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# U.S. COAST GUARD



## FOREIGN GAS CARRIER EXAMINER (FGCE)

### PORT STATE CONTROL OFFICER PERFORMANCE AND QUALIFICATION STANDARD



Marine Inspection and Investigation School  
Training Center Yorktown

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## Foreign Gas Carrier Examiner Performance and Qualification Standard

### Competency Code: FGCE

#### References:

- (a) U.S. Coast Guard Sector Organization Manual, COMDTINST M5401.6 (series)
- (b) Marine Safety Manual, COMDTINST M16000 (series)
- (c) Performance, Training & Education Manual, COMDTINST M1500.10C
- (d) Safety and Environmental Health Manual, COMDTINST 5100.47

This Performance and Qualification Standard (PQS) workbook is your On the Job Training (OJT) performance checklist for certification as a Foreign Gas Carrier Examiner (FGCE). It is your responsibility to document all completed unit training items and keep track of all examinations completed during this process by filling out the Port State Control (PSC) Examination Log located in appendix C of this workbook.

The FGCE competency is one of five “specific cargo/vessel related” Port State Control Officer (PSCO) competencies. This qualification is not restricted to any particular rank or rate. Civilian GS employees are also eligible.

When released, the FGCE Tactics, Techniques and Procedures (TTP) will provide substantive details on how to perform the Tasks and Steps.

The following is a brief overview of how this PQS workbook works. On each task card you will find:

1. **Job:** the formal title of the qualification.  
*Example: “Foreign Gas Carrier Examiner”*
2. **Job Accomplishment:** the main deliverable for the qualification.  
*Example: “Certificate of Compliance”*
3. **Major Accomplishment:** the valuable products of a job or specialty which collectively make up the job accomplishment.  
*Example: “Certificates and Documents (CD)”*
4. **Vessel types:** the specific type of vessels within the formal title of the qualification that the task is associated with.  
*Example: “Foreign Liquefied Gas Carrier (LPG)”*
5. **Task:** action to be performed on the job. A unit of behavior which has value for producing major accomplishments/output; has a definite beginning (stimulus); is made up of two or more steps; and results in a measurable output.
6. **Condition:** specifies assistance, aids or constraints the trainee will be given. It states the condition(s)/limit(s) under which the task will be performed.

7. **Standard:** specifications of the levels of accuracy and quality necessary for success, i.e. how well a trainee must carry out the desired performance to complete the task.
8. **Steps:** the sequence of actions required to complete the task.

Those individuals that are assigned to Sectors/MSUs or MSDs that conduct examinations on liquefied petroleum gas (LPG) carriers that are authorized to carry flammable and/or chemical gases must complete all of the tasks that are identified by the vessel types *“Foreign Liquefied Gas Carrier (All)”* and *“Foreign Liquefied Gas Carrier (LPG)”*. Those individuals that are assigned to Sectors/MSUs or MSDs that conduct examinations on liquefied natural gas (LNG) carriers must complete all of the tasks that are identified by the vessel type *“Foreign Liquefied Gas Carrier (All)”* and *“Foreign Liquefied Gas Carrier (LNG)”*.

All tasks and steps must be validated by a designated Verifying Officer (VO). The VO shall observe the successful performance of each task and document such with signatures in the specific task card. VOs must enter their title, name and initials in the Record of Verifying Officer’s section before making entries in your PQS workbook.

Ideally, all steps and tasks within the PQS workbook shall be required to be completed prior to obtaining the FGCE competency. With the exception of the training prerequisites listed on page (I), the Sector Commander or designee may defer PQS items as authorized by references (a) and (d). The deferment of tasks should only be done when all reasonable attempts have been exhausted that would allow the apprentice the opportunity to demonstrate proficiency with a particular task. If a task is deferred, the reason for deferment must be clearly articulated in both the PQS workbook and the certification letter for record keeping and accountability.

The Sector Commander or designee may also defer the following prerequisites listed on page (I) with conditions:

1. **A.4:** The Gas Carrier Inspector Course may be deferred for up to 12 months contingent on the member successfully completing an exam administered by the LGCNCOE.
2. **C.2:** The completion of one Port State Control Officer competency or one Domestic Marine Inspector competency may be waived by the Sector Commander if the Sector’s Prevention leadership (CID and/or MITO) recognize that the Apprentice Marine Inspector has the maturity, capacity and initiative to successfully pursue an FGCE qualification.

Prior to any task being deferred for an individual seeking certification as a Foreign Gas Carrier Examiner (FGCE), that individual’s Chief, Inspections Division (CID), Port State Control Branch Chief or Marine Inspection Training Officer (MITO) shall notify the Liquefied Gas Carrier National Center of Expertise (LGCNCOE). The LGCNCOE will work with the individual and his/her unit to identify an opportunity for the individual to demonstrate proficiency with the task. If an opportunity cannot be identified, the LGCNCOE shall notify the individual’s unit via e-mail. A copy of the e-mail from the LGCNCOE shall be attached to the individual’s FGCE PQS workbook until proficiency with the task has been demonstrated.

A Certification Board should only be completed after all tasks and steps are signed by a VO. Upon satisfactory completion of the board, a Letter of Certification/Designation will be issued and the **Unit Training Coordinator should enter the certification in the Training Management Tool (TMT).**

**Appendices:**

- A. List of Additional References
- B. Glossary
- C. Port State Control Examination Log

**Enclosure:**

- 1. Liquefied Gas Industry Indoctrination Guide



## Foreign Gas Carrier Examiner PQS

<b>RECORD OF COMPLETION</b>		
<b>Training Prerequisites</b>	<b>Date</b>	<b>Training Coordinator's Signature</b>
A. Assign FGCE competency in TMT		
B. Completion of the following resident courses:		
1. Port State Control Officer Course (501864); <b>or</b>		
2. MST A-School (only if completed after January 2010); <b>or</b>		
3. Marine Inspector Course (only if completed before March 2006)		
4. Gas Carrier Inspector Course (351263)		
C. Liquefied Gas Industry Indoctrination Guide (meets Industry Specific Orientation Indoctrination requirement)		
D. Completion of:		
1. Port State Control Examiner (PSCE) competency; <b>and</b>		
2. Completion of one Port State Control Officer competency or one Domestic Marine Inspector competency		
E. Completion of this PQS Workbook		
F. Successful completion of final assessment under the observation of the Verifying Officer		
G. Successful completion of the final board by FGCECB		
<b>FGCECB Members Present for Board:</b>		
H. Certification/Designation Letter submitted for approval		
I. Once Certification/Designation Letter is signed make appropriate entries in TMT		
<b>REMARKS:</b>		

## Foreign Gas Carrier Examiner PQS

Task Number	Task Description	Date Completed
FGCE-PE01	Prepare a Certificate of Compliance for Issuance	
FGCE-PE02	Conduct a safety meeting	
FGCE-CD01	Examine the International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk ( <b>LPG Carriers Only</b> )	
FGCE-CD02	Examine the International Certificate of Fitness for the Carriage of Liquefied Gases in Bulk (IGC Code)	
FGCE-CD03	Examine the Certificate of Fitness for the Carriage of Liquefied Gases in Bulk (GC Code)	
FGCE-CD04	Examine the Certificate of Fitness for the Carriage of Liquefied Gases in Bulk (EGC Code)	
FGCE-CD05	Verify that the information required to be provided to the master concerning allowable loading limits and maximum loading reference temperatures for each product carried is onboard	
FGCE-CD06	Examine documentation applicable to the changing and setting of cargo tank pressure relief valves	
FGCE CD07	Examine crew training documentation	
FGCE-CD08	Examine the Subchapter "O" endorsement	
FGCE-CD09	Examine Certificate of Inhibition ( <b>LPG Carriers Only</b> )	
FGCE-LM01	Examine the Cargo Record Book ( <b>LPG Carriers Only</b> )	
FGCE-LM02	Examine the Procedures & Arrangement (P&A) Manual ( <b>LPG Carriers Only</b> )	
FGCE-LM03	Examine the Shipboard Marine Pollution Emergency Plan (SMPEP) for Noxious Liquid Substances ( <b>LPG Carriers Only</b> )	
FGCE-LM04	Verify that required cargo information is onboard (Cargo Operations Manual)	
FGCE-LM05	Verify that the ship has a loading and stability information booklet	
FGCE-GH01	Examine decontamination showers ( <b>LPG Carriers Only</b> )	
FGCE-GH02	Examine eye wash stations ( <b>LPG Carriers Only</b> )	
FGCE-GH03	Examine respiratory and eye protection [provided for emergency escape purposes] ( <b>LPG Carriers Only</b> )	
FGCE-GH04	Examine personnel safety equipment	
FGCE-GH05	Examine First Aid equipment	
FGCE-GH06	Examine air locks	
FGCE-LS01	Examine lifeboats	
FGCE-FF01	Examine fire water main equipment	
FGCE-FF02	Examine the deck water spray system	

## Foreign Gas Carrier Examiner PQS

Task Number	Task Description	Date Completed
FGCE-FF03	Examine chemical powder fire-extinguishing system	
FGCE-FF04	Examine cargo machinery room fixed fire-extinguishing system	
FGCE-FF05	Examine cargo motor machinery room fixed fire-extinguishing system	
FGCE-FF06	Examine firemen's outfits	
FGCE-ES01	Examine electrical installations in the cargo machinery room	
FGCE-ES02	Examine electrical installations in gas dangerous zones on open decks and in spaces other than cargo machinery rooms	
FGCE-IE01	Examine fixed gas detection system	
FGCE-IE02	Examine portable gas detection equipment	
FGCE-IE03	Examine temperature indicating devices	
FGCE-IE04	Examine pressure monitoring devices	
FGCE-IE05	Examine overflow control system	
FGCE-CS01	Examine the Emergency Shutdown (ESD) system	
FGCE-CS02	Examine cargo tank pressure relief valves	
FGCE-CS03	Examine cargo piping	
FGCE-CS04	Examine cargo system valves	
FGCE-CS05	Examine cargo machinery room equipment	
FGCE-CE01	Examine the Inert Gas System (IGS)	
FGCE-CE02	Examine the Nitrogen Gas Generating System	
FGCE-CE03	Examine Inert Gas/Nitrogen storage tanks	
FGCE-CV01	Examine cargo machinery motor room ventilation system	
FGCE-CV02	Examine cargo machinery room ventilation system	
FGCE-GF01	Examine the master gas valve <b>(LNG Carriers Only)</b>	
FGCE-GF02	Examine ventilation within the ventilation hood or casing <b>(LNG Carriers Only)</b>	
FGCE-GF03	Examine the gas detection system used for the protection of the cargo fuel system <b>(LNG Carriers Only)</b>	
FGCE-GF04	Examine the gas utilization unit(s) <b>(LNG Carriers Only)</b>	
FGCE-GF05	Examine gas fuel piping (double wall piping system) <b>(LNG Carriers Only)</b>	
FGCE-GF06	Examine gas fuel piping (ventilated pipe or duct system) <b>(LNG Carriers Only)</b>	
FGCE-GF07	Examine the Gas Combustion Unit (GCU) <b>(LNG Carriers Only)</b>	

Foreign Gas Carrier Examiner PQS

<b>Task Number</b>	<b>Task Description</b>	<b>Date Completed</b>
FGCE-FU01	Complete MISLE Activity	

**Foreign Gas Carrier Examiner (FGCE)**

**Certificate of Compliance**

**Pre-Exam (PE)**

**Foreign Liquefied Gas Carrier (All)**

**Task:** FGCE-PE01 Prepare Certificate of Compliance (COC) for issuance

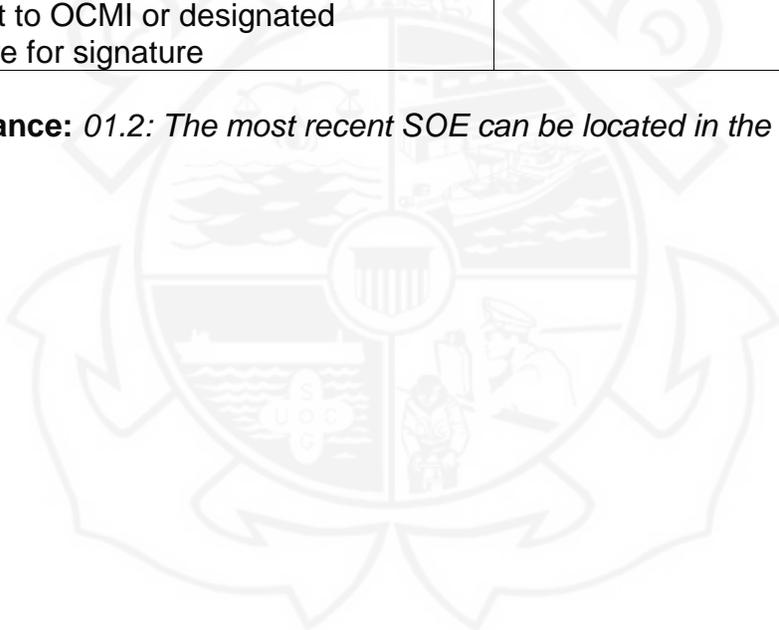
**Condition:** *During preparation for examination*

