भारत सरकार / GOVERNMENT OF INDIA
पत्तन, पोत परिवहन और जलमार्ग मंत्रालय
MINISTRY OF PORTS, SHIPPING AND WATERWAYS
समुद्रीय प्रशासन महानिदेशालय, मुंबई
DIRECTORATE GENERAL OF MARITIME ADMINISTRATION, MUMBAI

F.No. 13-11028/1/2026-ENGG-DGS **November 16, 2026**

Draft Circular on Advanced (Non-mandatory) Training for seafarers on ships using Ammonia as fuel

(for stakeholders' comments, suggestions, inputs.)

The EAC Branch draft circular on the guidelines for conduct of Non-mandatory Advanced training for seafarers on ships using ammonia as fuel is placed on the DGMA website for the information of all stakeholders. It is requested that inputs/comments, if any, on the draft be directly submitted to the EAC-Engineering Branch, DGMA by the stakeholder concerned.

The inputs or suggestions may be sent by email, addressed to praveen.nair@gov.in latest by November 30, 2026. It is requested that sender may mention the subject on the email, as 'inputs on the draft Circular guidelines for basic/advanced training on alternative fuels for ease of compilation.

Yours sincerely,



Praveen Nair,

Dy.Chief Surveyor, DGMA

Guidelines for Conduct of Non-Mandatory Advanced Training Programme for Seafarers Serving on Ships Using Ammonia as Marine Fuel – Reg.

1. The standards of competence to be met by seafarers are prescribed under Part A of the Seafarers' Training, Certification and Watchkeeping (STCW) Code, 1978, as amended.
2. The Directorate General of Shipping (DGS), now DGMA, has issued DGS (NT/ENG) Circular No. 11 of 2025 dated 21.03.2025 on Training and Certification of Seafarers on Ships Subject to the International Code of Safety for Ships Using Gases or Other Low-flashpoint Fuels (IGF Code). The said Circular prescribes the requirements and procedures for obtaining Certificates of Proficiency (CoPs) in Basic and Advanced Training for service on ships subject to the IGF Code.
3. Regulation V/3 of the STCW Convention and Section A-V/3 of the STCW Code prescribe the training and certification requirements for masters, engineer officers and other personnel serving on ships subject to the IGF Code.
4. The International Maritime Organization (IMO), vide STCW.7/Circ.25 dated 08 September 2025, issued the Generic Interim Guidelines on Training for Seafarers on Ships Using Alternative Fuels and New Technologies. Subsequently, IMO, vide STCW.7/Circ.27 dated 06 July 2026, issued the Interim Guidelines on Training for Seafarers on Ships Using Ammonia as Fuel, prescribing the specific knowledge, understanding and proficiencies (KUPs) required for basic and advanced training of seafarers serving on such ships.
5. Further, IMO, vide MSC.1/Circ.1687 dated 26 February 2025, issued the Interim Guidelines for the Safety of Ships Using Ammonia as Fuel. Chapter 19 of the said Guidelines prescribes the training requirements for seafarers and provides that masters, officers, ratings and other personnel serving on ships using ammonia as fuel should receive appropriate training and be qualified in accordance with the applicable STCW requirements, taking into account the specific hazards associated with ammonia.

   The requirements relating to ammonia cargo used as fuel on ships covered by the IGC Code shall be considered in accordance with the applicable IGC Code provisions and IMO guidelines, including MSC.1/Circ.1702, wherever applicable.

6. In this regard, it is observed that certain seafarers already possess:

   (i) a valid Certificate of Proficiency (CoP) in Advanced Training for Ships Subject to the IGF Code; or

   (ii) an approved Advanced IGF Training Course Certificate, together with the requisite seagoing service and other applicable eligibility requirements prescribed under DGS (NT/ENG) Circular No. 11 of 2025.

   Mandating such seafarers to undergo the entire Advanced IGF training programme again, without recognising their previously acquired generic competencies, may result in duplication of training.

