

SIGTTO

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Andrew Clifton

General Manager & Chief Operating Officer

Society of International Gas Tanker and Terminal Operators Ltd.



Introduction to SIGTTO

- SIGTTO is a “not-for-profit” organisation
- The industry body for liquefied gas shipping and terminals
- Registered in Bermuda with London liaison office
- Membership of 190 from across the LNG/LPG industry representing:
 - About 97% of LNG tonnage and terminals
 - About half of LPG tonnage and terminals

SIGTTO Structure:

- Board – 20 Directors
- General Purposes Committee (GPC) – 35 members
- Ad hoc working groups
- London based secretariat with 6 staff





LNG Shipping Safety Record

- Almost 50 years of commercial operation (Oct 64)
- Over 70,000 cargoes
- No loss of cargo tank containment
- No onboard fatalities directly attributable to the cargo
- Estimated maximum amount of 40m³ spilt in total

An very impressive, in fact, unprecedented, safety record for the carriage of liquid hydrocarbons at sea in bulk.



How was this safety record achieved?

- Strong, overarching safety philosophy
- Robust design of equipment and systems
- Good operational & maintenance procedures
- High standards of training coupled with competency verification
- An ability to share lessons learnt and to develop best practices as an industry
- IGC Code developed based on actual experiences in the early days of LNG transport
- SIGTTO



IGF Code Timetable

- At BLG 17 (Feb 2013) the IGF Code continued in working group level
- Earliest possible adoption is at MSC 94 (Summer 2014)
- Therefore is 12 months behind revised IGC code
- Earliest possible date for entering into force is Jan 2017
- However code is still under discussion - many major issues to agree
- This date is therefore liable to go back
- Therefore presently an industry with no international regulations



LNG as a fuel

- Environmental benefits driven by future emission control requirements
- Potential cost saving compared to present bunkers
- Around 38 vessels already in operation using LNG as a fuel
- Many more vessels ordered
- Only really financially viable for new builds
- Issues regarding LNG spec and supply locations
- No large infrastructure yet in place – will be capital intensive to establish
- Will not be suitable for every vessel/trade
- At times the publicity is like a manic frenzy!!! Oversold? Talked up?
- Concerns over safety.....



Concerns regarding LNG as a fuel

- Some new entries into the LNG as a fuel industry show a lack of knowledge and experience with the properties and hazards of LNG.
- Current LNG industry experience is often ignored.
- “Inconvenient” Codes and Standards are being re-written.
- Incidents within the LNG as fuel value chain will impact the greater LNG industry.
- Bunker industry spill record (Refer to LNG shipping’s 40m3 in almost 50 years)
- SIGTTO has no doubt that LNG can be safely used as ship’s fuel, however, it should be carried, in principle, with the same designs, procedures, training, control measures and best practices as has been used in the half century of successful LNG vessel operation



Concerns regarding LNG as a fuel

- Properties of LNG remain the same whether it is carried as “cargo” or as “bunkers.”
 - Human exposure/contact
 - Flammable gas clouds / Fire characteristics
 - RPT
 - Brittle fracture



Concerns regarding LNG as a fuel

- Change in mindset required when going from liquid fuel bunkers to LNG bunkers.
 - LNG as closed system versus liquid fuel (HFO/MDO/MGO) as open system
 - Handling of vapours during bunkering and non-gas burning operations
 - Mixing of different “grades” of LNG bunkers (density and temperature)
 - Draining, purging, and inerting



Concerns regarding LNG as a fuel

- Location of bunker tanks
- Safety systems
 - Designation of Hazardous Zones
 - Gas Detection for gas fuel systems as well as vessel ventilation
 - Ship / Shore interface during bunkering
 - ESD concept
- Commercial considerations: cannot order LNG by specification, the received LNG has a noted composition dependent on source



Concerns regarding LNG as a fuel

- Simultaneous operations
 - Bunkering during cargo / passenger operation
- Require training and competencies
 - Both shore and shipboard personnel
 - Emergency Response considerations (salvage- Costa Concordia???)



New NGO for LNG as Fuel

- At SIGTTO board meeting in Bermuda Nov 2012, SIGTTO GM tasked with setting up new NGO to deal with LNG as fuel.
- LNG as a fuel is technically outside of SIGTTOs purpose, as found in bye laws, is drawing on a lot of resources and potentially distracting to core purpose of Society.
- Final decision will be made at next board in May 2013.
- If approved, new NGO will be initially based as sister organisation in SIGTTO's office with shared secretariat.
- Its members will be main stakeholders with biggest risk, i.e. bunker suppliers, shipowners, port authorities, regulators.
- Your support of this new NGO is requested, please encourage organisations to join if they are likely to be involved in the LNG fuel value chain.



Food for thought.....



Thank you!



SIGTTO

