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CONTAINER WEIGHING EBOOK 2 - SEPTEMBER, 2016

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FROM THE **ONLINE EDITOR**



Five months have passed since the launch of PTI's very first container weighing eBook, and the response we have had has been excellent. The port and terminal industry saw a patchy implementation of the new container weighing regulation in the weeks following its enforcement on July 1, 2016; however, the insight and debate it has provoked is worth noting.

In this eBook, we offer a new perspective on container weighing, in which experts bring their expertise to the situation post-implementation in order to explain the challenges that are still present within the industry.

Key contributors include Trimble, who provide a comparison of the options available to ports to weigh containers. This idea comes in response to confusion as to whether method 1 or method 2 was the most effective for

declared the verified gross mass of a container.

Another key contributor to the second container weighing eBook is German carrier Hapag-Lloyd. The shipping company share their experiences of tackling the new rule and how it has had an impact on vessel operations.

Finally, we would like to welcome a new partner TT Club, our main sponsor for the eBook. I sincerely hope that you enjoy reading the eBook; and that it inspires you to share your experiences and insights.

Michael King
Online Editor





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TWISTLOCK CONTAINER WEIGHING SYSTEMS

A ROBUST AND ACCURATE WAY FOR GROSS MASS VERIFICATION

Beat Zwygart, Market Manager, Container Weighing,
Conductix-Wampfler, Salford, UK

In the first PTI Container Weighing eBook, published this April, 2016 the advantages and disadvantages of weigh bridges and twistlock based weighing systems have been outlined in detail.

Also, weighing systems installed on headblocks or in sheave pins versus spreader twistlock based systems have been discussed. One important fact to consider is that a weighing system installed on a headblock belongs to the crane, while a weighing system installed on a spreader is not a fixed part of the crane but of the spreader. The spreader can be removed to install, for instance, a coil boom or hook beam under the headblock. On the other hand, a headblock mounted weighing system does not allow determination of container load eccentricity as easily and as accurately as a spreader twistlock installed weighing system. It has already been voiced that

the next regulation which IMO will issue on container handling, will be on limiting the eccentric loading of containers which will require weighing systems with load eccentric measuring capabilities. The other evident disadvantage of headblock based weighing systems is the impossibility to determine the weight of each container in twin-lift applications.

I would like to elaborate on different possibilities of using spreader twistlocks to weigh containers and verify the gross mass. There are solutions with load cells around the twistlock or products with a sensor inserted into the centre line of the twistlock, like LASSTEC using fiber optic technology with a Fiber Bragg Grating (FBG), which provides high measurement accuracy, an ideal compensation for temperature variations and insensitivity to shock loads and electromagnetic interferences.

FIBER OPTIC TECHNOLOGY

The major advantage of fiber optic technology is the load measuring range of the sensor that ranges up to the breaking point of the twistlock. This is based on the fact that the Young's modulus of fiber is much lower than that of steel and therefore fiber remains elastic and can still measure a load while the twistlock is reaching its breaking point. Once the twistlock breaks, the fiber also breaks as it is glued into the twistlock. But this high measuring range still allows accurate container weight verification when a twistlock has been over-stretched and needs to be replaced. Over-stretching of twistlocks can happen when a container is accidentally lifted only on one side.

In addition to the accurate container weight, following operational signals can be sent to the crane PLC to give notice of hazards:

- One or more twistlocks are under no

load while lifting a container, e.g. when a twistlock is not correctly locked to the container

- A container is heavier than the maximum allowed weight
- A container is loaded beyond permissible eccentricity. This could happen as a result of load shifting during transit
- Snag loading. When lifting a container, there could be a so-called “snag” in a twistlock when e.g. one corner of a container is still locked to the container beneath or if the container jams in the ship cell
- Container dragging, which is when a corner of the unlocked twistlock gets caught in the container corner pocket after positioning and drags the container over the stack. This could happen especially within automated stocking yards
- No sensor signal, e.g. if a sensor or its wiring is defective

The central control unit of LASSTEC logs all load cycles and alarm events which involves several additional functions during the weighing process that contribute to the overall safety in the terminal.

1% ACCURACY

The resolution of the measuring points in the FBG sensor is from 40kg to 40kg increments. The twistlocks are “swinging freely” in the spreader to some extent, but it cannot be assumed that the pulling forces are always absolutely vertical. Containers might also be too distorted for the twistlocks to be perfectly vertical, resulting in a slight error. Thus, the system is specified to have a measuring accuracy in a static lift situation of +/- 1% at full scale or +/- 400kg over the complete measurement range (0 – 40 tons). A static lift situation means the machine or crane lifts the container up to a certain height without driving. In a dynamic situation, where the crane/machine lifts a container and drives simultaneously, the guaranteed accuracy is in accordance with the Maritime & Coast Guard Agency, UK (MCA). MCA stipulates +/- 400kg up to a load of 20 tons and +/- 2% of the actual load between 20 and 40 tons. For a container weighing 10 tons, this means an accuracy of +/-4%. At a load of 40 tons, this means an accuracy of +/- 800kg. Different cranes and machines cause different degrees of dynamic oscillations when picking up a container and heavy containers cause more oscillations when being picked up than light containers. Ship-to-shore cranes are certainly the coarsest applications in terms of dynamic oscillations. Every application requires a different mode and setting to determine the verified gross mass (VGM). Current tests in dynamic stacking yard applications have proven the LASSTEC system to be within +/- 1% accurate

of the actual load.

