, either in-house or outsourced.

For one global shipper interviewed by JOC.com, when preparing for cargo booking, the dimension and weight of the products will be captured in the shipper’s system and this will be used in the loading plan for the container. If the individual products do not have their weight on the box, as is often the case, the master carton will display the gross mass. Outsourced products pose more of a challenge for shippers as the vendors are often independent manufacturers. To ensure these suppliers provide the correct weight as required by the VGM rule, shippers plan to issue a set of non-negotiable procedures to be followed, such as requiring a loading plan for each shipment that will contain the relevant VGM. Strict compliance with shipper requirements will for many shippers become a pre-condition for outsourced vendors winning any production contracts.

Major companies moving significant amounts of traffic will likely be in a better position to defray the costs of the new rule through economies of scale, especially if using Method 1 outlined in the IMO rule (weighing the entire packed container). But large companies as of early 2016 were nonetheless expressing frustration as to how they will comply with the rule, with major issues like allowable variations from the stated VGM yet to announced by national maritime administrations or not being clarified by logistics service providers such as ocean carriers. Bjorn Jensen, vice president for global logistics at the consumer goods manufacturer Electrolux, reflected these sentiments on Jan. 7, saying “I am immensely frustrated, as is every other shipper I have talked to, by the near total lack of industry coordination, and indeed by the feeling I’m getting that even carriers have no idea how this is going to play out.”
Issues confronting marine terminals

For terminals the issues in complying with the SOLAS rule are significant. They include whether to offer weighing services, whether to allow through the gate containers for which no VGM has been received at the time of arrival, and assessing and monitoring the potential for congestion within their facilities due to any exceptions and re-handling of containers that have to be pulled from their normal flow from the in-gate through to loading due to issues with the VGM. Another issue will be working with national maritime authorities why may see the terminal as the best possible location to conduct spot checks of containers for possible violations.

Their issues don’t, however, include verifying if the VGM submitted by the shipper is accurate. The requirement is for the terminal (and container line) to ensure only that the VGM has been communicated in sufficient time to be used for stowage planning, and to ensure that no container for which a VGM has not been provided gets loaded. There is no legal obligation on the terminal (or the container line) to confirm the VGM communicated by the shipper, and there is no requirement for the VGM to be conveyed to relevant governmental authorities. There is also no requirement that the carrier or terminal operator weigh a loaded container for which the shipper has failed to provide the VGM, although as discussed elsewhere in this white paper some terminals will largely out of necessity provide weighing services.

Indeed as discussed earlier, a key issue confronting terminals is whether or not they should offer weighing services, given that the terminal is potentially well placed to handle weighing on behalf of shippers, given that all containers must flow through the terminal before being loaded on the ship. A potential extra revenue stream would be on offer for terminals who could offer the service successfully. But as of early 2016, there had been inconsistent interest expressed by terminals globally in offering weighing services. Terminals at Mumbai and Felixstowe in the UK are planning to offer weighing services. APM Terminals as a company have said it is considering introducing weighing services, at least at certain ports where it’s feasible, as a service to assist shippers of non-compliant containers to ensure containers can get loaded without delays, as this paper from the Port Equipment Management Association suggests. But many terminals as of early 2016, especially in the U.S., appeared to be shying away from the idea, believing that the investment in new or upgraded equipment is too risky given the potential that the process could add to congestion at the terminal and also given that achieving an incremental revenue stream from weighing services is far from guaranteed. For example, one U.S. terminal operator expressed the concern that the weighing service could over time get subsumed into its ongoing commercial relationships with carriers with the result that would have invested potentially large sums in new or upgraded equipment with nothing to show for it in terms of incremental revenue. Other concerns have been raised such as the inadequacy of scales at the terminal gate that weigh the entire truck with the container, since a highly inaccurate weight value could result once an estimate of the truck weight and unused fuel is subtracted from the scale weight. Also scale weights that result from the weighing of the full truck would be useless if the truck were carrying two 20-foot containers into the terminal. Some terminals like Maher at New York-New Jersey have said they will explicitly not offer weighing services.

