

SIGTTO NEWSLETTER

Issue 49: Spring - Summer

March - July 2023



Message from the CEO

Welcome to our member newsletter for summer 2023!

What a high energy start to the year it's been. It's been great to meet so many members during our Board, General Purposes Committee (GPC) and Environmental Committee (EC) meetings, and working groups in Singapore, Houston and London, and other industry events.

These meetings are all critical elements in how SIGTTO delivers its safety mission. It is also how we support the industry in reducing greenhouse gas (GHG) emissions. The knowledge exchange between members and the Secretariat is what makes SIGTTO so important.

The GPC is focused on the current project workload planning and also, sharing safety learning from industry experiences.

The EC is closely following the IMO's work on decarbonisation and welcomes the new 2023 Strategy agreed at MEPC 80.

As part of our core gas industry safety role, SIGTTO has been contributing to the review of the The International Code of the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), focusing on *A new Emergency Shutdown (ESD) cause and effect table (Chapter 18)*, *The isolation of pressure relief valves (Chapter 8)*, *CO₂ special requirements (paragraphs 17.21 and 17.22)* and *CO₂ Classification (Chapter 19)* and the technical background of Chapter 15 of the IGC Code on filling limits. We have also been preparing for the upcoming Carriage of Cargoes and Containers (CCC) meeting.

We have also finalised two new publications, *Guidance for Gas Trials on LNG Carriers* and *Recommendations for Valves on Liquefied Gas Carriers*.

We are currently developing a new strategy for the medium term with the board. This process will create a strategy to support existing and future members to facilitate a safe energy

Upcoming Meetings

3rd October 2023, London

General Purposes Committee 87

4th October 2023, London

Regional Panel

5th October 2023, London

Environmental Committee 03

November 2023, London

Date TBC

Autumn Board & Annual General Meeting

transition.

We look forward to hosting our next London event in October with an exciting Regional Panel. A draft agenda has been shared with members and is available on our website.

We are pleased to welcome our new Marketing Communications Executive, Melissa Dixon, to the Secretariat. She is anticipating meeting you in October and expanding the way we implement our marketing and membership approach.

We wish all of our members a great summer and look forward to connecting with you in the second half of the year!

Singapore Regional Panel

SIGTTO held its Regional Panel on 29th March in Singapore.

The morning's *Safety & Innovation* session was chaired by the GPC Chair, Giovanni Giorgi of OLT Offshore LNG Toscana S.P.A. The afternoon's environmental session was chaired by the EC Chair, John Boreman of BP Shipping.

After the Secretariat opened the panel with an update on SIGTTO activities, Saurabh Sachdeva, OCIMF's Publications & Advocacy Director, provided an update on work items at OCIMF.

Jose Navarro of Lloyd's Register then presented on the reliability of spare parts and maintenance in the context of new, alternative fuels.

Ashish Anilan, Sustainability Leader at Bureau Veritas, discussed various on-board carbon capture solutions for maritime decarbonisation.

Ian Harrison, Regulatory Affairs at SIGTTO, completed the morning session discussing what's next for the IMO on greenhouse gases. This topic lead naturally into the environmental

panel session, *CII and Beyond*.

Olav Angelo Lyngstad, VP Head of Fleet Performance and Compliance at BW LNG, kicked off the afternoon with a presentation on the anomalies for LNG shipping in the context of CII kicking off the afternoon session.

This was aptly followed by Ilias Soultanias, Managing Principal at ABS, and his presentation that explored the different options gas carriers have for complying with CII.

Jianjun Wang of Oneglobal Broking Hong Kong Ltd then spoke on marine insurance decarbonisation.

After a break, DNV's Senior Key Account Manager, Gustad Hormazdi, gave a final presentation on DNV's outlook regarding the EU's emissions trading system.

The audience was then given the opportunity to engage in a lively discussion with all the speakers. Many questions were raised, touching on the various topics from the afternoon and providing an interactive close to the panel.



The Singapore Regional Panel took place on 29th March

Houston Regional Panel



The Houston Regional Panel took place on 25th May

The most recent Regional Panel took place in Houston on 25th May.

