
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 M1500.10 (series)
- (d) Safety and Environmental Health Manual, COMDTINST 5100.47 (series)

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.

This qualification is not restricted to any particular rank or rate. Civilian GS employees are also eligible.

The FGCE Tactics, Techniques and Procedures (TTP) provides substantive details on how to perform the Tasks and Steps. Appendix A is a crosswalk between this PQS and the FGCE TTP.

The IGC Code cites in this version of the PQS are from the IGC Code (2016 Edition). Currently, the vast majority of vessels in service require use of either the IGC Code (1993 Edition) or earlier versions but some sections of the 2016 may apply to them also. It is important to pay close attention to the applicability requirements and dates in all versions of the code.

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:** Since the Gas Carrier Inspector course is only held twice per year, if a member is unable to attend, the Sector's Chief of Prevention may allow it to be deferred up to 12 months. The deferment is contingent on the member successfully completing an exam administered by the Liquified Gas Carrier National Center of Expertise (LGC NCOE) to cover selected knowledge based tasks and steps from the PQS that have been incorporated into the course. The member is still required to attend a future convening within 12 months for the certification to remain in force. CVC-2 may approve written requests for exemptions to this pre-requisite course policy if future convenings are not available.
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 LGC NCOE. The LGC NCOE 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 LGC NCOE shall notify the individual's unit via e-mail. A copy of the e-mail from the LGC NCOE 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).**

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"***Major Accomplishment:** the valuable products of a job or specialty which collectively make up the job accomplishment.
Example: "Certificates and Documents (CD)"

3. **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)"

4. **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.
5. **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.
6. **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.
7. **Steps:** the sequence of actions required to complete the task.

Appendices:

- A. CG Tactics, Techniques & Procedures for FGCE (CGTTP 3-72.6)
- B. Glossary
- C. Port State Control Examination Log

Enclosure:

1. Liquefied Gas Industry Indoctrination Guide

PQS Verifying Officer Signature Verification Log

RATE/ RANK	SIGNATURE/ PRINT NAME	EMPLID	INITIALS	UNIT
REMARKS:				

Foreign Gas Carrier Examiner PQS

RECORD OF COMPLETION		
Training Prerequisites	Date	Training Coordinator's Signature
A. Assign FGCE competency in TMT		
B. Completion of the following resident courses:		
1. 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; and		
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		
FGCECB Members Present for Board:		
H. Certification/Designation Letter submitted for approval		
I. Once Certification/Designation Letter is signed make appropriate entries in TMT		
REMARKS:		

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 International Certificate of Fitness (COF) for the Carriage of Liquefied Gases in Bulk (IGC Code)	
FGCE-CD02	Examine the Certificate of Fitness (COF) for the Carriage of Liquefied Gases in Bulk (GC Code)	
FGCE-CD03	Examine Certificate of Fitness (COF) for the Carriage of Liquefied Gases in Bulk (EGC Code)	
FGCE-CD04	Examine Subchapter "O" Endorsement (SOE)	
FGCE-CD05	Verify documentation of allowable loading limits and maximum loading reference temperatures for each product carried onboard	
FGCE-CD06	Examine documentation applicable to changing and setting of cargo tank pressure relief valves	
FGCE-CD07	Examine crew training documentation	
FGCE-CD08	Examine International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk	
FGCE-CD09	Examine Certificate of Inhibition (LPG Carriers Only)	
FGCE-LM01	Examine Cargo Operations Manuals	
FGCE-LM02	Examine Cargo Information	
FGCE-LM03	Examine loading and stability information booklet	
FGCE-LM04	Examine Procedures & Arrangement (P&A) Manual (LPG Carriers Only)	
FGCE-LM05	Examine Cargo Record Book (CRB) (LPG Carriers Only)	
FGCE-LM06	Examine Shipboard Marine Pollution Emergency Plan (SMPEP) for Noxious Liquid Substances (NLS) (LPG Carriers Only)	
FGCE-GH01	Examine decontamination showers (LPG Carriers Only)	
FGCE-GH02	Examine eye wash stations (LPG Carriers Only)	
FGCE-GH03	Examine respiratory and eye protection [provided for emergency escape purposes] (LPG Carriers Only)	
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	
FGCE-FF03	Examine dry chemical powder fire-extinguishing system	

Foreign Gas Carrier Examiner PQS

Task Number	Task Description	Date Completed
FGCE-FF04	Examine cargo machinery room fixed fire-extinguishing system	
FGCE-FF05	Examine cargo motor room fixed fire-extinguishing system	
FGCE-FF06	Examine firemen's outfits	
FGCE-ES01	Examine electrical installations	
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-TE01	Examine access to bow and emergency towing arrangements	
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 motor room ventilation system	
FGCE-CV02	Examine cargo machinery room ventilation system	
FGCE-GF01	Examine the master gas valve (LNG Carriers Only)	
FGCE-GF02	Examine ventilation within the valve unit (GVU) room (LNG Carriers Only)	
FGCE-GF03	Examine the gas detection system used for the protection of the cargo fuel system (LNG Carriers Only)	
FGCE-GF04	Examine the double block & bleed (LNG Carriers Only)	
FGCE-GF05	Examine gas fuel piping (double wall piping system) (LNG Carriers Only)	
FGCE-GF06	Examine gas fuel piping (ventilated pipe or duct system) (LNG Carriers Only)	
FGCE-GF07	Examine the Gas Combustion Unit (GCU) (LNG Carriers Only)	
FGCE-FU01	Complete MISLE Activity	

**Coast Guard Tactics, Techniques and Procedures (TTP)
CGTTP 3-72.6: Foreign Gas Carrier Examiners**

The CGTTP for foreign gas carrier examiners provides step-by-step guidance to perform the many tasks involved with conducting foreign gas carrier examinations. The document can be found in the TTP Library within the References section of the CGPortal or by following the link below:

<https://cgportal2.uscg.mil/units/forcecom/TTP/SitePages/Home.aspx>

PQS Task Number	Task Description	TTP Section
FGCE-PE01	Prepare a Certificate of Compliance for Issuance	Chapter 2, Section A & Appendix C
FGCE-PE02	Conduct a safety meeting	Chapter 2, Section B & Appendices D
FGCE-CD01	Examine the International Certificate of Fitness for the Carriage of Liquefied Gases in Bulk (IGC Code)	Chapter 3, Section A
FGCE-CD02	Examine the Certificate of Fitness for the Carriage of Liquefied Gases in Bulk (GC Code)	Chapter 3, Section B
FGCE-CD03	Examine the Certificate of Fitness for the Carriage of Liquefied Gases in Bulk (EGC Code)	Chapter 3, Section C
FGCE-CD04	Examine the Subchapter "O" endorsement	Chapter 3, Section D & Appendix E
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	Chapter 3, Section E
FGCE-CD06	Examine documentation applicable to the changing and setting of cargo tank pressure relief valves	Chapter 3, Section F
FGCE CD07	Examine crew training documentation	Chapter 3, Section G
FGCE-CD08	Examine the International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk (LPG Carriers Only)	Chapter 3, Section H
FGCE-CD09	Examine Certificate of Inhibition (LPG Carriers Only)	Chapter 3, Section I
FGCE-LM01	Examine Cargo Operations Manuals	Chapter 4, Section A
FGCE-LM02	Examine Cargo Information	Chapter 4, Section A
FGCE-LM03	Verify that the ship has a loading and stability information booklet	Chapter 4, Section B
FGCE-LM04	Examine the Procedures & Arrangement (P&A) Manual (LPG Carriers Only)	Chapter 4, Section C

Appendix A

FGCE-LM05	Examine the Cargo Record Book (LPG Carriers Only)	Chapter 4, Section D
FGCE-LM06	Examine the Shipboard Marine Pollution Emergency Plan (SMPEP) for Noxious Liquid Substances (LPG Carriers Only)	Chapter 4, Section E
FGCE-GH01	Examine decontamination showers (LPG Carriers Only)	Chapter 5, Section A
FGCE-GH02	Examine eye wash stations (LPG Carriers Only)	Chapter 5, Section A
FGCE-GH03	Examine respiratory and eye protection [provided for emergency escape purposes] (LPG Carriers Only)	Chapter 5, Section B
FGCE-GH04	Examine personnel safety equipment	Chapter 5, Section C
FGCE-GH05	Examine first aid equipment	Chapter 5, Section D
FGCE-GH06	Examine air locks	Chapter 5, Section E
FGCE-LS01	Examine lifeboats	Chapter 6, Section A
FGCE-FF01	Examine fire water main equipment	Chapter 7, Section A
FGCE-FF02	Examine the deck water spray system	Chapter 7, Section B
FGCE-FF03	Examine chemical powder fire-extinguishing system	Chapter 7, Section C
FGCE-FF04	Examine cargo machinery room fixed fire-extinguishing system	Chapter 7, Section D
FGCE-FF05	Examine cargo motor room fixed fire-extinguishing system	Chapter 7, Section E
FGCE-FF06	Examine firemen's outfits	Chapter 7, Section F
FGCE-ES01	Examine electrical installations in the cargo machinery room	Chapter 8, Section A & Appendix G
FGCE-ES02	Examine electrical installations in gas dangerous zones on open decks and in spaces other than cargo machinery rooms	Chapter 8, Section B & Appendix G
FGCE-IE01	Examine fixed gas detection system	Chapter 9, Section A
FGCE-IE02	Examine portable gas detection equipment	Chapter 9, Section B
FGCE-IE03	Examine temperature indicating devices	Chapter 9, Section C
FGCE-IE04	Examine pressure monitoring devices	Chapter 9, Section D
FGCE-IE05	Examine overflow control system	Chapter 9, Section E
FGCE-CS01	Examine the Emergency Shutdown (ESD) system	Chapter 11, Section A & Appendix H

