

SIGTTO NEWSLETTER

Issue 50: Autumn - Winter Edition

August - December 2023



Ian Revell
SIGTTO CEO

Happy New Year! 2023 was a very engaging and enjoyable period welcoming new and existing members to our knowledge sharing events and meetings.

It has been great to welcome eight new full members in 2023. We welcome Orion Global Transport France and, Jadroplov who joined us in the second half of 2023.

The Secretariat's hard work is making a significant contribution to industry safety thought leadership. At the IMO Sub-Committee on Carriage of Cargoes and Containers (CCC9), numerous position papers were submitted to the IMO working group developing the IGC code.

The Marine Environment Protection Committee (MEPC 80) resulted in a new ambition being set for the uptake of alternative fuels to represent at least 5% of the energy used by international shipping by 2030. In support of this, the Environmental Committee (EC) is working on the ongoing review of short-term measures and is prioritising consideration of mid-term measures to ensure the practicalities of the liquefied gas industry are taken into account.

Message from the CEO

In September, we held a dynamic General Purposes Committee (GPC) meeting and a fantastic Regional Panel in London. The panel addressed several safety challenges and a variety of excellent safety and environmental presentations were shared. A fascinating panel discussion on the important subject of Methane Abatement followed. Many thanks to all those who attended the meetings.

We have just published a joint industry publication with OCIMF, *Jetty Maintenance and Inspection Guide - Second Edition*. Upcoming publications include: *Carbon Dioxide Cargo & Gas Carriers and Liquefied Gas Terminals. Site Selection, Design and Operation of Marine Terminals*.

Due to significant GPC project completions, the Secretariat would like to encourage members to propose new working group topics in safety and future fuel vector safety. Please contact the Secretariat to discuss your potential proposals. We are always looking to enhance member participation.

It was a pleasure to meet members from around the world who joined our 44th Annual General Meeting, in London in November. SIGTTO also held its Autumn Board on the same day and had a productive meeting. We'd like to thank BP for sponsoring and organising such a seamless day!

We continue to develop our

Strategy Refresh. We look forward to sharing the strategy developments in 2024.

We welcomed Isabelle Bailey-Cowap in September, who joins us in the Business Support role. Many of you have already met her at SIGTTO events and she is enjoying getting to know you all.

I would like to sincerely thank the Secretariat for their excellent efforts throughout 2023 which has made a substantial positive contribution on behalf of our members.

We wish all our members and partners a safe, healthy and prosperous new year!

2024 Meetings

16th April, Houston

General Purposes Committee 88

17th April, Houston

Regional Panel

18th April, Houston

Environmental Committee 04

22nd May, Tokyo

Spring Board Meeting

8th October, London

General Purposes Committee 89

9th October, London

Regional Panel

10th October, London

Environmental Committee 05

24th October, Shenzhen

SIGTTO SE Asia -

Shenzhen Panel Meeting

Additional event dates in Korea and Greece TBC

London Regional Panel

SIGTTO held its Regional Panel on Wednesday, 4th October in London.

The morning's *Safety & Technology* session was chaired by the GPC Chair, Giovanni Giorgi of OLT Offshore LNG Toscana S.P.A., who was supported by SIGTTO CEO, Ian Revell.

The afternoon's *Methane Abatement* session was chaired by the GPC Vice Chair, Eleni Lazaratou of Maran Gas Maritime Inc., who was supported by SIGTTO's Ian Harrison.

After Adrian Ruiz, Technical Advisor, opened the panel with an update on SIGTTO activities, Emerson's Jean-Paul Boyer kicked off our guest presentations with work on tank safety valves, isolation and piping

Kåre Klock of DNV then presented on LNG and alternative fuels in gas carriers.

April Dickson of the Hydraulic Analysis Group shared on ESD system responses (surge) in tank-to-tank cargo, covering LNG, CO2 and ammonia.

