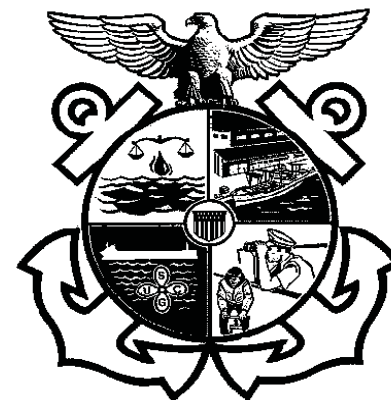


**United States Coast Guard**



**FOREIGN GAS CARRIER EXAMINER  
COMPETENCY CODE (FGCE)**

**Training Aid**

## **Use of Foreign Gas Carrier Examiner Training Aid:**

This is a condensed version of the FGC Examiner Performance and Qualification Standard (PQS) workbook. This Training Aid is intended to be used by Coast Guard Foreign Gas Carrier Examiner trainees during examinations of foreign flagged vessels subject to Port State Control. This Training Aid provides a quick reference for all the steps necessary to complete specific examination tasks listed in the FGCE Job Aid.

This Training Aid cites SOLAS regulations from the 2014 Consolidated Edition (SOLAS 14). In some cases, the regulations in SOLAS 14 may not apply due to the keel laid date of the vessel. PSC personnel must pay close attention to the applicability dates of the SOLAS chapters and regulations when conducting PSC exams.

### **FGCE-GF02 - Examine ventilation within the ventilation hood or casing**

- |     |  |                       |
|-----|--|-----------------------|
| .01 | Verify ventilation flow across Gas Utilization Unit(s) | IGC 16.3.4<br>GC 16.5 |
| .02 | Verify ventilating air is exhausted at top             | IGC 16.3.4<br>GC 16.5 |

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

- |     |                                |   |
|-----|--------------------------------|---|
| .01 | Verify operation of alarm      | IGC 16.3.10<br>GC 16.10                 |
| .02 | Verify master gas valve closes | IGC 16.3.4 & 16.3.10<br>GC 16.5 & 16.10 |

### **FGCE-GF04 - Examine gas utilization unit(s)**

- |     |  |                       |
|-----|--|-----------------------|
| .01 | Verify each has two valves in series                     | IGC 16.3.6<br>GC 16.6 |
| .02 | Verify each has one valve located between the two valves | IGC 16.3.6<br>GC 16.6 |

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

- |     |  |                            |
|-----|--|----------------------------|
| .01 | Verify space between concentric pipes is pressurized | IGC 16.3.1.1<br>GC 16.2(a) |
| .02 | Verify operation of alarms                           | IGC 16.3.1.1<br>GC 16.2(a) |

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

- |     |  |                            |
|-----|--|----------------------------|
| .01 | Verify operation of mechanical exhaust ventilation | IGC 16.3.1.2<br>GC 16.2(b) |
| .02 | Verify operation of gas detection                  | IGC 16.3.1.2<br>GC 16.2(b) |

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

- |     |                              |  |
|-----|------------------------------|--|
| .01 | Verify operational condition | IGC 16.6<br>IGC 1.5.3<br>IGC 7.1.1.2                 |
| .02 | Verify operation of alarms   | IGC 16.6 & 1.5.3<br>IGC 7.1.1.2<br>Operations Manual |

## **Follow Up Actions (FU)**

### **FGCE-FU01 - Complete MISLE Activity**

- |     |  |                        |
|-----|--|------------------------|
| .01 | Ensure COC status is changed from "In Process" to "Valid"                    | Work Instruction 5.e.1 |
| .02 | Scan COC into MISLE documents for Initial and Renewal examinations           | Work Instruction 8     |
| .03 | Change SOE status from "In Process" to "Valid" on the MSC issued certificate | Work Instruction 5.e.1 |
| .04 | Modify SOE Issued and Expiration dates to reflect the latest examination     | Work Instruction 5.e.1 |

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

- .01 Verify operational oxygen content meter IGC 9.5.1  
GC 9.5.1
- .02 Verify operation of oxygen content alarm IGC 9.5.1  
GC 9.5.1
- .03 Verify means to prevent the backflow of cargo gas IGC 9.5.2  
GC 9.5.2

