



Exploration & Production

GENERAL SPECIFICATION

STRUCTURAL

GS STR 403

Acceptable criteria of a support vessel for offshore works

02	10/03	Change of Group name and logo
01	10/02	Revised sections 5.2.3, 5.5.2
00	02/01	First issue
Rev.	Date	Notes



Contents

<u>1. Scope</u>	3
<u>2. Reference documents</u>	3
<u>3. Conditions of implementation</u>	5
<u>4. Acceptance inspection</u>	5
4.1 <u>Inspection preparation</u>	5
4.2 <u>Execution of the acceptance inspection</u>	5
<u>5. Guide to acceptance of a support vessel</u>	6
5.1 <u>Main characteristics</u>	6
5.2 <u>Support vessel</u>	7
5.3 <u>Layout/Utilities</u>	11
5.4 <u>Engine compartments</u>	12
5.5 <u>Special equipment</u>	12



1. Scope

The purpose of this specification is to define acceptance conditions for support vessels to be used for offshore works and for transportation.

The purpose of this specification is to list the main inspections to be carried out for the acceptance of a support vessel: working barge, assistance ship, tug, etc.

The purpose of these inspections is to guarantee that the ships and barges used:

- Comply with approved specifications and/or regulatory requirements
- Are in perfect operating condition
- Allow the execution of scheduled operations in accordance with the state of the art and approved specifications.

They do not release the ship or barge OWNER from his obligations related to instructions from national authorities, classification societies and international conventions.

In view of the variety of ships and barges concerned by this specification, it can be considered as a general guide only.

2. Reference documents

The reference documents listed below form an integral part of this General Specification. Unless otherwise stipulated, the applicable version of these documents, including relevant appendices and supplements, is the latest revision published at the EFFECTIVE DATE of the CONTRACT.

Where national regulations exist, their provisions and those of the standards and codes to which they refer shall apply, supplementing or amending the provisions of this document.

If there are no national regulations covering all or part of the subject of this document, the reference documents shall be strictly applied, as supplemented by the provisions of this document.

Only the main reference documents are mentioned; the CONTRACTOR shall be responsible for complying with all secondary reference documents dealing with the subject of this document.

Unless otherwise indicated in the detailed contractual conditions, all the reference documents to be used, as well as their supplements shall be the latest editions.

Standards

Reference	Title
Not applicable	

Professional Documents

Reference	Title
Not applicable	



Regulations

Reference	Title
Not applicable	

Codes

Reference	Title
Not applicable	

Other documents

This specification shall be read in conjunction with the following specifications, depending on the ship or barge to undergo acceptance inspection:

- Offshore transportation of structures
- Loadout and sea-fastening of structures for offshore transportation
- Installation of offshore steel platforms
- Submarine works
- Laying of steel pipes
- Laying of flexible pipes
- Laying of cables.

Reference	Title
Not applicable	

Total General Specifications

The provisions of this document shall be applied in the light of the supplementary documents supplied by COMPANY, including:

- Country specificity appendices
- Particular specification
- Data sheets
- Articles and conditions; list of tasks
- Quality assurance provisions.

Reference	Title
Not applicable	

3. Conditions of implementation

It is specified that all equipment on board, even if superfluous to the approved specifications, shall comply with this specification and shall be included in the acceptance program.

Equipment which does not comply with these requirements shall be rendered imperative and/or locked, provided that their presence and locking does not prevent the normal operation of other ship or barge equipment, and do not present any threat to personnel safety. All such equipment shall be specifically listed in the acceptance report.

4. Acceptance inspection

4.1 Inspection preparation

The acceptance inspection is carried out in accordance with methods defined in the chartering contract.