Appendix A

FGCE-CS02	Examine cargo tank pressure relief valves	Chapter 11, Section B
FGCE-CS03	Examine cargo piping	Chapter 11, Section C
FGCE-CS04	Examine cargo system shutoff valves	Chapter 11, Section D
FGCE-CS05	Examine cargo machinery room equipment	Chapter 11, Section E
FGCE-CE01	Examine the Inert Gas System (IGS)	Chapter 12, Section A
FGCE-CE02	Examine the Nitrogen Gas Generating System	Chapter 12, Section B
FGCE-CE03	Examine Inert Gas/Nitrogen storage tanks	Chapter 12, Section C
FGCE-CV01	Examine cargo motor room ventilation system	Chapter 13, Section A
FGCE-CV02	Examine cargo machinery room ventilation system	Chapter 13, Section B
FGCE-GF01	Examine the master gas valve (LNG Carriers Only)	Chapter 14, Section A
FGCE-GF02	Examine ventilation within the valve unit (GVU) room (LNG Carriers Only)	Chapter 13, Section B
FGCE-GF03	Examine the gas detection system used for the protection of the cargo fuel system (LNG Carriers Only)	Chapter 14, Section D
FGCE-GF04	Examine the double block & bleed (LNG Carriers Only)	Chapter 14, Section A
FGCE-GF05	Examine gas fuel piping (double wall piping system) (LNG Carriers Only)	Chapter 14, Section F
FGCE-GF06	Examine gas fuel piping (ventilated pipe or duct system) (LNG Carriers Only)	Chapter 14, Section G
FGCE-GF07	Examine the Gas Combustion Unit (GCU) (LNG Carriers Only)	Chapter 14, Section H
FGCE-FU01	Complete MISLE Activity	Chapter 15, Sections A, B, C & Appendix C

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

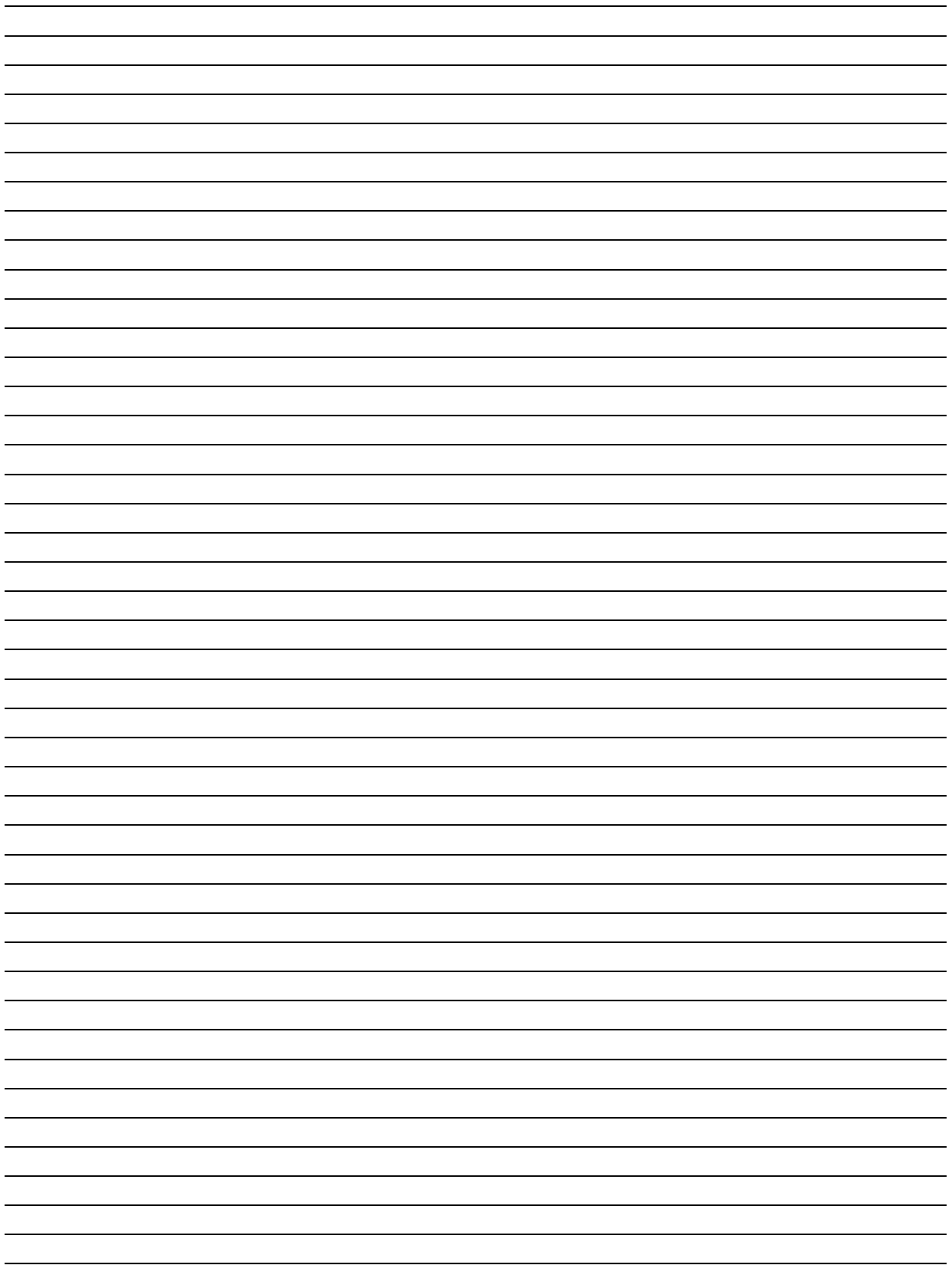
Witness (Observe): to watch carefully

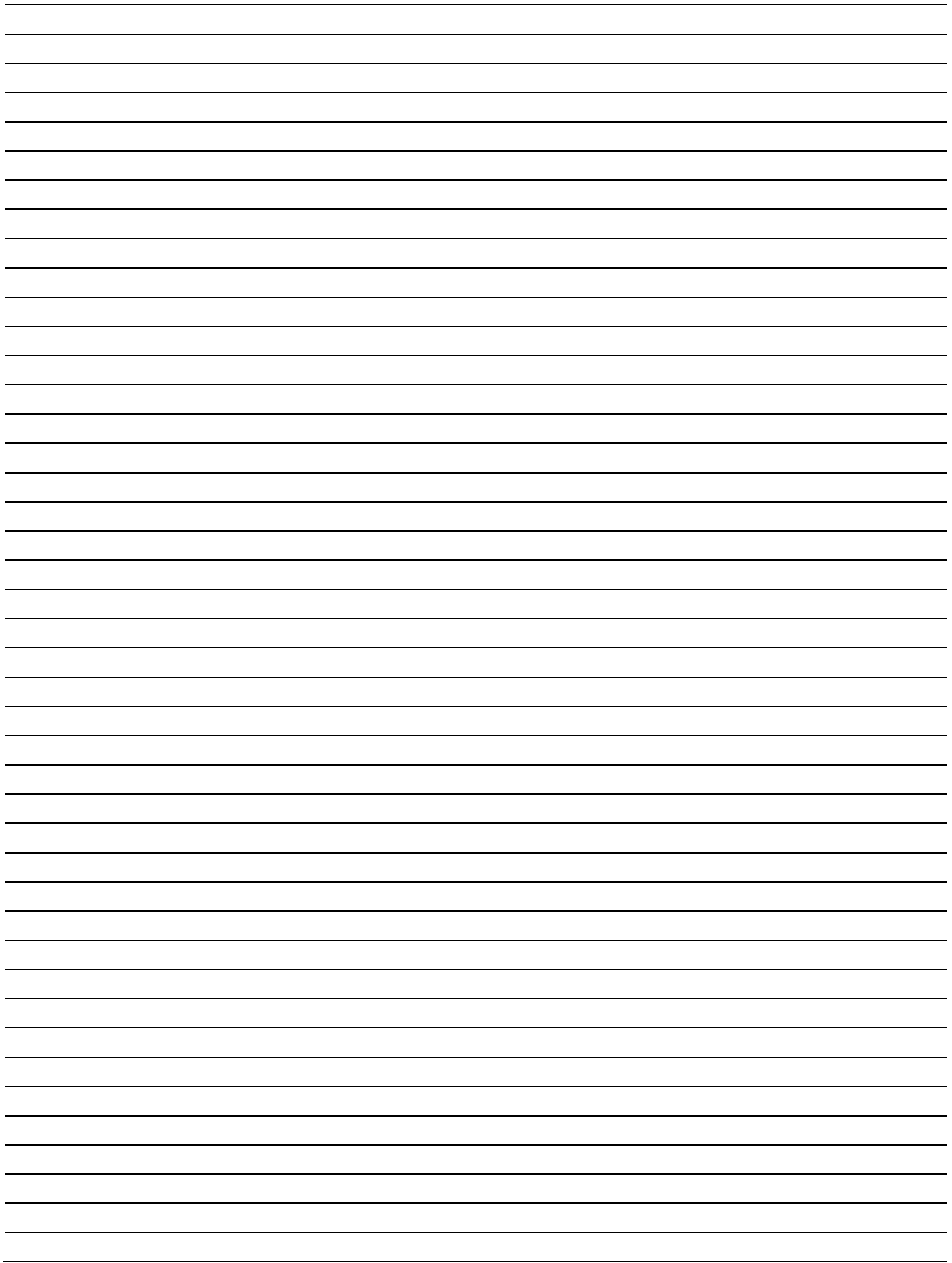
Appendix C
Port State Control Examination Log