**Standard:** *In accordance with current policies, procedures and processes*

- References:**
1. Title 46, Code of Federal Regulations Part 154 Safety Standards for Self-Propelled Vessels Carrying Bulk Liquefied Gases
  2. COMDTINST M16000.7B Marine Safety Manual Volume II Material Inspection Ch-1
  3. MPS-PR-SEC-04 Preparing for Inspections and Examinations

Steps		References	Initials
PE01.1	Prepare certificate	MPS-PR-SEC-04	
PE01.2	Attach most recent Subchapter "O" Endorsement to certificate	46 CFR 154.1802(a)(1)	
PE01.3	Forward COC with Subchapter "O" Endorsement to OCMI or designated representative for signature	MSM II/D.6.E	

**Verifying Officer Guidance:** *01.2: The most recent SOE can be located in the documents section of vessel's MISLE file.*



<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>

**Foreign Gas Carrier Examiner (FGCE)****Certificate of Compliance****Pre-Exam (PE)****Foreign Liquefied Gas Carrier (All)****Task:** FGCE-PE02 Conduct safety meeting**Condition:** During preparation for examination**Standard:** In accordance with current policies, procedures and processes

- References:**
1. COMDTINST M16000.6 Marine Safety Manual Volume I Administration & Management
  2. COMDTINST M16000.7B Marine Safety Manual Volume II Material Inspection Ch-1
  3. CG-543 191819Z MAR 10 Safety Alert - Cargo Compressor Room Entries During Port State Control Exams & Law Enforcement Boardings of Liquefied Petroleum Gas (LPG) Carriers
  4. International Chamber of Shipping Tanker Safety Guide Liquefied Gas

Steps		References	Initials
PE02.1	Verify examination team is outfitted with appropriate PPE	MSM I/10.D.5.A MSM I/ 8.A.3	
PE02.2	Verify examination team is outfitted with Atmospheric Monitors	MSM I/10.D.5.B	
PE02.3	Verify examination team is outfitted with Emergency Escape Breathing Device (EEBD)	MSM I/10.D.5.D	
PE02.4	Determine if a marine chemist is required to certify the cargo machinery space	MSM II/D.6.C.1.f CG-543 Safety Alert	
PE02.5	Ensure examination team is aware of safety hazards associated with cargo(s) presence	MSM I/10.C.1.a Tanker Safety Guide	

**Verifying Officer Guidance:** 02.1: *i.e., long sleeve coveralls, gloves, safety toe shoes, safety hat, etc.* 02.2: *i.e., multi gas meters.* PE02.4: *If a Marine Chemist Certificate is required to enter a cargo machinery room, follow your unit's local procedures.*

**Inspector's Name:** (Last, First, Initial)**EMPLID:****Verifying Officer's Signature:****Date:**

**Foreign Gas Carrier Examiner (FGCE)****Certificate of Compliance****Certificates and Documents (CD)****Foreign Liquefied Gas Carrier (LPG)**

**Task:** FGCE-CD01 Examine International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk

**Condition:** While validating certificates and documents

**Standard:** In compliance with applicable policies, laws, regulations and standards

**References:** 1. International Convention for the Prevention of Pollution from Ships (MARPOL) 1973, as modified

Steps		References	Initials
CD01.1	Verify validity	MARPOL II/5.3.2 MARPOL II/10	
CD01.2	Verify issued by administration or recognized organization	MARPOL II/5.3.2 MARPOL II/9.2	
CD01.3	Verify NLS cargo being carried is authorized	MARPOL II/5.3.2 MARPOL II/Appendix III	
CD01.4	Verify intermediate survey has been completed	MARPOL II/5.3.2 MARPOL II/8.1.3	
CD01.5	Verify annual survey has been completed	MARPOL II/5.3.2 MARPOL II/8.1.4	

**Verifying Officer Guidance:** This task applies to vessels authorized to carry Annex II cargoes covered by the IBC Code. These cargoes will be identified by "\*" after their name in the table located within Chapter 19 of the IGC Code. 01.4: The intermediate survey conducted 3 months before/after the certificate's 2nd/3rd anniversary date. 01.5: The annual survey shall be conducted 3 months before/after the certificate's anniversary date.

**Inspector's Name:** (Last, First, Initial)

**EMPLID:**

**Verifying Officer's Signature:**

**Date:**

**Foreign Gas Carrier Examiner (FGCE)****Certificate of Compliance****Certificates and Documents (CD)****Foreign Liquefied Gas Carrier (All)**

**Task:** FGCE-CD02 Examine International Certificate of Fitness (COF) for the Carriage of Liquefied Gases in Bulk (IGC Code)

**Condition:** While validating certificates and documents

**Standard:** In compliance with applicable policies, laws, regulations and standards

**References:** 1. International Code for the Construction & Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), 1993

Steps		References	Initials
CD02.1	Verify validity	IGC 1.5.4 IGC 1.5.6	
CD02.2	Verify issued by administration or recognized organization	IGC 1.5.5	
CD02.3	Verify cargoes are authorized	IGC 18.2.1	
CD02.4	Verify that any alternative arrangements or equivalencies are identified	IGC 1.4 & 1.5.4.2 IGC 2.8.2 IGC Appendix	
CD02.5	Verify intermediate survey has been completed	IGC 1.5.2.1.3	
CD02.6	Verify annual survey has been completed	IGC 1.5.2.1.4	

**Verifying Officer Guidance:** *This task applies to vessels with a keel laid 1 July 86 or later. 02.6: The intermediate survey shall be carried out not more than 6 months before or 6 months after the half way date of the certificate's issue date. 02.7: The annual survey shall be carried out not more than 3 months before or 3 months after the anniversary date of when the certificate was issued.*

**Inspector's Name:** (Last, First, Initial)

**EMPLID:**

**Verifying Officer's Signature:**

**Date:**

**Foreign Gas Carrier Examiner (FGCE)****Certificate of Compliance****Certificates and Documents (CD)****Foreign Liquefied Gas Carrier (All)**

**Task:** FGCE-CD03 Examine the Certificate of Fitness (COF) for the Carriage of Liquefied Gases in Bulk (GC Code)

**Condition:** While validating certificates and documents

**Standard:** In compliance with applicable policies, laws, regulations and standards

- References:**
1. Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (GC Code), 1983
  2. Code for Existing Ships Carrying Liquefied Gases in Bulk (EGC Code), 1976

Steps		References	Initials
CD03.1	Verify validity	GC Appendix GC 1.6.3 EGC Code	
CD03.2	Verify issued by administration or recognized organization	GC 1.6.4	
CD03.3	Verify cargoes are authorized	GC 18.2.1	
CD03.4	Verify any alternative arrangements or equivalencies are identified	GC 1.5 & 1.6.3(a) GC 2.7.2 GC Appendix	
CD03.5	Verify intermediate survey has been completed	GC 1.6.1(c)	
CD03.6	Verify annual survey has been completed	GC 1.6.1(d)	

**Verifying Officer Guidance:** This task applies to vessels with a keel laid 31Dec76 - 1July86. 03.6: The intermediate survey shall be carried out not more than 6 months before or 6 months after the half way date of the certificate's issue date. 03.7: The annual survey shall be carried out not more than 3 months before or 3 months after the anniversary date of when the certificate was issued.

<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>

**Foreign Gas Carrier Examiner (FGCE)****Certificate of Compliance****Certificates and Documents (CD)****Foreign Liquefied Gas Carrier (All)**

**Task:** FGCE-CD04 Examine Certificate of Fitness (COF) for the Carriage of Liquefied Gases in Bulk (EGC Code)

**Condition:** While validating certificates and documents

**Standard:** In compliance with applicable policies, laws, regulations and standards

- References:**
1. Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (GC Code), 1983
  2. Code for Existing Ships Carrying Liquefied Gases in Bulk (EGC Code), 1976
  3. COMDTINST M16000.7B Marine Safety Manual Volume II Material Inspection Ch-1
  4. IMO Resolution A.329(IX) Recommendation concerning ships not covered by the Code for the Construction and Equipment of Ships carrying Liquefied Gases in Bulk

Steps		References	Initials
CD04.1	Verify validity	GC 1.6.3(a) GC 1.6.5 & GC Appendix IMO Res A.329(IX)	
CD04.2	Verify issued by administration or recognized organization	GC 1.6.4	
CD04.3	Verify cargoes are authorized	GC 18.2.1	
CD04.4	Verify any alternative arrangements or equivalencies are identified	GC 1.5 & 1.6.3(a) GC 2.7.2 GC Appendix	
CD04.5	Verify intermediate survey has been completed	GC 1.6.1(c)	
CD04.6	Verify annual survey has been completed	GC 1.6.1(d)	
CD04.7	Identify any aspects of vessel that do not comply with the EGC Code	EGC 1.2.3(b) MSM II/F.4.C	

**Verifying Officer Guidance:** This task applies to vessels with a keel laid before 31Dec76. 04.6: The intermediate survey shall be carried out not more than 6 months before or 6 months after the half way date of the certificate's issue date. 04.7: The annual survey shall be carried out not more than 3 months before or 3 months after the anniversary date of when the certificate was issued. 04.8: Gas Carriers built prior to 31Dec1976 are required to comply with the Gas Carrier Code, IMO Resolution A.328(IX) to the extent that they can. When aspects of a particular vessel cannot be brought into compliance with the Gas Carrier Code, those aspects shall be identified on the COF.

<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>

**Foreign Gas Carrier Examiner (FGCE)**

**Certificate of Compliance**

**Certificates and Documents (CD)**

**Foreign Liquefied Gas Carrier (All)**

**Task:** FGCE-CD05 Verify documentation of allowable loading limits and maximum loading reference temperatures for each product carried onboard

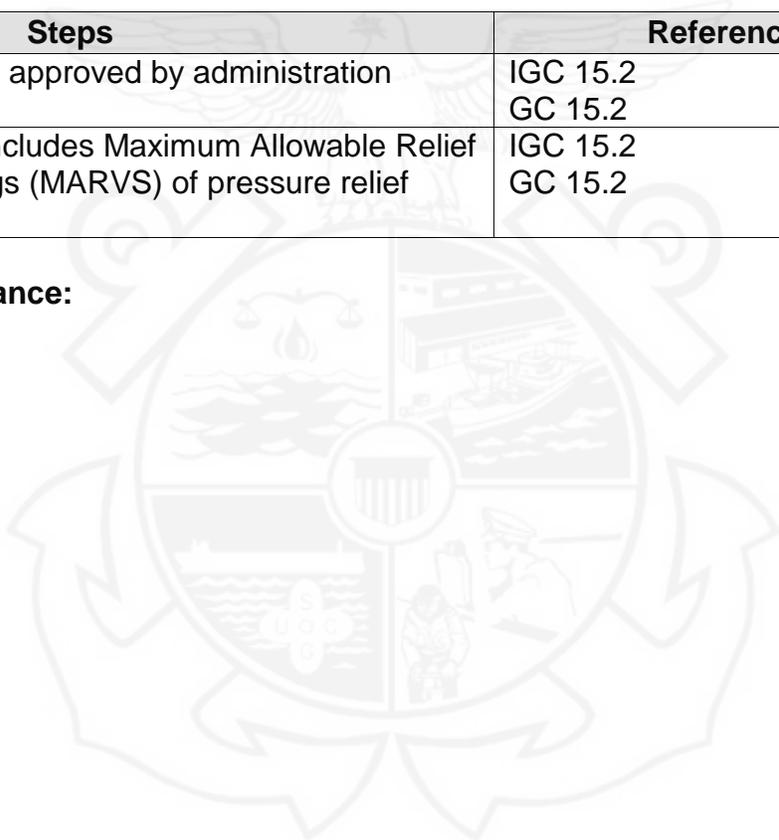
**Condition:** While validating certificates and documents

**Standard:** In compliance with applicable policies, laws, regulations and standards

- References:**
1. International Code for the Construction & Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), 1993
  2. Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (GC Code), 1983

Steps		References	Initials
CD05.1	Verify data is approved by administration	IGC 15.2 GC 15.2	
CD05.2	Verify data includes Maximum Allowable Relief Valve Settings (MARVS) of pressure relief valves	IGC 15.2 GC 15.2	

**Verifying Officer Guidance:**



<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>

**Foreign Gas Carrier Examiner (FGCE)****Certificate of Compliance****Certificates and Documents (CD)****Foreign Liquefied Gas Carrier (All)**

**Task:** FGCE-CD06 Examine documentation applicable to changing and setting of cargo tank pressure relief valves

**Condition:** While validating certificates and documents

**Standard:** In compliance with applicable policies, laws, regulations and standards

- References:**
1. International Code for the Construction & Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), 1993
  2. Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (GC Code), 1983
  3. Title 46, Code of Federal Regulations Part 154 Safety Standards for Self-Propelled Vessels Carrying Bulk Liquefied Gases