As discussed earlier, in certain countries such as India, the situation at the marine terminal will be different. In other words, some terminals are very much planning to offer weighing services. For example, APM Terminals-operated Gateway Terminals India at JNPT at Mumbai, the largest terminal operator at the JNPT complex, said the terminal has put in place a “container weighing process for export cargo that allows safe, efficient operations as per actual weights.” It added, “APM Terminals Mumbai is the first Indian terminal with a container weighing process integrated within the terminal’s normal yard operations through their rubber-tired gantry cranes. The reported weights are recorded and certified in compliance to the Standards of Weights and Measures Act,” it said. Also indicating it will perform weighing operations at the terminal, DP World at JNPT said: We assure that all DP World terminals in India will be SOLAS compliant with its processes and equipment and ensure weighing capability to be harmonized with the local legislation well before the set date of implementation in order to provide weighing services to the trade. To future proof this we will integrate ‘Verified Gross Mass’ (VGM) with our existing Terminal Operating Systems (TOS), enabling the yard cranes to capture the verified weight of the container. The captured information will be integrated with the TOS to reflect during the transaction and to be further shared with concerned stakeholders.”

Some terminals, particularly in the U.S., have stated as a policy that they will not allow export containers through the gate unless the VBM has been received. The reason the terminals are adapting this position is their view anything that disrupts the flow of containers through the terminal and onto the ship will result in added costs and, importantly, possible additional congestion at facilities that are already struggling with congestion stemming from the growing presence of mega-container ships and the surges of containers they produce. Terminals also fear that containers without a VGM will have to be set aside within the terminal, resulting in extra handling and the need to set aside space, and that someone will have to pay the rehandling. Terminals are concerned that they may not be able to recover such costs. Thus, carriers and terminals at least in some locations are expected to be disciplined in their unwillingness to accept containers tendered to them without the required VGM documentation. For some shippers at certain ports and terminals, “the risk is your container won’t get shipped. It would be turned away from the terminal,” Global Shippers Forum secretary general Chris Welch told JOC.com in an interview in October, 2015.

On the other hand, in some regions, terminals are planning to allow in containers without the VGM and will be prepared to weigh the containers themselves. The DP World terminal at Felixstowe announced it will offer weighing services. In India at the large Jawaharlal Nehru Port Trust (JNPT) terminal...
complex at Mumbai, which handles a large percentage of the country’s containers, terminals are planning to be in a position to conduct weighing services, anticipating that many containers will arrive at the terminal gates without the VGM but will be logistically difficult to turn away. According to the DP World terminal at JNPT, “We will integrate VGM with our existing terminal operating systems, or TOS, enabling the yard cranes to capture the verified weight of the container. In a situation where a container vessel shows up at the terminal and the VGM is not provided by the shipper, then the terminal yard equipment will be capable of weighing containers and shall provide the VGM information upon request by the shipper and shipping lines.” In the UK, the DP World terminal at Felixstowe announced it also was planning to offer weighing services. According to Stephen Abraham, Chief Operating Officer of Port of Felixstowe: “The rules have the potential to cause significant disruption to export supply chains. To help avoid this we have decided to provide a service where export containers can be weighed at the port before being loaded.”

As an illustration of the difficulties in implementing the rule, terminals and container lines may in some cases be at odds in regard to the question of whether containers should be accepted through the gate, especially in situations where terminals are experiencing chronic congestion. As large customers of the terminals, carriers may exert pressures on terminals that may be reluctant to accept customers’ containers even without the VGM. “What does a terminal operator do when a box shows up and doesn’t have the right information in order to validate the weight? That is where a lot of the discussion takes place,” Ron Widdows, the former APL CEO who is now a consultant and chairman of the World Shipping Council told JOC.com in January, 2016. “Is a terminal going to take the box and then seek to get the information? Or are they going to reject the box at the gate for the lack of the information? There seem to be different views on how the terminal operators are going to behave in that regard.” Not all terminals even in the U.S., where terminals are viewing containers without VGMs skeptically, are expected to adopt a stringent “no VGM, no in-gate” position since some carriers at least at certain ports would likely see this as disrupting the flow of their customers’ cargo and making them less competitive versus other carriers whose VGM policies aren’t as strict. Accommodations will also likely have to be made for high-volume bulk agricultural exports such as soybeans or cotton loaded en masse at facilities nearby the port. At certain ports like New York-New Jersey where containers get weighed as part of the longshore labor competition scheme, questions are arising as to what impact variances to VGMs as determined by weighing at the port will have. But there is a bottom line wall through which containers won’t be able to pass. As a practical matter, whether or not a container lacking a VGM is allowed into the port, no container without a VGM will be included on the “terminal load list,” the list of all containers to be loaded provided to the terminal by the ocean carrier prior to the loading of each ship. There is no disagreement that containers for which no VGM has been received will not be loaded on the ship, as this would be a violation of national law in the country where the terminal is located and would subject the carrier and terminal to excessive liability in the event of an accident or casualty.