For this purpose, the following arrangements shall be made before the inspection:

- Preparation of an inspection program and a list of inspections. These documents shall be prepared taking into account the recommendations in this specification and organized according to the special features of the available means. They shall be attached to operating procedures
- Supply of a means of access to the barge from the coast
- Supply of all the qualified personnel and all the equipment necessary to accomplish this inspection
- Ensuring accessibility of all compartments of the barge to be inspected during acceptance (cleaning, degassing, etc.)
- Ensuring availability of ship's documents (originals) as operating and usage procedures approved by the OWNER.

4.2 Execution of the acceptance inspection

The inspection shall be carried out in accordance with a previously defined check list.

It shall be carried out jointly by selected representatives of the various parties concerned.

The choices and extent of all non-systematic random inspections and checks carried out shall be determined as a function of the equipment criticality. They may be modified during this inspection depending on results of initial inspections.

The duration of operating tests on the various items of equipment shall be proposed in the inspection program, but may be modified during the inspection.

Depending on the conditions of chartering agreement, the extent and the way the tests are done may be modified.

- Previous operations of the support vessel
- CONTRACTOR's reputation, knowledge of this equipment
- Duration of the chartering agreement



- Specificity of the works to be performed
- Applicable jurisdiction of the country where the works have to be performed.

At the end of the inspection, an acceptance report shall be produced and signed by all parties.

When final acceptance of any equipment is not possible during this inspection (e.g. inspection technically impossible or equipment not yet in compliance with requirements), explicit reservations will be noted in the acceptance report.

5. Guide to acceptance of a support vessel

5.1 Main characteristics

These characteristics shall be recorded and checked.

5.1.1 General description

- Unit name
- Type
- Place and date of construction and conversion(s)
- Classification (including special marks)
- Certification(s)
- Regulatory inspections (special, periodic, annual)
- Flag.

5.1.2 Documents

5.1.2.1 Ship's papers

All ship's papers will normally be checked by organizations responsible for classification and certification and/or by competent national authorities.

At the time of acceptance inspection, their existence and validity should be checked:

- Navigation permit
- Classification certificates
- Classification inspections
- Equipment safety certificates
- Radio-telephones safety certificates
- Radio station inspection certificate (DRTI)
- Ship radio-telegraphic station licence
- Flag registration certificate (or French equivalent)
- Building safety certificate
- Load line certificate
- Potable water certificate

- Deratting certificate or deratting exemption certificate
- Fire fighting facilities and maintenance certificates
- Technical safety inspections register
- Safety exercises register
- Lifting and handling gear certificates
- Towing gear certificate
- Personal qualification licences (crew, crane operators, medical personnel, etc.)
- Ship's log
- Engine room logs
- Main construction drawing of barge (longitudinal, transverse, accommodation)
- Loading manual and stability curves and drawings
- Navigation documents (charts, nautical instructions, tide tables, etc.) relative to the work site.

5.1.2.2 Documents and instructions related to the scheduled activity

- Special site operating conditions
- Safety instructions applicable on the site
- On-site anchoring and displacement instructions.

5.2 Support vessel

5.2.1 Hull

5.2.1.1 General outside appearance

All these items shall be visually inspected in order to check general appearance, closure systems and seals.

- Deck and bulwarks, sides, freeboard
- Mooring fenders
- Ladders, safety cage, handrails
- Hatches, panels and coamings, watertight doors.

5.2.2 Mooring and towing system

5.2.2.1 Towing lines

All these items shall be visually inspected in order to check their general appearance and conformity with standards, regulations, specifications and procedures:

- Attachment points
- Safety shackles.

In particular, a check shall be made that the bolt/shackle bolt closure is secured by a pin or equivalent:

- Bridle (chain, cable, flounder plate, etc.)
- Main and standby towing line (appearance, diameter measurement)
- Recovery winch and recovery wire of tow line.

5.2.2.2 Fairleads, sheaves and deck stand rollers and match blocks

All these items shall be visually inspected in order to check their general appearance and their conformity with standards, regulations, specifications and procedures:

- Checking of attachments on the main structure including a visual inspection of welds
- Measurement of sheaves diameters, checking of their conformity relative to cable diameters, checking of groove appearance
- Lubrification check
- Checking of orientation and free movement.