HR Wallingford's Iain Gunn followed with a presentation on site selection for terminals

including LNG, CO2 & ammonia cargo.

After lunch, SINTEF's Anders Valland kicked off the afternoon session by sharing perspectives on the environmental transition in fuels, focusing on the role of natural gas and methane abatement.

Jonathan Martinez of Bureau Veritas presented on LDAR and recent business projects and was followed by Shell's Leonidas Koulouridis who shared how LNGC design could reduce methane slip with post-combustion treatment technologies.

The last presenter of the day was Christina Christopoulou of Lloyd's Register who contributed with an update on key lessons after one year of activity at MAMII.

The day closed with a panel discussion comprised of the afternoon speakers, allowing the audience the opportunity to engage in a lively discussion with them. Many questions were raised, touching on the various topics from the afternoon and providing an interactive close to the panel.

The next Regional Panel will take place in Houston on 17th April.



The London Regional Panel took place on 4th October

GPC Update

General Purposes Committee (GPC 87)

GPC 87 was held on 3rd October in London.

The GPC approved two documents: *Liquefied Gas Terminals. Site Selection, Design and Operation of Marine Terminals* and *Carbon Dioxide Cargo on Gas Carriers*.

Two new members were welcomed to the GPC - Eswynn Desouza (MISC BHD) and Guri-Anette Kjelgum (Höegh LNG AS).

GPC 88 is planned for 16th April 2024 in Houston.



GPC 87 was held in London on 3rd October

GPC Working Groups

Design and Operation of Liquefied Gas Terminals

Chaired by Guy Nicholls of Cheniere, the working group submitted a final draft for approval.

The document provides guidance on the site selection and design of liquefied gas terminals and operations during ship transit and at berth.

The document also highlights ways that the environmental impact of terminal design and operations can be reduced, including ways to reduce GHG emissions.

CO2 Safe Operations

A final draft was submitted and approved for publication.

OCIMF Jetty Maintenance and Inspection Guide

Final publishing processes are underway and the publication is available for purchase in [digital format](#) from Witherbys Connect. Physical copies will be available in January 2024.

carriers, EU ETS and FuelEU, Guidelines on Calculation of N₂ and the IMO MEPC GHG Agenda.

The next EC meeting will be held on 18th April 2024 in Houston.

EC Working Groups

Reduction of Methane Emissions from LNG Carriers

This project builds on the guidance in the new SIGTTO publication, *Detection and Reporting of Fugitive Methane Emissions from LNG Carriers* as part of a series supporting the IMO's goal of reducing GHG emissions.

EC Update

Environmental Committee (EC 03)

The EC met for the third time as a full committee on 5th October at the SIGTTO London Liaison Office. This meeting covered current Working Groups, projects and substantive items for consideration, and allowed members to consider detailed technical papers.

The items discussed included the application of the Carbon Intensity Index (CII) to LNG

The working group, chaired by Ajay Edakkara of Shell, is developing a document that outlines the main sources of methane emissions. They are working to provide guidance for reducing these emissions from LNG carriers during design and operations.

Reduction of Gas Carrier CO₂ Emissions

Chaired by Leonidas Koulouridis of Shell, this working group is building on the guidance in

the new SIGTTO publication, *Measurement and Reporting of CO₂ Emissions from Gas Carriers*.

This project will provide high-level guidance to assist the gas shipping industry in reducing CO₂ emissions. This covers the reduction of gas carrier CO₂ emissions during design and operations.