7. Accordingly, with a view to recognising previously acquired competencies while ensuring that the additional ammonia-specific competencies prescribed under STCW.7/Circ.27 are adequately covered, DGMA has formulated a **Non-Mandatory Advanced Training Programme for Seafarers Serving on Ships Using Ammonia as Marine Fuel**.
8. The programme shall be conducted as a fuel-specific bridging programme, primarily focusing on the additional advanced-level competencies prescribed under Table 2 of STCW.7/Circ.27. The existing knowledge, understanding and proficiencies of eligible candidates shall be recognised through a documented competency-mapping and gap-assessment process.

   However, the Maritime Training Institute (MTI) shall ensure that all applicable competencies prescribed under STCW.7/Circ.27 for the advanced level are adequately covered and assessed. Any competency not demonstrated by the candidate during the initial assessment shall be covered through appropriate theoretical, practical or simulator-based training and assessment.

9. The detailed guidelines for obtaining DGMA approval and conducting the programme by DGMA-approved Maritime Training Institutes are enclosed as **Annexure-I** to this Circular.
10. **Eligibility criteria**

Candidates seeking admission to the programme shall satisfy the following requirements:

(i) Hold a valid Advanced Certificate of Proficiency (CoP) issued by the Government of India for service on ships subject to the IGF Code;

OR

Hold an Advanced IGF Training Course Certificate issued by a DGMA-approved MTI.

(ii) Hold a valid Certificate of Competency (CoC), as applicable to the candidate's capacity and duties on board, wherever required under the applicable STCW provisions and DGMA guidelines.

(iii) Hold the requisite Basic IGF CoP or satisfy the applicable basic training requirements prescribed under Section A-V/3 of the STCW Code.

(iv) Comply with applicable STCW basic safety training and other relevant certification requirements.

(v) Satisfy such additional requirements relating to seagoing service, experience and eligibility as may be prescribed by DGMA from time to time.

11. **Duration and structure of the programme**

The duration of the programme shall be three days (18 hours), excluding any additional time required for supplementary training or assessment arising out of the competency gap analysis.

The MTI shall submit a detailed competency-wise training schedule indicating the allocation of lecture, practical and simulator training hours, wherever applicable, for approval by DGMA.

No candidate shall be exempted from any applicable competency solely on the basis of possession of an existing certificate.

12. **Approval of Maritime Training Institutes**

Only those Maritime Training Institutes (MTIs) already approved by DGMA for conducting Basic and Advanced Training for Ships Subject to the IGF Code shall be eligible to conduct the proposed Non-Mandatory Advanced Training Programme for Seafarers Serving on Ships using Ammonia as Marine Fuel.

Such MTIs shall obtain specific approval from DGMA for conducting this fuel-specific bridging programme and shall comply with the infrastructure, faculty qualifications, training equipment, simulator facilities, assessment procedures and quality assurance standards prescribed in Annexure-I.

13. **Assessment and issuance of documentary evidence**

Candidates shall successfully complete the prescribed training and competency assessments, including theoretical, practical and simulator-based assessments, as applicable.

Successful candidates shall be issued documentary evidence of completion of the Non-Mandatory Advanced Training Programme for Ships using Ammonia as Marine Fuel, in the format approved by DGMA.

The document shall clearly indicate that the candidate has completed the ammonia-specific advanced training programme and shall be read in conjunction with the candidate's existing Advanced IGF CoP.

Such documentary evidence shall not, by itself, constitute a separate STCW Certificate of Proficiency or replace, amend or extend the validity of an existing CoP.

14. **Relationship with existing DGMA/DGS guidelines**

DGS (NT/ENG) Circular No. 11 of 2025, DGS Training Circular No. 14 of 2019 and other applicable DGMA/DGS instructions relating to training and certification under the IGF Code shall continue to apply, except to the extent specifically supplemented by these guidelines.

The present Circular shall be read in conjunction with the above-mentioned instructions, STCW.7/Circ.25, STCW.7/Circ.27 and MSC.1/Circ.1687, as applicable. Necessary

amendments or supplementary provisions shall be issued separately, wherever required, to facilitate recognition of the fuel-specific training undertaken under this programme.