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

- .01 Verify sufficient storage IGC 9.2.1 & 9.2.2.1  
GC 9.2.1 & 9.2.2(a)
- .02 Verify cargo stored gas is not used for fire fighting IGC 9.4.2  
GC 9.4.2

**Cargo Area Ventilation System Examination (CV)**

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

- .01 Verify system can be controlled from outside of space IGC 12.1.1  
GC 12.1.1
- .02 Verify motor room has a positive ventilation IGC 12.1.4  
GC 12.1.4
- .03 Verify adjacent air locks have mechanical ventilation and are overpressured IGC 3.6.5  
GC 3.6.5
- .04 Verify ventilation duct openings have protection screens IGC 12.1.11  
GC 12.1.11
- .05 Verify warning notice is posted outside of space IGC 12.1.1  
GC 12.1.1

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

- .01 Verify system can be controlled from outside of space IGC 12.1.1  
GC 12.1.1
- .02 Verify cargo machinery room has a negative ventilation system IGC 12.1.5  
GC 12.1.5
- .03 Verify ventilation extraction points IGC 12.1.3  
GC 12.1.3
- .04 Verify ventilation duct openings have protection screens IGC 12.1.11  
GC 12.1.11
- .05 Verify warning notice is posted outside of space IGC 12.1.1  
GC 12.1.1

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

**FGCE-GF01 - Examine master gas valve**

- .01 Verify closing for loss of pressurization in double wall gas fuel piping IGC 16.3.7  
GC 16.7
- .02 Verify closing for loss of ventilation for duct and casing (vent hood) IGC 16.3.7  
GC 16.7
- .03 Verify closing for leakage of gas detected IGC 16.3.7  
GC 16.7

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## **Pre-Exam (PE)**

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

- |  |                       |
|--|-----------------------|
| .01 Prepare certificate  | MPS-PR-SEC-04         |
| .02 Attach most recent Subchapter "O" Endorsement to certificate                                   | 46 CFR 154.1802(a)(1) |
| .03 Forward COC with Subchapter "O" Endorsement to OCMI or designated representative for signature | MSM II/D.6.E          |

### **FGCE-PE02 - Conduct safety meeting**

- |  |   |
|--|---|
| .01 Verify examination team is outfitted with appropriate PPE                            | MSM I/10.D.5.A<br>MSM I/ 8.A.3          |
| .02 Verify examination team is outfitted with Atmospheric Monitors                       | MSM I/10.D.5.B                          |
| .03 Verify examination team is outfitted with Emergency Escape Breathing Device (EEBD)   | MSM I/10.D.5.D                          |
| .04 Determine if a marine chemist is required to certify the cargo machinery space       | MSM II/D.6.C.1.f<br>CG-543 Safety Alert |
| .05 Ensure examination team is aware of safety hazards associated with cargo(s) presence | MSM I/10.C.1.a<br>Tanker Safety Guide   |

## **Certificates and Documents (CD)**

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

- |  |   |
|--|---|
| .01 Verify validity  | MARPOL II/5.3.2<br>MARPOL II/10           |
| .02 Verify issued by administration or recognized organization | MARPOL II/5.3.2<br>MARPOL II/9.2          |
| .03 Verify NLS cargo being carried is authorized               | MARPOL II/5.3.2<br>MARPOL II/Appendix III |
| .04 Verify intermediate survey has been completed              | MARPOL II/5.3.2<br>MARPOL II/8.1.3        |
| .05 Verify annual survey has been completed                    | MARPOL II/5.3.2<br>MARPOL II/8.1.4        |

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

- |  |  |
|--|--|
| .01 Verify validity  | IGC 1.5.4<br>IGC 1.5.6                         |
| .02 Verify issued by administration or recognized organization               | IGC 1.5.5                                      |
| .03 Verify cargoes are authorized  | IGC 18.2.1                                     |
| .04 Verify that any alternative arrangements or equivalencies are identified | IGC 1.4 & 1.5.4.2<br>IGC 2.8.2<br>IGC Appendix |
| .05 Verify intermediate survey has been completed                            | IGC 1.5.2.1.3                                  |
| .06 Verify annual survey has been completed                                  | IGC 1.5.2.1.4                                  |

