

## MEDIA RELEASE

**EMBARGOED UNTIL 7 NOVEMBER 2019, 1345HRS**

# **New Standard to Support Maritime Sector's Shift to More Sustainable Fuels**

MR No.: 070/19

Singapore, Thursday, 7 November 2019

1. The Singapore Standards Council has launched a new Singapore Standard, **SS 648<sup>1</sup> - Code of Practice for Bunker Mass Flow Metering (MFM)**, to enhance the operational aspects for MFM bunkering and support the changing needs of the bunker industry as it transits to a low sulphur fuel oil regime in January 2020 to meet International Maritime Organisation (IMO) regulations<sup>2</sup>. Harnessing technology and innovation, the use of MFM has led to numerous benefits for the bunker industry since its implementation. This includes improving the measurement process, increasing transparency, and boosting operational efficiency.
2. SS 648, the first standard of its kind in the world, has an expanded scope and application to cover marine fuel oil and distillates as compared to TR 48 developed in 2015. Replacing TR 48, the new standard supports the industry's shift towards environmental sustainability. SS 648 also includes new requirements for multi-meter installation, which will enable bunker suppliers to better meet the needs of bunker buyers by enabling the delivery of different grades of bunker fuels. This is achieved through the use of multi-meter systems that will reduce cross contamination with proper segregation.

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<sup>1</sup> SS 648 was upgraded from Technical Reference (TR) 48. TR 48 was developed to meet the urgent needs of the bunkering industry. The adoption of MFM had increased efficiency of bunker loading procedures, leading to a reduction of up to 25 per cent, or three hours from the original twelve hours required under manual processes for bunkering.

<sup>2</sup> Starting 1 January 2020, the new MAPROL Annex VI fuel regulation under IMO will come into effect in the maritime industry. The regulation caps the sulphur content in bunker fuel to 0.5% for all commercial shipping vessels, down from current 3.5% (except for Emission Control Areas).

3. Developed under the auspices of the Technical Committee (TC) for Bunkering<sup>3</sup>, managed by the Standards Development Organisation at Singapore Chemical Industry Council (SDO@SCIC), the development of SS 648 is an industry-led effort. The Working Group comprises key representatives from the bunker supply chain, including bunker suppliers/ tanker operators, bunker surveyors, ship owners/ buyers, and relevant authorities.
4. **Ms Choy Sauw Kook, Director-General (Quality & Excellence), Enterprise Singapore**, said, “SS 648 is a result of close engagement and dialogue sessions with stakeholders from the bunker supply chain to address new challenges that arose from practical usage following the implementation of TR 48. SS 648 supports companies in the bunker supply chain by ensuring bunker operations are trusted, efficient, and aligned to IMO regulations. Enterprise Singapore will continue to support MPA and industry stakeholders in maintaining the competitiveness of Singapore enterprises, enabling business growth in this sector, and strengthening our status as a global maritime hub.”
5. Maritime and Port Authority of Singapore (MPA) has reported bunker sales volume of 49.8 million metric tonnes (mt) in 2018, making Singapore the world's largest bunkering port. **Captain Daknashamoorthy Ganasen, Senior Director (Operations & Marine Services Division), MPA**, said, “To enhance integrity and transparency of bunker operations in the port of Singapore, MPA mandated the use of mass flow meter for the deliveries of marine fuel oil since 1 January 2017 and the deliveries of distillates since 1 July 2019. While we received positive feedback on quantity assurance, we continue to work closely with our stakeholders to prepare the bunkering industry for IMO 2020 and beyond. It is therefore important that the relevant standards, such as TR 48 and its upgraded version, SS 648 stay relevant and up to date.”
6. **Mr Darrick Pang, Managing Director of Metcore International Pte Ltd.**, said, “Over the years, the standard has provided local industry players a level playing field and the opportunity to export our MFM bunkering technical knowledge, skills and expertise beyond Singapore. Metcore International, collaboratively with Lloyd's Register, has certified over a dozen bunker tankers installed with MFM in Europe, the Middle East, Taiwan and Hong Kong. Moving forward, we expect more interest with the much

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<sup>3</sup> The TC for Bunkering is under the Chemical Standards Committee (CSC), one of the 10 standards committees under the Singapore Standards Council overseen by Enterprise Singapore, the national standards body.

improved SS 648 from our overseas partners and we are eagerly looking for the next opportunity to market Singapore's capability and proficiency in bunker fuel measurement.”

7. **Captain Samir Fernandez, Global Head of Commercial Operations, Maersk Oil Trading Singapore**, said, “The predecessor of SS 648, TR 48, has set the highest standards of transparency and accuracy for custody transfer of bunker fuels. It is not just about fitting a better piece of equipment, but aims to encompass a total system of trust within an industry otherwise fraught with ambiguity. The new Singapore Standard matches Maersk’s core value of Constant Care so closely that Maersk Oil Trading is aiming to become the first physical supplier in the world to enforce SS 648 procedures on our barges globally.”
  
8. **Mr Seah Khen Hee, Chairman, Technical Committee for Bunkering**, said, “Metrology and system integrity are the twin foundations of SS648 providing the base for MFM system approval and the bunker custody transfer process as detailed in the metering procedure. Extending these principles to bunker fuel transfer or delivery at oil terminals in a new Singapore Standard is the next major initiative to strengthen the Singapore’s bunker supply chain, and build trust and confidence in the Singapore bunker industry.”

