

1. Course Title: Liquefied Natural Gas Tanker (LNG) Cargo Operation

2. Scope With reference to convention Imo Model Course:

This course is designed to equip individual with skills, knowledge and attitudes required to -

- Contribute to safe cargo operation of GAS tankers
- Knowledge of liquefied gas tanker design, systems, and equipment
- Take precautions to prevent hazards & safety relevant to liquefied gas tankers.
- Proficiency to calibrate and use of monitoring and gas-detection systems, instruments and equipment
- Apply occupational health and safety precautions & measures.
- Apply precautions and contribute to the prevention of pollution of the marine environment.
- Carry out fire fighting operations
- Respond to emergencies
- Take precautions to prevent pollution of the environment from the release of gas.
- familiarization with the equipment, instrumentation and controls used for cargo handling on a LNG tanker
- a greater awareness of the need for proper pre-planning, the use of checklists and the time scales involved in the various cargo handling operations
- an enhanced awareness to apply proper and safe procedures at all times when carrying out the various operations on board a LNG tanker
- an acquisition of experience in identifying operational problems and solving them
- An improvement in the ability to make decisions which promote safety and protect the environment.

in accordance with maritime industry standards.

3. Objective:

After completing the course, the candidates should be able to acquire the knowledge, skills and attitude for the safe cargo operation of gas tankers and ballast installation of a gas tanker, precautions to prevent hazards, prevention of pollution, firefighting operations, Knowledge and understanding of relevant provisions of the International Convention for the Prevention of Pollution from Ships (MARPOL), emergencies, more effective contribution to the operation and control of the cargo, which will improve ship safety and provide greater protection of the environment,.

4. Course Outline Shore base & On board Training:

SL NO	Knowledge, understanding and proficiency	HOUR
1	Familiarization	6.0
2	Special operations and Procedures	10.0
3	Ballast Operations	4.0
4.	Cargo Operations	6.0
5.	Operational Problems / Difficulties	4.0
		Total 30.0

5. Competence Standard/Course Syllabus Checked with up-to-date STCW/IMO Model Course:

SL NO	Knowledge, understanding and proficiency	HOUR
1	Familiarization	6.0

1.1	1.1. Type of ship (LNG)	
1.2	1.2. Type of Tanks	
1.3	1.3. Tank arrangements (General)	
1.4	1.4. Pipeline arrangements	
1.5	1.5. Pipe system, control valves, ESDS	
1.6	1.6. Pumps (Spray & Cargo), Low Duty (L/D) and High Duty (H/D) Compressors, Low Duty (L/D) and High Duty (H/D) Heaters, LNG Vaporizers and Forcing Vaporizers	
1.7	Instrumentation	
1.8	Controls	
1.9	Basic operations and procedures	
2	Special operations and Procedures	10.0
2.1	Tank atmosphere evaluation	
2.2	Use of Nitrogen, Inerting of tanks	
2.3	Gas freeing	
2.4	Gassing up cargo tanks	
2.5	Cooling down of cargo tanks	
2.6	Loading procedures	
2.7	Boil off Gas (BOG) Control	
2.8	Warming up cargo tanks	
3	Ballast Operations	4.0
3.1	General provisions	
3.2	Ballasting	
3.3	De-ballasting	
4.	Cargo Operations	6.0
4.1	General provisions	
4.2	Loading cargo (O2,Liquid & Vapour Purge)	
4.3	Discharging cargo	
5.	Operational Problems / Difficulties	4.0
5.1	Cargo and related operations . normal working	
5.2	Introduction of system faults, malfunctions, accidents	
5.3	Remedial actions	
	Total	30.0

6. Entry Standard, Selection Criteria of Students:

Trainees or students wishing to gain entry into this course should possess the following requirements:

- Age: be not less than 16 years of age.
- Education & Training: must have valid seafaring documents.

7. Intake limitation, with specific mention Instructor-student ratio:

The number of trainees should not exceed 24 and the practical training should be undertaken in small groups of more than eight.

8. Qualification and experience of instructors:

Minimum qualification of any instructor or assessor must be Class- I Deck/Engine Officers with tanker knowledge.

9. Qualification and experience of assessors:

Minimum qualification of any instructor or assessor must be Class- I Deck/Engine Officers with tanker knowledge.

10. Details Facilities & Equipment, materials and resources available for the training; Visual aids lecture Notes, Library facilities, Rental documents, Workshops Training Equipment: Navigational, Engineering, Communication, Seamanship etc:

- Projectors and slides
- Multimedia and videos
- Advanced audio visual systems
- Tanker simulator
- Dummy tanker ships, tank lid, manifold
- Pump model Room

11. Conduct of Training with number of classroom lectures, practical work use of simulator, video etc:

Theoretical and practical instruction is given with appropriate arrangement and combination. Laboratory demonstration and guided hands-on followed by assigned group activities shall be employed to facilitate training & assessment.

