

APR 2018

CUSTOMER CASE STUDY

More than just mass flow meters

INTRODUCTION

Beginning January 2017, the Maritime and Port Authority of Singapore (MPA) had enforced the mandatory adoption of MPA approved mass flow meter (MFM) systems for all bunker delivery activities in the port of Singapore. The implementation was widely perceived to be a significant step towards greater transparency, improved operational efficiency, and increased productivity within the bunker industry.

Given that the cost of bunker fuel makes up a significant component of a ship's operating costs, MFMs will allow operators to monitor and collect vital information on each bunker delivery. From which, they will then be able to assess the quality of their suppliers and better handle variances that may occur at the start of the bunker supply chain.



ACCURATE MEASUREMENTS

MFMs had become increasingly preferred over traditional forms of measurements due to its superior functionalities and benefits. With a direct measure of mass, density, and temperature, more reliable baselines can be established. The automated process of data collection from the start to end of each bunker delivery eliminates the need for human intervention, effectively reducing errors and improving accuracy.

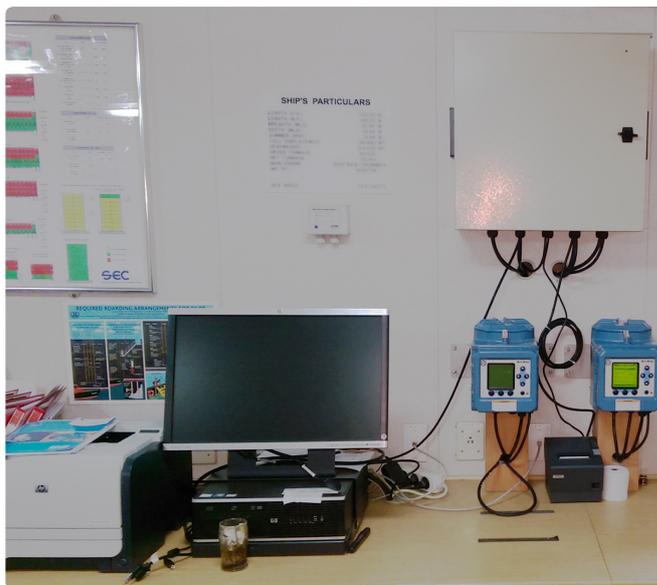
To ensure that accurate measurements are being obtained, it is important to match the MFM's sizing to its actual process conditions. This is to ensure that irregularities can be detected when parameters such as drive gain, density, or temperature falling outside the norm.

MPA had revoked the bunker craft operator licenses of Panoil Petroleum after unauthorised alterations were revealed to be made on board five of its bunker tankers, undermining the accuracy of the readings of the MFM system. Universal Energy too did not get its bunker supplier's licence renewed as they were said to have delivered bunker fuel with "too much air" and had "stoppages" during its bunker operations, resulting in false impressions of the total fuel delivery amount.

FILLING THE GAPS

MFMs alone, however, does not provide full traceability as irregularities will only be reflected at that point of time. As such, monitoring systems are often required to be paired with the system. Ascenz' Shipulse BunkerXchange HMI (BX HMI) complements the use of mass flow meters by providing a consistent and systematic approach to monitoring and assessing bunker operations. The HMI consists of an intuitive touchscreen interface that automatically captures shipboard sensor data and all bunker transactions. These bunker profiles are presented graphically and can be downloaded at the end of each delivery.

The BX HMI also presents real-time information of the bunkering process and triggers alarms when anomalies are detected. The live monitoring process allows ship operators to identify irregularities and determine if the fluctuations are justifiable. For example, a sudden spike in drive gain would mean that high levels of aeration were present. This could be due to intentional or unintentional air injections and may require immediate action.



A longstanding Northeast Asian sea transportation company had 15 of its vessels installed with Ascenz' fuel monitoring systems. During a bunker transaction, a discrepancy in readings arose between the company and its bunker supplier.

The company was able to easily pull out the necessary documentation from our HMI system to support its case. With the full breakdown and record of the bunkering process presented, they successfully won the bunker dispute against their supplier.



TRANSPARENCY & TRACEABILITY

With full traceability and insights on key parameters such as drive gain, temperature, flow rate, and density, more consistent readings can be collected. This significantly reduces errors and improves the overall system integrity and accuracy.

Accurate measurement allows ship operators and bunker suppliers to have better fuel inventory management and reduced fuel losses. This was proven to be especially true for one of our customers when met with a bunker dispute.

CONCLUSION

While the use of MFMs can help improve the accuracy of readings, it may not necessarily be enough. For enhanced traceability and transparency, it is best for MFMs to be complemented with fuel monitoring systems such as our BX HMI.

By understanding and gaining control of variances, ship operators and bunker suppliers can manage their bunker fuel inventory more efficiently and effectively. To date, Ascenz has fitted over 80 BX HMIs and done close to 100 bunker installations on various vessel types, building trust and improving transparency amongst bunkering partners across the world.