DATE	LOCATION	VESSEL NAME	VESSEL TYPE	EXAM TYPE	LEAD EXAMINER

Appendix C
Port State Control Examination Log

DATE	LOCATION	VESSEL NAME	VESSEL TYPE	EXAM TYPE	LEAD EXAMINER





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-2
 3. Coast Guard Tactics, Techniques and Procedures (TTP) CGTTP 3-72.6: Foreign Gas Carrier Examiners

Steps		References	Initials
PE01.1	Prepare certificate	TTP Section A	
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.*

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

EMPLID:

Verifying Officer's Signature:

Date:

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-2
 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:

Certificates and Documents (CD)

Foreign Liquefied Gas Carrier (All)

Task: FGCE-CD01 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), 2016

Steps		References	Initials
CD01.1	Verify validity	IGC 1.4.4 & .6	
CD01.2	Verify issued by administration or recognized organization	IGC 1.4.4 & .5	
CD01.3	Verify cargoes are authorized	IGC 18.4.1	
CD01.4	Verify that any alternative arrangements or equivalencies are identified	IGC 1.3 IGC 2.6.2 IGC Appendix 2	
CD01.5	Verify intermediate survey has been completed	IGC 1.4.2.3	
CD01.6	Verify annual survey has been completed	IGC 1.4.2.4	

Verifying Officer Guidance: This task applies to vessels with a keel laid 1 July 16 or later. 02.5: The intermediate survey shall be carried out within 3 months before or after the second anniversary date or within 3 months before or after the third anniversary date of the certificate's issue date. 02.6: 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:

Certificates and Documents (CD)

Foreign Liquefied Gas Carrier (All)

Task: FGCE-CD02 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
CD02.1	Verify validity	GC Code Appendix GC Code 1.6.5	
CD02.2	Verify issued by administration or recognized organization	GC Code 1.6.4	
CD02.3	Verify cargoes are authorized	GC Code 18.2.1	
CD02.4	Verify any alternative arrangements or equivalencies are identified	GC Code 1.5 & 1.6.3(a) GC Code 2.7.2 GC Code Appendix	
CD02.5	Verify intermediate survey has been completed	GC Code 1.6.1(c)	
CD02.6	Verify annual survey has been completed	GC Code 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.*

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

EMPLID:

Verifying Officer's Signature:

Date:

Certificates and Documents (CD)

Foreign Liquefied Gas Carrier (All)

Task: FGCE-CD03 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 Existing Ships Carrying Liquefied Gases in Bulk (EGC Code), 1976
2. COMDTINST M16000.7B Marine Safety Manual Volume II Material Inspection Ch-2
3. 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
CD03.1	Verify validity	EGC Code 1.6.7, .9 & .10 EGC Appendix IMO Res A.329(IX)	
CD03.2	Verify issued by administration or recognized organization	EGC Code 1.6.4	
CD03.3	Verify cargoes are authorized	EGC Code 18.2.1	
CD03.4	Verify any alternative arrangements or equivalencies are identified	EGC Code 1.5 EGC Code Appendix	
CD03.5	Verify intermediate survey has been completed	EGC Code 1.6.1(d)	
CD03.6	Verify annual survey has been completed	EGC Code 1.6.1(b)	
CD03.7	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.

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

EMPLID:

Verifying Officer's Signature:

Date:

Certificates and Documents (CD)

Foreign Liquefied Gas Carrier (All)

Task: FGCE-CD04 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
CD04.1	Verify IMO International Gas Code COF matches current COF	46 CFR 154.1802(1) MSC Guidelines C1-43	
CD04.2	Verify cargo containment system(s) is identified on SOE	46 CFR 154.1802(1) MSC Guidelines C1-43	
CD04.3	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	
CD04.4	Verify authorized cargo(s) are on International Gas Code COF	46 CFR 154.1802(1) MSC Guidelines C1-43	
CD04.5	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:

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), 2016

Steps		References	Initials
CD05.1	Verify data is approved by administration	IGC 15.6.1	
CD05.2	Verify data includes Maximum Allowable Relief Valve Settings (MARVS) of pressure relief valves	IGC 15.6.2	

Verifying Officer Guidance:



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

EMPLID:

Verifying Officer's Signature:

Date:

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), 2016
2. 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 8.2.6	
CD06.2	Verify procedures for changing cargo tank set pressures are approved by the administration	IGC 8.2.8 IGC 18.2.2.10	
CD06.3	Verify changes to cargo tank set pressures are logged	IGC 8.2.8 46 CFR 154.1846(b)	

Verifying Officer Guidance: Typically only LPG carries change their relief valve settings. However, some LNG carries also change their relief valve settings.

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

EMPLID:

Verifying Officer's Signature:

Date:

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:

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

EMPLID:

Verifying Officer's Signature:

Date:

Certificates and Documents (CD)

Foreign Liquefied Gas Carrier (LPG)

Task: FGCE-CD08 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 amended

Steps		References	Initials
CD08.1	Verify validity	MARPOL II/5.3.2 MARPOL II/10	
CD08.2	Verify issued by administration or recognized organization	MARPOL II/5.3.2 MARPOL II/9.2	
CD08.3	Verify NLS cargo being carried is authorized	MARPOL II/5.3.2 MARPOL II/Appendix III	
CD08.4	Verify intermediate survey has been completed	MARPOL II/5.3.2 MARPOL II/8.1.3	
CD08.5	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:

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), 2016
 2. 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 46 CFR 154.1818(b)(1)	
CD09.2	Verify amount of inhibitor added to the cargo(es)	IGC 17.8.1 46 CFR 154.1818(b)(1)	
CD09.3	Verify date inhibitor was added	IGC 17.8.2 46 CFR 154.1818(b)(2)	
CD09.4	Verify expected duration of inhibitor's effective lifetime	IGC 17.8.2 46 CFR 154.1818(b)(3)	
CD09.5	Verify temperature limitations that impact inhibitor's effectiveness	IGC 17.8.3 46 CFR 154.1818(b)(4)	
CD09.6	Verify procedures if voyage exceeds effective lifetime of inhibitor	IGC 17.8.4 46 CFR 154.1818(b)(5)	

Verifying Officer Guidance: This task specific to cargoes with a special requirement of 17.8 in column i. Cargoes with a special requirement of 17.19 or 17.20 may also need inhibitor.

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

EMPLID:

Verifying Officer's Signature:

Date:

Logs and Manuals Examination (LM)

Foreign Liquefied Gas Carrier (All)

Task: FGCE-LM01 Examine Cargo Operations Manuals

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), 2016
 2. Title 46, Code of Federal Regulations Part 154 Safety Standards for Self-Propelled Vessels Carrying Bulk Liquefied Gases

Steps		References	Initials
LM01.1	Verify presence	IGC 18.2.1 46 CFR 154.1810(a)	
LM01.2	Verify cargo operations manual includes contents required in IGC Code 18.2.2	IGC 18.2.2 46 CFR 154.1810(a)	

Verifying Officer Guidance: *The Cargo Operations Manual requirements on this card are only applicable for vessels built on or after 01JUL16. For vessels built prior to 01JUL16, please reference the applicable IGC Code to determine what is required to be contained in a Cargo Operations Manual. Also, only vessels authorized to change their cargo tank pressure relief valve pressures IAW IGC Code 8.2.8 and 4.13.2.3 will require their operations manual to contain the procedures found in IGC Code 18.2.2.10.*

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

EMPLID:

Verifying Officer's Signature:

Date:

Logs and Manuals Examination (LM)

Foreign Liquefied Gas Carrier (All)

Task: FGCE-LM02 Examine Cargo Information

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), 2016
 2. Title 46, Code of Federal Regulations Part 154 Safety Standards for Self-Propelled Vessels Carrying Bulk Liquefied Gases

Steps		References	Initials
LM02.1	Verify cargo physical and chemical properties	IGC 18.3.1.1 46 CFR 154.1810(a)(5)	
LM02.2	Verify information regarding cargo reactivity IAW the Certificate of Fitness	IGC 18.3.1.2	
LM02.3	Verify procedures for spills or leaks are fully described	IGC 18.3.1.3 46 CFR 154.1810(a)(3)	
LM02.4	Verify counter measure procedures for personnel who come in contact with cargo(es)	IGC 18.3.1.4 46 CFR 154.1810(a)(1)	
LM02.5	Verify fire fighting procedures and extinguishing media	IGC 18.1.5 46 CFR 154.1810(a)(4)	
LM02.6	Verify procedures and special equipment needed for safe handling cargo(es)	IGC 18.3.1.6 46 CFR 154.1810(a)(16)	
LM02.7	Verify emergency procedures	IGC 18.3.1.7 46 CFR 154.1810(a)(15)	