To guarantee an accurate weight verification over time, the zero load reading point is re-defined at each twistlock lock movement and set to zero. This eliminates the need to calibrate the system after a certain period of operation.

The alternative twistlock based solution to weighing containers is with a load cell around the twistlock which will be compressed when under load. The advantage is that load cells do not need to be replaced when the twistlocks are replaced; however, their measuring range is limited compared to fiber optic sensors. Shock loads can also damage load cells and plugs over time. Both systems have advantages and disadvantages which terminal operators need to evaluate, according to their optimal setting.

TOS INTEGRATION AND INTERFACES

The integration of the VGM into the terminal operating system (TOS) is an important element. 3 different pieces of information are required by the TOS:

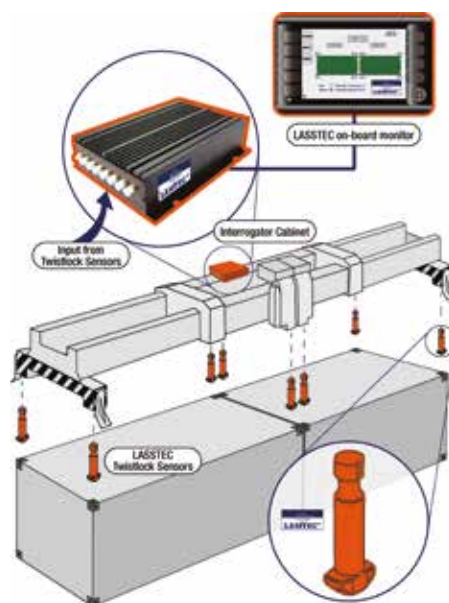
1. Verified Gross Mass
2. Container ID
3. Time Stamp.

The VGM and Time Stamp can be sent to the TOS in different ways. Either via the crane PLC, by TCP/IP from an on-board monitor in the crane cabin or through the Vehicle Monitoring Terminal (VMT) in the machine or crane.

While the VGM and Time Stamp are generated by the weighing system of the crane or machine, the terminal needs to be set-up to have the container ID available to combine it with the VGM and Time Stamp. For smaller terminals with Reach Stacker operations, where the TOS has no real time data about the containers being handled, Conductix-Wampfler offers keyboards which can be installed in the driver's cabin for entering the container ID and sending it to the TOS together with the VGM. For low volume container terminals, this is a very practical solution.

Another frequent requirement when weighing with Reach Stackers is to print out a “weighing” slip of the container being loaded. These weighing slips can then be added to the container manifest to serve as VGMs and also for invoicing purposes to the shippers.

As Reach Stackers are often used to handle exceptional loads such as flat racks which require Over Head Frames (OHF), it is important that these OHF tare weights can be deducted from the total load to be handled. There are a multitude of different OHF designs with different tare weights. The LASSTEC system offered by Conductix-Wampfler allows to deduct the tare weight of every OHF type and brand so that the net VGM is generated right when the load is being lifted.



ABOUT THE AUTHOR

Beat Zwygart is Market Manager Container Weighing at Conductix-Wampfler. He is the inventor of the patented LASSTEC Container Weighing System that uses the spreader twistlocks as load cells and was Managing Director of LASSTEC Sàrl that has been acquired by Conductix-Wampfler in September, 2013. Prior to establishing LASSTEC in 2008, Beat Zwygart was Director of the marketing company of ELME's crane spreader division that he founded in 1994 together with the Swedish mother company. Before joining ELME, Beat was 17 years with Caterpillar where he had several managerial positions in Geneva Switzerland, the US and in the Middle East, mostly for products used in the container handling industry. Beat Zwygart was born in Switzerland and has a degree in Mechanical Engineering. He is also a member of the ICHCA ISP Panel and of PEMA.

ABOUT THE ORGANISATION

Conductix-Wampfler is one of the world's leading suppliers of energy supply and data transmission systems for moving machinery and offers all available technologies and products to meet flexible and mobile energy and data transmission requirements, all from one source. Energy and Data Transmission Systems play a very crucial role in these operations and they receive special attention by the operators, as well as by the equipment manufacturers and consulting engineers.