Steps		References	Initials
CD06.1	Examine documentation from administration attesting to proper settings of pressure relief valves	IGC 8.2.5 GC 8.2.5	
CD06.2	Verify procedures for changing cargo tank pressure relief valves are approved by the administration (LPG only)	IGC 8.2.7 GC 8.2.7	
CD06.3	Verify changes to cargo tank pressure relief valves are logged (LPG only)	IGC 8.2.7 GC 8.2.7 46 CFR 154.1846(b)	

**Verifying Officer Guidance:**

<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>

**Foreign Gas Carrier Examiner (FGCE)**

**Certificate of Compliance**

**Certificates and Documents (CD)**

**Foreign Liquefied Gas Carrier (All)**

**Task:** FGCE-CD07 Examine crew training documentation

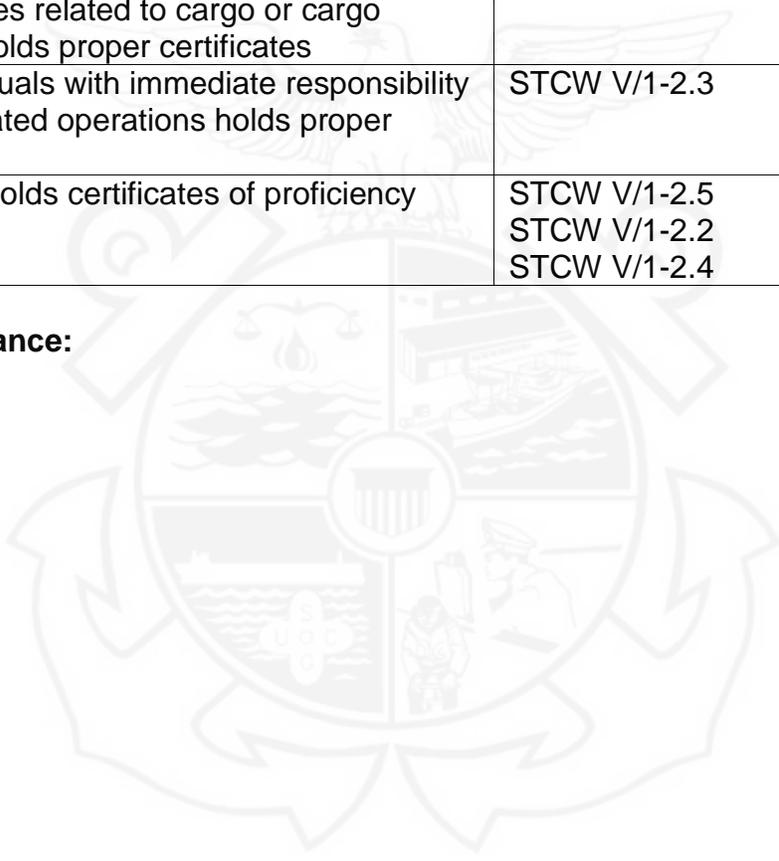
**Condition:** While validating certificates, documents & manuals

**Standard:** In compliance with applicable policies, laws, regulations and standards

**References:** 1. International Convention on Standards of Training, Certification & Watchkeeping (STCW) 1978, as amended

Steps		References	Initials
CD07.1	Verify individuals with duties and responsibilities related to cargo or cargo equipment holds proper certificates	STCW V/1-2.1	
CD07.2	Verify individuals with immediate responsibility for cargo related operations holds proper certificate	STCW V/1-2.3	
CD07.3	Verify crew holds certificates of proficiency	STCW V/1-2.5 STCW V/1-2.2 STCW V/1-2.4	

**Verifying Officer Guidance:**



<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>

**Foreign Gas Carrier Examiner (FGCE)**

**Certificate of Compliance**

**Certificates and Documents (CD)**

**Foreign Liquefied Gas Carrier (All)**

**Task:** FGCE-CD08 Examine Subchapter "O" Endorsement (SOE)

**Condition:** *While validating certificates and documents*

**Standard:** *In compliance with applicable policies, laws, regulations and standards*

- References:**
1. Title 46, Code of Federal Regulations Part 154 Safety Standards for Self-Propelled Vessels Carrying Bulk Liquefied Gases
  2. CG-ENG Policy Letter 04-12 Alternate Pressure Relief Valve Settings on Vessels Carrying Liquefied Gases in Bulk in Independent Type B & Type C Tanks
  3. Marine Safety Center (MSC) C1-43 Guidelines for Foreign Liquefied Gas Carrier COC Endorsement

Steps		References	Initials
CD08.1	Verify IMO International Gas Code COF matches current COF	46 CFR 154.1802(1) MSC Guidelines C1-43	
CD08.2	Verify cargo containment system(s) is identified on SOE	46 CFR 154.1802(1) MSC Guidelines C1-43	
CD08.3	Verify safety relief valves (MARVS) are set according to SOE	46 CFR 154.1802(1) MSC Guidelines C1-43 CG-ENG Policy Ltr 04-12	
CD08.4	Verify authorized cargo(s) are on International Gas Code COF	46 CFR 154.1802(1) MSC Guidelines C1-43	
CD08.5	Verify compliance with any special restrictions	46 CFR 154.1808 MSC Guidelines C1-43	

**Verifying Officer Guidance:**

**Inspector's Name:** (Last, First, Initial)

**EMPLID:**

**Verifying Officer's Signature:**

**Date:**

**Foreign Gas Carrier Examiner (FGCE)****Certificate of Compliance****Certificates and Documents (CD)****Foreign Liquefied Gas Carrier (LPG)****Task:** FGCE-CD09 Examine Certificate of Inhibition**Condition:** *While validating certificates and documents***Standard:** *In compliance with applicable policies, laws, regulations and standards*

- References:**
1. International Code for the Construction & Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), 1993
  2. Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (GC Code), 1983
  3. Title 46, Code of Federal Regulations Part 154 Safety Standards for Self-Propelled Vessels Carrying Bulk Liquefied Gases

Steps		References	Initials
CD09.1	Verify name of Inhibitor	IGC 17.8.1 GC 17.10 (a) 46 CFR 154.1818(b)(1)	
CD09.2	Verify amount of inhibitor added to the cargo(es)	IGC 17.8.1 GC 17.10 (a) 46 CFR 154.1818(b)(1)	
CD09.3	Verify date inhibitor was added	IGC 17.8.2 GC 17.10 (b) 46 CFR 154.1818(b)(2)	
CD09.4	Verify expected duration of inhibitor's effective lifetime	IGC 17.8.2 GC 17.10 (b) 46 CFR 154.1818(b)(3)	
CD09.5	Verify temperature limitations that impact inhibitor's effectiveness	IGC 17.8 GC 17.10 (c) 46 CFR 154.1818(b)(4)	
CD09.6	Verify procedures if voyage exceeds effective lifetime of inhibitor	IGC 17.8 GC 17.10 (d) 46 CFR 154.1818(b)(5)	

**Verifying Officer Guidance:** *This task is not applicable to LNG vessels.*

<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>

**Foreign Gas Carrier Examiner (FGCE)****Certificate of Compliance****Logs and Manuals Examination (LM)****Foreign Liquefied Gas Carrier (LPG)****Task:** FGCE-LM01 Examine Cargo Record Book (CRB)**Condition:** *While validating logs and manuals***Standard:** *In compliance with applicable policies, laws, regulations and standards***References:** 1. International Convention for the Prevention of Pollution from Ships (MARPOL) 1973, as modified

Steps		References	Initials
LM01.1	Verify presence	MARPOL II/15.5	
LM01.2	Verify format	MARPOL II/15.1 MARPOL II/Appendix II	
LM01.3	Verify entries are signed	MARPOL II/15.4	
LM01.4	Verify pages are signed	MARPOL II/15.4	

**Verifying Officer Guidance:** *This task applies to vessels authorized to carry Annex II cargoes covered by the IBC Code. These cargoes will be identified by "\*" after their name in the table located within Chapter 19 of the IGC Code.*

**Inspector's Name:** (Last, First, Initial)**EMPLID:****Verifying Officer's Signature:****Date:**

**Foreign Gas Carrier Examiner (FGCE)**

**Certificate of Compliance**

**Logs and Manuals Examination (LM)**

**Foreign Liquefied Gas Carrier (LPG)**

**Task:** FGCE-LM02 Examine Procedures & Arrangement (P&A) Manual

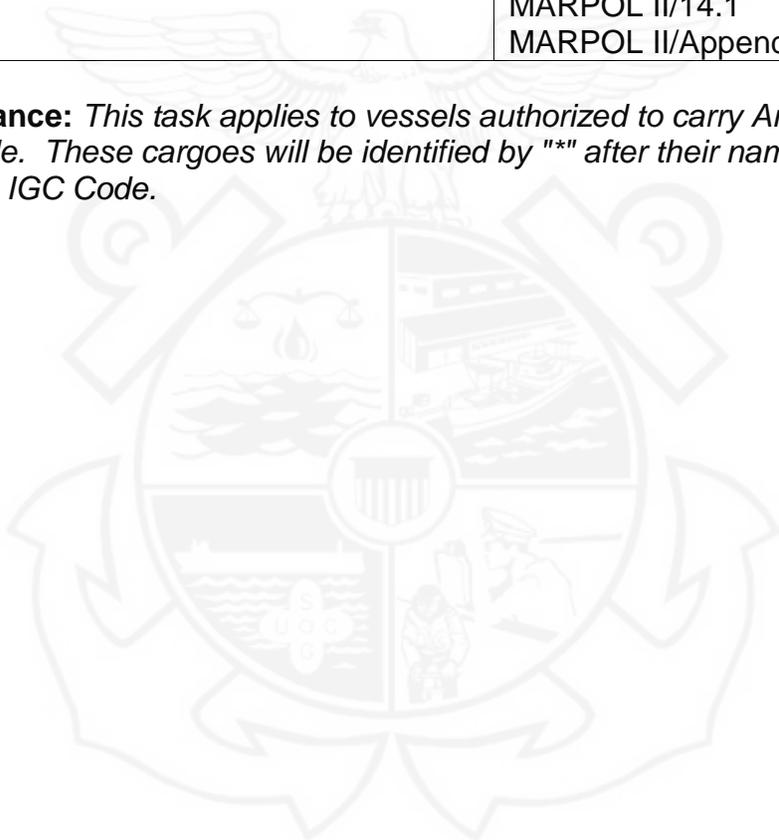
**Condition:** While validating logs and manuals

**Standard:** In compliance with applicable policies, laws, regulations and standards

**References:** 1. International Convention for the Prevention of Pollution from Ships (MARPOL) 1973, as modified

Steps		References	Initials
LM02.1	Verify approved	MARPOL II/14.1	
LM02.2	Verify format	MARPOL II/14.1 MARPOL II/Appendix IV	

**Verifying Officer Guidance:** This task applies to vessels authorized to carry Annex II cargoes covered by the IBC Code. These cargoes will be identified by "\*" after their name in the table located within Chapter 19 of the IGC Code.



<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>

**Foreign Gas Carrier Examiner (FGCE)**

**Certificate of Compliance**

**Logs and Manuals Examination (LM)**

**Foreign Liquefied Gas Carrier (LPG)**

**Task:** FGCE-LM03 Examine Shipboard Marine Pollution Emergency Plan (SMPEP) for Noxious Liquid Substances (NLS)

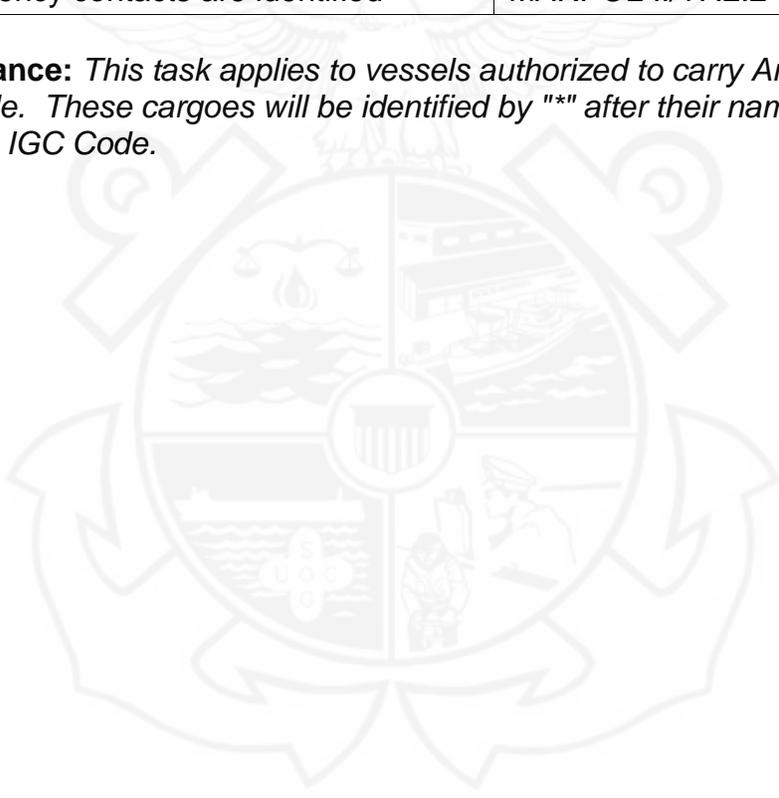
**Condition:** While validating logs and manuals

**Standard:** In compliance with applicable policies, laws, regulations and standards

**References:** 1. International Convention for the Prevention of Pollution from Ships (MARPOL) 1973, as modified

Steps		References	Initials
LM03.1	Verify approved	MARPOL II/17.1	
LM03.2	Verify emergency contacts are identified	MARPOL II/17.2.2	

**Verifying Officer Guidance:** This task applies to vessels authorized to carry Annex II cargoes covered by the IBC Code. These cargoes will be identified by "\*" after their name in the table located within Chapter 19 of the IGC Code.