The morning's *Safety & Innovation* session was chaired by SIGTTO's CEO, Ian Revell. The afternoon's *CII and Beyond* session was chaired by Ian Harrison, SIGTTO Regulatory Affairs. Ian Revell started the day with an update on SIGTTO activities and working groups.

Andrew Brown, Smit Lamnalco's LNG Project & Business Development Director, then presented on FLNG marine service operations.

Rafael Riva, Vice President of Client Relations at The Marshall Islands Registry, discussed the increase in the demand for gas and what challenges that brings to decarbonise shipping.

Chris Pfisterer, Lloyd's Register's VP Business Development, presented on methane abatement in maritime.

Bureau Veritas Marine & Offshore's Client Technical Services Manager, Maxime Le Poupon, discussed LCO₂ transportation by ship and onboard carbon capture.

LCDR Jason Ryu, National Technical Advisor, LGC NCOE of the US Coast Guard provided an overview of the Coast Guard's certificate of compliance program.

After lunch, the afternoon session, *CII & Beyond*, was opened by Daniel Wesp, Senior Principal Engineer, Global Gas Solutions of ABS, and his presentation on CII compliance options.

Jan Hagen Andersen, DNV Maritime's Business Development Director, presented on the IMO's Marine Environment Protection Committee's 80th session and the EU's emission trading system.

John Hatley, Wärtsilä's GM of Market Innovation, explored the CII metric challenges in his presentation.

Noah Silberschmidt, founder and CEO of Silverstream Technologies, completed the session with a discussion on how their air lubrication system helps address the CII challenge.

The event ended with a panel discussion focused on *CII and Beyond*.

GPC Update



GPC 86 was held on 28th March 2023

General Purposes Committee (GPC 86)

GPC 86 was held on 28th March in Singapore. During the meeting, the GPC provided feedback on two projects that reached concept draft stage: Design and Operation of Liquefied Gas Terminals and Use of LNG, LPG and Ammonia as Fuels.

The GPC also approved two new publications: *Recommendations for Valves on Liquefied Gas Carriers* and *Guidance for Gas Trials on LNG Carriers*.

GPC 87 is planned to meet on 3rd October 2023 in London.

GPC Working Groups

Use of LNG, LPG and Ammonia as Fuels

This working group held its most recent meeting in February. The working group is producing a document on the safety, environmental and operational issues associated with gas carrier propulsion systems.

The document deals with the International Gas Carrier (IGC) Code, the Energy Efficiency Design Index (EEDI), the Energy Efficiency Existing Ship Index (EEXI) and lessons learnt from incidents.

The working group received feedback on the

concept draft at GPC 86 and will submit a final draft for GPC approval in October 2023.

Design and Operation of Liquefied Gas Terminals

Chaired by Guy Nicholls of Cheniere, they are working to combine and revise *Site Selection and Design for LNG Ports and Jetties* (1997) and *LNG Operations in Port Areas – Essential Best Practices for the Industry* (2003).

The document provides guidance on the site selection and design of liquefied gas terminals and operations during ship transit and at berth. The document highlights ways that the environmental impact of terminal design and operations can be reduced, including ways to reduce GHG emissions.

The working group also received feedback on the concept draft at GPC 86 and will submit a final draft for GPC approval in October 2023.

Minimum Content for Training Courses

This working group held its kick off meeting on 21st March.

The working group was formed after a gap in training guidance was identified between *LNG Shipping Competency Standards* (2021) and *Suggested Quality Standards for LNG*

continued...

> *Training Providers* (2014).

The guidance from this working group will be written to fill this gap and provide recommendations on minimum subjects to include in a training course.

ERS

This working group held its first meeting on 19th June.

The working group was formed to revise *LNG Emergency Release Systems* (2017) to incorporate lessons learnt from incidents and bring it up to date with current best practice.

The group will examine all safety aspects of ERS operations with the aim of identifying possible root causes of ERS-related incidents and help prevent such incidents in the future.

New Members

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



BUMIARMADA

Bumi Armada Berhad



equinor

Equinor ASA



ENGIE Energy Marketing Singapore PTE. Ltd.