15. All concerned DGMA-approved MTIs, shipping companies, shipowners, ship managers and seafarers are advised to take note of these guidelines. Shipping companies shall ensure that personnel assigned duties involving the immediate responsibility for the care and use of ammonia fuel and associated fuel systems possess the appropriate training, qualifications and ship-specific familiarisation before undertaking such duties.
16. The programme introduced through this Circular is intended to facilitate the acquisition of additional ammonia-specific competencies and shall not be construed as dispensing with any mandatory training, certification, familiarisation or qualification requirement under the STCW Convention, STCW Code or applicable DGMA/DGS instructions.
17. The DGMA shall undertake periodic review of these guidelines, and requests all stakeholders to share their operational experience gained for further refinement of these guidelines.
18. This Circular is issued with the approval of the Competent Authority.

Directorate General of Maritime Administration
Ministry of Ports, Shipping and Waterways
Government of India

To:

1. All DGMA-approved Maritime Training Institutes.
2. All Principal Officers, Mercantile Marine Departments.
3. All Shipping Masters.
4. All Recognised Organisations.
5. Indian National Shipowners' Association (INSA).
6. Indian Coastal Conference Shipping Association (ICCSA).
7. MASSA / FOSMA.
8. All concerned shipping companies.
9. Computer Cell, DGMA – for uploading the Circular on the DGMA website.
10. Guard File.

ANNEXURE-I

MANDATORY GUIDELINES FOR MARITIME TRAINING INSTITUTES FOR OBTAINING APPROVAL FROM DGMA TO CONDUCT THE ADVANCED TRAINING/UPGRADATION PROGRAMME FOR SHIPS USING AMMONIA AS MARINE FUEL

Course Title: Non-Mandatory Advanced Training for Ships Using Ammonia as Marine Fuel.

Course ID: To be allotted by DGMA.

1. DETAILS OF THE COURSE

1.1 Aim

The aim of this programme is to provide the additional knowledge, understanding and proficiency required for masters, engineer officers and other personnel having immediate responsibility for the care and use of ammonia fuel and associated fuel systems on board ships.

The programme is intended for seafarers who have already completed Advanced IGF Training and Basic Training Course on Methanol, Ammonia and Hydrogen as Marine fuels. It shall provide the additional fuel-specific competencies required under STCW.7/Circ.27 without unnecessary repetition of generic IGF training.

1.2 Objectives

On successful completion of the programme, candidates should be able to:

a. Demonstrate an advanced understanding of the physical and chemical properties and hazards associated with ammonia as marine fuel.

b. Operate and monitor ammonia fuel systems, associated machinery, instrumentation and safety devices.

c. Safely perform ammonia fuel handling, storage, transfer, bunkering and maintenance operations.

d. Plan and monitor safe ship-shore and ship-ship bunkering operations.

e. Identify and control hazards associated with ammonia leakage, toxicity, exposure, flammability and fire.

f. Understand ammonia dispersion characteristics, compatibility and implement appropriate measures to prevent and mitigate toxic exposure.

g. Implement emergency shutdown, isolation and emergency response procedures.

h. Demonstrate the correct use of personal protective equipment (PPE), breathing apparatus and emergency rescue arrangements.

i. Apply appropriate occupational health and safety precautions and pollution prevention measures.

j. Demonstrate compliance with applicable IMO instruments, national regulations and relevant industry guidelines.

2. ELIGIBILITY FOR MARITIME TRAINING INSTITUTE

2.1 Only DGMA-approved Maritime Training Institutes (MTIs) authorised to conduct Basic and Advanced IGF Code training courses shall be eligible to apply for approval to conduct this programme.

2.2 The MTI shall submit the proposed syllabus, competency-wise allocation of training hours, faculty details, infrastructure facilities, practical training arrangements, simulator facilities, wherever applicable, and assessment methodology to DGMA for review and approval.

2.3 The MTI shall commence the programme only after obtaining specific prior written approval from DGMA.

3. INFRASTRUCTURE REQUIREMENTS

3.1 Classroom

The MTI shall provide classrooms complying with the DGMA Training Manual and applicable post-sea course requirements, equipped with:

- Whiteboard/interactive board.
- Computer/laptop and audio-visual facilities.
- Projector/SMART display.
- Internet connectivity.
- Relevant drawings, diagrams and instructional materials relating to ammonia fuel systems.
- Safety Data Sheets (SDS) and relevant technical publications.