Verifying Officer Guidance: *The Cargo Information required for vessels built prior to 01JUL16 is significantly different than what is on this card. Please reference the applicable IGC Code to determine the Cargo Information required to be onboard.*

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

EMPLID:

Verifying Officer's Signature:

Date:

Logs and Manuals Examination (LM)

Foreign Liquefied Gas Carrier (All)

Task: FGCE-LM03 Examine loading and stability information booklet

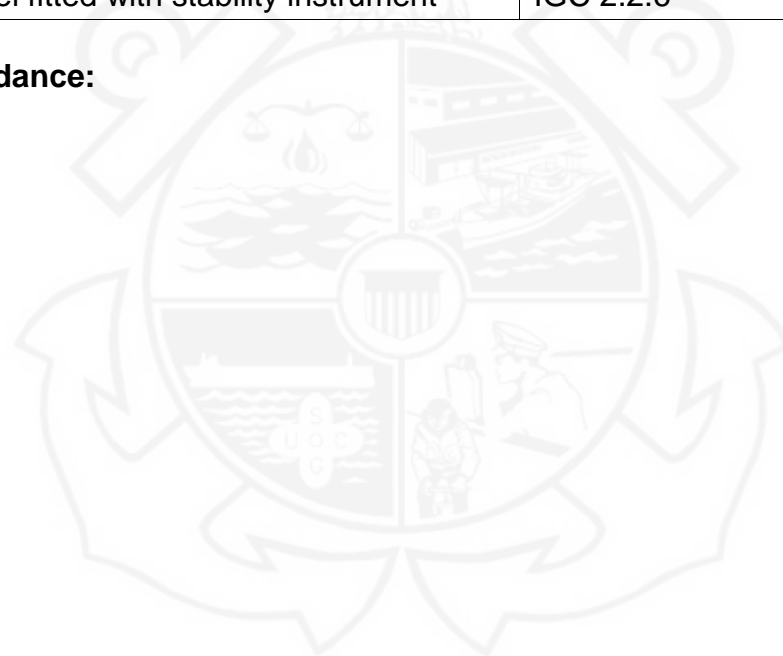
Condition: While validating logs and manuals

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), 2016
 2. Title 46, Code of Federal Regulations Part 154 Safety Standards for Self-Propelled Vessels Carrying Bulk Liquefied Gases

Steps		References	Initials
LM03.1	Verify service conditions including loading, unloading and ballasting	IGC 2.2.5 46 CFR 154.1809(b)(1)	
LM03.2	Verify survival capabilities	IGC 2.2.5 46 CFR 154.1809(b)(2)	
LM03.3	Verify vessel fitted with stability instrument	IGC 2.2.6	

Verifying Officer Guidance:



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

Logs and Manuals Examination (LM)

Foreign Liquefied Gas Carrier (LPG)

Task: FGCE-LM04 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 amended

Steps		References	Initials
LM04.1	Verify approved	MARPOL II/14.1	
LM04.2	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.

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

EMPLID:

Verifying Officer's Signature:

Date:

Logs and Manuals Examination (LM)

Foreign Liquefied Gas Carrier (LPG)

Task: FGCE-LM05 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 amended

Steps		References	Initials
LM05.1	Verify presence	MARPOL II/15.5	
LM05.2	Verify format	MARPOL II/15.1 MARPOL II/Appendix II	
LM05.3	Verify entries are signed	MARPOL II/15.4	
LM05.4	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:

Logs and Manuals Examination (LM)

Foreign Liquefied Gas Carrier (LPG)

Task: FGCE-LM06 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 amended

Steps		References	Initials
LM06.1	Verify approved	MARPOL II/17.1	
LM06.2	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.

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

EMPLID:

Verifying Officer's Signature:

Date:

General Health & Safety Examination (GH)

Foreign Liquefied Gas Carrier (LPG)

Task: FGCE-GH01 Examine decontamination showers

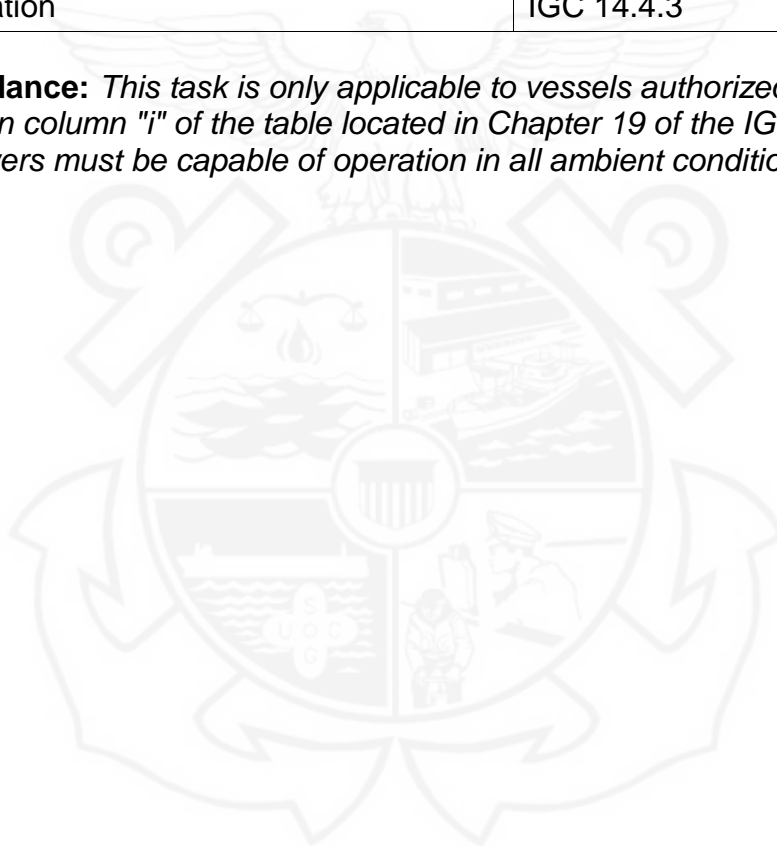
Condition: During general health and safety examination

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), 2016

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:

General Health & Safety Examination (GH)

Foreign Liquefied Gas Carrier (LPG)

Task: FGCE-GH02 Examine eye wash stations

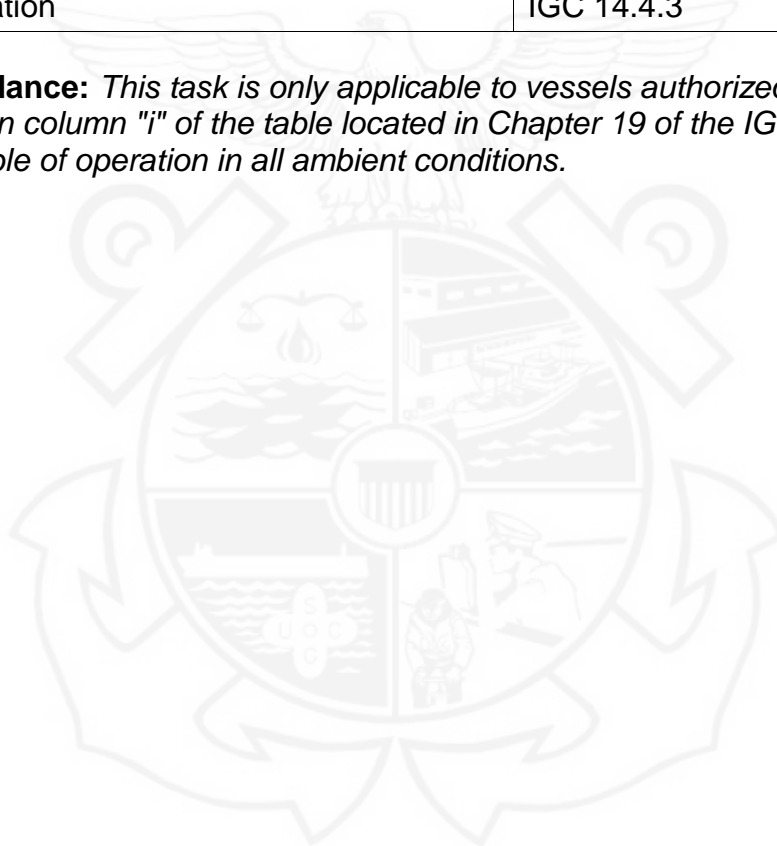
Condition: During general health and safety examination

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), 2016

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:

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), 2016

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	
GH03.3	Verify SCBAs service duration	IGC 14.4.2.2	
GH03.4	Verify equipment markings	IGC 14.1.2 IGC 14.4.2.3	

Verifying Officer Guidance: This task is only applicable to vessels authorized to carry cargoes that have 14.4 identified in column "I" of the table located in Chapter 19 of the IGC Code.