PACIFIC GAS

PG Shipmanagement PTE. Ltd.



REN Atlantico, Terminal GNL, S.A.



SNAM FSRU Italia SRL

New Publications

Recommendations for Valves on Liquefied Gas Carriers

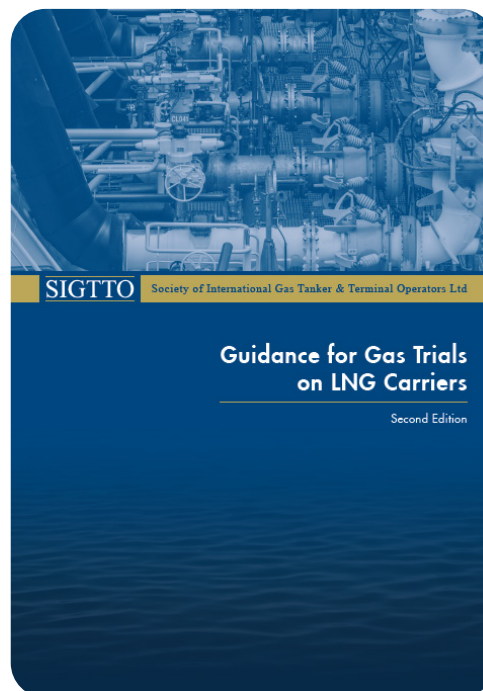
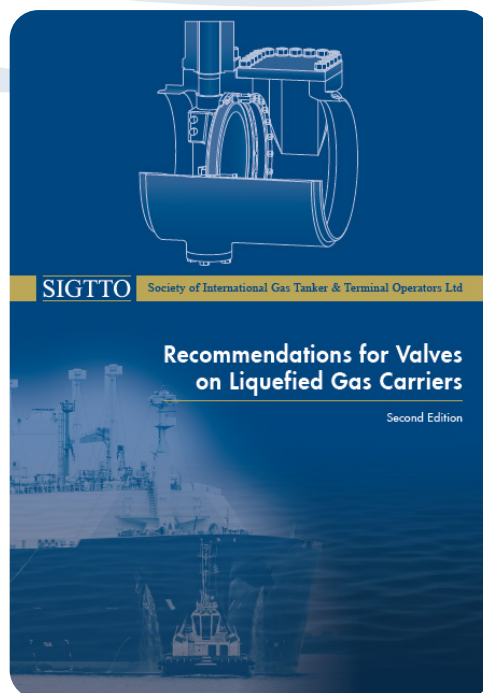
This document provides guidance to help reduce the likelihood of incidents, such as malfunction or valve damage. It provides recommendations for the design of valves and valve assemblies and the selection of materials. Maintenance and inspection recommendations are also provided, with an emphasis on support from the manufacturer and the robustness of the ship's planned maintenance system.

The guidance in this document is intended for valve manufacturers, shipyards and ship owners, with the aim to improve safety in the industry. In support of the International Maritime Organization's Greenhouse Gas Strategy, it includes recommendations to reduce carbon dioxide and methane emissions.

Guidance for Gas Trials on LNG Carriers

This document provides useful guidance for organisations involved in planning gas trials for LNG carriers. Although this document is written specifically for LNG gas trials, it may be helpful for other products.

The document covers all stages of a gas trial, including preparing the gas trial procedure, testing and discharge of LNG. A significant addition to this edition is guidance for minimising the environmental impact of gas trials. It provides examples of how system design measures, process changes and operational changes can be implemented to help minimise greenhouse gas emissions.



The 3rd edition of *Ship Vetting and its Application to LNG* is now available to purchase from Witherby Seamanship.

This publication provides recommendations on the vetting and clearance process for LNG ships, incorporating the use of the SIRE 2.0 programme as a risk assessment tool.

EC Update

Environmental Committee (EC 02)

The EC met for the second time as a full committee on 28th March in Singapore. This meeting built on an intersessional meeting, held on 14th February 2023, which allowed members to consider detailed technical papers they produced.