## **FGCE-CS03 - Examine cargo piping**

- |   |   |
|---|---|
| .01 Verify low temperature piping is thermally isolated from hull | IGC 5.2.1.3<br>GC 5.2.2                       |
| .02 Verify hull is protected from low temperature liquid cargoes  | IGC 5.2.1.3<br>GC 5.2.2                       |
| .03 Verify all gasketed pipe joints are electrically bonded       | IGC 5.2.1.4<br>GC 5.2.3                       |
| .04 Verify relief valves  | IGC 5.2.1.6<br>GC 5.2.5(a)                    |
| .05 Verify condition of piping                                    | IGC 5.2.4.2 & 1.5.3<br>GC 5.2.6(d)(i) & 1.6.2 |

## **FGCE-CS04 - Examine cargo system valves**

- |  |                             |
|--|-----------------------------|
| .01 Verify MARVS not exceeding 0.7 bar gauge have manual shutoff valves on vapor/liquid lines                    | IGC 5.6.1.1<br>GC 5.3.1 (a) |
| .02 Verify MARVS exceeding 0.7 bar gauge have manually operated stop valve on vapor/liquid lines                 | IGC 5.6.1.2<br>GC 5.3.1 (b) |
| .03 Verify MARVS exceeding 0.7 bar gauge have remotely controlled emergency shutdown valve on vapor/liquid lines | IGC 5.6.1.2<br>GC 5.3.1 (b) |

## **FGCE-CS05 - Examine cargo machinery room equipment**

- |  |  |
|--|--|
| .01 Verify condition of cargo compressors                    | IGC 3.3 & 1.5.3<br>GC 3.3 & 1.6.2<br>MSM II/D.1.G.1.c(2)     |
| .02 Verify condition of cargo vaporizers                     | IGC 3.3 & 1.5.3<br>GC 3.3 & 1.6.2<br>MSM II/D.1.G.1.c(2)     |
| .03 Verify condition of gas tight seals on compressor shafts | IGC 3.3.2 & 1.5.3<br>GC 3.3.2 & 1.6.2<br>MSM II/D.1.G.1.c(2) |
| .04 Verify condition of reliquefaction system                | IGC 7.2 & 1.5.3<br>GC 7.2 & 1.6.2<br>MSM II/D.1.G.1.c(2)     |

## **Cargo Environmental Control Examination (CE)**

### **FGCE-CE01 - Examine Inert Gas System (IGS)**

- |   |                       |
|---|-----------------------|
| .01 Verify operational oxygen content meter           | IGC 9.5.1<br>GC 9.5.1 |
| .02 Verify operation of oxygen content alarm          | IGC 9.5.1<br>GC 9.5.1 |
| .03 Verify means to prevent the backflow of cargo gas | IGC 9.5.2<br>GC 9.5.2 |

**FGCE-IE04 - Examine pressure monitoring devices**

- .01 Verify cargo tank vapor space pressure gauge and indicator in control location IGC 13.4.1
- .02 Verify maximum/minimum allowable pressure is marked on cargo tank pressure gauge indicators IGC 13.4.1
- .03 Verify operation of cargo tank vapor space high pressure alarm(s) IGC 13.4.1
- .04 Verify operation of cargo tank vapor space low pressure alarm(s) IGC 13.4.1
- .05 Verify each manifold cargo line is fitted with pressure gauge IGC 13.4.2
- .06 Verify hold/interbarrier spaces without open communication to atmosphere have pressure gauges IGC 13.4.4

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

- .01 Verify high level alarm audible warning IGC 13.3.1
- .02 Verify high level alarm visual warning IGC 13.3.1
- .03 Verify automatic shutoff valve installation IGC 13.3.1

**Cargo Systems Examination (CS)****FGCE-CS01 - Examine Emergency Shutdown (ESD) system**

- .01 Verify ESD locations IGC 5.6.4
- .02 Verify location of fusible elements IGC 5.3.4(a)
- .03 Verify fusible elements are not painted IGC 5.6.4
- .04 Verify ESD valves fully close within 30 seconds IGC 5.3.4(a)
- .05 Verify cargo pumps and compressors shutdown IGC 5.6.4

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

- .01 Verify volume exceeding 20 m3 are fitted with two valves IGC 8.2.1
- .02 Verify valves are sealed and approved by administration IGC 8.2.5
- .03 Verify valve setting changes are documented IGC 8.2.7
- .04 Verify screens are fitted on vent IGC 8.2.7

