

# GC 13 Verifications before and after the first loaded voyage

(Jan 2008)

(Rev.1

Mar 2016)

(Rev.2

May 2019)

(Rev.3

Aug 2023)

Interpretation of paragraphs 4.20.3.5, 4.20.3.6, 4.20.3.7, 5.13.2.5 and 13.3.5 of the International Code for the Construction and Equipment of Ships Carrying Liquid Gases in Bulk (IGC Code), as amended by Res. MSC.370(93), in relation to how to carry out the verifications and examinations required during the first full loading and discharging of the cargo.

- paragraph 4.20.3.5 states:

*The overall performance of the cargo containment system shall be verified for compliance with the design parameters during the first full loading and discharging of the cargo, in accordance with the survey procedure and requirements in 1.4 and the requirements of the Administration or recognized organization acting on its behalf. Records of the performance of the components and equipment essential to verify the design parameters, shall be maintained and be available to the Administration.*

- paragraph 4.20.3.6 states:

*Heating arrangements, if fitted in accordance with 4.19.1.5 and 4.19.1.6, shall be tested for required heat output and heat distribution.*

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Note:

1. This Unified Interpretation is to be applied by all Members and Associates to ships whose keels are laid, or which are at a similar stage of construction, on or after the 1 July 2008.
2. Rev.1 is to be applied by IACS Members to ships whose keels are laid, or which are at a similar stage of construction, on or after 1 July 2016.
3. Rev.2 is to be applied by IACS Members to ships whose keels are laid, or which are at a similar stage of construction, on or after 1 July 2020.
4. Rev.3 is to be applied by IACS Members to ships whose keels are laid, or which are at a similar stage of construction, on or after 1 January 2024.

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- paragraph 4.20.3.7 states:

*The cargo containment system shall be inspected for cold spots during, or immediately following, the first loaded voyage. Inspection of the integrity of thermal insulation surfaces that cannot be visually checked shall be carried out in accordance with recognized standards.*

- paragraph 5.13.2.5 states:

*All piping systems, including valves, fittings and associated equipment for handling cargo or vapours, shall be tested under normal operating conditions not later than at the first loading operation, in accordance with recognized standards.*

- paragraph 13.3.5 states:

*The position of the sensors in the tank shall be capable of being verified before commissioning. At the first occasion of full loading after delivery and after each dry-docking, testing of high-level alarms shall be conducted by raising the cargo liquid level in the cargo tank to the alarm point.*

**Interpretation**

The verifications and examinations to be carried out as indicated on the above paragraphs shall be interpreted as follows:

**Application**

This UI applies to all ships carrying liquefied gases in bulk.

**Certification**

The following initial certificates shall be “conditionally” issued at delivery subject to satisfactory completion of all required verifications and examinations, as applicable:

1. Classification Certificate
2. International Certificate of Fitness for the Carriage of Liquefied Gases in Bulk

Note: The conditions may either be stated on the Classification Certificate or issued as a Condition of Class in the ship’s Record.

**Survey requirements**

Surveyor attendance is required at the first cargo loading and first cargo unloading.

Surveyor attendance during new building gas trials can be considered to comply with the below applicable verifications and examinations survey requirements, with the exceptions of the survey requirements marked (\*\*).<sup>1</sup>

**Verifications and examinations at gas trials or first full cargo loading, as applicable to cargo containment system**

Note: When attending at first full cargo loading, priority shall be given to latter stages of loading;

- verify the satisfactory functionality of the emergency shutdown system during testing;
- satisfactory operation of gas detection system;

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- satisfactory operation of cargo tank pressure monitoring system;
- satisfactory operation of inter barrier space(s) and insulation space(s) pressure monitoring system, as applicable;
- satisfactory operation of cargo tank temperature monitoring system;
- satisfactory operation of cargo tank level indicating system;
- satisfactory operation of inter barrier space(s) and inner hull temperature monitoring system, as applicable;
- inert gas generator, if operating;
- nitrogen generating plant, if operating;
- nitrogen pressure control system for insulation, inter-barrier, and annular spaces, as applicable;
- reliquefaction plant, if fitted;
- equipment fitted for the burning of cargo vapours such as boilers, engines, gas combustion units, etc., if operating;
- examination of on-deck cargo piping systems including expansion and supporting arrangements;
- verification and examination of all piping systems, including valves, fittings and associated equipment for handling cargo or vapours;<sup>2</sup>
- advise Master to carry out cold spot examination of the hull and external insulation during transit voyage to unloading port and record in ship's logbook; and
- advise Master to test high-level alarm(s) with liquid cargo during voyage and record in ship's logbook, when loading condition permits.

### **Verifications and examinations at gas trials or first full cargo unloading, as applicable**

Note: When attending at first full cargo unloading, priority shall be given to the commencement of unloading.

- examination of on-deck cargo piping systems including expansion and supporting arrangements;
- review logbook entry of emergency shutdown system testing prior to commencement of unloading;
- (\*\*) review cargo logs and alarm reports for cargo tank pressure, temperature, and level indicating systems;
- satisfactory operation of cargo compressors;
- satisfactory operation of cargo pumps;
- inert gas generator, if operating;
- nitrogen generating plant, if operating;
- nitrogen pressure control system for insulation, inter-barrier, and annular spaces, as applicable;
- (\*\*) review of records for satisfactory operation of the reliquefaction plant, if fitted;
- review of records for equipment fitted for the burning of cargo vapours such as boilers, engines, gas combustion units, etc.;
- (\*\*) on ships fitted with membrane tanks, review records of the cofferdam and inner hull temperature sensors to verify the readings are not below the allowable temperature for the selected grade of steel;
- (\*\*) cofferdam heating system, if in operation;
- (\*\*) review logbook entries for cold spot examination; and
- (\*\*) review logbook entry for testing of high-level alarm(s) with liquid cargo. If cargo conditions did not permit testing, surveyor to require testing at the first occasion where cargo conditions allow for testing. Master to be advised to record testing in ship's logbook which is to be verified no later than the first annual survey.

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(cont)**Documentation to be requested to the Master**

To demonstrate satisfactory functionality of the verifications, ship's Master shall be required to arrange and provide to the surveyor print outs or screen shots showing:

- trends of cargo tanks pressure and temperature;
  - trends of pressure and temperature distribution of inter-barrier space(s) and insulation space(s), and temperature distribution of inner hull, as applicable;
  - trends record of performance of cofferdam heating system, when fitted;
  - trends record of consumption of nitrogen gas, and whether any abnormality has been observed;
- list of any gas alarms, if occurred:
  - Cargo Tanks Containment System Cold Spot Inspection Statement; and
  - activation of Cargo Tanks High-Level Alarm and Overfill Protection tests.

Note 1: The symbol (\*\*) indicates survey requirements only feasible to be carried out at the time of first full cargo loading/unloading.

Note 2: Each Classification Society is to ensure that any additional verifications are required to meet own Classification requirements.

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