These papers discussed the application of the Carbon Intensity Index (CII) to LNG carriers, LNG bunker vessels and STS operations, and demonstrated SIGTTO's commitment to supporting the IMO's greenhouse gas (GHG) agenda. The EC began forming its policy on the review of the CII and prioritised other work on the IMO's GHG agenda.

The Committee is developing new ways of working within SIGTTO and will progress its agenda with additional intersessional virtual meetings and technical papers. The next EC meeting will be held on 5th October 2023 in the SIGTTO London office.

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. Methane and CO₂ are GHGs and these documents, as well as the CO₂ emissions documents, are part of a series supporting the IMO's goal of reducing GHG emissions.

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.

The working group met on 16th to 17th May and aims to submit a concept draft to EC 03.

Reduction of CO₂ Emissions from Gas Carriers

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.

Alongside the Reduction of Methane Emissions Working Group, this group met on 17th to 18th May and aims to submit a concept draft to EC 03.



EC 02 was held on 28th March 2023

IMO Activities

SIGTTO is 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.

IGC Code

After a successful CCC 8 meeting last September, work continues on the IGC Code revision in a correspondence group that will report to CCC 9 in September 2023.

SIGTTO is contributing to topics such as the incorporation of unified interpretations, ESD philosophy that draws on recommendations from SIGTTO's *ESD Systems (2021)*, LPG as a fuel in Chapter 16, and the carriage of CO₂ with guidance from the SIGTTO CO₂ Shipping Operations Working Group.

SIGTTO has also been working toward submissions to CCC 9 on filling limits (Chapter 15) ESD systems, the carriage of CO₂ and the isolation of pressure relief valves. The latter paper will use guidance from the new publication *Recommendations for Valves on Liquefied Gas Carriers*.

More information on this topic can be found on page 9.

GHG

SIGTTO is closely following the IMO's GHG agenda and attended the intersessional working group on the reduction of GHG (ISWG-GHG 14 and 15) in March and June, and MEPC 80 in July.



ISWG-GHG 14 met in March 2023, image by the IMO

At MEPC 80 Member States adopted the much-anticipated 2023 IMO Strategy on Reduction of GHG Emissions from Ships, with enhanced targets to tackle harmful emissions.

The revised IMO GHG Strategy includes an enhanced ambition to reach net-zero GHG emissions from international shipping close to 2050, a commitment to ensure an uptake of alternative zero and near-zero GHG fuels by 2030, as well as indicative checkpoints for 2030 and 2040.

In support of the IMO's efforts, SIGTTO's Environmental Committee is hard at work considering the IMO agenda. EC members are reviewing short-term measures, preparing for the development of pending mid-term measures, and drafting recommendations for the reduction of methane and CO₂ emissions.

For further information please contact
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IGC Code Revision

Since gaining observer status in 1982, SIGTTO has contributed notable work to the IMO. SIGTTO is continuously involved with amendments to and unified interpretations of the Code as it is maintained by IMO. Most significantly we played a leading role in the development of the extensively revised 2016 Code. It is a significant undertaking that SIGTTO recognises as necessary for the safety of the liquefied gas industry.

At the 8th session of the Sub-Committee on Carriage of Cargoes and Containers (CCC 8) in September 2022, several amendments on the IGC Code were accepted. These amendments will subsequently be endorsed by MSC, and a correspondence group is continuing discussions on further revisions. SIGTTO is active in all topics of the correspondence group.

At CCC 8, it was agreed to include clearer text on those areas subject to previously agreed Unified Interpretations of the IGC Code. A new cargo, volatile organic compounds (VOC) condensate, was also agreed. This amendment is also the subject of a CCC circular, *Carriage Conditions for VOC Condensate*, which was endorsed by MSC107 in June and published as CCC.1/Circ.5.