New Members

We would like to welcome the following new members to the Society:



Orion Global Transport France



Jadroplou

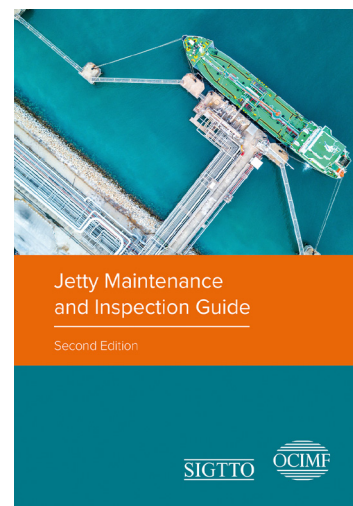
New Publications

This guide provides information on effective maintenance of critical items of equipment for both oil and liquefied gas terminal jetties. It advises on possible failure modes for each item of equipment and also discusses proactive and reactive maintenance strategies.

Reliable equipment at the jetty is vital for safe transfer of cargo between the ship and shore.

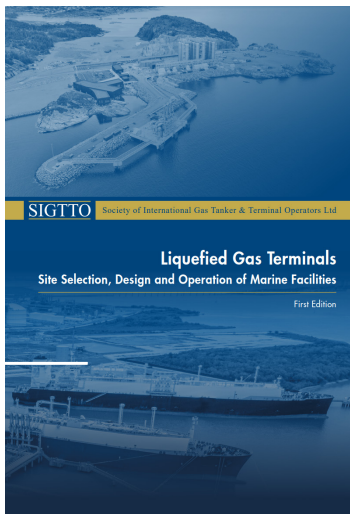
Maintenance of this equipment is particularly important because of the harsh environmental conditions often experienced.

This guide provides information on the basic function, failure, inspection, maintenance and repair of all the key equipment items and systems. It is not intended to provide guidance on safety management procedures or to replace the manufacturers' instruction manuals. However, it is designed to provide a description of a typical jetty and the likely faults that may occur if maintenance work is not carried out regularly.



Jetty Maintenance and Inspection Guide, 2nd Edition

Upcoming Publications



In 2018 at the 78th GPC session, it was agreed to revise and combine following publications:

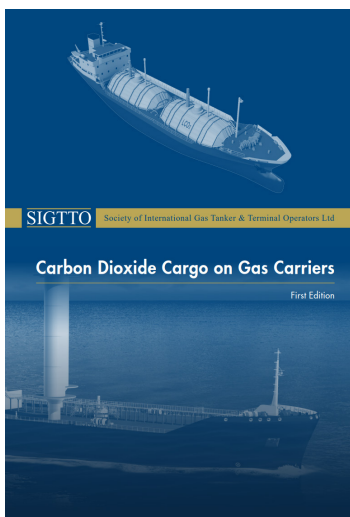
1. *Site Selection and Design for LNG Ports and Jetties* (1997)
2. *LNG Operations in Port Areas – Essential Best Practices for the Industry* (2003)
3. *Simulation Information Paper* (2010)
4. *Ship/Shore Interface for LPG/Chemical Gas Carriers and Terminals* (2018).

This update benefits from advancements in safety philosophy, technological improvements and lessons learnt. Products such as LNG, LPG, ammonia and CO₂ are covered by this document in response to the growing demand in the liquefied gas industry.

The aim of this document is to help communicate best practice on risk reduction measures for terminals that are designed using prescriptive or risk-based approaches. While this document does not advocate for one approach over the other, risk-based language is used to help communicate best practice effectively.

The recommendations in this document are written for organisations involved in the site selection, design and operation of liquefied gas terminals located onshore. Nearshore floating terminals that are within a port facility may also find this document useful. The document focuses on the marine aspects and equipment of a terminal that are directly related to gas carrier operations, such as cargo transfer, piping, controls and emergency response. In support of the IMO's Greenhouse Strategy, this edition includes discussion on reducing greenhouse gas emissions from ships approaching, moored alongside and leaving the berth.

Liquefied Gas Terminals - Site Selection, Design and Operation of Marine Terminals



In response to the growing demand for CO₂ carriers, the GPC agreed to start a new working group to address the safe transportation of LCO₂. This working group consisted of liquefied gas ship owners and operators, ship designers and Classification Societies.