3.2 Practical and simulator facilities

The institute shall have access to suitable facilities for:

- Demonstration of ammonia fuel storage and supply arrangements.
- Fuel transfer, piping, pumps, valves and instrumentation.
- Ammonia gas detection and monitoring systems.
- Emergency shutdown and isolation systems.
- Ammonia bunkering and ship-shore interface.

- Ventilation, gas dispersion and toxic-area control arrangements.
- Ammonia leakage detection and emergency response.
- Use of chemical protective clothing, breathing apparatus and rescue equipment.
- Emergency showers, eye-wash facilities and decontamination arrangements.
- Simulator-based fuel handling and emergency scenarios.
- Ammonia-specific firefighting and vapour mitigation arrangements.

Where the MTI does not possess the required specialised facilities for ammonia emergency-response and practical training, it may enter into a formal arrangement with another DGMA-approved MTI or specialised facility having the requisite infrastructure, subject to prior approval of DGMA.

4. QUALIFICATION AND ELIGIBILITY OF STUDENTS

4.1 Entry standards

Candidates shall possess:

a. A valid Advanced IGF CoP issued or recognised by the Government of India, or an Advanced IGF Training Course Certificate issued by a DGMA approved MTI.

b. A valid Basic training course certificate on Methanol, Ammonia and Hydrogen as Marine Fuels.

c. A valid CoC, wherever applicable to the candidate's capacity and duties.

d. Applicable STCW basic safety training qualifications.

e. Such additional sea-service requirements, if any, as prescribed by DGMA.

4.2 Recognition of previous training

The MTI shall verify the authenticity and validity of the candidate's existing certificates.

The competencies already acquired through Advanced IGF Training and Basic Ammonia Training shall be mapped against the KUPs prescribed in Tables 1 and 2 of STCW.7/Circ.27.

The following approach shall be adopted:

Training/competency	Proposed treatment
Generic IGF competencies	Recognition of previously demonstrated competencies
Basic ammonia competencies	Recognition subject to verification against Table 1 of STCW.7/Circ.27
Advanced ammonia competencies	Mandatory training and assessment against Table 2

Practical and simulator competencies	Mandatory demonstration wherever required by the approved competency matrix
Ship-specific familiarisation	To be undertaken on board in accordance with applicable STCW requirements

The MTI shall maintain a candidate-wise competency-mapping record for verification during DGMA inspections and audits.

4.3 Attendance

100% attendance shall be mandatory for all prescribed training sessions, practical exercises and assessments.

4.4 Course intake

The maximum number of trainees shall depend on the availability of instructors, equipment and practical facilities.

The following trainee-to-instructor ratios may be adopted, subject to DGMA approval:

- Classroom sessions: Maximum 24:1.
- Practical sessions: Maximum 8:1.

5. COURSE DETAILS

5.1 Course duration

The duration of the course shall be three days (18 hours), comprising classroom instruction, practical training and simulator training, as finalised by DGMA after examining the competency-wise allocation of training hours proposed by the MTI.

The proposal submitted by the MTI shall separately indicate the allocation of hours for:

- Classroom/lecture training.
- Practical training.
- Simulator training.
- Assessment.

The overall duration and allocation of training hours shall be adequate to ensure that all additional advanced-level competencies are comprehensively covered and appropriately assessed.

5.2 Course outline

The course shall cover the additional advanced-level competencies prescribed in Table 2 of STCW.7/Circ.27, as detailed in Annexure-II.

The course content shall be fuel-specific and shall avoid unnecessary duplication of generic IGF subjects and basic ammonia training.

5.3 Course certificate

A separate documentary certificate shall be issued to candidates who successfully complete the approved programme and satisfy the prescribed assessment requirements.

The certificate format shall be approved by DGMA and shall contain:

- Name of the candidate.
- INDOS number.
- Date of birth.
- Certificate number.
- Name and approval number of the MTI.
- Course title and course ID.
- Date of commencement and completion.
- Date of issue.
- Authorised signature and institute seal.

6. HOLIDAYS

Holidays shall be observed in accordance with the applicable DGMA Training Manual and the relevant guidelines for post-sea courses.

7. FACULTY REQUIREMENTS

At least two suitably qualified faculty members shall be available for conducting the programme.