<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>

**Foreign Gas Carrier Examiner (FGCE)****Certificate of Compliance****Logs and Manuals Examination (LM)****Foreign Liquefied Gas Carrier (All)****Task:** FGCE-LM04 Examine Cargo Operations Manual**Condition:** While validating logs and manuals**Standard:** In compliance with applicable policies, laws, regulations and standards

- References:**
1. International Code for the Construction & Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), 1993
  2. Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (GC Code), 1983
  3. Title 46, Code of Federal Regulations Part 154 Safety Standards for Self-Propelled Vessels Carrying Bulk Liquefied Gases

Steps		References	Initials
LM04.1	Verify cargo physical and chemical properties	IGC 18.1.1 GC 18.1(a) 46 CFR 154.1810 (a)(5)	
LM04.2	Verify procedures for spills or leaks are fully described	IGC 18.1.2 GC 18.1(b) 46 CFR 154.1810 (a)(3)	
LM04.3	Verify counter measure procedures for personnel who come in contact with cargo(es)	IGC 18.1.3 GC 18.1(c) 46 CFR 154.1810 (a)(1)	
LM04.4	Verify fire fighting procedures and extinguishing media	IGC 18.1.4 GC 18.1(d) 46 CFR 154.1810 (a)(4)	
LM04.5	Verify procedures for cargo transfer, gas freeing, ballasting, tank cleaning and changing cargoes	IGC 18.1.5 GC 18.1(e) 46 CFR 154.1810 (a)(10),(11) & (12)	
LM04.6	Verify procedures and special equipment needed for safe handling cargo(es)	IGC 18.1.6 GC 18.1(f) 46 CFR 154.1810 (a)(16)	
LM04.7	Verify minimum allowable inner hull steel temperatures	IGC 18.1.7 GC 18.1(g) 46 CFR 154.1810 (a)(5)	
LM04.8	Verify emergency procedures	IGC 18.1.8 GC 18.1(h) 46 CFR 154.1810 (a)(15)	

**Verifying Officer Guidance:** Some vessels may be keeping this information in the ship's computer.

<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>

**Foreign Gas Carrier Examiner (FGCE)**

**Certificate of Compliance**

**Logs and Manuals Examination (LM)**

**Foreign Liquefied Gas Carrier (All)**

**Task:** FGCE-LM05 Examine loading and stability information booklet

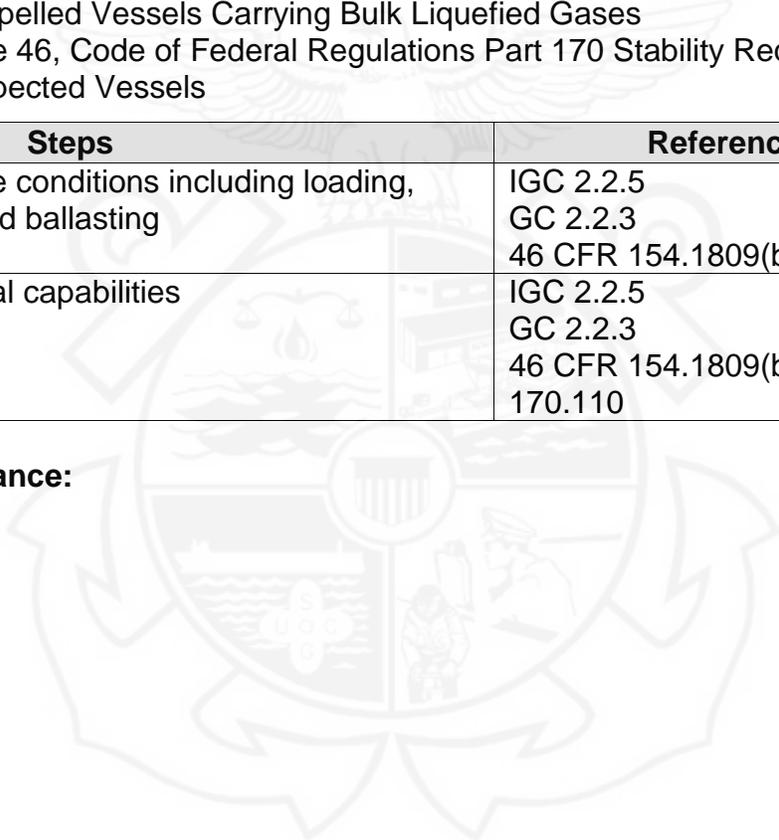
**Condition:** While validating logs and manuals

**Standard:** In compliance with applicable policies, laws, regulations and standards

- References:**
1. International Code for the Construction & Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), 1993
  2. Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (GC Code), 1983
  3. Title 46, Code of Federal Regulations Part 154 Safety Standards for Self-Propelled Vessels Carrying Bulk Liquefied Gases
  4. Title 46, Code of Federal Regulations Part 170 Stability Requirements for All Inspected Vessels

Steps		References	Initials
LM05.1	Verify service conditions including loading, unloading and ballasting	IGC 2.2.5 GC 2.2.3 46 CFR 154.1809(b)(1)	
LM05.2	Verify survival capabilities	IGC 2.2.5 GC 2.2.3 46 CFR 154.1809(b)(2) & 170.110	

**Verifying Officer Guidance:**



<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>

**Foreign Gas Carrier Examiner (FGCE)****Certificate of Compliance****General Health & Safety Examination (GH)****Foreign Liquefied Gas Carrier (LPG)**

**Task:** FGCE-GH01 Examine decontamination showers

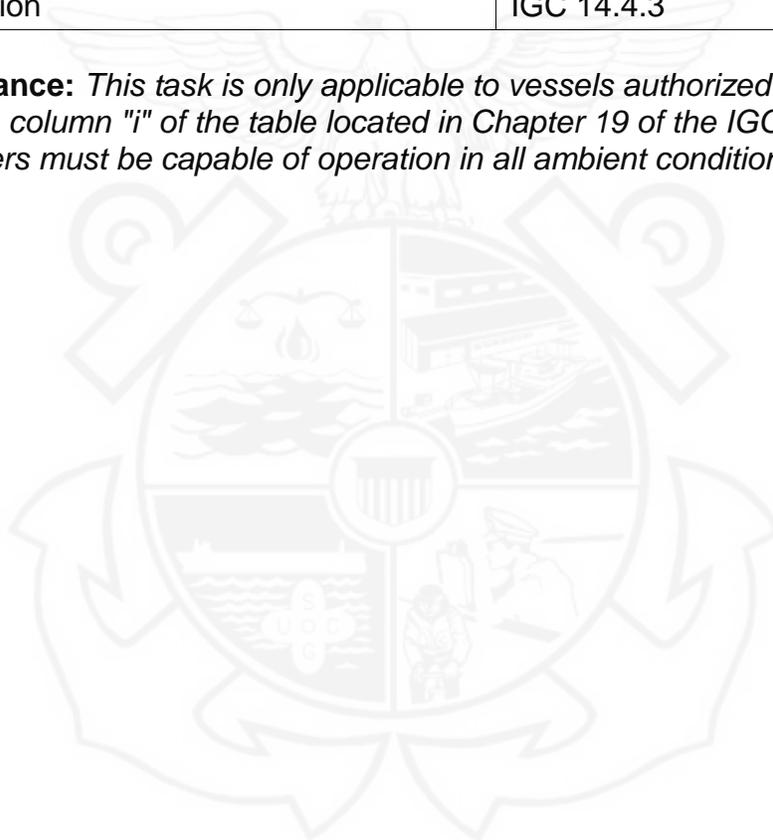
**Condition:** During general health and safety examination

**Standard:** In compliance with applicable policies, laws, regulations and standards

**References:** 1. International Code for the Construction & Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), 1993

Steps		References	Initials
GH01.1	Verify locations and marked	IGC 14.4.3	
GH01.2	Verify operation	IGC 14.4.3	

**Verifying Officer Guidance:** *This task is only applicable to vessels authorized to carry cargoes that have 14.4.3 identified in column "i" of the table located in Chapter 19 of the IGC Code. Decontamination showers must be capable of operation in all ambient conditions.*



**Inspector's Name:** (Last, First, Initial)

**EMPLID:**

**Verifying Officer's Signature:**

**Date:**

**Foreign Gas Carrier Examiner (FGCE)****Certificate of Compliance****General Health & Safety Examination (GH)****Foreign Liquefied Gas Carrier (LPG)****Task:** FGCE-GH02 Examine eye wash stations**Condition:** During general health and safety examination**Standard:** In compliance with applicable policies, laws, regulations and standards**References:** 1. International Code for the Construction & Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), 1993

Steps		References	Initials
GH02.1	Verify locations and marked	IGC 14.4.3	
GH02.2	Verify operation	IGC 14.4.3	

**Verifying Officer Guidance:** *This task is only applicable to vessels authorized to carry cargoes that have 14.4.3 identified in column "i" of the table located in Chapter 19 of the IGC code. Eye Wash stations must be capable of operation in all ambient conditions.*

**Inspector's Name:** (Last, First, Initial)**EMPLID:****Verifying Officer's Signature:****Date:**

**Foreign Gas Carrier Examiner (FGCE)**

**Certificate of Compliance**

**General Health & Safety Examination (GH)**

**Foreign Liquefied Gas Carrier (LPG)**

**Task:** FGCE-GH03 Examine respiratory and eye protection

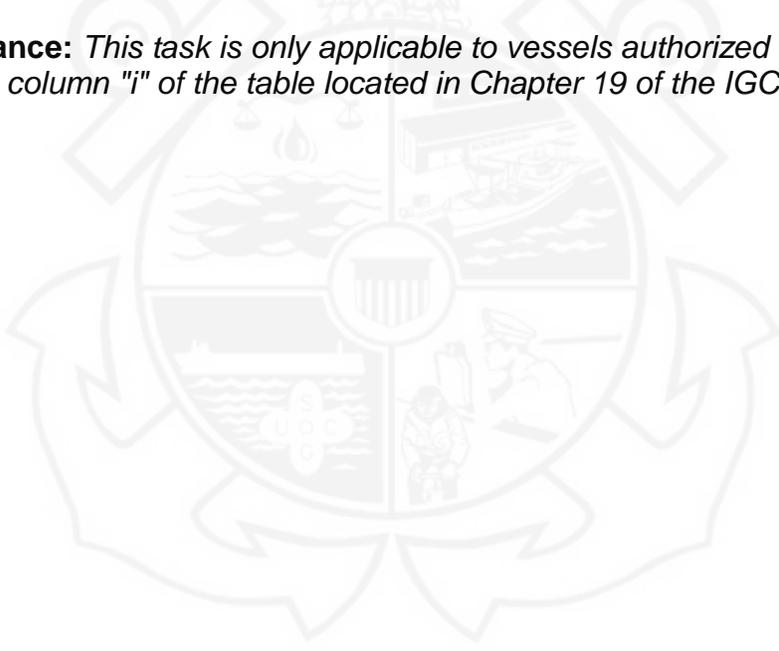
**Condition:** During general health and safety examination

**Standard:** In compliance with applicable policies, laws, regulations and standards

**References:** 1. International Code for the Construction & Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), 1993

Steps		References	Initials
GH03.1	Verify presence	IGC 14.4.2	
GH03.2	Verify filter type respiratory protection are not being used	IGC 14.4.2.1.1	
GH03.3	Verify SCBAs service duration	IGC 14.4.2.1.2	
GH03.4	Verify equipment markings	IGC 14.4.2.2	
GH03.5	Verify location of additional equipment	IGC 14.4.2.3	

**Verifying Officer Guidance:** This task is only applicable to vessels authorized to carry cargoes that have 14.4.2 identified in column "i" of the table located in Chapter 19 of the IGC Code.