The finished document provides high-level guidance to assist the gas shipping industry with the emerging carriage of LCO₂. This safety-focused review first identifies key properties of CO₂ and its hazards alongside other products that are commonly carried by gas carriers. Current liquefied gas regulations and guidelines are then reviewed with suggestions on what may be considered for LCO₂ shipping. Finally, this document provides design and operational considerations in context of LCO₂'s unique properties.

The efforts of this working group have produced guidance for organisations that are involved in the design and operation of CO₂ carriers and terminals. It does not provide specific information for ship or terminal design. Once the liquefied gas industry has more experience in the transportation of CO₂, additional information will become available.

Carbon Dioxide Cargo on Gas Carriers

IMO Activities

SIGTTO is very active at the International Maritime Organization (IMO) with primary focus on the revision of the IGC Code and the reduction of greenhouse gases (GHGs). In a recent bi-annual report to the IMO, SIGTTO displayed significant commitment as an active NGO. SIGTTO attended 20 IMO meetings, submitted and co-sponsored numerous papers supporting the IMO's safety agenda, and featured several IMO Secretariat staff as presenters at SIGTTO events, including the IMO Secretary General.

CCC 9

In a busy eight-day Sub-committee CCC 9 continued to work on the revision of the IGC Code, develop interim guidelines for hydrogen and ammonia as a marine fuel, finalise revised guidelines on the carriage of hydrogen, and began work on the revision of enclosed space entry guidelines.

Revision of the IGC Code

The revision of the IGC Code commenced at the last session in 2022 and work continued in an intersessional correspondence group (CG). This extended meeting allowed for extensive discussion on the CG report and associated papers submitted to this session, including four from SIGTTO.

The SIGTTO papers covered ESD systems, the isolation of PRVs, and the carriage of CO₂. All three papers brought the extensive experience of our membership, developed, and expressed through SIGTTO working groups and publications, to the United Nations forum. A fourth paper developed by the SIGTTO secretariat explored the history of filling limit requirements to inform the discussions on the revision of chapters 8 and 15 of the Code.

The revisions are extensive and further detailed information can be obtained from the SIGTTO



SIGTTO at the IMO

secretariat. Other items were referred to an intersessional CG for further consideration. The work will continue in the CG that will report to CCC 10 next year.

The aim is to finalise the revision to the Code at CCC 10 (September 2024), to enable approval and adoption with a view to entry in force on 1 January 2028.

Unified Interpretations (UI) of the IGC Code

Several UIs were proposed by IACS. Most were referred to the correspondence group for further consideration as UIs or potential amendments to the Code. A proposal on the testing of secondary barriers on membrane systems was discussed but not agreed and is likely to be further considered at the next session.

Alternative Fuels

Interim guidelines for hydrogen and ammonia as a marine fuel, in close alignment with the IGF Code, continued. Work will continue in an intersessional correspondence group with a view to further development and finalisation at CCC 10, and subsequent approval in 2025.

Carriage of Hydrogen

The Sub-committee agreed draft revised interim recommendations for the carriage of

liquified hydrogen in bulk, for submission to MSC 108 (2024) for approval.

Gas carriers carrying hydrogen should comply with the provisions of the IGC Code. However, chapter 19 does not specify minimum requirement for hydrogen. Hence the interim recommendations are intended to facilitate the establishment of tripartite agreements among relevant Administrations for the carriage of liquified hydrogen in bulk. They consist of three parts: Part A: General (applicable to ships with any type of cargo containment system); Part B: Cargo containment systems of independent cargo tanks using vacuum insulation; and Part C: Cargo containment systems of independent cargo tanks using insulation material and hydrogen gas in the inner insulation spaces.

Enclosed Space Entry

SIGTTO's proposal to CCC 8 for a minor amendment to the Revised recommendations for entering enclosed spaces aboard ships (resolution A.1050(27))' to delete the term "cargo compressor room" from the list of examples in paragraph 2.1 of the Resolution, had been referred to this session were a more extensive review of A.1050 was planned. The working group agreed to delete all the examples in the definition as part of the broader review. Work on A.1050 is to continue in an intersessional correspondence group.