Some terminals, including many in the U.S. already weigh the combined container, chassis and truck and subtract out an estimated weight of the truck and chassis to arrive at a weight as required under Occupational Health and Safety rules. It is a valid question, according to industry sources, whether this weight, though less than fully precise given the estimated weights used for the truck and chassis, could become the VGM if the shipper were to authorize the terminal to produce the VGM on its behalf. However this process does not apply to containers arriving at a terminal for export via rail, so a separate solution would be needed for that cargo.

### Issues for national maritime administrations

National maritime administrations in each of the 171 countries that are members of the IMO are responsible for enforcing the SOLAS container weight rule within their countries. It is their enforcement efforts that will ultimately determine if or to what degree the rule will eliminate the threat to maritime safety from overweight containers. The rule is national law in each of these countries, giving the agencies considerable power, yet under the rule each country’s maritime agency has wide latitude in how to implement it and they need to communicate to the market how that will occur. The agencies need to determine what weighing methods will be allowed under Method 2, which allows for weighing of the contents separately from the container itself, with the two added together. They also need to determine what variation from stated VGM, say 5 percent plus or minus, will be allowed before a violation is issued after a spot inspection. They need to determine how, when and where they will engage in spot inspections, what staffing and equipment (such as weight bridges) will be required to conduct the inspections, determine the responsible party for the container, issue and collect fines. To efficiently enforce the rule an element of risk assessment - that is, narrowing down the universe of all containers to a manageable number of high risk containers that can be physically inspected - may be required. It would be helpful for the agencies to know in advance what the pro-forma weight should be for various types of commodities as this could all for an initial analysis of the weights for all containers being shipped to identify those most likely to be in violation, so that limited resources for physical inspections can be most efficiently utilized.

### Issues for container lines

Container lines, through their trade association, the Washington DC-based World Shipping Council, played a significant role in getting the container weight rule implemented. The rule is designed to end the practice of shippers tendering overweight containers to the carriers, resulting in maritime casualties that are dangerous or deadly to crew, and harmful to the ship and other cargo on board. Regardless of the intensity of enforcement of the rule across the 171 countries that as IMO members are implementing the rule, carriers are not expected to load containers for which
Implications of the New IMO Weight Verification Rule

no VGM has been provided. The liability is too great. “The carriers will have to comply with the law regardless of the challenges in getting the information and also in spite of what might be unequal or different approaches to enforcement globally,” World Shipping Council chairman Widdows told JOC.com in January, 2016. The carrier “who flaunts the rule; you wouldn’t want to be explaining to the authorities that you knowingly ignored the rule to benefit yourself in the market.” But although they will benefit from having fewer overweight containers on their ships, the ocean carriers face significant challenges in ensuring that fully qualified containers are able to be loaded without delay or disruption. There is a basic competitive challenge, since the carrier that makes complying with the rule easier could gain business at the expense of a competitor. Part of that effort will involve sharing information with customers that address their questions. At the very least carriers can’t simply push the full burden for obtaining the VGM back onto their customers, the shippers. Some customers will obtain the VGM by having their manufacturers, or forwarders weight the container, and thus will be able to provide a VGM to the carrier at the time or close to the time when the container is tendered. But others won’t have that capacity, and unless the container line wants to walk away from the business, it will by necessity need to get involved in assisting the shipper. There has been no suggestion, at least as of early 2016, that carriers will get involved in providing weighing services, but the carrier will need to get involved insofar as ensuring it receives the VGM, gets it into its own IT systems, and is able to provide it to the terminal that the container will move through en route to being loaded on the ship. For some carriers that will mean setting up a website tool that allows shippers to enter the VGM themselves. For other customers it will mean keypunching the VGM into their system. The IMO amendment provides wide latitude as to how the weight verification is communicated to the carrier, as long as it provides a “verified gross mass” and is signed by an authorized representative of the shipper (MSC.1/Circ. 1475, 6.1-6.3.2). This raises the possibility for multiple kinds of documentation and communications coming into the carrier for approval, from electronic relays from an exporter moving several hundred containers a week to a highway weight receipt signed by a trucker bringing in a single load from the hinterland. Standardization of communication is critical to efficient operations [11]. Work is underway to standardize some electronic communications, according to the World Shipping Council. [12] This will not cover all carrier-customer relationships, however. Ultimately, communication remains a commercial issue to be resolved between the parties, according to carrier groups [13]. The challenge to carriers stems from the fact that documentation is manual for half of the estimated 300,000 loaded containers that get shipped each day, according to Inttra, illustrating how far the industry has yet to go to become fully electronic in its interactions with customers. As of early 2016 an effort was under way that Inttra was a part of to create a new standardized electronic document solely for transmitting the VGM from customers to carriers. Also, the UN EDIFACT message standard described in this 85-page document has been published by the standards setting body SMDG, a nonprofit that develops and promotes UN/EDIFACT EDI-messages for the maritime industry and is an official Pan European User Group recognized by the UN/EDIFACT Board. But it’s not yet clear how universal the standard’s adoption will be globally and obviously it won’t apply to the significant amount of cargo whose documentation is currently submitted via hard copy, fax or other non-electronic means.