7.1 Course-in-charge & Fculty

The Course-in-charge & Faculty shall:

a. Hold MEO Class I (FG) CoC or Master (FG) CoC issued or recognised by the Government of India with a minimum of five years of relevant seagoing experience, including at least one year of experience at the management level.

b. Hold a valid Advanced IGF Training CoP or Advanced CoP for Liquefied gas tanker.

c. Possess demonstrable knowledge or experience in ammonia fuel systems, alternative fuel operations, safety management or relevant engineering systems.

d. Be conversant with STCW.7/Circ.27 and MSC.1/Circ.1687.

e. Have successfully completed the DGMA-approved Training of Trainers and Assessors (TOTA) Course or Vertical Integration Course for Trainers (VICT), as applicable.

7.2 Visiting faculty

Subject experts from recognised classification societies, equipment manufacturers, shipowners, ammonia producers, fuel suppliers, chemical safety organisations and other

relevant organisations may be engaged as visiting faculty with prior approval of DGMA, wherever required.

8. ASSESSMENT

Assessment shall be competency-based and shall include:

a. Written and/or oral examination covering the applicable advanced-level knowledge requirements.

b. Practical demonstration of the operation and monitoring of ammonia fuel systems.

c. Demonstration of bunkering procedures and ship-shore communication.

d. Demonstration of the use of ammonia gas detection instruments and safety equipment.

e. Demonstration of the correct use of chemical protective clothing, breathing apparatus and emergency rescue equipment.

f. Simulator-based assessment covering fuel transfer, bunkering, emergency shutdown and emergency response.

g. Assessment of the candidate's ability to undertake risk assessment and implement appropriate control measures.

h. Assessment of the candidate's understanding of ammonia toxicity, exposure prevention, emergency isolation and personnel decontamination.

The assessment shall be valid, reliable, documented and traceable to the relevant KUPs in STCW.7/Circ.27.

8.1 Reassessment

Candidates who fail to demonstrate the required competencies may be permitted to undergo reassessment in accordance with the DGMA-approved assessment procedure.

9. QUALITY STANDARDS

The MTI shall comply with the applicable quality standards, internal audits, records management and quality assurance provisions of the DGMA Training Manual.

The institute shall maintain:

- Candidate eligibility and certificate verification records.
- Competency-mapping and gap-assessment records.
- Attendance records.
- Faculty qualification and experience records.
- Practical and simulator training records.
- Assessment and reassessment records.
- Copies of certificates issued.

10. INSPECTIONS

DGMA may conduct initial, periodic and surprise inspections of the institute to verify compliance with the approved course requirements.

11. COST OF INSPECTIONS

As prescribed in the applicable DGMA Training Manual and prevailing instructions.

12. FEES TO GOVERNMENT

The applicable course approval and inspection fees shall be payable as prescribed by DGMA.

13. TEACHING AIDS AND EQUIPMENT

13.1 Equipment

The institute shall have access to appropriate equipment, including:

a. Ammonia fuel system drawings, piping diagrams and equipment arrangements.

b. Fuel storage and transfer system models or demonstrations.

c. Ammonia-compatible fuel pumps, valves, piping and associated equipment for demonstration.

d. Portable and fixed ammonia gas detection and monitoring equipment.

e. Personal protective equipment suitable for ammonia exposure.

f. Chemical protective suits, gloves, protective footwear and face protection.

g. Self-contained breathing apparatus (SCBA) and suitable rescue equipment.

h. Emergency showers and eye-wash facilities.

i. Emergency shutdown and isolation system demonstrations.

j. Suitable ventilation and gas dispersion demonstration arrangements.

k. Appropriate firefighting and ammonia vapour mitigation equipment and facilities.

l. Simulator facilities for bunkering, fuel transfer and emergency response.