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CONTAINER WEIGHING OPTIONS

A BUYING GUIDE

Simon Rush, Global Marketing Communications Manager,
Trimble, Auckland, New Zealand



There are many technologies available to port operations to achieve compliance with the new SOLAS amendment, including weighbridges and weighing systems for ship to shore container cranes, mobile harbor cranes, RTGs, straddle carriers, reach stackers and container handling fork lift trucks. Each of these options has pros and cons that will impact port operations workflow. Ports should consider the following criteria when considering options.

ACCURACY

Accuracy is generally defined as a margin of error from the true weight, either as a percentage (e.g. +/- 1%) or as a discrete error over the full scale (e.g. if the total range is 50 tonnes and inaccuracy is 1%, then the absolute weight inaccuracy is +/- 500 kg). This assumes correct operation of the system according to the manufacturer's instructions.

WORKFLOW DISRUPTION

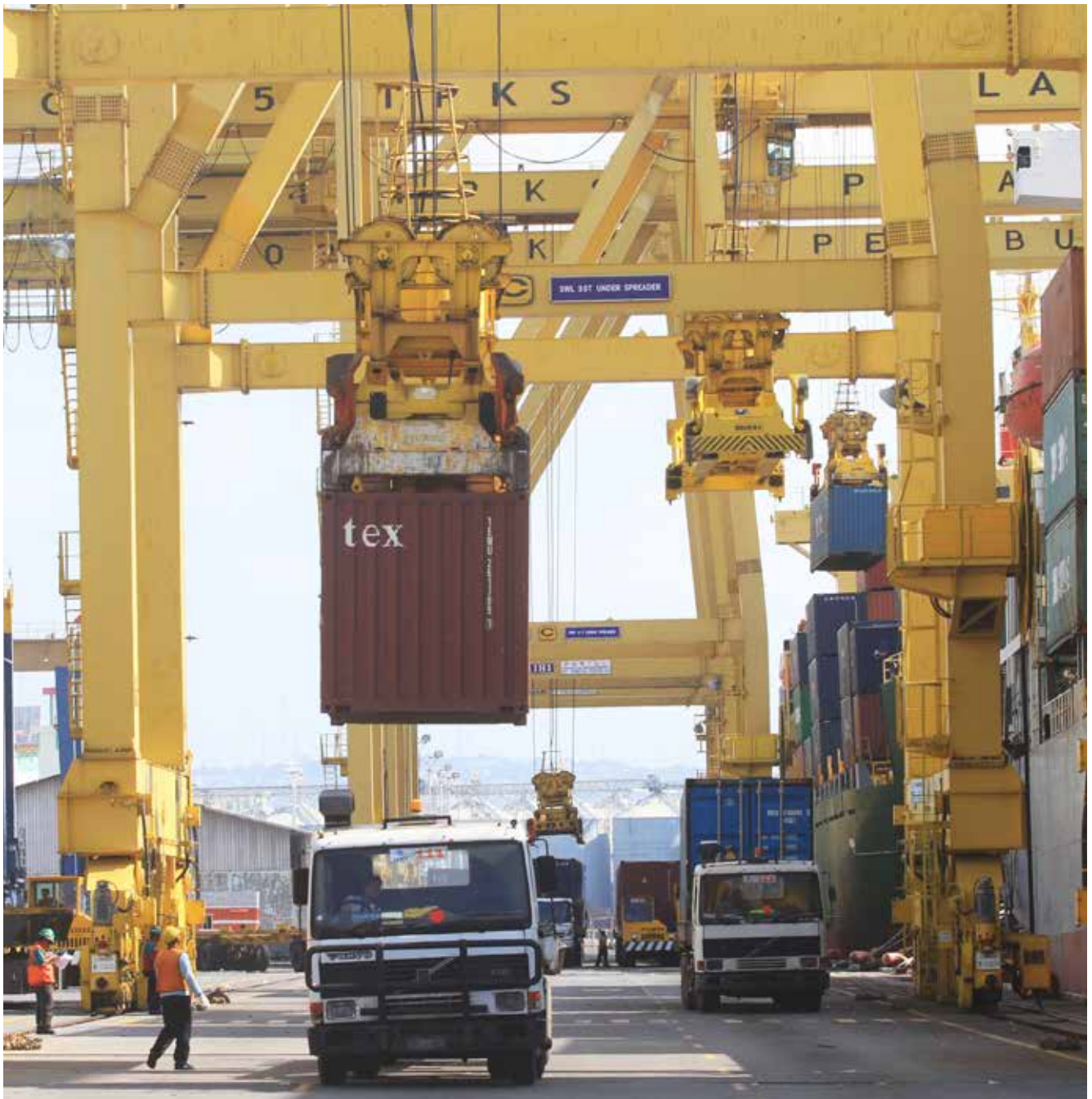
Ports should consider the entire activity of weighing as part of an overall workflow. The exercise of weighing is quite quick, but the supplementary activities may introduce delays or additional workload. When weighing, the systems will not only weigh the container, but in many cases all the hardware required to lift the container. A quay crane trolley operator will need to deduct the weight of the spreader and headblock, crane cables and ropes. Some reach stacker scale systems will have these pre-programmed so the operator can change out implements and automatically deduct from the total, which reduces human error.