MEPC 80 Ambitions

The revised IMO GHG Strategy includes enhanced ambitions to reach net-zero GHG emissions from international shipping close to 2050 and a commitment to ensure an uptake of alternative zero and near-zero GHG fuels by 2030. This aims to represent at least 5%, striving for 10%, of the energy used by international shipping by 2030. Further indicative check-points have been set for 2030 and 2040.

For further information please contact *ian.harrison@sigtto.org*

World Maritime Day

The IMO's World Maritime Day took place on the 28th of September at the International Maritime Organization Headquarters in London.

The evening celebration included live music and witnessed IMO Secretary-Generals past (Efthymios Mitropoulos), present (Mr Kitac Lim) and future (Arsenio Antonio Dominguez Velasco) coming together to celebrate the theme - 'MARPOL at 50 – Our commitment goes on'.

The theme highlighted the International Convention for the Prevention of Pollution from Ships (MARPOL), which covers prevention of pollution of the marine environment by ships from operational or accidental causes. The theme also reflected the organisation's long history of protecting the environment from the impact of shipping via a robust regulatory framework and highlights its ongoing commitment to this significant work.

"Navigating the future: safety first!" has been selected for the International Maritime Organization's 2024 World Maritime Theme, which will culminate in the celebration of World Maritime Day at the IMO on Wednesday, 26th September 2024.



World Maritime Day 2023 at the IMO

AGM & November Board

The 44th SIGTTO Annual General Meeting and November Board Meeting took place in London on Wednesday, 15th November 2023.

Ongoing SIGTTO activity and the future strategy plans for 2024 and beyond were discussed.

SIGTTO also welcomed four new board representatives:

- Jeroen Deelen (Bernhard Schulte Shipmanagement Limited) replacing David Furnival who recently retired.
- Hazrin Hasan (MISC Bhd) replacing Raja Sager Muniandy.
- Kazuya Hamazaki (Mitsui OSK Lines Ltd) replacing Kenta Matsuzaka.
- Junji Doi (Osaka Gas Co Ltd) replacing Nobushige Goto.

Thank you to our former board members for their significant contributions to SIGTTO's development.

AGM members from many different countries and companies joined us. We'd like to extend a thank you to them and to all full members who weren't able to attend who sent through proxy forms for voting.

We'd also like to say a big thank you to BP for sponsoring and organising such a seamless event.

We look forward to welcoming Board members to the Spring Board meeting in May in Tokyo.



Jeroen Deelen



Hazrin Hasan



Kazuya Hamazaki



Junji Doi

Industry Events



CEO Ian Revell co-moderating a panel on Advances in LNG Carrier Design and LNG Fuelled Ships at LNG2023 in Vancouver

The SIGTTO Secretariat engaged proactively across industry events during the second half of the year.

SIGTTO CEO, Ian Revell attended LNG2023 which took place in Vancouver in July. He co-moderated a session on *Advances in LNG Carrier Design and LNG Fuelled Ships* with Carlos Guerrero from associate SIGTTO member, Bureau Veritas Group. Speakers included: Andrew Bright from Poten & Partners, Ian McIver from Seaspan Corporation, Hongjun Fan from C-LNG Solutions Pte. Ltd. and Joong Hyun Chung from Samsung Heavy Industries.

Ian also moderated three panels at GasTech which took place from 5th-8th September in Singapore. These panels included a session on *Decarbonising Shipping, Alternate Fuels and Shipping Strategy*. During his time in Singapore, Ian also met up with many SIGTTO Chief Representatives and Board members from around the world.

The Secretariat supported various London International Shipping Week events which took place from 11th-15th September.

