

SEP 2017

CASE STUDY

Shipping giant reaps higher savings with accurate and transparent fuel purchase

INTRODUCTION

The global shipping industry is constantly facing a great number of challenges, from rising operational costs to increasingly stringent emission regulations. Energy costs are also seen to be escalating at a rate much higher than the revenue stream of most industrial fuel users due to the global fuel demand and supply issue.

With majority of a vessel's operating expenses being fuel related, operators have begun taking a more proactive approach in managing their fuel costs. In order to improve the bunkering process, it is crucial for operators to rethink their work flows and challenges. Operators may shift away from traditional procedures through the application of new systems and technologies to bring about greater efficiencies.

MASS FLOW METERS

The key is to attain accuracy and transparency during the fuel purchase. The Maritime Port Authority of Singapore (MPA) has taken the first step by adopting the mandatory use of mass flow meters for all bunkering activities in Singapore with the implementation of TR48.

Ascenz too encourages the use of Coriolis mass flow meters for accurate fuel measurements. Aside from being able to measure mass flow directly, the meter is often preferred due to its high accuracy and reliability. The meter is also capable of handling challenging fluids as it is independent of temperature and pressure changes. Although higher in initial costs, it does not require routine maintenance, poses lesser operational issues, and are factory calibrated.



DELIVERY TRANSPARENCY

Ascenz prides itself in delivering transparency for customers with our decision support systems. Since our incorporation in 2008, we have installed over 1,200 mass flow meters and managed close to 400 vessels around the world.

Our customer base includes container vessels, workboats, bunkers, and tankers. Among which is the China Merchants Shipping Company (CMSC), one of the world's largest energy transportation enterprise with a longstanding history of 145 years! A pioneer in China's shipping industry, the company not only owns the largest fleet of VLOC and LNG Carrier, but is also one of the largest logistics service provider in China.

For effective management of the fleet, it is critical for the company to manage their fuel consumption and costs. Without the right monitoring tools, losses incurred from measurement inaccuracies could contribute substantially to the company's overall expenses.

CMSC had its vessels first installed with Ascenz' systems in December 2014. Since then, the group had further extended the installation to 14 vessels. In ensuring the competency of our meters, readings of our bunker meters and the bunker barges are recorded and compared during each commissioning.

ASSURED RELIABILITY

CMSC's latest installation was done on its tanker, MT 7335*. During its first bunkering at the Port of Singapore, Ascenz decided to conduct the same competency test against an MPA approved bunker barge.

The following results were recorded:

	Start Date/Time	End Date/Time	Duration	Total Delivered
Ascenz' Bunker Meter	22-Jul-17 20:44:38	23-Jul-17 15:24:31	18:39:53	4081.472 t
MPA Approved Bunker Barge				4095.63 t
Difference				-14.158 t
Accuracy				- 0.35%

As a testament to Ascenz system's accuracy, the difference in measurement is well within accepted accuracy parameters. Bunker barges operating within Singapore are installed with MPA approved meters, which have gone through comprehensive assessments and calibrations to ensure that its overall expanded uncertainty falls within the acceptable tolerance range of 0.5%.

Similarly, all of Ascenz' supplied mass flow meters are tested for its high reliability. Measurement accuracies range from $\pm 0.1\%$ to $\pm 0.3\%$ of its actual flow rate and mass flow repeatability at $\pm 0.05\%$. As per the results shown, the difference was at a mere 0.35%

CONCLUSION

The mandated TR48 implemented in Singapore provides extremely stringent requirements to ensure bunkering accuracy with the use of Coriolis flow meters. As evidenced by the competency test, Ascenz bunkering system also provides the same level of high accuracy for bunkering measurement as with MPA standards.

With Ascenz bunkering system installed, crew on board are presented with a comprehensive overview of the live bunkering process. Any anomalies detected would automatically trigger an alarm, alerting the crew for immediate action. Onshore management staff are also kept aware of bunkering data, with GSM or satellite network connectivity.



The presence of our bunkering system provides full transparency and traceability while ensuring the conformity of both buyers and suppliers. The reduction in uncertainty allows companies to have better control over their fuel costs and allow for more informed decision makings.

By taking an active role in proper bunker measurements, shipping companies can potentially save up to hundreds of thousands of dollars from it!



*Vessel name has been changed to maintain privacy.