Every container movement costs the port money, so reducing container handling as much as possible will reduce costs and lower the chance of misplacing the container. Weighing in the workflow should ideally be part of the standard operation, without interruption to the

operator or movements. When using weighbridges, ports should estimate the impact of additional return travel for the container to get to and from the weighbridge. During busy periods, line-ups at the weighbridge may cause delays that impact productivity. Allowing every container movement machine to measure weight allows more flexibility in the operation and prevents delays.

The actual event of weighing may also cause delays – technology requires that a machine comes to a complete stop in order to accurately measure weight. Across thousands of operations these pauses add up to losses in productivity. For example, some weighbridges require a truck to come to a complete stop to weigh. Axle weighbridges allow vehicles to weigh 'in motion' at speeds up to 9.5mph at a lower accuracy than a weighbridge: even this slowing of the truck causes a minor delay.

Containers must be individually weighed, so where multiple containers are carried,



they must be reloaded and weighed independently. Truck and trailers with two containers need to be separated as dual container lifters must be weighed one at a time. Additional movement of containers also creates a safety risk on the site that needs to be managed. Moving containers back and forth from a weighbridge may require containers to move from the stacking yard to the incoming access roads and thereby that could create vehicle congestion.

OVERALL COST OF OWNERSHIP

Installation costs for weighing technology varies, a surface mounted weigh bridge may add up to hundreds of thousands of dollars including the preparation of the

site, with ramps, pits and barriers. The land area required for a weigh bridge installation should also consider space required for turning circles, line-ups and a scale house and operator. A weigh bridge may also require additional staffing to operate, with on-going operating expenses.

When considering inland ports or small container depots, the cost of installation may be prohibitive.

SYSTEM LOCATION

Look for opportunities to be able to weigh a container as early as possible in your workflow, and also as late as possible in your workflow. This provides more flexibility and reduces interruption to your process. Across your operation, a number of technologies

may provide the best solution.

Weighing a container only when it is being loaded onto a vessel may be too late in the process as it becomes more difficult to update the ship stowage plan however it will allow verification of container weight and prevent any errors due to mis-declaration. Weighing the container as soon as it enters the facility may be a logical process, but may be more efficiently verified in the stacking yard.

COMPLEXITY OF INSTALLATION

Installation normally takes place during the purchase and delivery process of a new machine, and may be installed before the machine is delivered to the customer. Local suppliers of weighing technology should

Technology	Form factors
Weighbridge	Surface-mounted or pit-mounted weighing surface that weighs the entire vehicle
Load cells on ship to shore cranes	Load cells installed at rope ends on the crane trolleys or booms, in the sheave pins or rope system
Load cells on rubber-tired gantry cranes.	Load cells installed in the shafts of rope sleeves on the trolley or the rope anchors
Mobile harbour crane weighing system	Stability control for the crane depending on boom outreach, installed by manufacturer or after-market. Measure hydraulic pressure in the boom lift cylinders
Load cells on straddle carriers	Similar to container crane load cells systems
Reach stacker on-board scales	Pressure transducers measure changes in hydraulic oil pressure and sensors measure boom angle, boom extension and machine chassis angle
Container handling fork lift trucks (FLT)	Measure hydraulic oil pressure in the lift cylinders, or use load cells under the chain anchors
Crane spreader twistlock weighing systems	Measure load weight on crane spreader twistlocks

Figure 1: Weighing technology options

Weighing technology	'Legal for trade' available	Weighing accuracy	Workflow disruption
Weighbridges	Yes	0.2~0.5%	Disruptive
Load cells on ship to shore cranes	No	3-5%	Non-disruptive
Load cells on Rubber gantry cranes (RTGs)	No	3-5%	Non-disruptive
Weighing systems on mobile harbour crane (MHC)	No	5~%	Non-disruptive
Load cells on straddle carriers	No	5%	Non-disruptive
Reach stacker onboard scales	Yes	1-3%	Non-disruptive
Container handling fork lift trucks (FLT)	No	5~%	Non-disruptive
Load sensing systems using spreader twistlocks	No	0.5~1%	Non-disruptive

Figure 2: Weighing technology comparison

be able to cover all the requirements of the installation without the machine being out of action for more than a day. Ask your supplier if they expect to have a simple installation as without details of some machine components (e.g. RTG sheaves and shafts) additional complexity may be introduced during the review of the installation.