<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>

**Foreign Gas Carrier Examiner (FGCE)****Certificate of Compliance****General Health & Safety Examination (GH)****Foreign Liquefied Gas Carrier (All)**

**Task:** FGCE-GH04 Examine personnel safety equipment

**Condition:** During general health and safety examination

**Standard:** In compliance with applicable policies, laws, regulations and standards

**References:**

1. International Code for the Construction & Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), 1993
2. Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (GC Code), 1983
3. Title 46, Code of Federal Regulations Part 154 Safety Standards for Self-Propelled Vessels Carrying Bulk Liquefied Gases

Steps		References	Initials
GH04.1	Verify presence	IGC 14.2.1 GC 14.3	
GH04.2	Verify each set contains required equipment	IGC 14.2.2 GC 14.4	
GH04.3	Verify adequate supply of compressed air	IGC 14.2.3.1 & .2 IGC 14.2.4 GC 14.5(a)(i), (a)(ii) & (b)	
GH04.4	Verify compressed air is inspected monthly	IGC 14.2.6 GC 14.7 46 CFR 154.1846(a)	
GH04.5	Verify compressed air inspected is inspected and tested annually	IGC 14.2.6 GC 14.7	
GH04.6	Verify presence of additional equipment	IGC 14.4.4	

**Verifying Officer Guidance:** 04.1: IGC/GC 11.6.1 requires 4 firemen's outfits for vessels with a cargo capacity of 5,000 m<sup>3</sup> and below, and 5 outfits with a capacity of more than 5,000 m<sup>3</sup>. 04.2: Each set contains 1 SCBA with at least 1,200 l of air; protective clothing, boots, gloves and goggles; steel cored rescue line with belt; explosion proof lamp. 04.5: An expert typically is an individual, not part of the vessel's crew, who works ashore at a facility that conducts servicing and inspections on compressed air equipment used for breathing purposes.

<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>

**Foreign Gas Carrier Examiner (FGCE)****Certificate of Compliance****General Health & Safety Examination (GH)****Foreign Liquefied Gas Carrier (All)****Task:** FGCE-GH05 Examine first aid equipment**Condition:** During general health and safety examination**Standard:** In compliance with applicable policies, laws, regulations and standards

- References:**
1. International Code for the Construction & Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), 1993
  2. Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (GC Code), 1983
  3. ILO/IMO/WHO International Medical Guide for Ships
  4. Medical First Aid Guide for Use in Accidents Involving Dangerous Goods (MFAG)

Steps		References	Initials
GH05.1	Verify stretcher(s)	IGC 14.3.1 GC 14.8	
GH05.2	Verify presence of equipment	IGC 14.3.2 & GC 14.9 Medical Guide MFAG	
GH05.3	Verify presence of oxygen resuscitation equipment	IGC 14.3.2 & GC 14.9 Medical Guide MFAG	
GH05.4	Verify presence of antidotes (when applicable)	IGC 14.3.2 GC 14.9 MFAG	

**Verifying Officer Guidance:** 05.1: These stretchers will be outfitted with belts for securing an injured person and straps that can be used to hoist the stretcher from a lower location.

<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>

**Foreign Gas Carrier Examiner (FGCE)****Certificate of Compliance****General Health & Safety Examination (GH)****Foreign Liquefied Gas Carrier (All)****Task:** FGCE-GH06 Examine air locks**Condition:** *During general health and safety examination***Standard:** *In compliance with applicable policies, laws, regulations and standards*

- References:**
1. International Code for the Construction & Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), 1993
  2. Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (GC Code), 1983

Steps		References	Initials
GH06.1	Verify doors are self closing	IGC 3.6.2 GC 3.6.2	
GH06.2	Verify operation of audible alarm system	IGC 3.6.3 GC 3.6.3	
GH06.3	Verify operation of visual alarm	IGC 3.6.3 GC 3.6.3	
GH06.4	Verify no hold back arrangements for doors	IGC 3.6.2 GC 3.6.2	

**Verifying Officer Guidance:****Inspector's Name:** (Last, First, Initial)**EMPLID:****Verifying Officer's Signature:****Date:**

**Foreign Gas Carrier Examiner (FGCE)****Certificate of Compliance****Lifesaving Equipment Examination (LS)****Foreign Liquefied Gas Carrier (All)****Task:** FGCE-LS01 Examine lifeboats**Condition:** *During lifesaving equipment examination***Standard:** *In compliance with applicable policies, laws, regulations and standards***References:** 1. International Convention for the Safety of Life at Sea (SOLAS) 1974, as amended  
2. Lifesaving Appliances including LSA Code, 2010

Steps		References	Initials
LS01.1	Verify condition of self contained air support system	SOLAS 14 III/31.1.6 LSA Code 4.8	
LS01.2	Verify condition of air supply system pressure visual indicators	SOLAS 14 III/31.1.6 LSA Code 4.8	
LS01.3	Verify operation of water spray protection system	SOLAS 14 III/31.1.7 LSA Code 4.8	

**Verifying Officer Guidance:** 01.3: *LPG carriers authorized to carry only toxic cargoes are not required to have a water spray system protection system. This task can only be accomplished when the lifeboat is waterborne.*

**Inspector's Name:** (Last, First, Initial)**EMPLID:****Verifying Officer's Signature:****Date:**

**Foreign Gas Carrier Examiner (FGCE)****Certificate of Compliance****Firefighting Systems Examination (FF)****Foreign Liquefied Gas Carrier (All)**

**Task:** FGCE-FF01 Examine fire water main equipment

**Condition:** During firefighting equipment examination

**Standard:** In compliance with applicable policies, laws, regulations and standards

**References:**

1. International Code for the Construction & Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), 1993
2. Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (GC Code), 1983

Steps		References	Initials
FF01.1	Verify operation of fire main system	IGC 11.2.1 GC 11.2.1	
FF01.2	Verify fire hydrants locations	IGC 11.2.2 GC 11.2.2	
FF01.3	Verify variable nozzles	IGC 11.2.4 GC 11.2.4	
FF01.4	Verify condition of piping, valve nozzles	IGC 11.2.4 GC 11.2.4	
FF01.5	Verify remote operation of fire pump	IGC 11.2.5 GC 11.2.5	

**Verifying Officer Guidance:** 01.1: The fire pump must be capable of attaining a pressure of at least 5.0 bars. 01.4: This is a visual verification where the examiner will be looking for obvious signs of corrosion, wastage, etc.

**Inspector's Name:** (Last, First, Initial)

**EMPLID:**

**Verifying Officer's Signature:**

**Date:**

**Foreign Gas Carrier Examiner (FGCE)**

**Certificate of Compliance**

**Firefighting Systems Examination (FF)**

**Foreign Liquefied Gas Carrier (All)**

**Task:** FGCE-FF02 Examine deck water spray system

**Condition:** *During firefighting equipment examination*

**Standard:** *In compliance with applicable policies, laws, regulations and standards*

- References:**
1. International Code for the Construction & Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), 1993
  2. Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (GC Code), 1983

Steps		References	Initials
FF02.1	Verify areas protected	IGC 11.3.1 GC 11.3.1	
FF02.2	Witness operational test	IGC 11.3.2 GC 11.3.2	
FF02.3	Verify local operation during carriage of Propylene Oxide and Ethylene Oxide	IGC 17.20.17 GC 17.12.8(r)	
FF02.4	Verify remote operation of pumps	IGC 11.3.6	
FF02.5	Verify capacity of fire pump if used to supply the system	IGC 11.3.3 GC 11.3.3	

**Verifying Officer Guidance:**



<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>

**Foreign Gas Carrier Examiner (FGCE)****Certificate of Compliance****Firefighting Systems Examination (FF)****Foreign Liquefied Gas Carrier (All)**

**Task:** FGCE-FF03 Examine chemical powder fire-extinguishing system

**Condition:** During firefighting equipment examination

**Standard:** In compliance with applicable policies, laws, regulations and standards

- References:**
1. International Code for the Construction & Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), 1993
  2. Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (GC Code), 1983
  3. International Convention for the Safety of Life at Sea (SOLAS) 1974, as amended
  4. IMO MSC.1/Circ. 1432 Revised Guidelines for the Maintenance and Inspection of Fire Protection Systems & Appliances

Steps		References	Initials
FF03.1	Verify periodic system servicing is completed	SOLAS 14 II-2/14.2.2 IMO MSC.1/Circ.1432	
FF03.2	Verify condition of independent self-contained dry chemical powder units	IGC11.4.3 CG 11.4.3	
FF03.3	Verify condition of inert gas storage pressure vessels	IGC 11.4.2 GC 11.4.2	
FF03.4	Verify condition of deck hoses and nozzles	IGC 11.4.5 GC 11.4.5	
FF03.5	Verify arrangement of deck monitors	IGC 11.4.2 GC 11.4.2	
FF03.6	Verify additional dry chemical powder units	IGC 11.4.7 CG 11.4.7	

**Verifying Officer Guidance:** *This task is only applicable to vessels authorized to carry flammable cargoes.*

<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>

**Foreign Gas Carrier Examiner (FGCE)****Certificate of Compliance****Firefighting Systems Examination (FF)****Foreign Liquefied Gas Carrier (All)**

**Task:** FGCE-FF04 Examine cargo machinery room fixed fire-extinguishing system

**Condition:** During firefighting equipment examination

**Standard:** In compliance with applicable policies, laws, regulations and standards

- References:**
1. International Code for the Construction & Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), 1993
  2. Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (GC Code), 1983
  3. International Convention for the Safety of Life at Sea (SOLAS) 1974, as amended
  4. International Code for Fire Safety Systems (FSS Code), 2007
  5. IMO MSC.1/Circ. 1318 Guidelines for the Maintenance and Inspection of Fixed Carbon Dioxide Fire-Extinguishing Systems

Steps		References	Initials
FF04.1	Verify periodic system servicing is completed	SOLAS 14 II-2/14.2.2 IMO MSC.1/Circ.1318	
FF04.2	Verify condition of agent storage bottles	SOLAS 14 II-2/14.2.1	
FF04.3	Verify all openings into space are capable of being secured	IGC 11.5.1 GC 11.5.1 FSS Code Ch 5	
FF04.4	Verify system is properly marked	IGC 11.5.1 GC 11.5.1 FSS Code Ch 5	

**Verifying Officer Guidance:**

**Inspector's Name:** (Last, First, Initial)

**EMPLID:**

**Verifying Officer's Signature:**

**Date:**

**Foreign Gas Carrier Examiner (FGCE)****Certificate of Compliance****Firefighting Systems Examination (FF)****Foreign Liquefied Gas Carrier (All)**

**Task:** FGCE-FF05 Examine cargo machinery motor room fixed fire-extinguishing system

**Condition:** During firefighting equipment examination

**Standard:** In compliance with applicable policies, laws, regulations and standards

- References:**
1. International Code for the Construction & Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), 1993
  2. Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (GC Code), 1983
  3. International Convention for the Safety of Life at Sea (SOLAS) 1974, as amended
  4. International Code for Fire Safety Systems (FSS Code), 2007
  5. IMO MSC.1/Circ. 1318 Guidelines for the Maintenance and Inspection of Fixed Carbon Dioxide Fire-Extinguishing Systems

Steps		References	Initials
FF05.1	Verify periodic servicing is completed	SOLAS 14 II-2/14.2.2 IMO MSC.1/Circ.1318	
FF05.2	Verify condition of agent storage bottles	SOLAS 14 II-2/14.2.1.2	
FF05.3	Verify openings into space are capable of being secured	IGC 11.5.1 GC 11.5.1 FSS Code Ch 5	
FF05.4	Verify system is marked	IGC 11.5.1 GC 11.5.1 FSS Code Ch 5	

**Verifying Officer Guidance:**

**Inspector's Name:** (Last, First, Initial)

**EMPLID:**

**Verifying Officer's Signature:**

**Date:**

**Foreign Gas Carrier Examiner (FGCE)****Certificate of Compliance****Firefighting Systems Examination (FF)****Foreign Liquefied Gas Carrier (All)****Task:** FGCE-FF06 Examine firemen's outfits**Condition:** During firefighting equipment examination**Standard:** In compliance with applicable policies, laws, regulations and standards

- References:**
1. International Code for the Construction & Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), 1993
  2. Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (GC Code), 1983
  3. International Convention for the Safety of Life at Sea (SOLAS) 1974, as amended
  4. International Code for Fire Safety Systems (FSS Code), 2007

Steps		References	Initials
FF06.1	Verify presence	IGC 11.6.1 GC 11.6.1	
FF06.2	Verify condition of equipment	SOLAS 14 II-2/10.10.1 FSS Code Ch 3	
FF06.3	Verify condition of outfits	SOLAS 14 II-2/14.2.2.1 SOLAS 14 II-2/14.2.2.3.11	
FF06.4	Verify stowage	SOLAS 14 II-2/10.3	

