

TECHNICAL REFERENCE

LNG bunkering

– Part 4 : Competency requirements for personnel

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The content of this Technical Reference was approved on 31 March 2020 by the Chemicals Standards Committee (CSC) under the purview of the Singapore Standards Council.

First published, 2017

First revision, 2020

CSC consists of the following members:

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Deputy Chairman	: Er. Lucas Ng	<i>Individual Capacity</i>
Secretary	: Ms Elane Ng	<i>Standards Development Organisation @ Singapore Chemical Industry Council</i>
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Members	: Mr Goh Tiak Boon	<i>Individual Capacity</i>
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CSC set up the Technical Committee on LNG Bunkering to oversee the preparation of this standard. The Technical Committee consists of the following members:

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The Technical Committee set up the Working Group on LNG Bunkering Crew Training to prepare this standard. The Working Group consists of the following experts who contribute in their *individual capacity*:

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The organisations in which the experts of the Working Group are involved are:

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DNV GL Singapore Pte Ltd
FueLNG Pte Ltd
Hong Lam Marine Pte Ltd
Maritime and Port Authority of Singapore
Ministry of Manpower
Mitsui O.S.K. Lines (MOL)
PSA Marine (Pte) Ltd
Shell Eastern Trading (Pte) Ltd
Sinanju Tanker Pte Ltd
Singapore Maritime Academy, Singapore Polytechnic
Wilhelmsen Ships Service (S) Pte Ltd

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Foreword

This Technical Reference (~~TR~~) for liquefied natural gas (LNG) was prepared by the Working Group on LNG bunkering ~~comes in a series~~ crew training set up by the Technical Committee on LNG bunkering under the purview of ~~four~~CSC.

TR 56 consists of the following parts: under the generic title “LNG bunkering”:

- Part 1 : General introduction
- Part 2 : Requirements for custody transfer
- Part 3 : Procedures and safety distances
- Part 4 : Competency requirements for personnel

~~This~~In this revision, the following changes were made:

- Inclusion of a new element “recommended training methodologies”;
- Alignment of training requirements with the changes to TR 56 : Part 2 and TR 56 : Part 3;
- Revision of Clause 6, Clause 7 and Annexes A, B and C.

Acknowledgement is made to The Society for Gas as a Marine Fuel (SGMF) for their kind assistance in the ~~TR was prepared by~~ development of this Technical Reference and for their permission to reproduce/adapt the ~~Working Group (WG) on~~ works from the following SGMF Guidelines:

- SGMF Quality and Quantity – Contractual Guidelines (definitions into TR 56 : Part 1 : 2020 and clause 5.4 into TR 56 : Part 2 : 2020)
- SGMF LNG Bunkering ~~Crew~~Safety Guidelines (clauses 4.1.1 and 4.2 into TR 56 : Part 3 : 2020)
- SGMF Training ~~appointed by the Technical Committee on~~ and Competency Guidelines (definitions into TR 56 : Part 1 : 2020 and clauses 4.1 to 4.8 and clause 5 into TR 56 : Part 4 : 2020)
- SGMF Recommendation of Controlled Zones during LNG Bunkering ~~under the direction of the Chemical Standards Committee (CSC). The CSC endorsed the TR on 13 January 2017.~~(clause 4 controlled zones definitions into TR 56 : Part 1 : 2020)

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This TR is a provisional standard made available for application over a period of three years. The aim is to use the experience gained to update the TR so that it can be adopted as a Singapore Standard. Users of the TR are invited to provide feedback on its technical content, clarity and ease of use. Feedback can be submitted using the form provided in the TR. At the end of the three years, the TR will be reviewed, taking into account any feedback or other considerations, to further its development into a Singapore Standard if found suitable.

~~Acknowledgement is made to The Society for Gas as a Marine Fuel (SGMF) for their kind assistance in the development of this series of standards on LNG bunkering and for their permission to reproduce/adapt the works from the following SGMF Guidelines:~~

- ~~- SGMF LNG Bunkering Safety Guidelines ISBN 978-0-9933164-0-1~~
- ~~- SGMF Training and Competency Guidelines ISBN 978-0-9933164-3-2~~
- ~~- SGMF Quality and Quantity Contractual Guidelines ISBN 978-0-9933164-1-8~~

~~In this Part of the TR, Clauses 4.1.1 to 4.8.1 and Clause 5 of the SGMF Training and Competency Guidelines were adapted as Clauses 5.3.1 to 5.6.4 and Annex C in this TR.~~

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~~In preparing this TR, reference was also made to DNVGL-ST-0010 Competence of Shipboard Cargo Operators for Liquefied Natural gas tankers (2014).~~

~~At the time of publication, this~~ This TR is expected to be used by all stakeholders involved in the LNG bunker supply chain including LNG bunker suppliers, bunker tanker owners/operators, LNG fuel receiving vessels, ship owners/operators, training institutions, third party agencies and relevant authorities.

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