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

EMPLID:

Verifying Officer's Signature:

Date:

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), 2016
 2. 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 14.3.1	
GH04.2	Verify each set contains required equipment	IGC 14.3.2	
GH04.3	Verify adequate supply of compressed air	IGC 14.3.3	
GH04.4	Verify compressed air is inspected monthly	IGC 14.1.3 46 CFR 154.1846(a)	
GH04.5	Verify compressed air inspected is inspected and tested annually	IGC 14.1.3	

Verifying Officer Guidance: 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: A competent person 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.

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

EMPLID:

Verifying Officer's Signature:

Date:

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), 2016
 2. ILO/IMO/WHO International Medical Guide for Ships
 3. Medical First Aid Guide for Use in Accidents Involving Dangerous Goods (MFAG)

Steps		References	Initials
GH05.1	Verify stretcher(s)	IGC 14.2.1	
GH05.2	Verify presence of equipment	IGC 14.2.2 Medical Guide MFAG	
GH05.3	Verify presence of oxygen resuscitation equipment	IGC 14.2.2 Medical Guide MFAG	
GH05.4	Verify presence of medicines (when applicable)	MFAG	

Verifying Officer Guidance: 05.1: These stretchers should be outfitted with belts for securing an injured person and straps that can be used to hoist the stretcher from spaces below deck. 05.4: The list of required equipment and medicines can be found in the MFAG Appendix 14 – List of Medicines and Equipment.

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

EMPLID:

Verifying Officer's Signature:

Date:

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), 2016

Steps		References	Initials
GH06.1	Verify presence of air lock between hazardous area on the open weather deck and non-hazardous spaces	IGC 3.6.1	
GH06.2	Verify doors are self-closing	IGC 3.6.1	
GH06.3	Verify operation of audible alarm system	IGC 3.6.3	
GH06.4	Verify operation of visual alarm	IGC 3.6.3	
GH06.5	Verify no hold back arrangements for doors	IGC 3.6.1	

Verifying Officer Guidance:

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

EMPLID:

Verifying Officer's Signature:

Date:

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, 2017

Steps		References	Initials
LS01.1	Verify condition of self-contained air support system	SOLAS 20 III/31.1.6 LSA Code 4.8	
LS01.2	Verify condition of air supply system pressure visual indicators	SOLAS 20 III/31.1.6 LSA Code 4.8	
LS01.3	Verify presence and/or operation of fire-protection	SOLAS 20 III/31.1.7 LSA Code 4.9	

Verifying Officer Guidance: 01.3: LPG carriers authorized to carry only toxic cargoes are not required to have fire-protection on their lifeboats. This task may, in some circumstances, only be accomplished when the lifeboat is waterborne.

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

EMPLID:

Verifying Officer's Signature:

Date:

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), 2016

Steps		References	Initials
FF01.1	Verify operation of fire main system	IGC 11.2.1	
FF01.2	Verify fire hydrants locations	IGC 11.2.2	
FF01.3	Verify variable nozzles	IGC 11.2.4	
FF01.4	Verify condition of piping, valve nozzles	IGC 11.2.5	
FF01.5	Verify remote operation of fire pump	IGC 11.2.1 IGC 11.3.7	

Verifying Officer Guidance: 01.1: The fire pump must be capable of attaining a pressure of at least 5.0 bars if it is also used to supply the deck water-spray system. 01.4: This is a visual verification where the examiner will be looking for obvious signs of corrosion, wastage, etc. .01.5: If the fire pump serves the water-spray system regulation 11.3.7 applies.

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

EMPLID:

Verifying Officer's Signature:

Date:

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), 2016

Steps		References	Initials
FF02.1	Verify areas protected	IGC 11.3.1	
FF02.2	Witness operational test	IGC 11.3.2.1 & 3.2.2 IGC 11.3.3	
FF02.3	Verify local operation during carriage of Propylene Oxide and Ethylene Oxide	IGC 17.18.30	
FF02.4	Verify remote operation of pumps	IGC 11.3.7	
FF02.5	Verify capacity of fire pump if used to supply the system	IGC 11.3.3	

Verifying Officer Guidance:



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

EMPLID:

Verifying Officer's Signature:

Date:

Firefighting Systems Examination (FF)

Foreign Liquefied Gas Carrier (All)

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

Condition: During firefighting 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. International Code for the Construction & Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), 2016
3. 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 20 II-2/14.2.2 IMO MSC.1/Circ.1432	
FF03.2	Verify condition of independent self-contained dry chemical powder units	IGC 11.4.3	
FF03.3	Verify condition of inert gas storage pressure vessels	IGC 9.4.2 IGC 11.4.1	
FF03.4	Verify condition of deck hoses and nozzles	IGC 11.4.4	
FF03.5	Verify arrangement of deck monitors	IGC 11.4.3	
FF03.6	Verify additional dry chemical powder units	IGC 11.4.3	

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

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

EMPLID:

Verifying Officer's Signature:

Date:

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 Convention for the Safety of Life at Sea (SOLAS) 1974, as amended
2. International Code for the Construction & Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), 2016
3. IMO MSC.1/Circ. 1318/Rev 1 Guidelines for the Maintenance and Inspection of Fixed Carbon Dioxide Fire-Extinguishing Systems

Steps		References	Initials
FF04.1	Verify periodic servicing is completed	SOLAS 20 II-2/14.2.2 IMO MSC.1/Circ.1318 Rev/1	
FF04.2	Verify condition of agent storage bottles	SOLAS 20 II-2/14.2.1.2	
FF04.3	Verify all openings into space are capable of being secured	IGC 11.5.1 SOLAS 20 II-2/5.2	
FF04.4	Verify system marked	IGC 11.5.1	

Verifying Officer Guidance:

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

EMPLID:

Verifying Officer's Signature:

Date:

Firefighting Systems Examination (FF)

Foreign Liquefied Gas Carrier (All)

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

Condition: *During firefighting 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. International Code for the Construction & Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), 2016
3. IMO MSC.1/Rev 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 20 II-2/14.2.2 IMO MSC.1/Circ.1318 Rev/1	
FF05.2	Verify condition of agent storage bottles	SOLAS 20 II-2/14.2.1.2	
FF05.3	Verify all openings into space are capable of being secured	IGC 11.5.1 SOLAS 20 II-2/5.2	
FF05.4	Verify system is marked	IGC 11.5.1	

Verifying Officer Guidance:

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

EMPLID:

Verifying Officer's Signature:

Date:

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 Convention for the Safety of Life at Sea (SOLAS) 1974, as amended
2. International Code for the Construction & Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), 2016
3. International Code for Fire Safety Systems (FSS Code)

Steps		References	Initials
FF06.1	Verify presence	IGC 11.6.1	
FF06.2	Verify condition of equipment	SOLAS 20 II-2/10.10.1 FSS Code 3.2	
FF06.3	Verify condition of outfits	SOLAS 20 II-2/14.2.2.1 SOLAS 20 II-2/14.2.2.3.11	
FF06.4	Verify stowage	SOLAS 20 II-2/10.3	

Verifying Officer Guidance: 06.1: <5,000 m³ = 4 outfits, >5,000 m³ = 5 outfits

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

EMPLID:

Verifying Officer's Signature:

Date:

Electrical Systems Examination (ES)

Foreign Liquefied Gas Carrier (All)

Task: FGCE-ES01 Examine electrical installations

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), 2016
 2. International Electrotechnical Commission (IEC) 60092-502:1999 - Electrical Installations in Ships - Tankers

Steps		References	Initials
ES01.1	Verify condition of electrical installations	IGC 10.2.1 IEC 60092-502	
ES01.2	Verify electrical installations conform with recognized standards	IGC 10.2.2 IEC 60092-502	
ES01.3	Verify electrical equipment and wiring not installed in hazardous areas unless essential for operational purposes/safety enhancement	IGC 10.2.3 IEC 60092-502	
ES01.4	Verify electrical equipment installed in hazardous areas are certified for installed location.	IGC 10.2.4	
ES01.5	Verify lighting systems in hazardous areas are divided into at least two branch circuits	IGC 10.2.7	
ES01.6	Verify equipment not certified safe is de-energized upon loss of overpressure in space protected by an air lock.	IGC 3.6.4	

Verifying Officer Guidance: *The electrical installation requirements for vessels built prior to 01JUL16 are significantly different than what is on this card. Reference the applicable IGC Code to determine the electrical installation requirements for the equipment onboard.*

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

EMPLID:

Verifying Officer's Signature:

Date:

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), 2016
2. Vessel's Cargo Operations Manual
3. Vessel's Gas Detection Operator's Manual

Steps		References	Initials
IE01.1	Verify testing/calibration	IGC 13.6.18 Gas Detection Operator's Manual	
IE01.2	Verify sampling points	IGC 13.6.2 Cargo Operations Manual	
IE01.3	Verify location of sampling points	IGC 13.6.12	
IE01.4	Verify integrity of sampling piping	IGC 13.6.18	

Verifying Officer Guidance: 01.1: *The testing/calibration of the fixed gas detection system shall be IAW the gas detection system's operating manual. 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:

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), 2016
2. Portable Gas Detection Operator's Manual

Steps		References	Initials
IE02.1	Witness testing/calibration	IGC 13.6.9 Gas Detection Operator's Manual	
IE02.2	Verify presence of two sets	IGC 13.6.19	
IE02.3	Verify suitable for cargo(es) being carried	IGC 13.6.19	
IE02.4	Verify presence & operation of instrument used for measuring oxygen levels in inert atmospheres	IGC 13.6.20	

Verifying Officer Guidance: 02.4: *The oxygen measuring instrument may be incorporated into the portable gas detection equipment.*

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

EMPLID:

Verifying Officer's Signature:

Date:

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), 2016

Steps		References	Initials
IE03.1	Verify presence	IGC 13.5.1	
IE03.2	Verify lowest temperature for cargo tank has been approved by Administration	IGC 13.5.1	
IE03.3	Verify devices are provided within the insulation or on the hull structure adjacent to cargo containment systems	IGC 13.7.2.2	
IE03.4	Verify low temperature alarm	IGC 13.7.2.2	

Verifying Officer Guidance: 3.3 & 3.4 only apply to cargo containment systems with a secondary barrier.