DATA COLLECTION AND REPORTING

All weighing technologies will have a method to capture the container reference and weight on a printed ticket or report. Some technologies will also centralise this data in a central store for future reference or analysis. Traditionally, these technologies will be software-based, now ports can choose to access data anywhere at any time in a secure centralised web environment that doesn't require the installation of software.

CERTIFICATION AND CALIBRATION

Container weighing technology must be certified if the weight data is to be used for commercial transactions, also known as 'Legal for Trade'. A certified system has to meet national regulatory requirements and the individual system has been tested

and approved by the local authority or companies designated to inspect the system. In some cases, this service may be performed by the installing technician.

Of all the weighing systems available, certifiable systems can include weighbridges and reach stacker scales. Ask your supplier to provide documentation that attests to certification or Legal for Trade status. To maintain certification the system should be re-tested at regular intervals to ensure that no inaccuracy has been introduced. Finally, when comparing options, consider the frequency and cost of recalibration.

COMPENSATION

Weighing systems are subject to a range of environmental factors (e.g. temperature change) and operator factors (poor lifting technique, incorrect operation) that may compromise accuracy. Hydraulic measurement systems may compensate for changes in the consistency of hydraulic fluid during an increase in temperature during the day, or remove errors associated with poor lifting technique. Ask your supplier about how the system can compensate for these potential issues in order to provide an accurate reading.

ABOUT THE AUTHOR

Simon Rush is the Marketing Communications Manager for Trimble Mining Weighing Division. He has five years' experience in the weighing industry across quarries, mines, civil construction, waste, ports and intermodal logistics. His background is in power electronics and construction, and lives in Auckland, New Zealand.

ABOUT THE ORGANISATION

Trimble applies technology to make field and mobile workers in businesses and government significantly more productive. Solutions are focused on applications requiring position or location—including surveying, construction, agriculture, ports, marine, fleet and asset management, public safety and mapping. Founded in 1978, Trimble is headquartered in Sunnyvale, California.

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CONTAINER VGM: ONE-MONTH IN

Captain Richard W A Brough O.B.E., Technical Adviser,
ICHCA International, London, UK



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It has been almost a month since the inception of the IMO's SOLAS Amendment, which require shippers to verify the gross mass of a packed container, which came into force on July 1, 2016. Prior to the event itself, many in the shipping community were in near uproar citing a lack of communication, a lack of wide consultation on the measures and a lack of individual government preparedness for this new law.

It is true that many national administrations had not yet declared their own rules and approach to VGM. A TT Club report estimated that only 15 to 20% of the many nations who are signatory to SOLAS had done so.

Coupled with that uncertainty was the requirement for equipment used to obtain VGM (by either Method 1; weighing the packed container in its entirety, or Method 2; weighing the individual cargo items, packing, packaging, dunnage and securing materials and adding the tare of the container) to be certified to the standards of the competent authority.

Some in the industry saw "tare weight" as a problem. Always written on the container

doors, some said, at a recent ICHCA seminar: "...do you mean we actually have to go outside and look at the door?" To counteract such negativity, the shipping lines have made tare weights available on their web portals and BIC have produced a database of all tare weights for ISO containers registered with them, so it shouldn't be difficult, should it?

Also the manufacturers of new or modified weighing devices, from weighbridges to twist lock sensors and everything in between were assuring us of their capability and that their equipment would do everything the industry needed (and some came with additional safety benefits), but would they be able to meet the certification requirements on time? This led to many in the industry placing their orders for such equipment very late in the day with obvious consequences to delivery schedules.

To further compound the issue, how accurate should that equipment be able to weigh? Some nations specified 2% across the whole range of weight, some like the UK, 2% to a certain threshold and then plus or minus an amount of kilos beyond that. Other nations plumped for 5%.

TOLERANCE

Next "tolerance" reared its ugly head, what did that mean compared to accuracy? It transpired that "tolerance" was the level at which a national administration might trigger its enforcement proceedings and issue penalties, either civil or legal and this ranged from £20,000 (US\$26,400) and/or a jail term in the UK, to somewhat lower penalties in other countries. In fact, the penal consequences of not complying with the VGM requirements in some countries has led to some large shipper groups suggesting that they would rather take the occasional "hit" than go to the expense of complying.

So what is that expense? Well, many ports in the US and the UK have now declared their charges for provision of VGM as have third party providers in the supply chain. Other ports are following. However, what appears to be causing concern amongst the shipper fraternity is the "add-on" charges that are being applied to shipments to process VGM data and more exorbitant charges if that data was not available in advance. Some charges came not from the ports themselves, but

Competent Authority News



Source: TT Club

from intermediaries in the supply chain. No doubt much of this will work itself out over the coming months, and this was the intent of the circular from IMO, not to delay implementation, but to allow time for the transmission of the VGM data through the chain, and more importantly to allow the passage of transshipment containers. Following the UK lead this was judged to be three months to allow all such containers to pass through to final destination.

