Bunkering in Singapore
IBIA Annual Convention 2015

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Assistant Director
Bunker Services Department
Port Services Division
Agenda

Singapore: The Top Bunkering Port in the World

Growth of Singapore Bunker Industry

Singapore’s Regulatory Model

“Whole of Government” approach
Singapore’s Bunkering Standards
Regulatory Framework
Enforcement & Regulatory Checks

MPA Bunker initiatives

Mass Flow Metering Project
LNG Bunkering Development
Electronic Bunker Delivery Note
New Generation Bunker Tankers
Growth of Singapore’s Bunkering Industry
Maritime Port Authority of Singapore

A Statutory Board under the Ministry of Transport

Air

Sea

Land
Maritime Singapore

Contributes to 7% of Singapore’s GDP

home to more than 5,000 maritime companies

employs 170,000 people

WHAT MAKES SINGAPORE’S PORT ONE OF THE WORLD’S BUSIEST?

At any one time, there are about 1,000 vessels in our port

130,000 vessels enter our port annually

A ship leaves or arrives Singapore every 2-3 minutes

It’s WELL-CONNECTED...

Connected to more than 600 ports in 120 countries

TOP FOUR container ports in 2015 (FEI2)

- Shanghai 31.6 million
- Singapore 32.6 million
- Shenzhen 28.1 million
- Hong Kong 22.4 million

32.6 million containers are loaded and unloaded in a year

Put end-to-end, these containers measure 198,730km

That’s enough to go around the world 5X!

More than 1,066 tonnes of cargo are handled every minute

That’s the total weight of 22 blue whales!
Vision
A leading maritime agency driving Singapore’s global maritime aspirations

Mission
To develop and promote Singapore as a premier global hub port and an international maritime centre, and to advance and safeguard Singapore’s strategic maritime interests
Vision
Singapore: A Premier Bunkering Port

Mission
To be a Safe and Trusted Bunkering Port

Objectives
Promote and strengthen Singapore as a safe and trusted bunkering port

Safeguard the integrity and reputation of the Port of Singapore with regard to bunkering
Initiatives Since 1997

- **1997**: CP60, CP77
- **1998**: Accreditation Scheme for Bunker Suppliers, Certification of QMBS
- **2000**: Waiver of Port Dues for Double-Hulled Bunker Tankers
- **2004**: SS524
- **2007**: SS600
- **2008**: Enhanced Bunker Licensing Regime
- **2010**: 1st approved MFM system
- **2011**: MFM for MFO by 2017
- **2012**: Licensing of bunker surveying firm in 2017
- **2013**: LNG pilot project

Bar chart showing the growth from 1997 to 2014.
Singapore’s Regulatory Model
“Whole-of-Government” Approach

- Public issues becoming increasingly more complex and multi-dimensional
- Allow government to tap on diverse knowledge, viewpoints and ideas from across the public sector, with officers from different agencies coming together to broaden and deepen policy development, and to deliver services to citizens in a more synergistic way.

“The Government must deliver services efficiently, but efficiency alone is not enough. The Government must ensure that its policies are effective—by implementing the right policies, and devoting resources to the right priorities. This means consulting widely on its policies, adopting the right regulatory approaches, and responding flexibility to new challenges.”

Lee Hsien Loong, Prime Minister of Singapore, 2005
“Whole-of-Government” Approach

- Partners in developing the bunkering sector in Singapore:

  - Lead Agency and Competent Authority
  - Standards
  - Market Development and Promotion
  - Regulatory and Enforcement

Inland Revenue Authority of Singapore

MPA Singapore

National Metrology Centre

SPRING Singapore

Enabling Enterprise

SGMF

InterTanko

BIMCO

IE Singapore

Driving Singapore’s External Economy

EDB Singapore

CP+B

Swift and Sure

IBIA

The International Bunker Industry Association

SSA

Singapore Shipping Association

Partners in developing the bunkering sector in Singapore:
Regulatory Framework

59 Licensed Bunker Suppliers

59 Licensed Bunker Craft Operators

227 Bunker Tankers

330 Licensed Bunker Surveyors

63 Accredited Bunker Surveying Companies

MARITIME AND PORT AUTHORITY OF SINGAPORE

BUNKERING LICENCE

Maritime and Port Authority of Singapore (Port) Regulations, Reg 64

Licence No. 01243

Titan Bunkering Pte Ltd

Accreditation Certificate No. MPA/AS 96337

is hereby licensed to operate as

Bunker Supplier

to supply bunkers within the port limits of the Port of Singapore subject to the provisions of the terms and conditions of issue of the licence.

This licence is valid from 1 May 2013 to 30 Apr. 2014

Ang Chin Chin (Ms)
Assistant Director (Marine Services)
for Chief Executive
Maritime and Port Authority of Singapore
OBJECTIVES

- Raise standards of bunker surveying companies;
- Greater oversight on bunker surveying companies and bunker surveyors;
- Accompanied by a demerit point system for bunker surveying companies.