**Verifying Officer Guidance:** 06.1: <5,000 m<sup>3</sup> = 4 outfits, >5,000 m<sup>3</sup> = 5 outfits

**Inspector's Name:** (Last, First, Initial)

**EMPLID:**

**Verifying Officer's Signature:**

**Date:**

**Foreign Gas Carrier Examiner (FGCE)****Certificate of Compliance****Electrical Systems Examination (ES)****Foreign Liquefied Gas Carrier (All)**

**Task:** FGCE-ES01 Examine electrical installations in cargo machinery space

**Condition:** *During electrical systems examination*

**Standard:** *In compliance with applicable policies, laws, regulations and standards*

- References:**
1. International Code for the Construction & Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), 1993
  2. Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (GC Code), 1983

Steps		References	Initials
ES01.1	Verify lighting fixtures are pressurized or flameproof	IGC 10.2.4.1 GC 10.2.5(a)	
ES01.2	Verify general alarm audible indicators have flameproof enclosures	IGC 10.2.4.4 GC 10.2.5 (d)	
ES01.3	Verify condition of wiring	IGC 10.1.2 GC 10.1.2	

**Verifying Officer Guidance:**

**Inspector's Name:** (Last, First, Initial)

**EMPLID:**

**Verifying Officer's Signature:**

**Date:**

**Foreign Gas Carrier Examiner (FGCE)****Certificate of Compliance****Electrical Systems Examination (ES)****Foreign Liquefied Gas Carrier (All)**

**Task:** FGCE-ES02 Examine electrical Installations in gas dangerous zones other than cargo machinery spaces

**Condition:** *During electrical systems examination*

**Standard:** *In compliance with applicable policies, laws, regulations and standards*

- References:**
1. International Code for the Construction & Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), 1993
  2. Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (GC Code), 1983

Steps		References	Initials
ES02.1	Verify presence of certified safe type equipment	IGC 10.2.5.1.1 GC 10.2.6(a)	
ES02.2	Verify presence of through runs of cables	IGC 10.2.5.1.2 & 10.2.5.2.2 GC 10.2.6(b) & 10.2.7(b)	
ES02.3	Verify lighting fixtures are pressurized or flameproof	IGC 10.2.5.2.1 GC10.2.7(a)	
ES02.4	Verify equipment not certified safe is de-energized upon loss of overpressure in space (air locks)	IGC 10.2.5.4 & 3.6.4 GC 10.2.9 & 3.6.4	
ES02.5	Verify wiring is in good condition	IGC 10.1.2 & 1.5.3.1 GC 10.1.2 & 1.6.2(a)	

**Verifying Officer Guidance:**

**Inspector's Name:** (Last, First, Initial)

**EMPLID:**

**Verifying Officer's Signature:**

**Date:**

**Foreign Gas Carrier Examiner (FGCE)****Certificate of Compliance****Instrumentation Examination (IE)****Foreign Liquefied Gas Carrier (All)****Task:** FGCE-IE01 Examine fixed gas detection system**Condition:** During instrumentation exam**Standard:** In compliance with applicable policies, laws, regulations and standards

**References:**

1. International Code for the Construction & Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), 1993
2. Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (GC Code), 1983
3. Vessel's Cargo Operations Manual
4. Vessel's Gas Detection Operator's Manual

Steps		References	Initials
IE01.1	Verify calibration	IGC 13.6.10 GC 13.6.10 Gas Detection Operator's Manual	
IE01.2	Verify sampling points	IGC 13.6.7 GC 13.6.7 Cargo Operations Manual	
IE01.3	Verify location of sampling points	IGC 13.6.2 GC 13.6.2	
IE01.4	Verify integrity of sampling piping	IGC 13.6.8 GC 13.6.8	

**Verifying Officer Guidance:** 01.1: The calibration of the fixed gas detection system shall be IAW the gas detection system's operating manual. 01.3: Relative density is the ratio of the density of one substance to another. For gasses, the relative density is the ratio of the density of the gas to that of air. For liquefied gas cargoes with a relative density less than 1.0, the gas will rise if a leak occurs. For gases with a relative density of more than 1.0, the gas will fall if a leak occurs. The relative density of the cargoes must be taken into account when locating the gas detection sampling points within a space.

**Inspector's Name:** (Last, First, Initial)**EMPLID:****Verifying Officer's Signature:****Date:**

**Foreign Gas Carrier Examiner (FGCE)****Certificate of Compliance****Instrumentation Examination (IE)****Foreign Liquefied Gas Carrier (All)**

**Task:** FGCE-IE02 Examine portable gas detection equipment

**Condition:** *During instrumentation exam*

**Standard:** *In compliance with applicable policies, laws, regulations and standards*

**References:**

1. International Code for the Construction & Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), 1993
2. Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (GC Code), 1983
3. Portable Gas Detection Operator's Manual

Steps		References	Initials
IE02.1	Witness calibration	IGC 13.6.13 GC 13.6.13 Gas Detection Operator's Manual	
IE02.2	Verify presence of two sets	IGC 13.6.13 GC 13.6.13	
IE02.3	Verify suitable for cargo(es) being carried	IGC 13.6.13 GC 13.6.13	

**Verifying Officer Guidance:**

**Inspector's Name:** (Last, First, Initial)

**EMPLID:**

**Verifying Officer's Signature:**

**Date:**

**Foreign Gas Carrier Examiner (FGCE)****Certificate of Compliance****Instrumentation Examination (IE)****Foreign Liquefied Gas Carrier (All)**

**Task:** FGCE-IE03 Examine temperature indicating devices

**Condition:** *During instrumentation exam*

**Standard:** *In compliance with applicable policies, laws, regulations and standards*

- References:**
1. International Code for the Construction & Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), 1993
  2. Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (GC Code), 1983

Steps		References	Initials
IE03.1	Verify presence	IGC 13.5.1 & 13.5.4 GC 13.5.1 & 13.5.4	
IE03.2	Verify lowest temperature for cargo tank has been approved by Administration	IGC 13.5.1 & 13.5.4 GC 13.5.1 & 13.5.4	
IE03.3	Verify devices are within insulation or in a secondary barrier if cargo is carried at less than -55C,	IGC 13.5.2, 13.5.4 GC 13.5.2 & 13.5.4	

**Verifying Officer Guidance:**

**Inspector's Name:** (Last, First, Initial)

**EMPLID:**

**Verifying Officer's Signature:**

**Date:**

**Foreign Gas Carrier Examiner (FGCE)****Certificate of Compliance****Instrumentation Examination (IE)****Foreign Liquefied Gas Carrier (All)****Task:** FGCE-IE04 Examine pressure monitoring devices**Condition:** During instrumentation exam**Standard:** In compliance with applicable policies, laws, regulations and standards

**References:**

1. International Code for the Construction & Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), 1993
2. Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (GC Code), 1983

Steps		References	Initials
IE04.1	Verify cargo tank vapor space pressure gauge and indicator in control location	IGC 13.4.1 GC 13.4.1	
IE04.2	Verify maximum/minimum allowable pressure is marked on cargo tank pressure gauge indicators	IGC 13.4.1 GC 13.4.1	
IE04.3	Verify operation of cargo tank vapor space high pressure alarm(s)	IGC 13.4.1 GC 13.4.1	
IE04.4	Verify operation of cargo tank vapor space low pressure alarm(s)	IGC 13.4.1 GC 13.4.1	
IE04.5	Verify each manifold cargo line is fitted with pressure gauge	IGC 13.4.2 GC 13.4.2	
IE04.6	Verify hold/interbarrier spaces without open communication to atmosphere have pressure gauges	IGC 13.4.4 GC 13.4.4	

**Verifying Officer Guidance:** 04.1: *If the loading/unloading of a ship is performed by the use of remotely controlled valves & pumps, all controls and indicators associated with a given cargo tank should be concentrated in one control position. On larger ships this position may be a cargo control room located within the accommodation space and on smaller ships the control position may be located on deck within the cargo area.*

**Inspector's Name:** (Last, First, Initial)**EMPLID:****Verifying Officer's Signature:****Date:**

**Foreign Gas Carrier Examiner (FGCE)**

**Certificate of Compliance**

**Instrumentation Examination (IE)**

**Foreign Liquefied Gas Carrier (All)**

**Task:** FGCE-IE05 Examine overflow control system

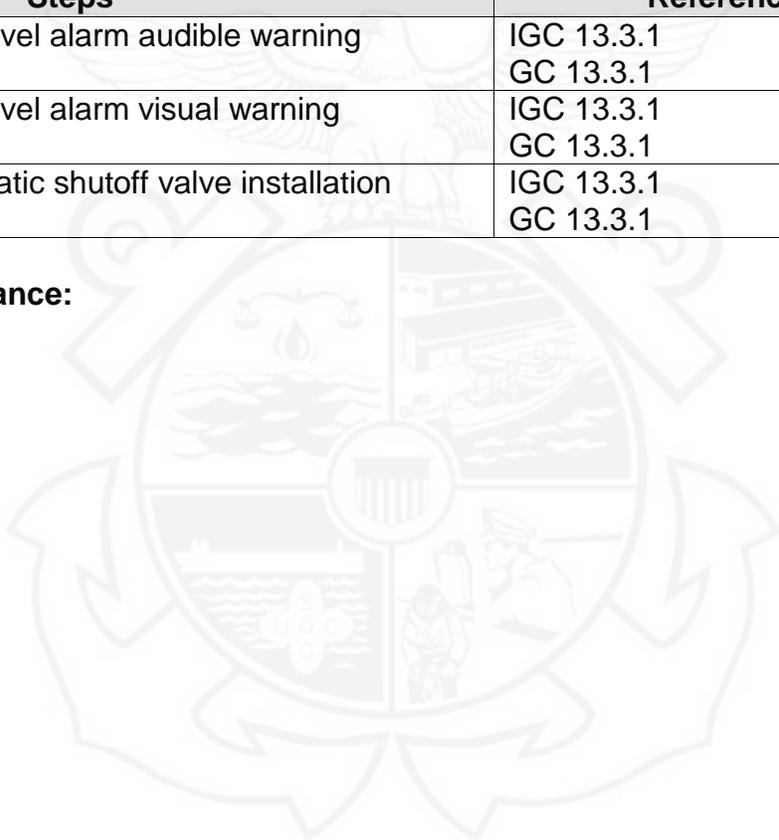
**Condition:** *During instrumentation exam*

**Standard:** *In compliance with applicable policies, laws, regulations and standards*

- References:**
1. International Code for the Construction & Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), 1993
  2. Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (GC Code), 1983

Steps		References	Initials
IE05.1	Verify high level alarm audible warning	IGC 13.3.1 GC 13.3.1	
IE05.2	Verify high level alarm visual warning	IGC 13.3.1 GC 13.3.1	
IE05.3	Verify automatic shutoff valve installation	IGC 13.3.1 GC 13.3.1	

**Verifying Officer Guidance:**



<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>

**Foreign Gas Carrier Examiner (FGCE)****Certificate of Compliance****Cargo Systems Examination (CS)****Foreign Liquefied Gas Carrier (All)**

**Task:** FGCE-CS01 Examine Emergency Shutdown (ESD) system

**Condition:** *During cargo systems examination*

**Standard:** *In compliance with applicable policies, laws, regulations and standards*

**References:**

1. International Code for the Construction & Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), 1993
2. Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (GC Code), 1983

Steps		References	Initials
CS01.1	Verify ESD locations	IGC 5.6.4 GC 5.3.4(a)	
CS01.2	Verify location of fusible elements	IGC 5.6.4 GC 5.3.4(a)	
CS01.3	Verify fusible elements are not painted	IGC 5.6.4 GC 5.3.4(a)	
CS01.4	Verify ESD valves fully close within 30 seconds	IGC 5.6.4 GC 5.3.4(b)	
CS01.5	Verify cargo pumps and compressors shutdown	IGC 5.6.1.3 GC 5.3.1(c)	

**Verifying Officer Guidance:** *01.5: An operational test to demonstrate this step may not always be possible. Factors that may preclude an examiner from witnessing a shutdown of cargo pumps and compressors may include loading/discharging operations PQS card and yes that are underway, pressure of cargo tanks and the amount of time that may be required to put the equipment back on line. Coordination between the examiner and chief mate/master should take place prior to witnessing the shutdown of pumps and compressors.*

<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>

**Foreign Gas Carrier Examiner (FGCE)****Certificate of Compliance****Cargo Systems Examination (CS)****Foreign Liquefied Gas Carrier (All)**

**Task:** FGCE-CS02 Examine cargo tank pressure relief valves

**Condition:** *During cargo systems examination*

**Standard:** *In compliance with applicable policies, laws, regulations and standards*

- References:**
1. International Code for the Construction & Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), 1993
  2. Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (GC Code), 1983
  3. Title 46, Code of Federal Regulations Part 154 Safety Standards for Self-Propelled Vessels Carrying Bulk Liquefied Gases