INDUSTRY CONFUSION

The industry has been awash with questions and queries about the physical effects of this new IMO regulation, but was it that new? Well in fact no, there has always been an obligation on the shipper to declare the correct gross mass of the cargo. Unfortunately, just packing cargo into a steel box, regardless of nature of cargo or weight, is seen by some as a means to an end and the actual physical properties of that cargo don't amount to very much. Consider that 10 to 12% of all shipments of containers contain dangerous goods (remember Tianjin?), and you can see there could be a problem if that container's weight (or its contents) is mis-declared and stowed in the wrong place on board the vessel.

What is new is the requirement for the shipper to verify that mass and report through to the carrier (Master) and the terminal representative. The other part that was added was that there was an obligation on the Master and the terminal representative not to load the container to the vessel unless they were in receipt of a VGM or took other measures to obtain one.

Some saw this as the IMO "stepping ashore" and it should be focussed on marine matters. During deliberations at the IMO, which ICHCA were fully involved with, it was pointed out that the vessel has absolutely no control over the contents of the container and relies on its landside partners to get this right. The IMO also had precedence in previous legislation concerning port and ship security (ISPS Code) and bulk carrier loading and discharging (BLU Code – now part of IMSBC).

The IMO also played its part in development of the CTU Code (Code of Practice for Packing Cargo into Cargo Transport Units (CTUs) along with the other UN agencies involved, ILO and UNECE. This Code refers to VGM but is far more reaching and goes into great detail about how to pack various cargoes into a range of CTUs and looks at weight distribution, proper lashing and securing etc. Some argue that "eccentric" weight distribution inside a container is far more of an issue than weight alone, for example rail operators and stevedores who still have to utilise swinging jib cranes (mobile harbour cranes for example) to handle containers.

So, many thought that the container supply chain would grind to a halt on July 1, 2016 and world trade (60% of which is carried in containers – some 37 million of them) would stop, or at least suffer massive setbacks and bottlenecks. Did this happen? If it did – nobody told us.

The reality has been somewhat different, trade hasn't stopped, containers are not piling up in ports waiting to be either weighed or for a VGM to arrive later on,

in fact the casual observer wouldn't even notice. What has happened is that the industry, by and large, got its act together. ICHCA and many other organisations such as TT Club, the World Shipping Council, and the Global Shippers Forum, communicated. This was in the form of seminars, workshops, e-workshops and more. They fielded questions from members and others and published those FAQs for all to see: <http://ichca.com/download/verified-gross-mass-industry-faqs-june-2016>. They worked closely with the IMO and some national administrations and got the message out.

INCREASE IN SAFETY

It may not be that VGM is being obtained, properly, all over the globe today but we have made a major step forward towards improved safety. In some areas, no doubt, nothing has changed, some shippers will still be estimating the weight and calling that the "VGM" and transmitting it through without changing any of their practices. But there is now an obligation on national administrations to check and audit. Once the first penalties are imposed for non-compliance, that will start to ripple through the industry and make a secondary impact. It is always thus with new (and existing) legislation, unless it is enforced it doesn't mean very much.

Is enforcement always the answer? No not really, the UK's MCA has taken a new approach and expects the industry to behave responsibly, encouraging the "carrot" approach rather than the "stick". This is partly why they were keen to roll out quickly an acceptable approval



scheme for those wishing to use Method 2. It is also behind their drive at the IMO, which has been accepted, to highlight the roles and responsibilities of those in the supply chain with respect to the CTU Code (which embraces VGM as mentioned) and encourage that supply chain “mentoring” and “buddying”. If that fails, you will be prosecuted anyway of course.

CONCLUSION

In summary what is the difference, what has changed? Well the world is now waking up to this new requirement, land locked countries not party to SOLAS are asking how to comply (Burkina Faso attended ICHCA’s seminar having been unaware of the requirement previously).

Shippers are taking measures to ensure they can provide a VGM (some are still doing what they always did – but the net will close in) ports and third party providers are offering weighing solutions. Manufacturers are coming up with sophisticated and innovative means to obtain the VGM, and communications companies are offering transmission solutions. Industry organisations are communicating the requirements and how to deal with the anomalies, shipping lines are telling everyone “no VGM no load”, governments are preparing their response (if not already done so) and those that have not will eventually have to fall in line.

So, in effect, the legislators and industry have come together to make it work, after all it wasn’t the IMO that asked for this

initially, it was parts of the industry. Morally of course, some 60 years after the first containers carried their pioneering cargoes, we should know exactly what is inside, we should know what it weighs and we should be able to rely on the skill of the packer to ensure the cargo is packed and secured correctly.

