
Liquefied Gas Industry Indoctrination Guide



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Liquefied Gas Industry Indoctrination Guide

Objective:

To provide guidance for Coast Guard Port State Control Examiners working toward attainment of the Foreign Gas Carrier Examiner (FGCE) competency on meeting the industry indoctrination requirement of the PQS, established in ALCOAST 336/13.

Discussion:

Liquefied Gas Industry Indoctrination provides Coast Guard Port State Control Examiners with a foundational understanding of how this industry operates and conduct business. The experience also provides industry participants an opportunity to meet and develop partnerships with the local Coast Guard inspectors and examiners that will be conducting inspections and examinations at their facilities or on their ships. Because of the diversity of the liquefied gas industry and the various types of liquefied gas operations available in different ports, this guide is divided into three sections; (1) Liquefied Gas Carrier Ship Indoctrination; (2) Liquefied Gas Terminal Operations Indoctrination; and (3) Liquefied Gas Corporate Level Indoctrination. Completion of one of the three sections will satisfy the requirement for industry-specific indoctrination. However, completion of all three sections is encouraged, if possible.

Feeder port Marine Inspection Training Officers (MITO) and non feeder port training officers (TO) are encouraged to build upon this guidance to develop a local Liquefied Gas Industry Familiarization Program which provides the greatest value for the individuals at their unit.

Mutual Training Agreements (MTAs) should not be established with individual companies because the Coast Guard has a national MTA with the Society of International Gas Tanker and Terminal Operators (SIGTTO), inclusive of all of it's members. Some SIGTTO members may not be aware of the MTA, so units should bring it to their attention when first establishing the industry indoctrination program. The SIGTTO MTA can be accessed on the Liquefied Gas Carrier National Center of Expertise (LGCNCOE) website. A list of SIGTTO membership is located at www.sigtto.org.

Action:

Performance items in Section 1 are best suited to units that have liquefied gas carriers operating within their ports that are on dedicated routes, transporting liquefied gas from their port to another, and then returning. Individuals that conduct a ship ride to fulfill their industry indoctrination must complete Section 1 of this guide. *(If a ship ride was completed on a liquefied gas carrier as part of the Merchant Marine Indoctrination (MMI) Ship Rider Program, COMDTINST 16705.1, that ship ride satisfies this requirement.)*

Performance items in Section 2 are best suited to units that have LNG/LPG import/export terminals but no ships on dedicated routes. Individuals that conduct a terminal visit to fulfill their industry indoctrination must complete Section 2 of this guide.

Performance items in Section 3 are best suited to units that are located near a corporate office of a liquefied gas industry company. Individuals that conduct corporate familiarization to fulfill their industry indoctrination must complete Section 3 of this guide.

Once one or all of the sections are completed, a copy of the completed section shall be attached to the FGCE PQS workbook and retained by the apprentice.

Alternative indoctrination plans to those identified in this guide are permissible provided they meet the intent of ALCOAST 336/13. Such an alternative should be provided to the LGCNCOE at lgcncoe@uscg.mil. The LGCNCOE will review the alternative proposal and provide a written response to the MITO/TO. If the proposal does not align with ALCOAST 336/13, the LGCNCOE will coordinate with the MITO/TO on an adequate industry indoctrination plan for that unit.

Encl: (1) Liquefied Gas Industry Indoctrination Guide

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Section 1: Liquefied Gas Carrier Ship Ride Indoctrination

Prospective FGCEs shall complete this section when conducting a liquefied gas carrier ship ride in order to complete their industry specific indoctrination. A copy of this section shall be attached to the FGCE PQS workbook after completion.

The prospective FGCE shall complete each task identified in this section when conducting a liquefied gas carrier ship ride. Upon completion of each task, the prospective Foreign Gas Carrier Examiner FGCE shall verify completion by initialing the “completed” box.