13.2 Publications

The following shall be available as mandatory reference documents:

1. STCW Convention, 1978, as amended.
2. STCW Code, Section A-V/3.

3. IMO STCW.7/Circ.25 – Generic Interim Guidelines on Training for Seafarers on Ships Using Alternative Fuels and New Technologies.
4. IMO STCW.7/Circ.27 dated 06 July 2026 – Interim Guidelines on Training for Seafarers on Ships Using Ammonia as Fuel.
5. IMO MSC.1/Circ.1687 dated 26 February 2025 – Interim Guidelines for the Safety of Ships Using Ammonia as Fuel.
6. IMO MSC.1/Circ.1702 – Interim Guidelines for the Use of Ammonia Cargo as Fuel, wherever applicable.
7. SOLAS Convention, 1974, as amended.
8. MARPOL Convention, as amended.
9. International Code of Safety for Ships Using Gases or Other Low-flashpoint Fuels (IGF Code), as applicable.
10. International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), wherever applicable.
11. DGS Training Circular No. 14 of 2019.
12. DGS (NT/ENG) Circular No. 11 of 2025.
13. Relevant Safety Data Sheets (SDS), equipment manuals and recognised industry guidelines.[Ros/ ISO]

14. APPROVAL

Approval of MTIs to conduct the programme shall be granted by DGMA in accordance with the applicable DGMA Training Manual and prevailing approval procedures.

The approval shall be specific to this course and shall remain subject to periodic inspection and satisfactory compliance with the prescribed standards.

ANNEXURE-II

COURSE OUTLINE AND COMPETENCY REQUIREMENTS

The programme shall be designed to address the additional advanced-level competencies prescribed in Table 2 of IMO STCW.7/Circ.27.

The following course modules shall constitute the proposed minimum syllabus, subject to detailed competency-wise verification against the IMO guidelines.

Module	Subject area	Major topics
1	Physical and chemical properties of ammonia	Chemical structure, physical properties, thermodynamics, vapour pressure, liquid and vapour densities, boiling point, flammability limits, auto-ignition, toxicity, compatibility and phase-change characteristics
2	Health hazards and toxicological characteristics	Acute toxicity, exposure routes, inhalation and skin/eye exposure, occupational exposure, health effects, exposure prevention and medical response
3	Marine propulsion and auxiliary machinery	Operating principles of marine power plants, ammonia-fuelled engines, auxiliary machinery and relevant engineering systems
4	Ammonia fuel system design and arrangements	Ship design, fuel storage tanks, tank construction, fuel preparation rooms, piping arrangements, pumps, valves, compressors, vaporizers and associated equipment
5	Fuel monitoring, control and safety systems	Temperature, level and pressure monitoring, ammonia detection, alarms, ventilation, ESD and safety devices
6	Fuel system operation and maintenance	Planned maintenance, material compatibility, corrosion considerations, safe isolation, depressurisation, purging, maintenance and reinstatement
7	Fuel tank management	Tank preparation, inerting, purging, gas freeing, initial loading, tank atmosphere control, emptying and procedures for taking tanks in and out of service
8	Ammonia bunkering operations	Bunkering plans, fuel data, pre-bunkering and post-bunkering procedures, ship-shore/ship-ship interface, communications, emergency shutdown and bunkering checklists
9	Fuel calculations and management	Maximum filling quantity, fuel inventory, boil-off and pressure management, fuel consumption calculations and concurrent operations
10	Pollution prevention	Effects of ammonia release, toxic plume dispersion, environmental impacts, spill/leakage response and pollution prevention procedures
11	Regulatory compliance	SOLAS, MARPOL, IGF Code, IGC Code as applicable, MSC.1/Circ.1687, MSC.1/Circ.1702, STCW.7/Circ.25, STCW.7/Circ.27 and relevant national and port requirements

12	Hazard identification and risk assessment	Toxicity, flammability, explosion, pressure hazards, liquid release, rapid vaporisation, HAZID, HAZOP and risk analysis
13	Occupational health and safety	Gas detection, instrument calibration, breathing apparatus, chemical protective clothing, rescue equipment, first aid, decontamination, emergency showers, eye-wash, enclosed-space entry and maintenance safety
14	Fire prevention and emergency response	Ammonia release, fire and explosion hazards, emergency organisation, gas dispersion, toxic cloud mitigation, emergency shutdown, personnel rescue and simulator exercises

1. Mandatory practical training

Practical training shall include, as applicable:

1. Demonstration of ammonia fuel storage and transfer arrangements.
2. Operation and monitoring of fuel pumps, valves and associated systems.
3. Safe isolation of fuel systems and application of maintenance procedures.
4. Operation and calibration of suitable ammonia gas detection equipment.
5. Use of ammonia-compatible PPE, chemical protective suits and breathing apparatus.
6. Demonstration of emergency shutdown and fuel isolation.
7. Preparation and verification of ammonia bunkering checklists.
8. Practical exercises covering ship-shore and ship-ship communication.
9. Demonstration of ammonia leakage and release response procedures.
10. Demonstration of emergency shower, eye-wash and decontamination arrangements.
11. Practical exercises on personnel rescue and evacuation from ammonia-affected areas.
12. Demonstration of appropriate ammonia vapour mitigation and emergency-response arrangements.

    Important guidance note: All practical exercises involving actual ammonia shall be undertaken only at suitably approved facilities with appropriate safety controls. Where such facilities are unavailable, suitable approved simulation or demonstration arrangements may be used, subject to DGMA approval. Approved training institutes may utilize simulation-based training or Virtual Reality (VR) technologies to demonstrate the operational hazards, emergency response procedures, and physical properties associated with low-flashpoint and toxic fuels, including ammonia. Where live-fire drills or physical exposure to hazardous substances pose unacceptable safety or environmental risks, validated simulator or VR exercises may be accepted as an equivalent means of demonstrating practical competence.

2. Simulator-based training

The following scenarios shall be included in simulator-based training:

a. Pre-bunkering preparation and tank conditioning.

b. Commencement, monitoring and completion of bunkering operations.

c. Abnormal pressure, temperature and fuel-level conditions.

d. Fuel leakage and failure of fuel system components.

e. Activation of emergency shutdown systems.

f. Ammonia release and toxic gas dispersion scenarios.

g. Failure of ventilation and gas detection systems.

h. Emergency isolation, recovery and reinstatement of fuel systems.

i. Personnel exposure, rescue, evacuation and decontamination.

j. Concurrent operations during bunkering and emergency response.

k. Fire and explosion scenarios involving ammonia fuel systems, where applicable.

3. Assessment methodology

The candidate shall be assessed against the relevant competencies specified in Table 2 of STCW.7/Circ.27 through:

- Written/oral assessment.
- Practical demonstration.
- Simulator-based assessment.
- Continuous assessment, wherever appropriate.

The MTI shall maintain a detailed assessment matrix identifying each competency, the method of assessment and the candidate's performance.

4. Training-hour allocation

Each MTI seeking approval shall submit a detailed timetable indicating the proposed lecture, practical, simulator and assessment hours against each competency.

The proposed allocation shall be examined and standardised by DGMA before granting course approval. The total duration shall be determined based on the actual training gap and the extent of practical and simulator-based competency demonstration required.

ANNEXURE-III

SAMPLE FORMAT OF CERTIFICATE

GOVERNMENT OF INDIA

DIRECTORATE GENERAL OF MARITIME ADMINISTRATION

CERTIFICATE OF COMPLETION

NON-MANDATORY ADVANCED TRAINING PROGRAMME FOR SEAFARERS ON SHIPS USING AMMONIA AS MARINE FUEL

This is to certify that

Mr./Ms. _____

INDOS No.: _____

Date of Birth: _____

has successfully completed the DGMA-approved Non-Mandatory Advanced Training Programme for Seafarers on Ships Using Ammonia as Marine Fuel, in accordance with the applicable requirements of IMO STCW.7/Circ.27 dated 06 July 2026.

The candidate has successfully demonstrated the additional advanced-level knowledge, understanding and proficiency relating to ammonia fuel systems, bunkering operations, fuel management, toxicity and exposure prevention, occupational safety, hazard prevention, emergency response and pollution prevention.

This certificate shall be read in conjunction with the candidate's valid Certificate of Proficiency in Advanced Training for Ships subject to the IGF Code and documentary evidence of completion of Basic Ammonia Training.

Course ID: _____
MTI Approval No.: _____
Date of commencement: _____
Date of completion: _____
Certificate No.: _____
Authorised Signatory
Name:
Designation:
Seal of the Training Institute

Note: This certificate is documentary evidence of completion of the fuel-specific advanced training/upgradation programme and does not replace the underlying Advanced IGF CoP or any other mandatory STCW certificate.