What happens next? Well the iterative process will continue and we will move more to full compliance. No-one realistically expected this to happen overnight but as stated we have taken a major step forward. Our crystal ball reveals that if Method 2 compliance is lacking (and some nations are not going to audit this at all), and if we still have incidents with losses of containers, then the next call at IMO, some years down the road, will be for Method 1 only. This was the preferred option and the rest was a compromise. We shall see.

An issue of perhaps greater consequence, and empirical evidence is difficult, is poor packing and securing, the subject of the CTU Code. We see this increasing in prominence, as it should. At recent ICHCA seminars, many of those attending, were unaware of its existence, nor even that of the old 1997 Guidelines. For an industry that is about logistics and the definition of that is (in the non-military sense) “the commercial activity of transporting goods to customers” and some would add “in good time” or “right place right time”, there is not much point in the activity if those goods do not arrive in good and usable condition. Watch this space.

ABOUT THE AUTHOR

Richard Brough started his career in 1969 with the Merchant Navy, culminating in command level. After 20 years at sea, he came ashore and worked in various port and stevedoring management positions until 2004, when he established his own port and logistics consultancy. From 2008-2011, he also launched, ran and sold UK Port Services Ltd. Richard provides ICHCA International’s Technical Advisor service and is deeply involved in the association’s work with various international agencies and regulatory bodies.

ABOUT THE ORGANISATION

Established in 1952, ICHCA International is an independent, not-for-profit organisation dedicated to improving the safety, productivity and efficiency of cargo handling and movement worldwide. ICHCA’s privileged NGO status enables it to represent its members, and the cargo handling industry at large, in front of national and international agencies and regulatory bodies, while its ISP Technical Panel provides best practice advice and develops publications on a wide range of practical cargo handling issues.

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DIRECTOR AT GLOBAL BUSINESS SUPPORT AND
BUSINESS PROJECT MANAGER FOR THE GLOBAL
INTRODUCTION OF VGM AT HAPAG-LLOYD



Cristian Navarrete Celis, Director at Global Business Support and Business Project Manager for the Global Introduction of VGM at Hapag-Lloyd.

Cristian, effective July 1st VGM was introduced worldwide. Did you face major problems regarding the new regulation? How many containers have not been declared at all?

Defining and enforcing a "No VGM - no load" policy was not popular. We did not load containers where VGM was not declared. Customers told us that "other carriers" still do. On the first day, 200 containers were rolled or left behind due to missing VGM. Hapag-Lloyd took the regulation very seriously from the first moment which will help us in moving to the next phase very smoothly.

WHAT KIND OF CONSEQUENCES DID YOU TAKE IF CONTAINERS VGM HAS NOT BEEN DECLARED?

Our customer service teams actively works to trace containers that have their VGM missing prior to the defined cut-off. Containers missing VGMs after the cut-off have been rolled to the next available vessel. There could have been charges for the account of the cargo owner (i.e. storage, roll fees, among others).

THE INTERNATIONAL MARITIME ORGANIZATION (IMO) DID NOT DICTATE THE FORMAT IN WHICH THE DATA MUST BE TRANSMITTED. DO YOU SEE THIS AS AN ADVANTAGE OR A DISADVANTAGE?

We saw it as an advantage. It allowed the creation of a VGM specific message: VERMAS. VERMAS came out of the

joint efforts from industry key players (SMDG group of which Hapag-Lloyd is an important contributor) who also initiated updates to existing EDI messages.

WHICH TRANSMISSION FORMAT HAS BEEN PREFERRED BY THE CUSTOMERS OF HAPAG-LLOYD?

Hapag-Lloyd's own webVGM is the preferred channel used by our customers receiving 40% to 45% of VGMs, followed by VERMAS and VGM EXCEL. Our tools have received positive feedback for the simplicity of the design and usage.

WEIGHING ITSELF IS BASED ON NATIONAL CERTIFICATION AND CALIBRATION. DID YOU EXPERIENCE ANY MAJOR QUALITY DIFFERENCES IN THE DIFFERENT COUNTRIES YOU OPERATE IN?

It is a bit early to draw final conclusions. The first objective is to ensure that 100% of our cargo has its gross mass verified. The control is an authority matter and we see that countries are still working on the mechanisms. Our local presence and expertise is key in this case to identify what is required at each country.

DOES VGM REALLY MEAN THAT SECURITY AND SAFETY ARE INCREASED?

Yes. A correct VGM has benefits the entire supply chain, especially in terms of the safety of workers: knowing, as an example, that a container's verified weight is 30 tons; you take necessary actions to manipulate it and to plan its position which would usually be different if it would weigh 12 tons.

ARE THE SHIP AND THEIR CREWS NOW SAFER?

Certainly there is an understanding of the effort to ensure we can calculate the vessel's stability as good as possible. We know from experience: proper and optimal stowage leads to more safety for crew and vessel. Not only crews; all operators and people involved can now prepare their operations much better.