The week kicked off at OCIMF Day, where a full recap of OCIMF activity was shared. As SIGTTO is involved in much of this activity, it

own Secretariat and members have made and great to see so many familiar faces.

Other events included the ABS Sustainability Summit where new technologies and alternative fuel options were explored. Notably, the 15th Annual Capital Link Shipping & Marine Services Forum highlighted how to navigate through industry transformation and carbon reduction, and the Inmarsat Connected Future Conference hosted Helen Sharman CMG OBE, the UK's first astronaut as a guest speaker.

The J.P. Morgan Asset Management Reception offered industry insight from an investment and market perspective on how the Russian war in Ukraine will continue to act as a major source of disruption on commodity production, including natural gas.

The input from the *V. Sustainable Seas – Futureproofing the maritime industry* panel discussion offered decarbonisation insights to solve future issues facing the industry.

The Wake Media Ltd Marketing in Maritime 2023 event gave us an understanding of how SIGTTO can adopt AI systems to streamline communications. Its implementation would provide members with easy access to industry knowledge through a central information point. This aims to encourage further collaborative work through feedback by digitising and automating frequent Society updates.

SIGTTO would like to thank our members and industry partners for the opportunities to discuss collaboration and to share knowledge and experience at the respective events.

SIGTTO Academic

Partnership

SIGTTO would like to encourage future academic collaboration with more technical and business universities.

We are developing ways to improve our academic collaborations and increased participation means an ever-advancing programme.

As a pilot to increase industry academic partnership in 2023, SIGTTO teamed up with Warwick Business School at the University of Warwick to provide dissertation projects for a team of three FT MBA students.

The three students each chose an area of interest they felt would be beneficial to their studies, the Society and the LNG and LPG industry as a whole.

1. **Candidate:** Ochogni Fulgence Ikpe

Subject Matter: Knowledge Management

Dissertation Topic: *What are the key factors influencing the successful implementation and adoption of knowledge management practices within the LNG and LPG shipping and transportation industry, and how could these practices impact the overall performance and competitiveness of this industry?*

2. **Candidate:** Olubukola Adams

Subject Matter: Risk identification

Dissertation Topic: *How can SIGTTO enhance its risk identification and measurement function through the effective utilization of aggregated data from its members in the gas shipping industry, to foster improved safety practices and support*



WARWICK BUSINESS SCHOOL
THE UNIVERSITY OF WARWICK

and global decarbonisation?

3. **Candidate:** Iheoma Ogbonna

Subject Matter: Sustainability

Dissertation Topic: *Overcoming Barriers to Sustainable Energy Transitions in Maritime Gas Shipping: The Role of Innovations and Collaborative Strategies.*

Mr Ikpe achieved a distinction for his work.

With the help of SIGTTO CEO, Ian Revell, Senior Technical Adviser, Cherian Oommen, Regulatory Affairs, Ian Harrison, and Marketing Communications Executive, Melissa Dixon, the team were able to share enough suitable data to produce effective research work. Some membership insight was also included in their research.

We would like to thank the GPC Chair, Giovanni Giorgi of OLT Offshore LNG Toscana, in particular, for supporting and sharing his insights with the students.

The Secretariat enjoyed building this relationship with WBS over the course of 2023 and congratulations to all of the students on their success!

If you would like to be involved in future academic partnerships or collaborations, please contact Marketing Communications Executive, Melissa Dixon at marketing@sigtto.org.

Condolences

It is with deepest regret that we share the passing of our former colleague, Richard (Dick) Chadburn, following a battle with cancer.

Dick served as a SIGTTO Technical Adviser in the 1990s and is remembered in high esteem by all who knew and worked with him.

A live stream of the memorial service will be available [here](#) on Monday, 8th January 2024 at 11 am for anyone unable to attend in person.

Anyone wishing to share condolences with the family via post or email, please get in touch at reception@sigtto.org.



Richard Chadburn

SIGTTO

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