Present Situation Licensing Criteria

<table>
<thead>
<tr>
<th>Present Situation</th>
<th>Licensing Criteria</th>
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<tbody>
<tr>
<td>• No licensing regime</td>
<td>Accreditation to ISO/IEC 17020</td>
</tr>
<tr>
<td>• Bunker surveying companies need to be accredited by SAC as conforming to ISO/IEC 17020.</td>
<td>Company incorporated in Singapore with minimum paid-up capital requirements of $50k</td>
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<tr>
<td>• Licensed bunker surveyor have to be employed by accredited bunker surveying companies.</td>
<td>Applicant to have professional Indemnity Insurance coverage</td>
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<td></td>
<td>Directors and shareholders to meet MPA’s “fit and proper” criteria</td>
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Leveraging on technology towards increasing productivity and efficiency

38 bunker tankers approved to-date*

60 bunker tankers to complete tests by Dec 2015

>100 bunker tankers to completed test by July 2016

Towards mandatory adoption at 1 Jan 2017
## MFM 8 stage approval process

<table>
<thead>
<tr>
<th>S/n</th>
<th>Certification stages</th>
<th>Details</th>
<th>Endorsing party</th>
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<tbody>
<tr>
<td>1</td>
<td>Procurement of MFM system</td>
<td>•Registration with MPA (with submission of purchase order)</td>
<td>MPA</td>
</tr>
<tr>
<td>2</td>
<td>Arrival of MFM system</td>
<td>•Complete water calibration •Submission of documents to WMO by MFM vendors</td>
<td></td>
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<tr>
<td>3</td>
<td>WMO approval</td>
<td>•Level 1 and 2 approval</td>
<td>WMO, SPRING Singapore</td>
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<tr>
<td>4</td>
<td>Installation of MFM system</td>
<td>•Dock at shipyard/gas-free at anchorage</td>
<td></td>
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<tr>
<td>5</td>
<td>System Commissioning</td>
<td>•Development of tanker specific delivery procedure •Sealing of MFM system</td>
<td>MPA</td>
</tr>
<tr>
<td>6</td>
<td>Official Acceptance test</td>
<td>•3 full runs (Loading &amp; Delivery with MPA chartered bunker tanker)</td>
<td>MPA, Test coordinator and test surveyor</td>
</tr>
<tr>
<td>7</td>
<td>Data Verification of test result</td>
<td>•Test data verification</td>
<td>NMC, A*STAR</td>
</tr>
<tr>
<td>8</td>
<td>MPA approval of custody transfer</td>
<td>•Checking of documents •Lump sum payment of incentive, if applicable</td>
<td>MPA</td>
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</table>
MFM Standards Development

MFM Working group tasked to develop **Technical Reference**
- Target to be published in **Jan 2016**
Mass Flow Meter Delivery

Bunker Profile of operation
Mass Flow Meter Benefits

- **Enhance transparency** of the bunkering process
  - Critical parameters are displayed and recorded in real time to allow users to address abnormality on-site and reduce chances of disputes on quantity
  - Automated measurement of bunkers delivered reduces possibility of human error in calculation

- **Achieve greater efficiency** in bunkering operations
  - Reduces up to 3 hours or 25% reduction for each bunkering operation

- **Increase productivity** for maritime industry
  - Leads to quick turnaround / Port stay to receive bunker
Effective dissemination of Information

Increased Productivity

Increased Transparency

Real time information

Effective deployment of resources

MFM compatible

Reducing unintentional human error

Enhanced security in transmission

Reflect accurately amount delivery on MFM system

Timely reporting to all stakeholders
Next Generation Bunker Tanker

Increasing Productivity & reducing dependency on manpower through automation

**Automated bunker delivery system**
- Valves, pumps, cameras etc
- On-site and off-site monitoring

**Class approved Improved Mooring system**
- Shorter time required
- Reducing manpower required
Implementing LNG bunkering in Singapore

Staying at forefront of developments for all marine fuel and positioning Port of Singapore as a **Sustainable port**

1. **Adequacy of supply** for LNG in Singapore for bunkering needs
   - Launch of Request for Proposal (RFP) in July 2015

2. **To position Singapore as LNG bunker-ready port**
   - Develop bunkering standards and procedures
   - Harmonise Singapore’s LNG Bunkering Standards with global standards
   - Set up infrastructure for LNG bunkering pilot programme

3. **Growing demand** for LNG
   - Funding of $12 Million for LNG-fuelled vessel (up to S$2 Million per vessel)
SIBCON 2016 (Early Oct 2016)

More than 1600 participants
70 countries
53 speakers
45 sponsors & exhibitors

Overview of the global bunker industry with insight discussion on key topics

Global Sulphur emission cap
LNG bunkering
MFM bunkering and many more
Thank You & See you at SIBCON 2016