In a closely related issue, as discussed earlier this paper, carriers will also face challenges in working with terminals, at least in certain countries and regions. A key question facing carriers is if they haven’t received the VGM from the customer and provided it to the terminal, will the terminal will turn away the container, disrupting and delaying the flow of the customer’s cargo and creating additional handling and storage costs? Carriers in the U.S. were understood as of early 2016 to be pushing back against some terminals that had said they would not accept any container without a VGM. In the case of terminals like those at the JNPT complex in Mumbai that are preparing to weigh container within their facilities, carriers will try to ensure they don’t get stuck with the bill, and are able to pass the bill along to customers. But as of early 2016, carriers appeared on the defensive about the rule, knowing their trade association played a role in having it become law in the first place and not in a position to issue clear guidelines to their customers. This is resulting in at least some of the frustration experienced by shippers being directly at them. In the U.S., the role of mapping processes and determining the optimal compliance regime on behalf of all carriers was handed in January, 2016 to the Ocean Carrier Equipment Management Association, or OCema. This was the group that determined the process to enforce the 24-hour advanced manifest rule implemented shortly after the 9-11 attacks, requiring carriers to transmit the manifest to U.S. Customs and Border Protection 24 hours before the ship sails from the foreign port, which required information to be provided to carriers much earlier in the supply chain. Even though carriers will not load containers with no VGM, there are still ways they could ease the burden of implementing the rule for their largest customers. Most shippers moving a significant volume of cargo on a regular basis do so under service contracts with ocean carriers. Many of those contracts already contain provisions for demurrage and the handling of late or misdirected containers. Shippers, for example, sometimes are allowed a certain amount of container storage time at a marine terminal — known as “free time” — in exchange for committing a certain volume of cargo with that carrier. Such contracts may include provisions for containers without weight paperwork as well, especially for shippers using an all-in-one type of service from an ocean carrier operating a terminal facility as well. Lower volume shippers as well as those without contracts and procuring transport on an “as available” basis likely will face more costly situations, including shipping delays and demurrage charges for storing unloaded containers. Ocean carriers also may introduce penalties or surcharges for delivery of unweighed containers. (Surcharges are a common practice in the industry, ostensibly to offset higher costs of unforeseen events, such as fuel price fluctuations and port congestion).
Issues for forwarders and NVOs
Freight forwarders, non-vessel-operating common carriers, and other logistics intermediaries will have different demands on their services depending on the operation. For those forwarders that handle full-container loads on behalf of customers and don’t physically control the load but simply handle paperwork for the international processing and delivery of their clients’ shipments, the weight verification documentation should be part of the paperwork and instructions passed on from the shipper. Again, the rule itself suggests how this is done is a “commercial arrangement” between the parties, meaning that there will be little to no official guidance on how parties will have to interact with each other to ensure compliance. The big issue for forwarders, especially those which are the named shipper on the bill of lading on behalf of their clients, is indemnity: Is an intermediary indemnified in the case of a misstated weight relayed by its client? A strict reading of the amendment suggests the answer is no. Experts suggest this issue will have to be clarified by regulating authorities or litigated, although some NVOs in order to ensure they avoid liability are taking matters into their own hand in cases where they are the named shipper, by conducting their own weighing even if their ultimate customer provides the weight information. According to CaroTrans, a large NVO that consolidates less-than-containerload shipments into containers moved under its own bill of lading, it is taking steps to ensure that its own legal responsibility for providing the VGM is met. As of January, 2016 it was working closely with its customers. “Since there is not a uniform verified weight document we are creating our own and providing it to customers for them to complete and provide to us with the shipping document,” he said. “What we are doing is trying to review what will be best practice with our various (container freight stations) operations so we have proper measures in place when freight is received and that can be checked with what our customers provide us. We will be weighing cargo received into our facilities and verifying that the certificate provided by the shipper actually matches what was received into the CFS. In that way we will ensure accuracy and integrity of the weight we then declare, before it gets gated into the port, so we don’t run the risk of boxes getting short shifit because they exceed the verified weight.” Such intermediaries that physically take control of shipments and operate consolidation facilities likely will use Method 2, adding up the various shipments provided to them by their customers that up the fully stuffed container load. This raises the opportunity for an additional fees assessed on the customer, although market forces will determine the extent to which any additional fees will be feasible. Shippers using a third-party vendor to handle packing and loading operations may also face additional costs as logistics companies pass on the costs of establishing and operating a weighing process in addition to their regular services, again subject to commercial realities. How much of those costs get passed on likely will depend on the volume of business. Vendors are likely to lower costs for customers that commit a large amount of business with them. Overall, Many shippers use third-party logistics companies (3PLs) to pack and transport containers to ports. Therefore, it is fair to expect that contracts for contract logistics and freight forwarding services will be amended to reflect the VGM requirement. Shippers can expect 3PLs to try to assess an incremental fee to weigh containers. It is unrealistic to expect the shipper themselves to perform this work themselves in most cases since they lack resources, space and staff able to undertake the actual weighing of cargo or loaded containers. Therefore all 3PLs and freight forwarders will have to offer such services in some form, but in order to minimize supply chain disruption as the implementation date approaches in July, 2016, a customer should inquire early to be certain that the requirement can be met.