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

- .01 Verify validity GC Appendix
- .02 Verify issued by administration or recognized organization GC 1.6.3
- .03 Verify cargoes are authorized EGC Code
- .04 Verify any alternative arrangements or equivalencies are identified GC 1.6.4
- .05 Verify intermediate survey has been completed GC 18.2.1
- .06 Verify annual survey has been completed GC 1.5 & 1.6.3(a)

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

- .01 Verify validity GC 1.6.3(a)
- .02 Verify issued by administration or recognized organization GC 1.6.5 & GC Appendix
- .03 Verify cargoes are authorized IMO Res A.329(IX)
- .04 Verify any alternative arrangements or equivalencies are identified GC 1.6.4
- .05 Verify intermediate survey has been completed GC 18.2.1
- .06 Verify annual survey has been completed GC 1.5 & 1.6.3(a)
- .07 Identify any aspects of vessel that do not comply with the EGC Code GC 2.7.2

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

- .01 Verify data is approved by administration IGC 15.2
- .02 Verify data includes Maximum Allowable Relief Valve Settings (MARVS) of pressure relief valves IGC 15.2

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

- .01 Examine documentation from administration attesting to proper settings of pressure relief valves IGC 8.2.5
- .02 Verify procedures for changing cargo tank pressure relief valves are approved by the administration (LPG only) IGC 8.2.7
- .03 Verify changes to cargo tank pressure relief valves are logged (LPG only) IGC 8.2.7

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

- .01 Verify individuals with duties and responsibilities related to cargo or cargo equipment holds proper certificates STCW V/1-2.1
- .02 Verify individuals with immediate responsibility for cargo related operations holds proper certificate STCW V/1-2.3
- .03 Verify crew holds certificates of proficiency STCW V/1-2.5  
STCW V/1-2.2  
STCW V/1-2.4

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

- .01 Verify IMO International Gas Code COF matches current COF 46 CFR 154.1802(1)  
MSC Guidelines C1-43
- .02 Verify cargo containment system(s) is identified on SOE 46 CFR 154.1802(1)  
MSC Guidelines C1-43
- .03 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
- .04 Verify authorized cargo(s) are on International Gas Code COF 46 CFR 154.1802(1)  
MSC Guidelines C1-43
- .05 Verify compliance with any special restrictions 46 CFR 154.1808  
MSC Guidelines C1-43

**FGCE-CD09 - Examine Certificate of Inhibition**

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

**Logs and Manuals Examination (LM)****FGCE-LM01 - Examine Cargo Record Book (CRB)**

- .01 Verify presence MARPOL II/15.5
- .02 Verify format MARPOL II/15.1  
MARPOL II/Appendix II
- .03 Verify entries are signed MARPOL II/15.4
- .04 Verify pages are signed MARPOL II/15.4

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

- .01 Verify presence of certified safe type equipment IGC 10.2.5.1.1  
GC 10.2.6(a)
- .02 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)
- .03 Verify lighting fixtures are pressurized or flameproof IGC 10.2.5.2.1  
GC10.2.7(a)
- .04 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
- .05 Verify wiring is in good condition IGC 10.1.2 & 1.5.3.1  
GC 10.1.2 & 1.6.2(a)

**Instrumentation Examination (IE)****FGCE-IE01 - Examine fixed gas detection system**

- .01 Verify calibration IGC 13.6.10  
GC 13.6.10  
Gas Detection Operator's Manual
- .02 Verify sampling points IGC 13.6.7  
GC 13.6.7  
Cargo Operations Manual
- .03 Verify location of sampling points IGC 13.6.2  
GC 13.6.2
- .04 Verify integrity of sampling piping IGC 13.6.8  
GC 13.6.8

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

- .01 Witness calibration IGC 13.6.13  
GC 13.6.13  
Gas Detection Operator's Manual
- .02 Verify presence of two sets IGC 13.6.13  
GC 13.6.13
- .03 Verify suitable for cargo(es) being carried IGC 13.6.13  
GC 13.6.13

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

- .01 Verify presence IGC 13.5.1 & 13.5.4  
GC 13.5.1 & 13.5.4
- .02 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
- .03 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

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

- |     |   |   |
|-----|---|---|
| .01 | Verify periodic system servicing is completed               | SOLAS 14 II-2/14.2.2<br>IMO MSC.1/Circ.1318 |
| .02 | Verify condition of agent storage bottles                   | SOLAS 14 II-2/14.2.1                        |
| .03 | Verify all openings into space are capable of being secured | IGC 11.5.1<br>GC 11.5.1<br>FSS Code Ch 5    |
| .04 | Verify system is properly marked                            | IGC 11.5.1<br>GC 11.5.1<br>FSS Code Ch 5    |