If there is any doubt during a visual inspection, a check shall be made that sheaves rotate freely.

5.2.2.3 Anchor winches, capstans

- Checking of general condition
- Inspection of drive, braking and blocking devices (brakes linings, dogs, gear teeth)
- Checking of mechanical servicing register.

5.2.2.4 Anchors and anchor lines

- Visual inspection, record of characteristics (weight and models) of each anchor (including standby anchors if applicable)
- Cable/chain/anchor/buoy rope/buoy connections: general appearance, inspection of shackles (including shackle bolt closure safety systems) and swivels, measurement of characteristics diameters
- Visual inspection of buoys
- General appearance of the cable. Check that it winds correctly on the drums.

If there is any doubt about the condition of the cable, the line concerned shall be unwound for complete visual inspection:

- Checking of anchor line certificate, entry into service dates and records of cuts made
- Checking of anchoring resistance on the work sit, after checking unwound line lengths and applied tensions.

If the acceptance inspection takes place before the arrival of the support vessel on site, this inspection may be delayed and the corresponding reservations made on the acceptance report.

5.2.3 Handling equipment

The main lifting equipment on a works barge shall be dealt with individually as follows:

- Visual inspection and test of handling cranes. Test of alarms and safety systems
- Visual inspection of all items of equipment (cables, structures, tackles)
- Checking that the maximum load is clearly marked
- Checking of certificates, including lifting cables certificates, dates of most recent load tests, inspections, non-destructive tests on the structures.

All lifting/handling equipment shall be certified by an independent organization and the tests certificates shall be old less than one year at the planned time of the operations.

5.2.4 Miscellaneous equipment

- Inspection of boat landing, walkways, accommodation ladders
- Inspection of fresh water and fuel oil loading stations. Inspection of drains and anti-pollution systems
- Checking that holds, storage areas and working areas are in compliance with OWNER specifications.

5.2.5 Safety equipment

5.2.5.1 Back-up power

- Record of power output
- List of powered equipment
- Manual and automatic start up of the back-up unit, checking of the mechanical repair and maintenance logbooks.

In general, the following equipment shall be powered by the standby unit:

- a) Standby lighting for the entire unit
- b) Sound and light streaming buoys
- c) Outside and inside communications
- d) Detections and alarms (fire, gas, etc.)
- e) A fire pump and a bilge pump.

Regulations generally require four days self-sufficiency for point b) and 18 hours for all other points. If the standby unit fails, batteries must provide self-sufficiency for point a) to d).

5.2.5.2 Fire

- Inspection of extinguishers (number, locations, approvals and maintenance certificates, dates of last inspection, marking, filling)
- Fire detector inspection and random testing (flame, smoke, etc.)
- Checking of fire hoses, fittings, rods, spanners are present and in working condition
- Starting up and testing of fire pumps

- Testing of fixed outside extinction systems
- Random testing fire hoses
- Visual inspection of the condition of sprinkler extinguishing systems.

In case of doubt, an operating test should be carried out:

- Checking of the fire detectors, smoke detectors: central panels, testing of visual alarms (bulbs) and audible alarms
- Inspecting and testing of ventilation of kitchens and the service hatch fire break system
- Check the existence and good condition of fire service equipment.

5.2.5.3 Life saving equipment

- Random testing of distribution and condition of individual safety equipment (life jackets, etc.).

In general, there shall be one life jacket available for each person in the cabins and a sufficient number of jackets shall be available close to work stations:

- Checking of marking of exits from crew accommodation and working compartments. Testing of emergency lighting. Checking of clearance around emergency exits
- Checking of certificates of life saving equipment. Visual equipment of all equipment and launching systems and their certificates. Their number and locations shall be in compliance with specifications and regulations. Checking of luminous signals on lifeboats
- Launching of at least one lifeboat, and testing of its propulsion system. Testing of the emergency radio and the on-board beacon on at least one lifeboat.