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

EMPLID:

Verifying Officer's Signature:

Date:

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), 2016

Steps		References	Initials
IE04.1	Verify cargo tank vapor space pressure gauge and indicator in control location	IGC 13.4.1	
IE04.2	Verify maximum/minimum allowable pressures are clearly indicated	IGC 13.4.1	
IE04.3	Verify operation of cargo tank vapor space high pressure alarm(s)	IGC 13.4.2	
IE04.4	Verify operation of cargo tank vapor space low pressure alarm(s)	IGC 13.4.2	
IE04.5	Verify each manifold cargo line is fitted with pressure gauge	IGC 13.4.5	
IE04.6	Verify hold/interbarrier spaces without open communication to atmosphere have pressure gauges	IGC 13.4.6	

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. 04.4: Consult the ESD functional flow chart (Cause & Effect Diagram) and Chief Officer prior to testing as this may initiate an emergency shutdown.

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

EMPLID:

Verifying Officer's Signature:

Date:

Instrumentation Examination (IE)

Foreign Liquefied Gas Carrier (All)

Task: FGCE-IE05 Examine overflow control system

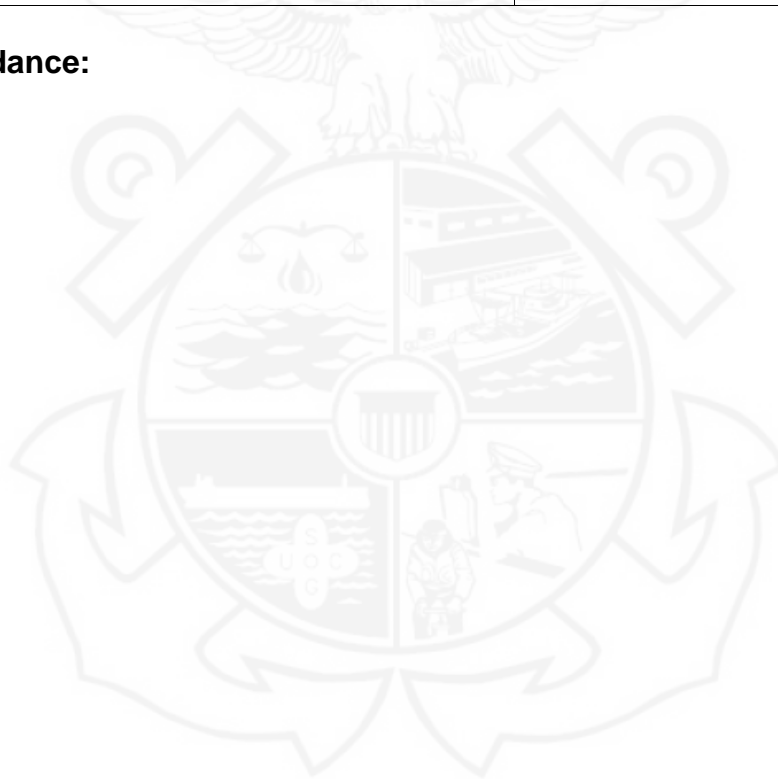
Condition: *During instrumentation exam*

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), 2016

Steps		References	Initials
IE05.1	Verify high level alarm audible warning	IGC 13.3.1	
IE05.2	Verify high level alarm visual warning	IGC 13.3.1	
IE05.3	Verify automatic shutoff valve installation	IGC 13.3.2	

Verifying Officer Guidance:



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

EMPLID:

Verifying Officer's Signature:

Date:

Topside Equipment Examination (TE)

Foreign Liquefied Gas Carrier (All)

Task: FGCE-TE01 Examine access to bow and emergency towing arrangements

Condition: While on deck walk

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. International Convention on Load Lines (ICLL) 1966, as amended
 3. IMO Resolution MSC.35(63) Adoption of Guidelines for Emergency Towing Arrangements on Tankers
 4. IMO Resolution MSC.62(67) Guidelines for Safe Access to Tanker Bows

Steps		References	Initials
TE01.1	Verify safe access	SOLAS 20 II-1/3-3.2 ICLL 25(4) & 26(2) IMO Res MSC.62(67)	
TE01.2	Verify emergency towing arrangements	SOLAS 20 II-1/3-4.1 IMO Res MSC.35(63)	

Verifying Officer Guidance:

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

EMPLID:

Verifying Officer's Signature:

Date:

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), 2016

Steps		References	Initials
CS01.1	Verify ESD locations	IGC 18.10.3.1	
CS01.2	Verify location of fusible elements	IGC 18.10.3.2	
CS01.3	Verify ESD valves fully close within 30 seconds	IGC 18.10.2.1.3	
CS01.4	Verify cargo pumps and compressors shutdown	IGC 18.10.3.3	

Verifying Officer Guidance: *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, conducting the exam while the vessel is underway, excess pressure in the 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.*

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

EMPLID:

Verifying Officer's Signature:

Date:

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), 2016
 2. Title 46, Code of Federal Regulations Part 154 Safety Standards for Self-Propelled Vessels Carrying Bulk Liquefied Gases

Steps		References	Initials
CS02.1	Verify cargo tanks, including deck tanks, fitted with at least two pressure relief valves	IGC 8.2.1	
CS02.2	Verify valves are sealed and approved by administration	IGC 8.2.6	
CS02.3	Verify valve setting changes are documented	IGC 8.2.8 46 CFR 154.1846(c)(2)	
CS02.4	Verify screens are fitted on vent	IGC 8.2.15	

Verifying Officer Guidance: 2.4 - Flame screens must be removed and replaced by protection screens when the special requirements mention 17.9 and/or 17.21.

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

EMPLID:

Verifying Officer's Signature:

Date:

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), 2016

Steps		References	Initials
CS03.1	Verify low temperature piping is thermally isolated from hull	IGC 5.7.2	
CS03.2	Verify hull is protected from low temperature liquid cargoes	IGC 5.7.2	
CS03.3	Verify water curtain fitted under shore connections	IGC 5.7.3	
CS03.4	Verify all gasketed pipe joints are electrically bonded	IGC 5.7.4	
CS03.5	Verify relief valves	IGC 5.5.6	
CS03.6	Verify condition of piping	IGC 1.4.3 & 5.2.1	

Verifying Officer Guidance: 03.3: Water curtains are only required for cargoes carried below -110 degrees Celsius.

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

EMPLID:

Verifying Officer's Signature:

Date:

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), 2016

Steps		References	Initials
CS04.1	Verify MARVS not exceeding 0.7 bar gauge have manual shutoff valves on vapor/liquid lines	IGC 5.5.2.1	
CS04.2	Verify MARVS exceeding 0.7 bar gauge have manual shutoff valves on vapor/liquid lines	IGC 5.5.2.1	
CS04.3	Verify MARVS exceeding 0.7 bar gauge have remotely controlled emergency shutdown valve on vapor/liquid lines	IGC 5.5.2.2	

Verifying Officer Guidance: 04.3: A single valve may be substituted for the two separate valves provided the valve complies with IGC 5.5.2.2, 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:

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), 2016
2. COMDTINST M16000.7B Marine Safety Manual Volume II Material Inspection Ch-2

Steps		References	Initials
CS05.1	Verify condition of cargo compressors	IGC 1.4.3 MSM II/D.1.G.1.c(2)	
CS05.2	Verify condition of cargo vaporizers	IGC 1.4.3 MSM II/D.1.G.1.c(2)	
CS05.3	Verify condition of gas tight seals on compressor shafts	IGC 3.3.4 & 1.4.3 MSM II/D.1.G.1.c(2)	
CS05.4	Verify condition of reliquefaction system	IGC 1.4.3 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:

Cargo Environmental Control Examination (CE)

Foreign Liquefied Gas Carrier (All)

Task: FGCE-CE01 Examine Inert Gas System (IGS)