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

- |     |   |   |
|-----|---|---|
| .01 | Verify periodic servicing is completed                  | SOLAS 14 II-2/14.2.2<br>IMO MSC.1/Circ.1318 |
| .02 | Verify condition of agent storage bottles               | SOLAS 14 II-2/14.2.1.2                      |
| .03 | Verify openings into space are capable of being secured | IGC 11.5.1<br>GC 11.5.1<br>FSS Code Ch 5    |
| .04 | Verify system is marked                                 | IGC 11.5.1<br>GC 11.5.1<br>FSS Code Ch 5    |

**FGCE-FF06 - Examine firemen's outfits**

- |     |                               |   |
|-----|-------------------------------|---|
| .01 | Verify presence               | IGC 11.6.1<br>GC 11.6.1                             |
| .02 | Verify condition of equipment | SOLAS 14 II-2/10.10.1<br>FSS Code Ch 3              |
| .03 | Verify condition of outfits   | SOLAS 14 II-2/14.2.2.1<br>SOLAS 14 II-2/14.2.2.3.11 |
| .04 | Verify stowage                | SOLAS 14 II-2/10.3                                  |

**Electrical Systems Examination (ES)****FGCE-ES01 - Examine electrical installations in cargo machinery space**

- |     |  |                               |
|-----|--|-------------------------------|
| .01 | Verify lighting fixtures are pressurized or flameproof             | IGC 10.2.4.1<br>GC 10.2.5(a)  |
| .02 | Verify general alarm audible indicators have flameproof enclosures | IGC 10.2.4.4<br>GC 10.2.5 (d) |
| .03 | Verify condition of wiring   | IGC 10.1.2<br>GC 10.1.2       |

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

- |     |                 |   |
|-----|-----------------|---|
| .01 | Verify approved | MARPOL II/14.1                          |
| .02 | Verify format   | MARPOL II/14.1<br>MARPOL II/Appendix IV |

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

- |     |  |                  |
|-----|--|------------------|
| .01 | Verify approved                          | MARPOL II/17.1   |
| .02 | Verify emergency contacts are identified | MARPOL II/17.2.2 |

**FGCE-LM04 - Examine Cargo Operations Manual**

- |     |   |   |
|-----|---|---|
| .01 | Verify cargo physical and chemical properties   | IGC 18.1.1<br>GC 18.1(a)<br>46 CFR 154.1810 (a)(5)              |
| .02 | Verify procedures for spills or leaks are fully described   | IGC 18.1.2<br>GC 18.1(b)<br>46 CFR 154.1810 (a)(3)              |
| .03 | Verify counter measure procedures for personnel who come in contact with cargo(es)                | IGC 18.1.3<br>GC 18.1(c)<br>46 CFR 154.1810 (a)(1)              |
| .04 | Verify fire fighting procedures and extinguishing media   | IGC 18.1.4<br>GC 18.1(d)<br>46 CFR 154.1810 (a)(4)              |
| .05 | Verify procedures for cargo transfer, gas freeing, ballasting, tank cleaning and changing cargoes | IGC 18.1.5<br>GC 18.1(e)<br>46 CFR 154.1810 (a)(10),(11) & (12) |
| .06 | Verify procedures and special equipment needed for safe handling cargo(es)                        | IGC 18.1.6<br>GC 18.1(f)<br>46 CFR 154.1810 (a)(16)             |
| .07 | Verify minimum allowable inner hull steel temperatures  | IGC 18.1.7<br>GC 18.1(g)<br>46 CFR 154.1810 (a)(5)              |
| .08 | Verify emergency procedures   | IGC 18.1.8<br>GC 18.1(h)<br>46 CFR 154.1810 (a)(15)             |

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

- |     |   |  |
|-----|---|--|
| .01 | Verify service conditions including loading, unloading and ballasting | IGC 2.2.5<br>GC 2.2.3<br>46 CFR 154.1809(b)(1)           |
| .02 | Verify survival capabilities  | IGC 2.2.5<br>GC 2.2.3<br>46 CFR 154.1809(b)(2) & 170.110 |