#### **Annex A: About Standards and Technical References**

#### **Annex B: Bunkering-related Singapore Standards and Technical References**

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### **About SDO@SCIC**

In 2011, SPRING Singapore, now known as Enterprise Singapore, appointed SCIC as the SDO for the Chemical Standards Committee (CSC), one of the 10 Standards Committees under the national Standards Council administered by Enterprise Singapore. SDO@SCIC's key functions are to manage national standards development projects under the CSC and encourage greater industry participation and awareness of standards. The CSC oversees 109 Singapore Standards and its key areas include chemicals and processes, fuel oil bunkering, LNG bunkering, nanotechnology, petroleum processes and products as well as surface coatings. Please visit <https://www.scic.sg/sdoscic/> for more information about SDO@SCIC.

### **About Enterprise Singapore**

Enterprise Singapore is the government agency championing enterprise development. We work with committed companies to build capabilities, innovate and internationalise.

We also support the growth of Singapore as a hub for global trading and startups, and build trust in Singapore's products and services through quality and standards.

Visit [www.enterprisesg.gov.sg](http://www.enterprisesg.gov.sg) for more information.

### **About Singapore Standards Council**

The Singapore Standards Council (SSC) facilitates the development, promotion and review of Standards and Technical References in Singapore. This work is done through partnerships with the industry, academia and government organisations, under the national standardisation programme overseen by Enterprise Singapore.

### **About MPA**

The Maritime and Port Authority of Singapore (MPA) was established on 2 February 1996, with the mission to develop Singapore as a premier global hub port and international maritime centre (IMC), and to advance and safeguard Singapore's strategic maritime interests. MPA is the driving force behind Singapore's port and maritime development, taking on the roles of Port Authority, Port Regulator, Port Planner, IMC Champion, and National Maritime Representative. MPA partners the industry and other agencies to enhance safety, security and environmental protection in our port waters, facilitate port operations and growth, expand the cluster of maritime ancillary services, and promote maritime R&D and manpower development.

**About Standards and Technical References**

## 1) What are Singapore Standards and Technical References?

Singapore Standards (SSs) and Technical References (TRs) are in the form of specifications for materials, products, services and systems, codes of practice, requirements for interoperability, methods of test, management systems, guidelines, nomenclatures, etc.

TRs are pre-SSs developed to address urgent industry demand and are issued for industry trials over a period of time. Comments received during this trial period are considered when a TR is reviewed. TRs can become SSs after the trial period, continue as TRs for further industry trials or be withdrawn.

To ensure adequate viewpoints are considered in the development and review of SSs and TRs, committees and working groups set up by the Singapore Standards Council consist of representatives from various key stakeholders which include industry associations, professional bodies, academia, government agencies and companies. SSs are also put up for public comment before publication.

## 2) Why should enterprises adopt standards?

Standards can help enterprises to establish consistent specifications and procedures that can be easily understood and adopted. This ensures compatibility, simplifies production and product development, and shortens time-to-market. Enterprises can leverage standards to:

- Facilitate new growth and market opportunities
- Drive productivity
- Optimise resources efficiency
- Support safety and social needs

## 3) What is Enterprise Singapore's role in standards development?

Enterprise Singapore, as the national standards body, administers the Singapore Standardisation Programme. Together with our appointed industry-led Singapore Standards Council, we collaborate with key stakeholders from industry and government agencies to:

- Identify and develop new standards as well as review existing standards to enhance the competitiveness of enterprises and support social, safety, health and environment initiatives in Singapore
- Publish Singapore Standards and Technical References
- Represent Singapore at international and regional standards fora

For more than 50 years, Singapore has built up a robust Quality and Standards (Q&S) value chain that has helped to facilitate trade and strengthen Singapore's economic competitiveness and reputation for quality and reliability. The adoption of standards and use of accredited services have helped Singapore companies to improve productivity, reduce costs and meet international benchmarks for practices, systems and performance. Q&S continues to play an increasingly important role in the future economy. In addition to consolidating our position as a trusted hub for business, Q&S also plays a key role in supporting innovation and sustaining the competitiveness of Singapore's future economy.

Our Q&S activities have moved upstream to support the innovation process, to ensure alignment between new standards and the novel technologies, products and services which are being developed. This involves engaging innovation clusters, research institutes and

various stakeholders in the Q&S value chain. To date, over 2,000 Q&S partners have contributed to Q&S development in Singapore.

## Bunkering-related Singapore Standards and Technical References

Over the last 20 years, Singapore has developed and implemented a number of standards across the entire value chain for bunkering – from standards on bunkering procedures to increase transparency and reduce disputes, to the use of new technologies on mass flow metering which helps to increase efficiency.

Current bunkering-related Singapore Standards and Technical References are as follows:

### SS 600 : 2014 Code of practice for bunkering

This standard specifies the processes and procedures, requirements, roles and responsibilities of all parties concerned, for the delivery of bunkers by bunker tankers, including documentation, equipment standards and verification processes during a bunkering operation. It covers pre-delivery, actual delivery and post-delivery checks and documentation.

### SS 524 : 2014 Specification for quality management for bunker supply chain

This standard provides benchmarks for an effective and efficient quality management system for the bunker supply chain (QMBS) and consequently to serve as the standard for improvement of the performance of bunker suppliers.

### TR 56 : 2017 Technical Reference for LNG bunkering

**Part 1: General Introduction** provides the list of terms and definitions.

**Part 2: Requirements for custody transfer** specifies the custody transfer requirements for LNG bunkering including quality and quantity measurements.

**Part 3: Procedures and safety distances** covers the principles, requirements and procedures for LNG bunkering operations (truck-to-ship, shore-to-ship, ship-to-ship and cassette bunkering) and provides the recommendations for procedures, responsibilities and equipment required.

**Part 4: Competency requirements for personnel** covers competencies and knowledge required by LNG bunker personnel (management, operation, support and emergency) of 4 modes of transfer, to supply LNG fuel safely and efficiently to ships. It also specifies the appropriate training required to achieve the requirements set out in this standard.