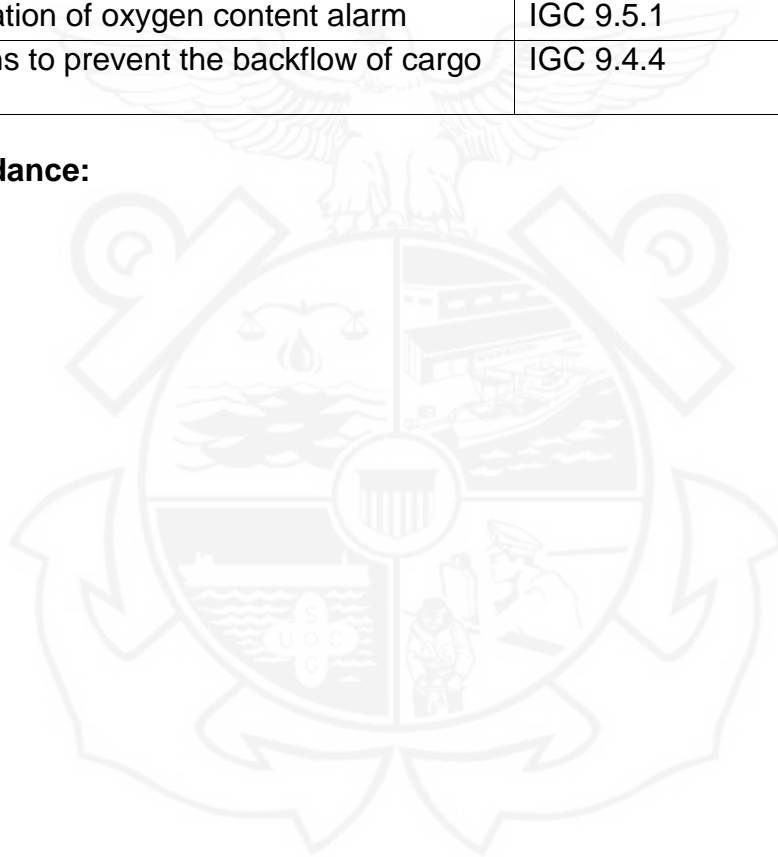
Condition: *During cargo environmental control examination*

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), 2016

Steps		References	Initials
CE01.1	Verify operational oxygen content meter	IGC 9.5.1	
CE01.2	Verify operation of oxygen content alarm	IGC 9.5.1	
CE01.3	Verify means to prevent the backflow of cargo gas	IGC 9.4.4	

Verifying Officer Guidance:



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

EMPLID:

Verifying Officer's Signature:

Date:

Cargo Environmental Control Examination (CE)

Foreign Liquefied Gas Carrier (All)

Task: FGCE-CE02 Examine the Nitrogen Gas Generating System

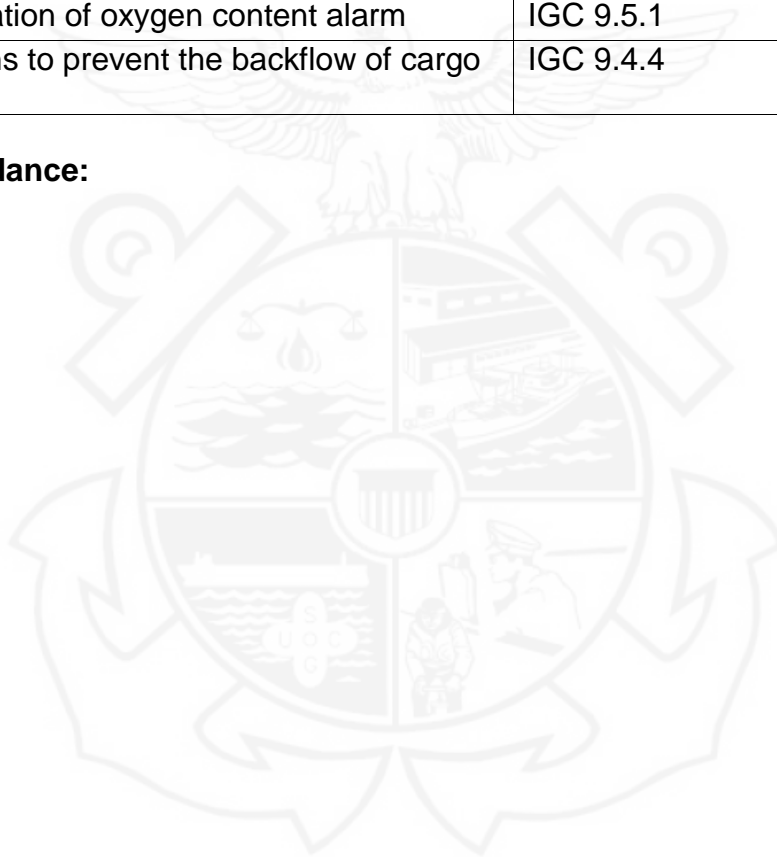
Condition: *During cargo environmental control examination*

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), 2016

Steps		References	Initials
CE02.1	Verify operational oxygen content meter	IGC 9.5.1	
CE02.2	Verify operation of oxygen content alarm	IGC 9.5.1	
CE02.3	Verify means to prevent the backflow of cargo gas	IGC 9.4.4	

Verifying Officer Guidance:



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

EMPLID:

Verifying Officer's Signature:

Date:

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), 2016

Steps		References	Initials
CE03.1	Verify sufficient storage	IGC 9.2.1	
CE03.2	Verify inert gas used for firefighting is carried in separate containers and not used for cargo services	IGC 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:

Cargo Area Ventilation System Examination (CV)

Foreign Liquefied Gas Carrier (All)

Task: FGCE-CV01 Examine cargo 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), 2016

Steps		References	Initials
CV01.1	Verify system can be controlled from outside of space	IGC 12.1.1	
CV01.2	Verify motor room has a positive ventilation	IGC 12.1.2	
CV01.3	Verify adjacent air locks have mechanical ventilation and are maintained at an overpressure	IGC 12.1.4	
CV01.4	Verify ventilation duct openings have protection screens	IGC 12.1.9	
CV01.5	Verify warning notice is posted outside of space	IGC 12.1.1	

Verifying Officer Guidance:

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

EMPLID:

Verifying Officer's Signature:

Date:

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), 2016

Steps		References	Initials
CV02.1	Verify system can be controlled from outside of space	IGC 12.1.1	
CV02.2	Verify cargo machinery room has a negative ventilation system	IGC 12.1.2	
CV02.3	Verify ventilation extraction points	IGC 12.1.2	
CV02.4	Verify ventilation duct openings have protection screens	IGC 12.1.9	
CV02.5	Verify warning notice is posted outside of space	IGC 12.1.1	

Verifying Officer Guidance: *The relative density of the cargoes must be taken into account when locating the ventilation extraction points within a space.*

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

EMPLID:

Verifying Officer's Signature:

Date:

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), 2016

Steps		References	Initials
GF01.1	Verify closing for loss of pressurization in double wall gas fuel piping	IGC 16.4.3.1	
GF01.2	Verify closing upon loss of ventilation in duct and other compartments containing single-walled gas piping	IGC 16.4.3.2	
GF01.3	Verify closing for leakage of gas detected	IGC 16.4.8	
GF01.4	Verify each individual space containing gas consumers or their gas valve unit is provided with an individual master gas valve	IGC 16.4.6.1	
GF01.5	Verify master gas valve is located in the cargo area	IGC 16.4.6.1	
GF01.6	Verify master gas valve can be closed manually and in at least one remote location	IGC 16.4.6.2.2 & .4.6.3.2	

Verifying Officer Guidance:

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

EMPLID:

Verifying Officer's Signature:

Date:

Gas Fuel Supply System Examination (GF)

Foreign Liquefied Gas Carrier (LNG)

Task: FGCE-GF02 Examine ventilation within the "gas" valve unit (GVU) room

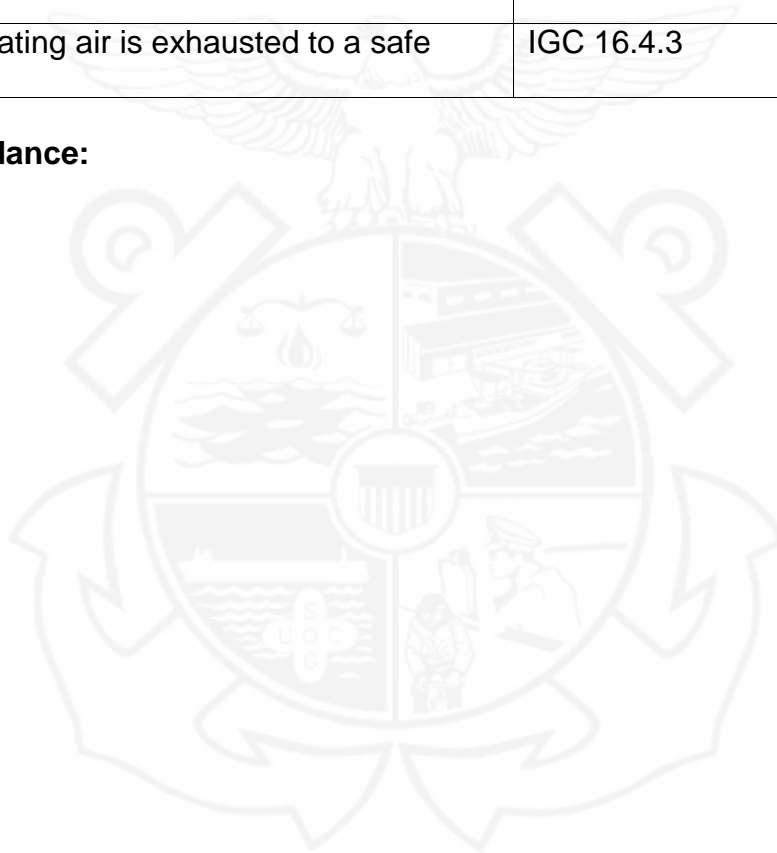
Condition: *During gas fuel supply system examination*