DID THE NEW VGM REGULATIONS SO FAR DELAY SHIP DEPARTURES – OR EVEN PREVENT THEM?

We had some incidents but support and actions were taken on time. Our management and staff took decisions on a case-by-case basis. It is important to emphasise that our underlying message is "no VGM - no load" since the first day, so from this point of view we would not delay a vessel, but instead not load the container that doesn't have the verified gross mass declared.

AUTHORITIES SEEM TO CONTROL/CHECK THE CORRECT WEIGHTS – WHAT KIND OF EXPERIENCES DID YOU UNDERGO REGARDING COOPERATION WITH DIFFERENT AUTHORITIES?

While some authorities informed about control, discrepancies and tolerances, most are still working on this. This is a general learning process, the spirit of the regulation is to improve safety by operating containers with better information and we see that this is on a very good way.



HOW MANY QUESTIONS AND COMPLAINTS DID YOUR CUSTOMER SERVICE FACE REGARDING THE INTRODUCTION OF VGM?

The volume of questions was incredibly high, higher than originally expected. Our teams globally had to act more as consultants for many of our customers and in some cases even work with local authorities in addition to caring about our own part as a carrier. Many face-to-face meetings with our customers took place, as well as conference calls. The main objective was to ensure compliance as of July 1. It really showed that sharing information internally and externally was a key success factor. It was very critical for us that all our staff would know about VGM at a very early stage for which information and internal trainings were specially created by the project team members.

HOW MUCH INSECURITY DO YOU STILL FEEL IN THE MARKETS AND WITHIN YOUR CUSTOMER BASE?

We did our homework. Our effort is to ensure we can have all our containers loaded with a VGM. We started with full enforcement from day 1 – and we did this globally. Today we have a 99% compliance rate, which means that most of our loaded containers are already 100% compliant. There is still a learning curve and adjustment phase for everybody- not only for us but for all stakeholders and some loose ends need to be adjusted.

ARE REGULATIONS STILL DIFFERING FROM COUNTRY TO COUNTRY? WHICH MAJOR DIFFERENCES DO YOU SEE?

As with any new global regulation that is left to each country to establish its own implementation guidelines, interpretation of how it should be implemented and enforced vary from country to country. Some countries have implemented special certification models, a specific requirement on how to declare, how the calculation can be done and even contents or text that shall be included in the declaration or transmission. This has an impact on doing the implementation on time but also to the customers. Global customers struggle to accommodate them into their processes as well.

WHAT WERE THE BIGGEST OBSTACLES AND HURDLES YOU HAD TO OVERCOME PRIOR TO INTRODUCTION OF VGM?

We saw the industry reacting very late to the requirement; we had to work with players who underestimated the impact and understanding of the regulation which affected their readiness so we had to work on support, providing training and general information which has been needed to safeguard a very high compliance rate from day 1, where 95% of our containers starting transit that day were VGM compliant.

ABOUT THE INTERVIEWEE

Cristian Navarrete Celis graduated as Merchant Marine Officer from Chile's Escuela Naval Arturo Prat (Navy Academy) sailing from Trainee to Chief Officer for Compañía Sudamericana de Vapores (CSAV) in different trades on board of general cargo, reefer and container ships while also being commissioned to land side postings in planning, operations, personnel ship-management, terminal operations and logistics. After qualifying as quality and safety auditor, trainer and obtaining his Diploma in Business and Administration from the Business University Adolfo Ibanez he was posted to NORASIA in Fribourg, Switzerland working in operations from where he moved to Hamburg to work in CSAV's regional office in Operations, Commercial Logistics and Business Process Improvement where he and his team worked in several innovative projects for both the regional office and headquarters. After the merger between CSAV and Hapag-Lloyd in 2015 he has been working in the Global Business Support team of Hapag-Lloyd in Hamburg, Germany.

ABOUT THE AUTHOR

Nils Haupt started out as a law student at J. W. Goethe University Frankfurt before beginning his career as a freelance PR and copywriter. He then had a short stint as an editor and producer before carving out a career in PR and Marketing Communications. He has 12 years' experience in this line of work, and has more recently worked in Corporate Communications. He has been with Hapag-Lloyd since 2014, in which he fulfils his role as Head of Corporate Communications.

ABOUT THE ORGANISATION

With a fleet of 170 modern container ships and a total transport capacity of 952,000 TEU, Hapag-Lloyd is one of the world's leading liner shipping companies. The Company has around 9,300 employees at 365 sites in 120 countries. Hapag-Lloyd has a container capacity of 1.5 million TEU – including one of the largest and most modern fleets of reefer containers. A total of 128 liner services worldwide ensure fast, reliable connections between all the continents. Hapag-Lloyd is one of the leading operators in the Transatlantic, Latin America and Intra-America trades.

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