



SIGTTO

SIGTTO LNG and LPG Experience Matrix Guidelines for Use



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The Society of International Gas Tanker and Terminal Operators (SIGTTO)

The Society of International Gas Tanker and Terminal Operators is a non-profit making organisation dedicated to protect and promote the mutual interests of its members in matters related to the safe and reliable operation of gas tankers and terminals within a sound environment. The Society was founded in 1979 and was granted consultative status at IMO in November 1983.

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Introduction

The 'SIGTTO LNG/LPG Officer Experience Matrix' (the '**Matrix**') was published in 2011.

The Society developed the Matrix after it had become apparent that a number of inconsistent matrices were being used by terminals and charterers within the LNG/LPG industry. These inconsistencies were considered to be potentially counter-productive to safety, particularly as stop-gap measures might be taken to ensure temporary compliance with the requirements of different terminals or charterers.

The Matrix was recommended as a voluntary tool for assessing and managing risk and it was anticipated that it might be adopted as the industry standard from which to assess the adequacy of experience and training for officers serving on board LNG/LPG carriers. It offered transparent guidance as to the assessment of appropriate levels of experience and training for officers both as individuals, within a rank, and in combination, across ranks.

The Matrix considers a number of elements, including length of sea service, experience in rank,

experience in LNG/LPG operations and training assessment. It does not assess competency but adopts a presumption that compliance with all aspects is indicative of suitability for the post.

In the years since the Matrix was published, it has been brought to the attention of the Society that some terminals and charterers are applying it prescriptively, so that the levels of experience are considered to be minimum thresholds, where any shortfall is unacceptable (no matter how small). By contrast, the Society's accompanying recommendation to the Matrix is that: *"in the event of non-compliance with a particular element of the experience matrix, consideration should be given to other mitigating factors, including bespoke training, the manning scale in place, time with the LNG/LPG ship owner/operator and the wider competence management systems employed by the ship operator in officer recruitment and development"*.

It was, therefore, agreed at GPC 73 (and subsequently approved by the board in May 2016) that the Secretariat should issue further guidance as to the recommended application of the Matrix in the assessment and management of risk.

Present Situation

A number of instances have also been reported whereby charterers and terminals have rejected a ship on the basis that one officer has fallen just short of the minimum thresholds within the Matrix or matrices adopted. On some occasions such shortfall has amounted to no more than a few weeks of experience, and has led to another person, compliant with the threshold, to be dispatched to the ship so as to be present during a cargo operation.

Effecting a crew change to comply with a particular threshold in the Matrix is considered to be potentially counter-productive to the safety of the operation, particularly where overall familiarity with the particular ship is sacrificed by such measure. However, in some instances, it is understood that an additional person has been deployed purely to achieve compliance, to the extent that such person

has not taken responsibility for any part of the operation.

It is the view of the Society that applying the Matrix (or other such matrices, as may have been adopted by terminals or charterers) in this restrictive way does nothing to improve the safety of operations. It also represents an inappropriate use of resources, where there is not the luxury of a surplus of highly experienced officers, and the costs of mobilising additional person(s) or organising reliefs could be better spent on improving safety by way of training.

Therefore the Society recommends a common sense approach to the application of the Matrix or other matrices, in line with the Society's original (and enduring) recommendations as to how the Matrix should be utilised: as a voluntary risk assessment tool and not as a minimum standard to be applied prescriptively without consideration of any other factors.

Summary

The Matrix is one of many tools that may be used to determine if personnel are acceptable from a safety perspective and it is important to appreciate that the Matrix is offered as a tool for evaluating and managing risk.

When evaluating risk, in the event of non-compliance with a particular element of the Matrix, consideration should be given to other mitigating

factors. These should include (but not limited to) bespoke training, the manning scale in place, time served with the ship owner or operator and the wider competence management systems employed by the owner or operator as to officer recruitment and development, including competency standards such as the Society's 'LNG Shipping Suggested Competency Standards' and the 'LPG Shipping Suggested Competency Standards' (the '**SIGTTO Competency Standards**').

Recommendations

1. The charterers of LNG/LPG carriers and operators of LNG/LPG terminals are recommended to adopt the Matrix voluntarily as their standard, for the sake of having consistent safety standards across the industry.
2. The Matrix should be one of many tools used to consider whether personnel are suitable or not and should not be the sole tool.
3. The charterers of LNG/LPG carriers and operators of LNG/LPG terminals should

not reject a ship for the sole reason that an individual officer falls short of a threshold requirement in the Matrix, at least not without wider consideration being given.