Summary
As of the publication of this white paper in early 2016, there was growing concern that implementing the rule could impact the flow of international trade and thus have economic consequences. Too many questions were being raised and answers not forthcoming quickly enough. Peter Friedmann, executive director of the U.S.-based Agriculture Transportation Coalition, which represents thousands of agricultural exporters, said that since complying with the rule could impact the competitiveness of U.S. exporters relative to exporters from other nations that he says may be lax in their enforcement of the rule. The group has approached the Federal Maritime Commission and members of Congress to express concerns that the rule is unworkable in its current form. For example, U.S. exporters of transloaded agricultural goods, that is, goods that are shipped to the coast via truck or rail and transloaded into containers, may be unable to provide the VGM to the carrier quickly enough to allow a smooth flow of containers through a terminal and on to a ship. For its part, an IMO source said in late January, 2016 that it was aware of no effort to postpone the effective date or implement a phased in approach. According to Friedmann, “Everyone who knows about how cargo moves from the origin and onto a ship knows that this thing is absolutely unworkable and will create unbelievable congestion unless minds who are familiar with how cargo moves are allowed to intercede.” But that said, there is no precedent for delaying an amendment to the SOLAS rule. The containerized shipping industry has in recent years adapted to other significant rules such as the U.S. 24-hour rule and Importer Security Filing, both of which required detailed information down to the individual shipment level to be provided to the U.S. customs agency 24 hours prior to departure of the vessel from the foreign port. But while that rule involved one, albeit large country, the U.S. and one enforcement agency, this rule applies to virtually all containerized trade and will be implemented by 162 maritime agencies, few of which have much experience with the end-to-end containerized transportation system that the rule will affect.
Landing page with links to all of the extensive JOC.com coverage of the SOLAS container weight issue:
http://www.joc.com/special-topics/container-weights

Extensive and continuously updated Q&A on JOC.com covering all aspects of the SOLAS container weight rule:

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