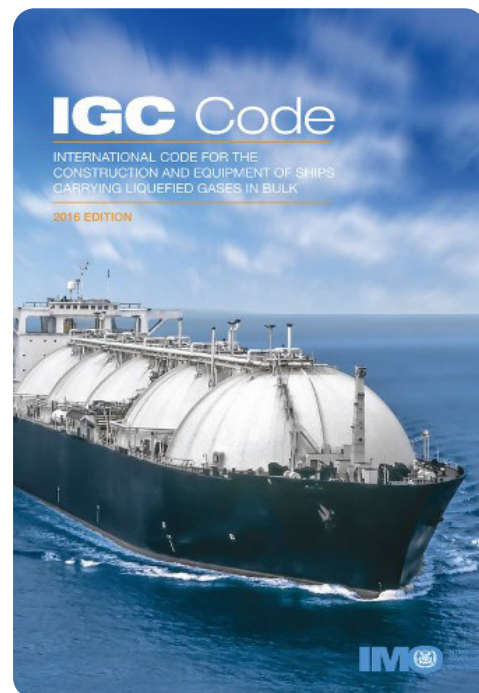
The CCC correspondence group is considering more complex topics, including alternative fuels given the growing decarbonisation efforts. The use of LPG as a fuel is being considered based on IGC Code Chapter 16.

The IGC Code will need to address complicated scenarios such as when a ship's gas fuel system is independent of its cargo system, ie a CO₂ carrier using LPG as fuel. The "one ship, one code" strategy aims to ensure that all requirements for cargo systems in the

system. With this strategy, the use of LPG cargo as a fuel would follow the existing gas safe philosophy on gas carriers.

SIGTTO's Use of LNG, LPG and Ammonia as Fuels Working Group aims to review the industry's current approach and provide useful information on the principles for risk mitigation.

At CCC 8, SIGTTO submitted a proposal to amend the IGC Code ESD philosophy to align with *ESD Systems (2021)*, which has been circulated within the correspondence group for discussion.



IGC Code, 2016 Edition

IGC Code are applied to a ship's gas fuel

CCC 9 is scheduled for September 2023 and SIGTTO has submitted further papers on:

- **A new ESD cause and effect table (Chapter 18)** - in CCC 8/10/2 (SIGTTO) proposed amendments to the Emergency Shutdown (ESD) system requirements in the IGC Code, including replacing "Table 18.1 ESD functional arrangements" with a *continued...*

> “cause-and-effect table”. The goal of the proposed cause-and-effect table was to give a clearer and safer guide to the design of ESD systems. One aim of replacing Table 18.1 was to reduce the number of potentially confusing notes, facilitated by using clearer text within the body of the Code itself. However, the proposed text in the CG report has increased the number of notes. SIGTTO’s submission to CCC 9 proposes a simplification of the table.

- **The isolation of pressure relief valves in (Chapter 8)** - the SIGTTO working group that developed SIGTTO Recommendations for Valves on Liquefied Gas Carriers identified several areas for improving the clarity of the IGC Code. It was identified that in implementing paragraph 8.2.9 of the Code, there may be a risk of installing isolation valves which can affect the safe operation of the PRVs. This mainly relates to: inadvertent isolation of one or more PRVs by human intervention; potential introduction of obstructions to the flow affecting the relieving capacity and stability of the PRV; and the potential for locked in cargo between the isolation valve and the PRV. SIGTTO’s submission to CCC 9 proposes amendments to make the requirements clear and mitigate the potential risks identified.
- **CO₂ special requirements (paragraphs 17.21 and 17.22) and CO₂ Classification (Chapter 19)** - CCC 8 considered documents CCC 8/10/1 (SIGTTO) and CCC 8/10/12 (Japan) and the correspondence group drafted amendments to Chapter 19 for consideration at CCC 9. The change to the classification of CO₂ in Chapter 19 to include toxicity as a main hazard will necessitate further consideration of which risk mitigation measures need to be applied through the Code. SIGTTO’s

other areas which the Sub-committee may wish to further consider.

- **The technical background of IGC Code Chapter 15 on filling limits** - Document CCC 8/10/8 (Japan and Norway) proposes an amendment to the IGC Code regarding requirements related to the reference temperature in chapter 15 and cargo tanks becoming liquid full. The working group at CCC 8 agreed the matter of a cargo tank becoming liquid full should be considered with other work as a whole package, which may have an impact on other sections of the IGC Code. It was agreed this work should be held in abeyance and further papers were invited for submission to CCC 9. SIGTTO has submitted an information paper to CCC 9 that discusses previous research and design principles that could be relevant to the ongoing discussions on IGC Code Chapters 8 and 15.