Steps		References	Initials
CS02.1	Verify volume exceeding 20 m3 are fitted with two valves	IGC 8.2.1 GC 8.2.1	
CS02.2	Verify valves are sealed and approved by administration	IGC 8.2.5 GC 8.2.5	
CS02.3	Verify valve setting changes are documented	IGC 8.2.7 GC 8.2.7 46 CFR 154.1846(c)(2)	
CS02.4	Verify screens are fitted on vent	IGC 8.2.14 GC 8.2.14	

**Verifying Officer Guidance:** 02.3: *Only applicable to LPG carriers.*

**Inspector's Name:** (Last, First, Initial)

**EMPLID:**

**Verifying Officer's Signature:**

**Date:**

**Foreign Gas Carrier Examiner (FGCE)****Certificate of Compliance****Cargo Systems Examination (CS)****Foreign Liquefied Gas Carrier (All)****Task:** FGCE-CS03 Examine cargo piping**Condition:** *During cargo systems examination***Standard:** *In compliance with applicable policies, laws, regulations and standards*

**References:**

1. International Code for the Construction & Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), 1993
2. Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (GC Code), 1983

Steps		References	Initials
CS03.1	Verify low temperature piping is thermally isolated from hull	IGC 5.2.1.3 GC 5.2.2	
CS03.2	Verify hull is protected from low temperature liquid cargoes	IGC 5.2.1.3 GC 5.2.2	
CS03.3	Verify all gasketed pipe joints are electrically bonded	IGC 5.2.1.4 GC 5.2.3	
CS03.4	Verify relief valves	IGC 5.2.1.6 GC 5.2.5(a)	
CS03.5	Verify condition of piping	IGC 5.2.4.2 & 1.5.3 GC 5.2.6(d)(i) & 1.6.2	

**Verifying Officer Guidance:** 03.2: *The water curtain protecting the hull under manifolds on an LNG carrier satisfies this requirement.*

**Inspector's Name:** (Last, First, Initial)**EMPLID:****Verifying Officer's Signature:****Date:**

**Foreign Gas Carrier Examiner (FGCE)****Certificate of Compliance****Cargo Systems Examination (CS)****Foreign Liquefied Gas Carrier (All)****Task:** FGCE-CS04 Examine cargo system valves**Condition:** *During cargo systems examination***Standard:** *In compliance with applicable policies, laws, regulations and standards*

- References:**
1. International Code for the Construction & Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), 1993
  2. Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (GC Code), 1983

Steps		References	Initials
CS04.1	Verify MARVS not exceeding 0.7 bar gauge have manual shutoff valves on vapor/liquid lines	IGC 5.6.1.1 GC 5.3.1 (a)	
CS04.2	Verify MARVS exceeding 0.7 bar gauge have manually operated stop valve on vapor/liquid lines	IGC 5.6.1.2 GC 5.3.1 (b)	
CS04.3	Verify MARVS exceeding 0.7 bar gauge have remotely controlled emergency shutdown valve on vapor/liquid lines	IGC 5.6.1.2 GC 5.3.1 (b)	

**Verifying Officer Guidance:** 04.3 - 04.6: *Only Type C independent tanks are authorized to have MARVS exceeding 0.7 bar gauge. A single valve may be substituted for the two separate valves provided the valve complies with IGC 5.6.4/GC 5.3.4, is capable of local manual operation and provides full closure of the line.*

**Inspector's Name:** (Last, First, Initial)**EMPLID:****Verifying Officer's Signature:****Date:**

**Foreign Gas Carrier Examiner (FGCE)****Certificate of Compliance****Cargo Systems Examination (CS)****Foreign Liquefied Gas Carrier (All)**

**Task:** FGCE-CS05 Examine cargo machinery room equipment

**Condition:** *During cargo systems examination*

**Standard:** *In compliance with applicable policies, laws, regulations and standards*

- References:**
1. International Code for the Construction & Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), 1993
  2. Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (GC Code), 1983
  3. COMDTINST M16000.7B Marine Safety Manual Volume II Material Inspection Ch-1

Steps		References	Initials
CS05.1	Verify condition of cargo compressors	IGC 3.3 & 1.5.3 GC 3.3 & 1.6.2 MSM II/D.1.G.1.c(2)	
CS05.2	Verify condition of cargo vaporizers	IGC 3.3 & 1.5.3 GC 3.3 & 1.6.2 MSM II/D.1.G.1.c(2)	
CS05.3	Verify condition of gas tight seals on compressor shafts	IGC 3.3.2 & 1.5.3 GC 3.3.2 & 1.6.2 MSM II/D.1.G.1.c(2)	
CS05.4	Verify condition of reliquefaction system	IGC 7.2 & 1.5.3 GC 7.2 & 1.6.2 MSM II/D.1.G.1.c(2)	

**Verifying Officer Guidance:** *The FGCE shall determine that the Cargo Machinery Room equipment is in good order by obtaining a general impression through visual observation that a good standard of maintenance exists and that the equipment appears to be functional.*

**Inspector's Name:** (Last, First, Initial)

**EMPLID:**

**Verifying Officer's Signature:**

**Date:**

**Foreign Gas Carrier Examiner (FGCE)****Certificate of Compliance****Cargo Environmental Control Examination (CE)****Foreign Liquefied Gas Carrier (All)****Task:** FGCE-CE01 Examine Inert Gas System (IGS)**Condition:** *During cargo environmental control examination***Standard:** *In compliance with applicable policies, laws, regulations and standards*

**References:**

1. International Code for the Construction & Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), 1993
2. Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (GC Code), 1983

Steps		References	Initials
CE01.1	Verify operational oxygen content meter	IGC 9.5.1 GC 9.5.1	
CE01.2	Verify operation of oxygen content alarm	IGC 9.5.1 GC 9.5.1	
CE01.3	Verify means to prevent the backflow of cargo gas	IGC 9.5.2 GC 9.5.2	

**Verifying Officer Guidance:****Inspector's Name:** (Last, First, Initial)**EMPLID:****Verifying Officer's Signature:****Date:**

**Foreign Gas Carrier Examiner (FGCE)****Certificate of Compliance****Cargo Environmental Control Examination (CE)****Foreign Liquefied Gas Carrier (All)**

**Task:** FGCE-CE02 Examine the Nitrogen Gas Generating System

**Condition:** *During cargo environmental control examination*

**Standard:** *In compliance with applicable policies, laws, regulations and standards*

**References:**

1. International Code for the Construction & Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), 1993
2. Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (GC Code), 1983

Steps		References	Initials
CE02.1	Verify operational oxygen content meter	IGC 9.5.1 GC 9.5.1	
CE02.2	Verify operation of oxygen content alarm	IGC 9.5.1 GC 9.5.1	
CE02.3	Verify means to prevent the backflow of cargo gas	IGC 9.5.2 GC 9.5.2	

**Verifying Officer Guidance:**

**Inspector's Name:** (Last, First, Initial)

**EMPLID:**

**Verifying Officer's Signature:**

**Date:**

**Foreign Gas Carrier Examiner (FGCE)****Certificate of Compliance****Cargo Environmental Control Examination (CE)****Foreign Liquefied Gas Carrier (All)**

**Task:** FGCE-CE03 Examine Inert Gas/Nitrogen storage tanks

**Condition:** *During cargo environmental control examination*

**Standard:** *In compliance with applicable policies, laws, regulations and standards*

- References:**
1. International Code for the Construction & Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), 1993
  2. Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (GC Code), 1983

Steps		References	Initials
CE03.1	Verify sufficient storage	IGC 9.2.1 & 9.2.2.1 GC 9.2.1 & 9.2.2(a)	
CE03.2	Verify cargo stored gas is not used for fire fighting	IGC 9.4.2 GC 9.4.2	

**Verifying Officer Guidance:** 03.1: *Amount of Liquid N2 storage x 696 = Total N2 capacity. Compare total N2 capacity to the amount of normal N2 usage for a 30 day period.*

**Inspector's Name:** (Last, First, Initial)

**EMPLID:**

**Verifying Officer's Signature:**

**Date:**

**Foreign Gas Carrier Examiner (FGCE)****Certificate of Compliance****Cargo Area Ventilation System Examination (CV)****Foreign Liquefied Gas Carrier (All)**

**Task:** FGCE-CV01 Examine cargo machinery motor room ventilation system

**Condition:** *During Cargo Area Ventilation System Examination*

**Standard:** *In compliance with applicable policies, laws, regulations, and standards*

**References:**

1. International Code for the Construction & Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), 1993
2. Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (GC Code), 1983

Steps		References	Initials
CV01.1	Verify system can be controlled from outside of space	IGC 12.1.1 GC 12.1.1	
CV01.2	Verify motor room has a positive ventilation	IGC 12.1.4 GC 12.1.4	
CV01.3	Verify adjacent air locks have mechanical ventilation and are overpressured	IGC 3.6.5 GC 3.6.5	
CV01.4	Verify ventilation duct openings have protection screens	IGC 12.1.11 GC 12.1.11	
CV01.5	Verify warning notice is posted outside of space	IGC 12.1.1 GC 12.1.1	

**Verifying Officer Guidance:**

**Inspector's Name:** (Last, First, Initial)

**EMPLID:**

**Verifying Officer's Signature:**

**Date:**

**Foreign Gas Carrier Examiner (FGCE)****Certificate of Compliance****Cargo Area Ventilation System Examination (CV)****Foreign Liquefied Gas Carrier (All)**

**Task:** FGCE-CV02 Examine cargo machinery room ventilation system

**Condition:** During cargo area ventilation system examination

**Standard:** In compliance with applicable policies, laws, regulations and standards

**References:**

1. International Code for the Construction & Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), 1993
2. Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (GC Code), 1983

Steps		References	Initials
CV02.1	Verify system can be controlled from outside of space	IGC 12.1.1 GC 12.1.1	
CV02.2	Verify cargo machinery room has a negative ventilation system	IGC 12.1.5 GC 12.1.5	
CV02.3	Verify ventilation extraction points	IGC 12.1.3 GC 12.1.3	
CV02.4	Verify ventilation duct openings have protection screens	IGC 12.1.11 GC 12.1.11	
CV02.5	Verify warning notice is posted outside of space	IGC 12.1.1 GC 12.1.1	

**Verifying Officer Guidance:** 02.3: *Relative density is the ratio of the density of one substance to another. For gasses, the relative density is the ratio of the density of the gas to that of air. For liquefied gas cargoes with a relative density less than 1.0, the gas will rise if a leak occurs. For gases with a relative density of more than 1.0, the gas will fall if a leak occurs. The relative density of the cargoes must be taken into account when locating the ventilation extraction points within a space.*

<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>

**Foreign Gas Carrier Examiner (FGCE)****Certificate of Compliance****Gas Fuel Supply System Examination (GF)****Foreign Liquefied Gas Carrier (LNG)****Task:** FGCE-GF01 Examine master gas valve**Condition:** *During gas fuel supply system examination***Standard:** *In compliance with applicable policies, laws, regulations and standards*

**References:**

1. International Code for the Construction & Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), 1993
2. Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (GC Code), 1983

Steps		References	Initials
GF01.1	Verify closing for loss of pressurization in double wall gas fuel piping	IGC 16.3.7 GC 16.7	
GF01.2	Verify closing for loss of ventilation for duct and casing (vent hood)	IGC 16.3.7 GC 16.7	
GF01.3	Verify closing for leakage of gas detected	IGC 16.3.7 GC 16.7	

**Verifying Officer Guidance:****Inspector's Name:** (Last, First, Initial)**EMPLID:****Verifying Officer's Signature:****Date:**

**Foreign Gas Carrier Examiner (FGCE)**

**Certificate of Compliance**

**Gas Fuel Supply System Examination (GF)**

**Foreign Liquefied Gas Carrier (LNG)**

**Task:** FGCE-GF02 Examine ventilation within the ventilation hood or casing

**Condition:** *During gas fuel supply system examination*

**Standard:** *In compliance with applicable policies, laws, regulations and standards*

- References:**
1. International Code for the Construction & Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), 1993
  2. Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (GC Code), 1983

Steps		References	Initials
GF02.1	Verify ventilation flow across Gas Utilization Unit(s)	IGC 16.3.4 GC 16.5	
GF02.2	Verify ventilating air is exhausted at top	IGC 16.3.4 GC 16.5	

**Verifying Officer Guidance:**



<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>

**Foreign Gas Carrier Examiner (FGCE)****Certificate of Compliance****Gas Fuel Supply System Examination (GF)****Foreign Liquefied Gas Carrier (LNG)**

