



KEMENTERIAN PERHUBUNGAN REPUBLIK INDONESIA
DIREKTORAT JENDERAL PERHUBUNGAN LAUT



MINISTRY OF TRANSPORTATION OF THE REPUBLIC OF INDONESIA
DIRECTORATE GENERAL OF SEA TRANSPORTATION

SERTIFIKAT KETERAMPILAN
CERTIFICATE OF PROFICIENCY

Nomor Seri / Serial No.

CP4227462

Nomor Sertifikat / Certificate No.
6200117433380321

Dengan ini dinyatakan bahwa

This is to certify that

Nama

Name

Tempat dan tanggal lahir

Place and date of birth

ZAENAL ARIFIN

TULIS, BATANG, 19 December 1979

telah menyelesaikan pelatihan dan lulus evaluasi

has completed approved training and passed the assessment of

ADVANCED TRAINING FOR LIQUEFIED GAS TANKER CARGO OPERATIONS Revalidation

yang dilaksanakan oleh : **PIP Semarang**

which has held by

di : **Semarang**
at : **04 March 2016 to 04 March 2016**

Sesuai ketentuan STCW 1978 beserta dengan amandemennya, Peraturan
in accordance with the provisions of STCW 1978 as amended, Regulation

Chapter V, Section A-V/1-2-2 STCW 2010
Chapter V, Section A-V/1-2-2 STCW 2010

yang telah mendapat pengesahan dari Direktorat Jenderal Perhubungan Laut selaku Administrasi.
which has been approved by the Directorate General of Sea Transportation as Administration.

Jakarta, 02 March 2021

Tandatangan Pemilik
Signature of the Holder



PIP Semarang



An. Direktur Jenderal Perhubungan Laut
O.b. Director General of Sea Transportation
KEPALA SUB DIREKTORAT KEPELAUTAN
Head of Sub Directorate Of Seafarer

Capt. JAJA SUPARMAN, M.M.



Sertifikat ini berlaku untuk 5 (lima) tahun sejak tanggal diterbitkan
This Certificate is valid for 5 (five) years commenced from the date of issuance

ADVANCED TRAINING LIQUEFIED GAS TANKER CARGO OPERATIONS

Subject Area

Based on Reg. V/1-2 and STCW 2010 Code Section A-V/1-2-2

1. Ability to Safely Perform and Monitor and all Cargo Operations

- 1.1 Design and characteristics of a liquefied gas tanker
- 1.2 Knowledge of liquefied gas tanker design, systems, and equipment
- 1.3 Knowledge of pump theory and characteristics, including types of cargo pumps and their safe operation
- 1.4 Loading, unloading, care and handling of cargo
- 1.5 Knowledge of the effect of bulk liquid cargoes on trim and stability and structural integrity
- 1.6 Proficiency in tanker safety culture and implementation of safety management requirements
- 1.7 Proficiency to apply safe preparation, procedures and checklist for all cargo operations
- 1.8 Proficiency to perform cargo measurements and calculations
- 1.9 Proficiency to manage and supervise personnel with cargo-related responsibilities

2. Familiarity With Physical and Chemical Properties Of Liquefied Gas Cargoes

- 2.1 Knowledge and understanding of basic chemistry and physics and the relevant definitions related to the safe carriage of liquefied gases in bulk in ships
 - 2.1.1 The chemical structure of gases
 - 2.1.2 The properties and characteristics of liquefied gases (including CO₂) and their vapours
 - 2.1.3 The properties of single liquids
 - 2.1.4 The nature and properties of solutions
 - 2.1.5 Thermodynamic units
 - 2.1.6 Basic thermodynamic laws and diagrams
 - 2.1.7 Properties of materials
 - 2.1.8 effect of low temperature-brittle fracture
- 2.2 Understanding the information contained in a Material Safety Data Sheet (MSDS)

3. Take precautions to prevent hazards

- 3.1 Knowledge and understanding of the hazards and control measures associated with liquefied gas tanker cargo operations

- 3.2 Proficiency to calibrate and use monitoring and gas-detection systems, instruments and equipment
- 3.3 Knowledge and understanding of dangers of non-compliance with relevant rules/regulations

4. Apply occupational health and safety precautions

- 4.1 Knowledge and understanding of safe working practices, including risk assessment and personal shipboard safety relevant to liquefied gas tankers

5. Respond to emergencies

- 5.1 Knowledge and understanding of liquefied gas tanker emergency procedures
- 5.2 Actions to be taken following collision, grounding or spillage and envelopment of the ship in toxic or flammable vapour
- 5.3 Knowledge of medical first-aid procedures and antidotes on board liquefied gas tankers, with reference to the Medical First Aid Guide for Use in Accidents Involving Dangerous Goods (MFAG)

6. Take precautions to prevent pollution of the environment

- 6.1 Understanding of procedures to prevent pollution of the environment

7. Monitor and control compliance with legislative requirements

- 7.1 Knowledge and understanding of relevant provisions of the International Convention for the Prevention of Pollution from Ships (MARPOL) and other relevant IMO instruments, industry guidelines and port regulations as commonly applied
- 7.2 Proficiency in the use of the IBC and IGC Codes and related documents

8. Assessment and Evaluation