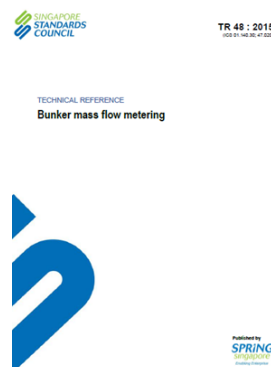


15 August 2016

**Service update:**      **The Changing Role of the Bunker Surveyor in a world of Mass Flow Meters****Applicability:**      **Ship Owners, Operators and Fuel Purchasers**

In our previous bulletin dated 11<sup>th</sup> July 2016, we advised that from 1st January 2017 it will become mandatory for all Marine Fuel Oil (MFO) bunker deliveries in the Port of Singapore to be made using Mass Flow Meter (MFM). No physical measurements on the bunker barge will be permitted unless agreed in advance between the buyer and seller. The use of Mass Flow Meter installed on barges aims to save time, eradicate aeration, and reduce the number of quantity disputes that are usually associated in using the current manual tank measuring method of quantifying the bunkers delivered or received.

The role of the bunker surveyor is changing to face the new challenges combining physical measurements on board the vessels and applying MFM operational procedures on board the bunker barges. A detailed technical reference for bunkering by MFM referred to as TR 48:2015 has been set as guidelines for all in the industry to follow. The MPA has also engaged vendors to conduct courses on TR48:2015 which is on-going for surveyors and to be current with MFM transfer.



Once MFM becomes mandatory in Singapore this coming January (2017), engaging a Bunker Quantity Surveyor to verify the delivered quantity will be more important than ever. Vessel's received quantities will still be finalised by manual measuring methods and compared with the MFM delivered quantity from the bunker barge. Relying on MFM alone does not guarantee that there will be no discrepancies. The Surveyor will need to ensure the mass flow metering system is verified and maintained on a continuous basis to minimise error. There are many other instances where the services of a surveyor will be required, not least in time of dispute where surveyors will still be required to investigate and report their independent findings.

There is also a possibility that the specific operational procedures for bunkering by MFM might be over looked by the vessel crew. This could be for a variety of reasons but principally through lack of in-depth knowledge of MFM functions or TR-48 guidelines. Engaging a surveyor who has been licenced by the MPA and trained with the in-depth knowledge of TR-48 requirements will be required to assist the vessel crew and for frontline checks to assure buyers that the metering system on bunker barges are properly maintained and not tampered with.

Quantity dispute cases with MFM deliveries should still be anticipated. In time of quantity dispute, the metered figures are final and binding and cannot be adjusted on the BDN on site for commercial settlements. Commercial settlements have to be dealt with separately between buyers and sellers. Upon coming to terms, a new BDN will be raised separately by the supplier, which will be filed together with the originally issued BDN for reference purpose. Surveyors will be trained in solving problems in case of quantity disputes and will assist the vessels crew as and when such situations arise.

**With the enforcement of MFM, the main duties of the bunker surveyor will be as follows:**

- Quantify the vessel's arrival quantities(ROB) manually thus helping clients to be aware of the exact amount on board, prior bunkering
- Check the actual measured reference height, with that stated in the vessel calibration table.
- Verify the originality of the vessel calibration table
- Check the barge Meter Calibration Record prior to bunkering
- Verify the barge Metering System Diagram and Sealing Points
- Ensure the barge has the Letter of Approval for custody transfer
- Verify the barge Meter Totalizer Log
- Ensure the actual seals are found intact and as stated in the barge System Seals Checklist, before and after delivery
- There is a possibility that all barge measurements will revert to manual measurements whenever any abnormality with the MFM is before bunkering. Such cases must be reported to the authority (MPA) immediately. The MFM cannot be used for custody transfer, until it had been verified by the authority.
- Witness the setting of the barge meter reading to Zero before bunkering
- Witness the barge meter's totalizer readings before and after bunkering
- Ensure collection, sealing and distribution of drip sample from the vessel manifold during transfer is closely monitored in accordance to Singapore Standards (SS600) requirements
- Obtain a copy of the barge Metering ticket at the end of delivery
- Calculate the barge meter delivered figure manually and compare with the quantity stated in the Metering Ticket
- Ascertain the vessel received quantity
- Able and ready to take immediate action in case of any meter breakdown during transfer
- Take further steps as required, to ensure the desired quantity is met for safe sailing to the next port
- Immediately notify the appointed party concerned of any discrepancy
- Investigate quantity differences, obtain the necessary documents and raise SOF (statement of fact) to support the appointed party, for any potential claims
- MPA licenced surveyors will also be trained to conduct zero verification and interpret the meter profile of the bunker operation, in time of dispute.

Although not yet mandatory, the use of MFM in Singapore has quickly become widespread. Our surveyors are already being utilised on deliveries using MFM so we have first-hand experience in their use. Although in general terms the accuracy of the MFM seems to be very good, we have seen incidents where vessels have received over 90 MT more than indicated by the MFM and other incidents where vessels have received over 40 MT less than indicated by the MFM. This highlights the fact that even with MFM being used, ship owners can continue to expect significant differences between barge delivered and vessel received quantities which most likely will require further investigation.

Short loadings are still common place and the density of the tested manifold sample is often found to be significantly lower than the density stated on the BDR leading to an overstated quantity. This underlines the importance of the surveyor witnessing the sampling operation during bunkering. One advantage of MFM was thought to be reduced time of quantity calculations before and after bunkering. However, our experience indicates that the time required for quantity determination is usually about the same.

Clearly the role of the Bunker Surveyor in Singapore is changing to meet the requirements of the MFM. Although the use of MFM is intended to save time, eradicate aeration and reduce the number of quantity disputes, the role of the surveyor remains to be an extremely important resource that we encourage our clients to utilise. The list of duties and checks that need to be made during a MFM delivery as detailed above are extensive and the assistance of a surveyor will both relieve the burden on the ship's crew and be able to offer impartial and independent advice should an unexpected situation arise.

Should you require further clarification or have any comments or questions, please contact us at [fobasbqs@lr.org](mailto:fobasbqs@lr.org)