Environmental Focus

Environmental Policy

The changes to SIGTTO's articles of association have firmly placed the reduction of greenhouse gases (GHGs) on the Society's agenda. This is also evident in the recent Environmental Policy:

"SIGTTO recognises that environmental issues affecting the planet will impact future generations and supports the aims of the International Maritime Organization's (IMO's) Greenhouse Gas (GHG) Strategy.

SIGTTO will draw upon its expertise in gas shipping and terminal operations to assist the development and adoption of measures to protect the environment, specifically:

1. SIGTTO will support the IMO to develop and adopt measures to successfully achieve the goals set in the IMO's GHG Strategy.
2. SIGTTO will engage with IMO and other industry bodies to address any emerging technical and safety risks arising from these measures. SIGTTO will develop and deploy solutions to meet these challenges.
3. SIGTTO will instigate and share best practice to meet the IMO's GHG Strategy, and support members' individual efforts to fulfil these objectives."

Environmental Committee

The newly formed Environmental Committee actively supports the Environmental Policy's aims through ongoing work on measuring, reporting and reducing CO₂ and methane emissions. The Committee's primary focus remains on safe decarbonisation.

SIGTTO has already developed recommendations in the new publications, *Measurement and Reporting of CO₂ Emissions from Gas Carriers* and *Detection and*

Reporting of Fugitive Methane Emissions from LNG Carriers. This work continues in working groups developing further recommendations on the Reduction of CO₂ Emissions from Gas Carriers and Reduction of Methane Emissions from LNG Carriers.

Under the leadership of John Boreman of BP, the Environmental Committee met for the second time in Singapore in March. The main topic at this meeting was the consideration of anomalies with the IMO Carbon Intensity Indicator (CII) on LNG carriers. The agenda also included:

- Data Collection System (DCS)
- Energy Efficiency Design Indicator (EEDI)
- Energy Efficiency Existing Ship Index (EEXI)
- the revision of the IMO GHG strategy
- the development of mid-term measures.

The Committee also endorsed SIGTTO to co-sponsor an IACS led submission to the IMO. The submission proposes a new output to undertake a regulatory assessment of safety aspects associated with reducing ships' GHG emissions.

With much work still to do, the EC will continue to develop SIGTTO's policy and recommendations through correspondence and virtual meetings leading up to its next in-person meeting in London in October.

The Environmental Committee's ultimate aim is to build on SIGTTO's long-standing reputation of underpinning the safety of liquefied gas transportation, enable the IMO's GHG goals to be realised and support the wider energy transition through the safe and sustainable transportation of liquefied gases.

MARPOL at 50



MARPOL AT 50 OUR COMMITMENT GOES ON

The IMO's World Maritime Theme for 2023 is 'MARPOL at 50 – Our commitment goes on'.

The theme spotlights 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.

'MARPOL at 50 – Our commitment goes on' also reflects 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.

The 2023 World Maritime theme provides a great opportunity for the IMO Secretariat, Member States and observer organisations to celebrate the 50-year legacy of MARPOL, while also underscoring the IMO's dedication to build on the existing foundations as the maritime industry move towards a brighter future together.

To promote the theme more widely, Member Governments and observer international organisations are encouraged to organise, wherever possible, suitable events throughout the year and inform the IMO Secretariat as early as possible of any planned activities.

World Maritime Day is celebrated on the last Thursday of every September, on September 28 this year, to honour the tireless work of the international maritime industry workers.

Social media participation is encouraged via LinkedIn or on Twitter, by using the hashtag *#WorldMaritimeTheme* through the year and *#WorldMaritimeDay* for the celebration of the Day.

Photographs of the events can also be sent to: *media@imo.org*, CC in *marketing@sigtto.org* to contribute to future SIGTTO communication.

SIGTTO

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