	Task	Completed
1.1	Meet with the Captain, Chief Mate and Chief Engineer and discuss their roles and responsibilities.	
1.2	Discuss the liquefied gas shipping industry, to include loading, transit voyage, and discharge operations.	
1.3	Witness loading operations to include: Review the transfer procedures and loading plan, observe the ship/shore connection procedures, transfer rate, filling limits, emergency shutdown (ESD)/Ship – Shore Link (SSL) checks, and temperature/pressure monitoring.	
1.4	Prior to getting underway, complete all shipboard familiarization requirements as described in the ship’s operating procedures manual, and participate/witness fire and/or emergency drills.	
1.5	While underway, stand two watches with the ship’s crew, to include one watch on the bridge and one in the engine room.	
1.6	Review the ship’s cargo operations manual and become familiar with the cargo procedures and equipment.	
1.7	Understand and observe how the cargo boil-off is controlled and monitored.	
1.8	Understand how dual-fuel diesel engines (if fitted) are designed to operate, for propulsion purposes. (LNG only)	
1.9	Discuss the ship’s Safety Management System (SMS), how is it utilized by the crew, and how it is an essential tie-in to the proper functionality of operations.	
1.10	Observe and discuss any maintenance procedures on cargo equipment.	
1.11	Witness discharge operations: Review the discharge procedures and discharge plan, observe the ship/shore connection procedures, transfer rate, start up, ESD/Ship – Shore Link (SSL) checks, and operating procedures for the cargo discharge pumps.	

Section 2: Liquefied Gas Terminal Operations Indoctrination

Prospective FGCE shall complete this section when conducting a liquefied gas terminal visit in order to complete their industry specific indoctrination. A copy of this section shall be attached to the FGCE PQS workbook after completion.

The prospective FGCE shall complete each task identified in this section when conducting a liquefied gas terminal visit. Upon completion of each task, the prospective FGCE shall verify completion by initialing the “completed” box.

	Task	Completed
2.1	Meet the Marine Operations Manager or Superintendent and discuss his/her responsibilities.	
2.2	Discuss and tour shoreside storage cargo tanks to include materials and design.	
2.3	Discuss and tour the terminal’s cargo specific instrumentation, including product metering, pressure/temperature, level sensors, and gas detection systems.	
2.4	Discuss and tour the terminal’s firefighting systems (water, foam, dry chemical powder, CO2).	
2.5	Discuss the types of ships and cargoes the terminal handles.	
2.6	Discuss and tour the marine transfer area equipment, to include loading arms and/or hoses, Powered Emergency Release Couplers (PERCs), nitrogen system, ESD, gas detection, mooring winches, fire-fighting systems.	
2.7	Discuss and witness (if available) ship receiving and mooring operations.	
2.8	Discuss and witness transfer arm or hose connection procedures and the inerting process.	
2.9	Attend or discuss a pre-transfer meeting, discuss Person In Charge (PIC) qualifications and review a declaration of inspection (DOI).	

Section 3: Liquefied Gas Corporate Level Indoctrination

Prospective FGCEs shall complete this section when conducting a liquefied gas corporate office visit in order to complete their industry specific indoctrination. A copy of this section shall be attached to the FGCE PQS workbook after completion.

The prospective FGCE shall complete each task identified in this section when conducting a liquefied gas corporate office visit. Upon completion of each task, the prospective FGCE shall verify completion by initialing the “completed” box.

	Task	Completed
3.1	Meet with the Operations Director and discuss his/her responsibilities.	
3.2	Discuss the scheduling and managing of ship operations to include cargo loading and discharge, ship arrivals and departures, ship/shore compatibility studies, fuel consumption, and ship to ship transfers (if applicable).	
3.3	Discuss with Operations the scheduling and managing of ship and cargo inspections (class, flag, and PSC exams).	
3.4	Discuss operational regulatory compliance in accordance with international and domestic regulations.	
3.5	Meet with the Marketing Director to discuss commercial operations and current industry trends.	
3.6	Gain an understanding of the regulatory and the designing/permitting process for new LNG or LHG facility and ship projects.	
3.7	Discuss any development and/or new construction plan review processes.	
3.8	Meet with the company’s Technical Services Director to discuss preventative maintenance procedures.	
3.9	Meet with the Health, Safety, and Environmental (HSE) manager and discuss his/her responsibilities.	
3.10	Discuss procedures for reporting and/or responding to environmental incidents, equipment failures, and injuries.	
3.11	Meet with company’s vetting/assurance group to discuss vetting process	