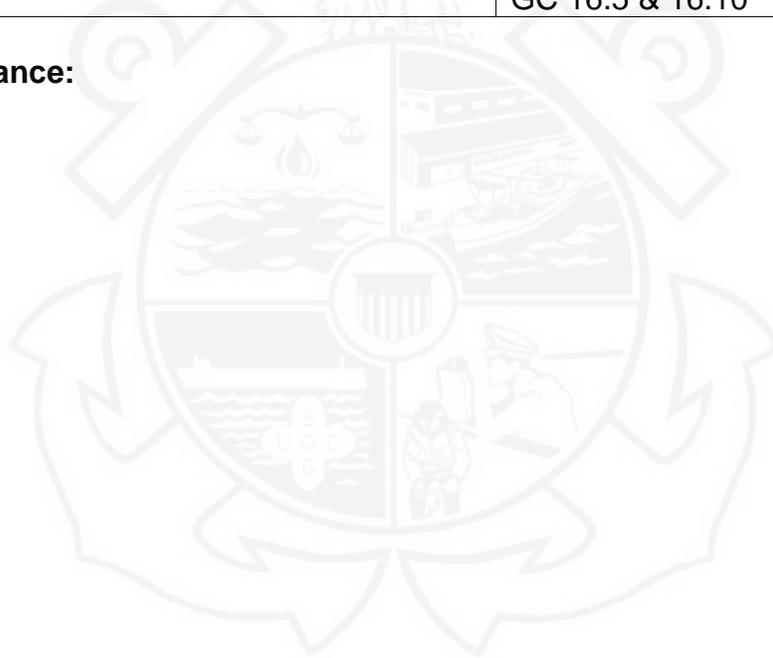
**Task:** FGCE-GF03 Examine gas detection system used for protection of cargo fuel system

**Condition:** *During gas fuel supply system examination*

**Standard:** *In compliance with applicable policies, laws, regulations and standards*

- References:**
1. International Code for the Construction & Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), 1993
  2. Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (GC Code), 1983

Steps		References	Initials
GF03.1	Verify operation of alarm	IGC 16.3.10 GC 16.10	
GF03.2	Verify master gas valve closes	IGC 16.3.4 & 16.3.10 GC 16.5 & 16.10	

**Verifying Officer Guidance:**

**Inspector's Name:** (Last, First, Initial)

**EMPLID:**

**Verifying Officer's Signature:**

**Date:**

**Foreign Gas Carrier Examiner (FGCE)****Certificate of Compliance****Gas Fuel Supply System Examination (GF)****Foreign Liquefied Gas Carrier (LNG)****Task:** FGCE-GF04 Examine gas utilization unit(s)**Condition:** During gas fuel supply system examination**Standard:** In compliance with applicable policies, laws, regulations and standards

**References:**

1. International Code for the Construction & Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), 1993
2. Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (GC Code), 1983

Steps		References	Initials
GF04.1	Verify each has two valves in series	IGC 16.3.6 GC 16.6	
GF04.2	Verify each has one valve located between the two valves	IGC 16.3.6 GC 16.6	

**Verifying Officer Guidance:** *The gas fuel supply piping to each dual fuel engine is to be provided with a set of three automatic valves. Two of these valves are to be in series in the gas fuel pipe to the engine. The third valve is to be in a pipe that vents that portion of the gas fuel piping between the two valves in series, to a safe location in the open air or to an alternative acceptable location to safely dispose of the gas. The two block valves are to be of the fail-to-close type and the bleed valve is to be of the fail-to-open type.*

**Inspector's Name:** (Last, First, Initial)**EMPLID:****Verifying Officer's Signature:****Date:**

**Foreign Gas Carrier Examiner (FGCE)**

**Certificate of Compliance**

**Gas Fuel Supply System Examination (GF)**

**Foreign Liquefied Gas Carrier (LNG)**

**Task:** FGCE-GF05 Examine gas fuel piping (double wall piping system)

**Condition:** *During gas fuel supply system examination*

**Standard:** *In compliance with applicable policies, laws, regulations and standards*

- References:**
1. International Code for the Construction & Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), 1993
  2. Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (GC Code), 1983

Steps		References	Initials
GF05.1	Verify space between concentric pipes is pressurized	IGC 16.3.1.1 GC 16.2(a)	
GF05.2	Verify operation of alarms	IGC 16.3.1.1 GC 16.2(a)	

**Verifying Officer Guidance:**



<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>

**Foreign Gas Carrier Examiner (FGCE)****Certificate of Compliance****Gas Fuel Supply System Examination (GF)****Foreign Liquefied Gas Carrier (LNG)**

**Task:** FGCE-GF06 Examine gas fuel piping (ventilated pipe or duct system)

**Condition:** *During gas fuel supply system examination*

**Standard:** *In compliance with applicable policies, laws, regulations and standards*

- References:**
1. International Code for the Construction & Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), 1993
  2. Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (GC Code), 1983

Steps		References	Initials
GF06.1	Verify operation of mechanical exhaust ventilation	IGC 16.3.1.2 GC 16.2(b)	
GF06.2	Verify operation of gas detection	IGC 16.3.1.2 GC 16.2(b)	

**Verifying Officer Guidance:**

**Inspector's Name:** (Last, First, Initial)

**EMPLID:**

**Verifying Officer's Signature:**

**Date:**

**Foreign Gas Carrier Examiner (FGCE)**

**Certificate of Compliance**

**Gas Fuel Supply System Examination (GF)**

**Foreign Liquefied Gas Carrier (LNG)**

**Task:** FGCE-GF07 Examine the Gas Combustion Unit (GCU)

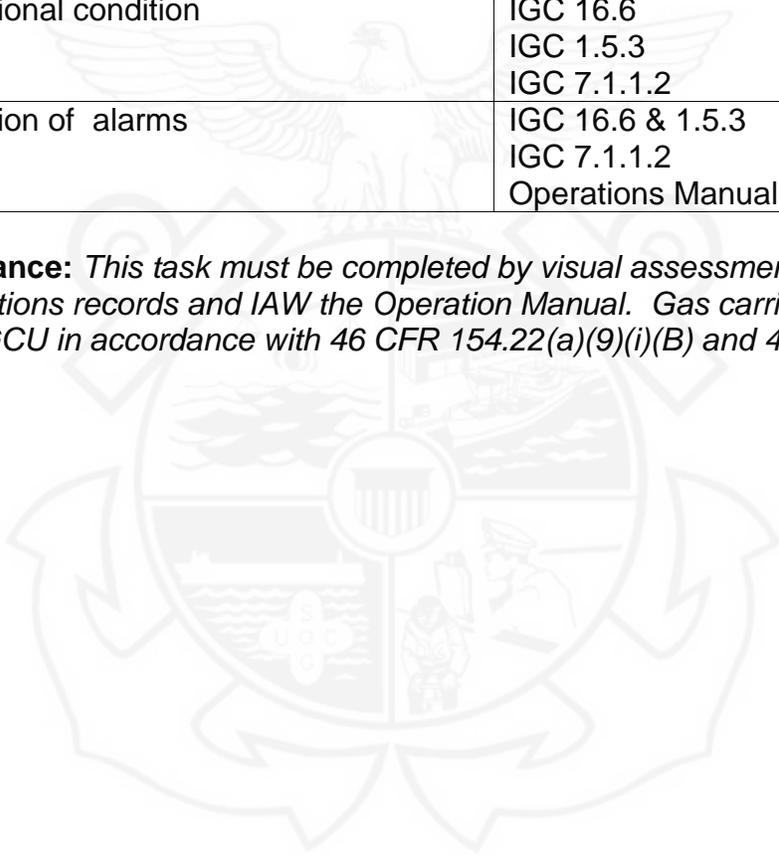
**Condition:** During gas fuel supply system examination

**Standard:** In compliance with applicable policies, laws, regulations and standards

- References:**
1. International Code for the Construction & Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), 1993
  2. Gas Combustion Unit Operations Manual

Steps		References	Initials
GF07.1	Verify operational condition	IGC 16.6 IGC 1.5.3 IGC 7.1.1.2	
GF07.2	Verify operation of alarms	IGC 16.6 & 1.5.3 IGC 7.1.1.2 Operations Manual	

**Verifying Officer Guidance:** This task must be completed by visual assessment and/or the review of maintenance and operations records and IAW the Operation Manual. Gas carriers may only combust methane cargoes in a GCU in accordance with 46 CFR 154.22(a)(9)(i)(B) and 46 CFR 154.703.



<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>

**Foreign Gas Carrier Examiner (FGCE)**

**Certificate of Compliance**

**Follow Up Actions (FU)**

**Foreign Liquefied Gas Carrier (All)**

**Task:** FGCE-FU01 Complete MISLE Activity

**Condition:** Upon completion of the examination

**Standard:** In accordance with current policies, procedures and processes

**References:** 1. Mission Management System (MMS) Work Instruction - MISLE Data Entry Requirements for Foreign Vessels

Steps		References	Initials
FU01.1	Ensure COC status is changed from "In Process" to "Valid"	Work Instruction 5.e.1	
FU01.2	Scan COC into MISLE documents for Initial and Renewal examinations	Work Instruction 8	
FU01.3	Change SOE status from "In Process" to "Valid" on the MSC issued certificate	Work Instruction 5.e.1	
FU01.4	Modify SOE Issued and Expiration dates to reflect the latest examination	Work Instruction 5.e.1	

**Verifying Officer Guidance:**



<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>

## Appendix A

### **List of Additional References:**

Procedures for Port State Control 2011, 2012 Edition

International Safety Management Code and Guidelines on Implementation of the ISM Code, 2010 Ed

IMO Resolution A.788(19) – Guidelines on Implementation of the International Safety Management (ISM) Code by Administrations

Liquefied Gas Handling Principles on Ships and in Terminal, Third Edition (SIGTTO)

An Introduction to the Design and Maintenance of Cargo System Pressure Relief Valves on Board Gas Carriers (SIGTTO)

Gas Concentrations in the Insulation Spaces of membrane LNG Carriers, March 2007 (SIGTTO)

A Guide to Contingency Planning for Marine Terminals Handling Liquefied Gases in Bulk, Second Edition 2001 (SIGTTO)

A Contingency Planning and Crew Response Guide for Gas Carrier Damage at Sea and in Port Approaches, Third Edition 1999 (SIGTTO)

Tanker Jetty Safety; Management of the Ship/Shore Interface (Witherby, 2007)

LNG Operational Practice (Witherby, 2006)

LNG Shipping Competency Standards; Guidance and Suggested Best Practice for the LNG Industry in the 21<sup>st</sup> Century (Witherby, 2006)

DNV Classification Notes 61.2, LNG Boil-Off Re-Liquefaction Plants and Gas Combustion Units, May 2006

Natural Gas By Sea; The Development of a New Technology (Witherby, 1993)

Liquefied Gases; Marine Transportation and Storage (Witherby, 2000)

LNG Shipping Knowledge; Underpinning Knowledge to the SIGTTO Standards (Witherby, 2011)

## Appendix B

**Glossary:** The following terms are used in this workbook and should be reviewed in order to better understand its contents:

**Advise:** to counsel or recommend

**Assign:** to give responsibility, to place under the control of a task

**Amend (Modify):** to make minor changes in/to

**Brief:** to give information or final precise instructions

**Change:** to make different in some particular way

**Check:** to inspect for satisfactory condition, accuracy, safety or performance

**Compare:** to examine (two or more objects, ideas, people, etc.) in order to note similarities and/or differences

**Communicate:** to convey knowledge of or information about: make known

**Confirm:** to validate, establish the truth, accuracy or genuineness of something

**Create:** to cause to happen; bring about; arrange, as by intention or design

**Discuss:** to verbally present a topic in detail for examination or consideration

**Determine:** to settle or decide by choice of alternatives or possibilities. "Decide" refers to arriving at a conclusion and to pronounce that decision. "Determine" is to settle or decide by choice of alternatives or possibilities and to fix precisely

**Endorse:** to approve, support or sustain; to sign one's name on a document or other instrument

**Ensure:** to make certain, to guarantee

**Enter:** to make a record of; record or register

**Evaluate:** to determine the significance or worth of, usually by careful appraisal and study

**Examine:** to look at or consider a thing carefully and in detail in order to discover something about it

**Identify:** to determine critical or necessary conditions or other factors; to determine the specific model of an item; to ascertain the origin, nature or definitive characteristics of; to recognize or establish as being a particular person or thing

**Inspect:** to examine officially; to look carefully at or over; view closely and critically

**Issue:** to serve legally binding federal documentation, notices or declarations to an individual, business or other distinctive entity

## Appendix B

**Locate:** to determine or set the position of; to find

**Make:** to create or cause to happen

**Modify** (Amend): to make minor changes in/to

**Observe** (Witness): to watch carefully

**Obtain:** to gain or attain

**Open:** to set in action, begin, start or commence

**Prepare:** plan, gather and assemble information to produce a document (i.e. COI); to put together, to combine elements and produce a product, to make ready

**Provide:** to supply or make available

**Review:** to go over for the purpose of determining correctness or currency; to examine a document or process for accuracy in content and/or format and report errors or updates to the author or controlling authority

**Schedule:** to appoint, assign, or designate for a fixed time

**Update:** to bring up to date or make current

**Validate:** to substantiate accuracy or truth of by comparison or investigation

**Verify:** to confirm or establish the accuracy or truth of something

**Witness** (Observe): to watch carefully













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**Performance Qualification Standard and Job Aid Change  
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Section(s) Affected:


Remark(s)/Comment(s):


Reference(s):


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