**General Health & Safety Examination (GH)****FGCE-GH01 - Examine decontamination showers**

- |     |                             |            |
|-----|-----------------------------|------------|
| .01 | Verify locations and marked | IGC 14.4.3 |
| .02 | Verify operation            | IGC 14.4.3 |

**FGCE-GH02 - Examine eye wash stations**

- .01 Verify locations and marked IGC 14.4.3
- .02 Verify operation IGC 14.4.3

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

- .01 Verify presence IGC 14.4.2
- .02 Verify filter type respiratory protection are not being used IGC 14.4.2.1.1
- .03 Verify SCBAs service duration IGC 14.4.2.1.2
- .04 Verify equipment markings IGC 14.4.2.2
- .05 Verify location of additional equipment IGC 14.4.2.3

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

- .01 Verify presence IGC 14.2.1  
GC 14.3
- .02 Verify each set contains required equipment IGC 14.2.2  
GC 14.4
- .03 Verify adequate supply of compressed air IGC 14.2.3.1 & .2  
IGC 14.2.4  
GC 14.5(a)(i), (a)(ii) & (b)
- .04 Verify compressed air is inspected monthly IGC 14.2.6  
GC 14.7  
46 CFR 154.1846(a)
- .05 Verify compressed air inspected is inspected and tested annually IGC 14.2.6  
GC 14.7
- .06 Verify presence of additional equipment IGC 14.4.4

**FGCE-GH05 - Examine first aid equipment**

- .01 Verify stretcher(s) IGC 14.3.1  
GC 14.8
- .02 Verify presence of equipment IGC 14.3.2 & GC 14.9  
Medical Guide  
MFAG
- .03 Verify presence of oxygen resuscitation equipment IGC 14.3.2 & GC 14.9  
Medical Guide  
MFAG
- .04 Verify presence of antidotes (when applicable) IGC 14.3.2  
GC 14.9  
MFAG

**FGCE-GH06 - Examine air locks**

- .01 Verify doors are self closing IGC 3.6.2  
GC 3.6.2
- .02 Verify operation of audible alarm system IGC 3.6.3  
GC 3.6.3
- .03 Verify operation of visual alarm IGC 3.6.3  
GC 3.6.3
- .04 Verify no hold back arrangements for doors IGC 3.6.2  
GC 3.6.2

**Lifesaving Equipment Examination (LS)****FGCE-LS01 - Examine lifeboats**

- .01 Verify condition of self contained air support system SOLAS 14 III/31.1.6  
LSA Code 4.8
- .02 Verify condition of air supply system pressure visual indicators SOLAS 14 III/31.1.6  
LSA Code 4.8
- .03 Verify operation of water spray protection system SOLAS 14 III/31.1.7  
LSA Code 4.8

**Firefighting Systems Examination (FF)****FGCE-FF01 - Examine fire water main equipment**

- .01 Verify operation of fire main system IGC 11.2.1  
GC 11.2.1
- .02 Verify fire hydrants locations IGC 11.2.2  
GC 11.2.2
- .03 Verify variable nozzles IGC 11.2.4  
GC 11.2.4
- .04 Verify condition of piping, valve nozzles IGC 11.2.4  
GC 11.2.4
- .05 Verify remote operation of fire pump IGC 11.2.5  
GC 11.2.5

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

- .01 Verify areas protected IGC 11.3.1  
GC 11.3.1
- .02 Witness operational test IGC 11.3.2  
GC 11.3.2
- .03 Verify local operation during carriage of Propylene Oxide and Ethylene Oxide IGC 17.20.17  
GC 17.12.8(r)
- .04 Verify remote operation of pumps IGC 11.3.6
- .05 Verify capacity of fire pump if used to supply the system IGC 11.3.3  
GC 11.3.3

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

- .01 Verify periodic system servicing is completed SOLAS 14 II-2/14.2.2  
IMO MSC.1/Circ.1432
- .02 Verify condition of independent self-contained dry chemical powder units IGC 11.4.3  
CG 11.4.3
- .03 Verify condition of inert gas storage pressure vessels IGC 11.4.2  
GC 11.4.2
- .04 Verify condition of deck hoses and nozzles IGC 11.4.5  
GC 11.4.5
- .05 Verify arrangement of deck monitors IGC 11.4.2  
GC 11.4.2
- .06 Verify additional dry chemical powder units IGC 11.4.7  
CG 11.4.7