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), 2016

Steps		References	Initials
GF02.1	Verify fuel supply piping is adequately protected	IGC 16.4.3	
GF02.2	Verify ventilating air is exhausted to a safe location	IGC 16.4.3	

Verifying Officer Guidance:



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

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

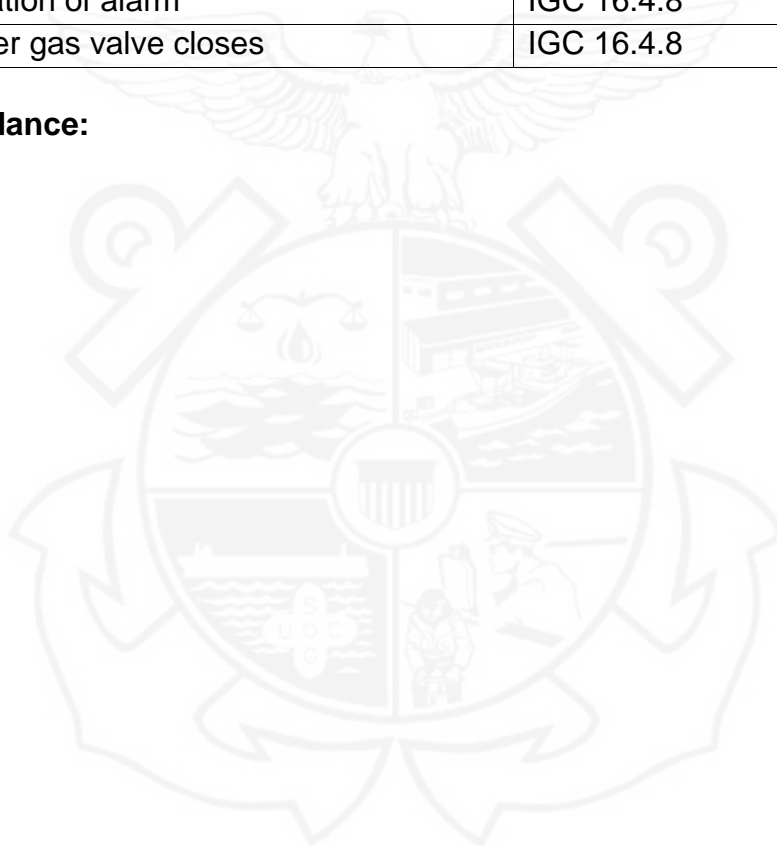
Condition: *During gas fuel supply system examination*

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), 2016

Steps		References	Initials
GF03.1	Verify operation of alarm	IGC 16.4.8	
GF03.2	Verify master gas valve closes	IGC 16.4.8	

Verifying Officer Guidance:



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

EMPLID:

Verifying Officer's Signature:

Date:

Gas Fuel Supply System Examination (GF)

Foreign Liquefied Gas Carrier (LNG)

Task: FGCE-GF04 Examine double block and bleed

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), 2016

Steps		References	Initials
GF04.1	Verify the supply piping has two valves in series	IGC 16.4.5	
GF04.2	Verify presence of bleed valve located between the two isolation (block) valves	IGC 16.4.5	

Verifying Officer Guidance: *The gas fuel supply piping to each gas consumer 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:

Gas Fuel Supply System Examination (GF)

Foreign Liquefied Gas Carrier (LNG)

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

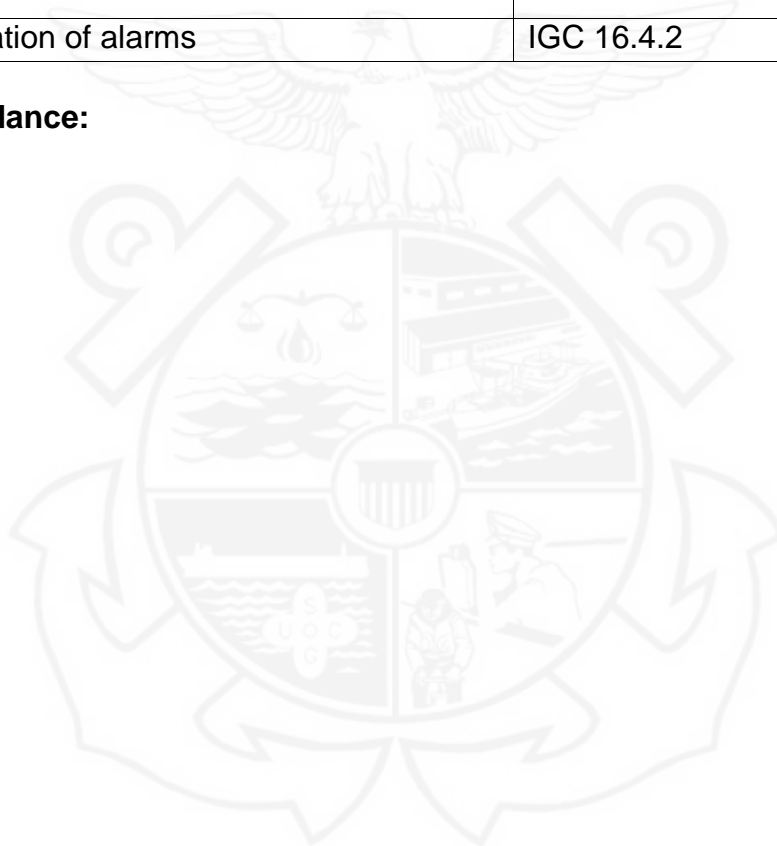
Condition: *During gas fuel supply system examination*

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), 2016

Steps		References	Initials
GF05.1	Verify space between concentric pipes is pressurized	IGC 16.4.3.1	
GF05.2	Verify operation of alarms	IGC 16.4.2	

Verifying Officer Guidance:



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

EMPLID:

Verifying Officer's Signature:

Date:

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), 2016

Steps		References	Initials
GF06.1	Verify operation of mechanical exhaust ventilation	IGC 16.4.3.2	
GF06.2	Verify operation of gas detection	IGC 13.6.2.5	

Verifying Officer Guidance:



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

EMPLID:

Verifying Officer's Signature:

Date:

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), 2016
2. Gas Combustion Unit Operations Manual

Steps		References	Initials
GF07.1	Verify operational condition	IGC 7.4	
GF07.2	Verify flame failure shutdown	IGC 7.4.4.1 Operations Manual	
GF07.3	Verify automatic purge of gas fuel piping to burners by means of inert gas	IGC 7.4.4.3	
GF07.4	Verify combustion chamber automatically purges prior to relighting after flame failure	IGC 7.4.4.4	
GF07.5	Verify combustion chamber can be manually purged	IGC 7.4.4.5	

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 IGC 7.4.1, 46 CFR 154.22(a)(9)(i)(B) and 46 CFR 154.703.

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

EMPLID:

Verifying Officer's Signature:

Date:

Follow Up Actions (FU)

Foreign Liquefied Gas Carrier (All)

Task: FGCE-FU01 Complete MISLE Activity

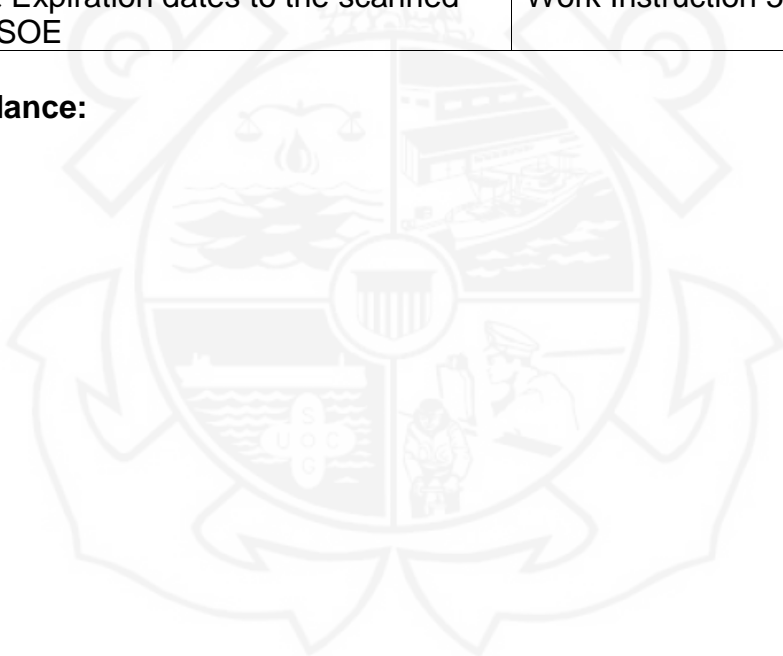
Condition: Upon completion of the examination

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 & SOE 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	Add Issue & Expiration dates to the scanned copy of the SOE	Work Instruction 5.e.1	

Verifying Officer Guidance:



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

**Performance Qualification Standard and Job Aid Change
Recommendation Form**

From: _____ Date: _____

PQS/Job Aid Title:

Section(s) Affected:

Remark(s)/Comment(s):

Reference(s):

Signature: _____

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