4. A risk based approach that considers both experience and competence is to be preferred and a combination of compliance with the requirements of the Matrix and the SIGTTO Competency Standards is encouraged, alongside the use of other available risk management tools.

ANNEX

LNG and LPG Experience Matrix

Careful attention to risk management is recognised as an essential part of maintaining the safety record of LNG/LPG shipping and protecting the environment. The SIGTTO LNG/LPG Officer Experience Matrix offers transparent guidance to the assessment of the risk profile in relation to the officer complement by balancing thresholds of experience in ranks. The experience matrix considers a number of elements, including length of sea service, experience in rank, experience in LNG/LPG operations and training assessment.

It is important to appreciate that the experience matrix is offered as a tool for evaluating and managing risk. When evaluating risk in the event of non-compliance with a particular element of the experience matrix, consideration should be given to other mitigating factors, including bespoke training,

the manning scale in place, time with the LNG/LPG ship owner/operator the wider competence management systems employed by the ship operator in officer recruitment and development.

The 'SIGTTO LNG/LPG Officer Experience Matrix' (the 'Matrix') was published in 2011.

The Matrix is recommended as a voluntary tool for assessing and managing risk with regards the adequacy of experience and training for officers serving on board LNG/LPG carriers.

It offers transparent guidance as to the assessment of appropriate levels of experience and training for officers both as individuals, within a rank, and in combination, across ranks.

Any suggestions or comments on the Matrix are welcomed by the Society.

LNG Officer Experience Matrix

Navigating Officer Sea Time - All Vessels		
	Combined Sea Time	Individual Minimum Sea Time as Certificated Officer
Master	4 years at chief officer or above	4 Years
Chief Officer		2 Years
Navigating Officer LNG Specific Sea Time		
	Combined Sea Time	Individual Minimum Sea Time as Certificated Officer
Master	2 years in rank on LNG vessels	4 years sea time with another Dangerous Cargo Endorsement, then a Min 30 days intensive training (to include at least one load and discharge operation) + completion of SIGTTO competency standards training for LNG or, 2 years LNG specific experience or, 2 years LPG experience + completion of SIGTTO competency standards training for LNG.
Chief Officer		2 years experience with another Dangerous Cargo Endorsement then a Min 30 days intensive training (to include at least one load and discharge operation) + completion of SIGTTO competency standards training or 1 year LNG specific experience or 1 year LPG experience + completion of SIGTTO competency standards training for LNG.
Engineering Officer Sea Time – All Vessels		
	Combined Sea Time	Individual Minimum Sea Time as Certificated Engineering Officer
Chief Engineer	4 years at second engineer or above	4 Years
2nd Engineer		2 years
Engineering Officer Steam LNG Vessel Sea Time		
	Combined Sea Time	Individual Minimum Sea Time as Certificated Engineering Officer
Chief Engineer	2 years in rank on steam LNG vessels	4 years diesel sea time with a minimum of 30 days intensive training + completion of SIGTTO competency standards training for LNG + Completion of SIGTTO competency standards for steam engineers and the appropriate steam endorsement for the rank. or, 2 years steam sea time and completion of SIGTTO competency standards for steam engineers or, two years steam LNG sea time.
2nd Engineer		2 years diesel sea time with a minimum of 30 days intensive training + completion of SIGTTO competency standards training for LNG + Completion of SIGTTO competency standards for steam engineers or, 1 year steam sea time and completion of SIGTTO competency standards for steam engineers or, 1 year steam LNG sea time.
Gas Engineer		1 year as a certified engineering officer on an LNGC or a minimum of 30 days intensive training + completion of SIGTTO competency standards training for LNG (Note 4)

Engineering Officer Diesel & Diesel Electric LNG Vessel Sea Time		
	Combined Sea Time	Individual Minimum Sea Time as Certificated Engineering Officer
Chief Engineer	2 years in rank on LNG vessels	4 years steam and/or diesel sea time with a minimum of 30 days intensive training + completion of SIGTTO competency standards training for LNG (unless 1 year completed on LNG vessels) (Notes 4 + 5 + 6)
2nd Engineer		2 years steam and/or diesel sea time with a minimum of 30 days intensive training + completion of SIGTTO competency standards training for LNG (unless 1 year completed on LNG vessels) (Notes 4+5 +6)
Gas Engineer		1 year as a certified engineering officer on an LNGC or, a minimum of 30 days intensive training + completion of SIGTTO competency standards training for LNG (Notes 4 + 6)

Note:

- 1st Officer and 1st Asst. Engineer terminology considered equivalent to Chief Officer and 2nd Engineer for the purposes of these guidelines.
- Seatime refers to time onboard a vessel and may include an allowance for time served working in a relevant capacity within the ship management office, standing by a new build or conversion or laid-up. Such time shall be treated as 1/3rd actual time, up to a maximum period of one year.
- Intensive training to be for not less than 30 days in the rank the individual will be assuming on an LNG vessel. Such individual shall also be required to have completed the relevant SIGTTO competency standard training commensurate with the position. During this time the Observer should become familiar with the company's SMS Manuals as a whole, but specifically as they affect their position onboard.
- Senior engineering officers sailing on vessels with gas combustion units and reliquefaction plants and other ship specific equipment should have thorough equipment specific training on its operation and maintenance.
- Engineer officers sailing on vessels with DE should have thorough equipment specific training on the operation and maintenance.
- Sea time assigned to new building and/or repair to be credited as experience up to a maximum of 3 months.
- Companies should ensure that procedures are in place to ensure that adequate time and familiarisation is given for relieving officers to become fully appraised of the differences in operation and limitations of a containment system with which they have no or limited experience. This should consist of at least one cargo operation.
- For combined LNG/LPG carriers, some relaxation of these requirements may be considered if it can be demonstrated that the officer has experience with liquefied gases in a similar containment system.

LPG Officer Experience Matrix

Navigating Officer Sea Time - All Vessels		
	Combined Sea Time	Individual Minimum Sea Time as Certificated Officer
Master	4 years at chief officer or above	4 Years
Chief Officer		2 Years
Navigating Officer LPG Specific Experience		
	Combined Sea Time	Individual Minimum Sea Time as Certificated Officer
Master	2 years in rank on LPG vessels	4 years sea time with another Dangerous Cargo Endorsement, then a Min 30 days intensive training (to include at least one load and discharge operation) + completion of SIGTTO competency standards training for LPG or, 2 years LPG specific sea time or, 2 years LNG sea time + completion of SIGTTO competency standards training for LPG.
Chief Officer		2 years sea time with another Dangerous Cargo Endorsement then a Min 30 days intensive training (to include at least one load and discharge operation) + completion of SIGTTO competency standards training or, 1 year LPG specific sea time or, 1 year LNG sea time + completion of SIGTTO competency standards training for LPG.
Engineering Officer Sea Time – All Vessels		
	Combined Sea Time	Individual Minimum Seetime as Certificated Engineering Officer
Chief Engineer	4 years at second engineer or above	4 Years
2nd Engineer		2 years
Engineering Officer Diesel Vessel Sea Time		
	Combined Sea Time	Individual Minimum Seetime as Certificated Engineering Officer
Chief Engineer	2 years in rank on LPG vessels	4 years steam and/or diesel sea time, 1 year sea time on a vessel requiring DCE, with a minimum of 30 days intensive training + completion of SIGTTO competency standards training for LPG (Notes 4 + 5 + 6) or, 4 years steam and/or diesel sea time and 1 year sea time on an LPG vessel
2nd Engineer		2 years steam and/or diesel sea time, 6 months sea time on a vessel requiring DCE, with a minimum of 30 days intensive training + completion of SIGTTO competency standards training for LPG (Notes 4 + 5 + 6) or, 2 years steam and/or diesel sea time and 6 months sea time on an LPG vessel
Gas Engineer		1 year sea time as a certified engineering officer on an LPG or, a minimum of 30 days intensive training + completion of SIGTTO competency standards training for LPG (Notes 12 + 14)

LPG Officer Experience Matrix

Note:

9. 1st Asst. Engineer terminology considered equivalent to 2nd Engineer for the purposes of these guidelines
10. Sea time refers to time onboard a vessel and may include an allowance for time served working in a relevant capacity within the ship management office, standing by a new build or conversion or laid-up. Such time shall be treated as 1/3rd actual time up to a maximum period of one year.
11. Onboard intensive training to be for not less than one month in the rank the individual will be assuming on an LPG vessel. Such individual shall also be required to have completed the relevant SIGTTO competency training commensurate with position. During this time the observer should become familiar with the company's SMS Manuals as a whole but specifically as they affect their position onboard.
12. Senior engineer officers sailing on vessels with reliquefaction plants and other ship specific equipment should have thorough equipment specific training on the operation and maintenance of this equipment.
13. Engineer officers sailing on vessels with novel equipment should have training appropriate to the equipment.
14. Employment time assigned to new building and/or repair to be credited as experience up to a maximum of 3 months.