12. Total duration of Training; Duration of Practical's:

Training period is of 05 days, (30 Hours)

- a. Theory - 28 Hours
- b. Practical - 02 Hours

13. Assessment procedure, whether independent of instruction or continuous performance evaluation:

Course end assessment shall be carried out to ensure adequate knowledge, understanding & competence of the candidate.

A variety of source of evidence are used which include evidence of candidate's ability, under realistic condition. Short answers, multiple choice, fill in the blanks and true/false type questions in a written test are used for assessment includes direct observation, oral questioning and role play.

14. Formats of certificate to be issued with correct reference to STCW and reference to approval and authorization by the Department of Shipping and contact point of the issuing institution for verifying authenticity:

No. NMIALGT/	GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH NATIONAL MARITIME INSTITUTE সামুদ্রিক বিদ্যালয় চট্টগ্রাম ৪১০০, বাংলাদেশ। South Halishahar, P.O. Bandar, Chittagong-4100, Bangladesh. Tel. 880-31-740569, Fax. No. 880-31-800620, E-mail: nmictebd@btcl.net.bd		PHOTO
টেকনিক কর্ম সিস্টেমটিক শাচামাল গ্যাস ট্যাক্স (এল এনজি) কার্ড অপারেশন সার্টিফিকেট TRAINING FOR LIQUEFIED NATURAL GAS TANKER (LNG) CARGO OPERATION CERTIFICATE			
এই কর্ম প্রত্যয়নকার্যকলার ক্ষেত্রে যে, This is to certify that, জনক/ Mr. নিয়ে/ Son of Mr. জন্ম তারিখ ও স্থান / Date & Place of Birth পদক্ষেপ/ Rank নি. নং/ C.D.C. No. ইস্টার্ন অ্যারিয় ও স্থান/ Date & Place of Issue নামানুস মেটিয়েল ইন্ডাস্ট্রিজ সেক্যান্ড বাংলাদেশ অনুষ্ঠিত টেকনিক কর্ম সিস্টেমটিক শাচামাল গ্যাস ট্যাক্স (এল এনজি) কার্ড অপারেশন সার্টিফিকেট কোর্সটি কৃতিত্বের সাথে সম্পর্কিত। I have successfully completed basic safety training course on TRAINING FOR LIQUEFIED NATURAL GAS TANKER (LNG) CARGO OPERATION CERTIFICATE conducted at the National Maritime Institute, Chittagong, Bangladesh.			
ইস্টার্ন অ্যারিয় ও স্থান/ from পর্যন্ত to এই কোর্সটি আন্তর্বিত্তিক এন্টিসিভিউট-১৯৭৮ কনভেনশন ও ইয়ার স্ট্যুডিয়ার বিধানের বিষি- V/1-2-2-e এন্টিসিভিউট কোডের Paragraph 3 & 4 এবং IMO Model course 1.36 অনুসৰী অনুষ্ঠিত হয় এবং ইয়াত্রবাহাসের শরকতের সময় পরিবহন অধিসভার অনুমতিন রাখিয়াছে। The course is in conformity with International Convention on Standards of Training, Certification & Watch keeping for Seafarers, 1978 as amended, Regulation V/1-2-2, Paragraph 3 & 4 of the STCW code and IMO Model course 1.36 and has the approval of the Department of Shipping, Government of the People's Republic of Bangladesh.			
ইস্টার্ন অ্যারিয় / Date of Issue		স্মাল ডেটার্স অ্যারিয় / Date of Expiry	
স্মাল ডেটার্স অ্যারিয় / Signature of the holder		অধ্যক্ষ/Principal	

15. Maintenance of records in Data-base for facilitation of checking including assessments:

NMI will maintain a data-base of all the students who have completed the course. The following records for each individual will be kept so as to ensure that the certificate is issued to a candidate who has met the requirements as laid down by the governing authority regarding issuance of a certificate on Bridge Resource Management.

- Application form
- Assessment papers after completion of course
- Attendance Sheet
- Attested Xerox copy of the issued certificates & licenses
- A registered data-base in hard copy and soft form

16. Internal Quality Standard System if any. Students Impressions, past results:

The institute maintains quality standard system ISO 9001:2008, Certified by DNV GL

17. Course notice served, course conducted as per course notice, progression report served:

Will be complied as per DOS Instruction.

18. Attendance of Students and Instructors:

Students and Instructor attendance sheet attached.



Annex- 03

NATIONAL MARITIME INSTITUTE

TRAINING RECORD

Instructor:

Venue:

Subject:

Brief description on training material:

Attendance:

Signature
Management Representative

Signature
Principal