5.2.5.4 Gas detection

Whenever the barge activity program requires this type of equipment, it shall be checked with special care.

- Checking by visual inspection and/or testing of detection equipment (low threshold/high threshold)
- Inspection of central alarms panels. Alarm and lamp tests
- Checking of condition and distribution of individual protection equipment.

5.2.5.5 Miscellaneous equipment

- Inspection of the windlass, test in operation, inspection of the chain locker
- In the case of an ocean going cargo barge, checking of the emergency anchoring equipment. Check that a single man on board is able to drop the anchor and set the brakes
- Checking of navigation and marking lights (main lights and standby lights)
- Inspection of the helideck: fire extinguishing equipment, clearance, helicopter marking, beacon operation, helicopter anchor points, condition of safety nets, inspection and test of drains

- Radio room: testing of all equipment, particularly marine SSB (normal and standby modes), marine VHF, air VHF, helicopter radio-beacons, satellite telephone, telex terminal, portable radios. Operation of general broadcasting systems, the on-board telephone network, engine/control room communications. Inspections of the battery rooms. Visual inspection of the batteries
- Checking of compatibility of radio equipment for reception of oceano-meteorological information
- Checking that the instructions and safety plans are displayed in crew accommodation and working compartments. Checking of compliance with regulations and specifications
- Acquisition and recording of local oceano-meteorological data measured on-board
- Visual inspection of personnel transfer baskets and their certificates. Visual test and inspection of the personnel transfer crane. Testing of crane alarm and safety systems
- Inspection of crew list
- Start-up and testing ballasting pumps
- Visual inspection of fire break doors and watertight doors. Random testing of doors
- Check individual protective equipment: helmet, safety clothes, self-inflating life jackets.

5.3 Layout/Utilities

5.3.1 Crew accommodation

- General inspection of all rooms. Checking of compliance with specifications (number and layout of cabins, sanitary installations, common rooms)
- Checking of satisfactory conditions of comfort and cleanliness
- Random checking of cleanliness of storage rooms, stores, cupboards, bedding and individual sanitary installations
- Inspection in operation of kitchens, laundries, washrooms, cold rooms
- Random checking of satisfactory operation of sanitary installations, lighting and recreation facilities
- Inspection of hospital layout and facilities. Random inspection of medicine and equipment validity dates. Inspection of the corresponding register. Inspection of all hospital locks
- Visual inspection and checking of satisfactory operation of air conditioning and/or heating systems.

The air conditioning system must be in operation throughout the inspection period.

5.3.2 Control room

- Inspection of control room, appearance and operation of anchor line control panels, safety installations, etc.
- Checking of regulatory flags and signalling equipment
- During this inspection, a check shall be made that the radio watch can be permanently maintained on sea, air and private OWNER frequencies, from the control room and/or the radio room.



If there are not two radio operators permanently on duty, continuous radio watch must be carried out by the control room watch personnel on all the above-mentioned frequencies,

- Dynamic positioning system and/or by anchoring
- Remote controls and equipment recorders specific to the barge activity.

The description of this equipment depends closely on the type of the barge and the scheduled activity.

5.4 Engine compartments

- General inspection of all engine rooms
- Inspection of electricity generators in operation (this test shall be carried out with a load of at least 50 % of the nominal power). Checking of maintenance registers
- Inspection during operation of desalination units. Inspection of maintenance registers
- Checking of visual appearance of electric cables
- Visual inspection of engine control panels, air conditioning and power generation facilities. Inspection of maintenance registers.

5.5 Special equipment

The following list is not exhaustive.

5.5.1 Specific transmission and television circuits

- Checking while in operation of all television circuits related to special activities
- Random testing of portable radios, checking of available units as a function of operating requirements.

5.5.2 Main lifting and handling facilities on barge

The main lifting facilities on a working barge have generally undergone acceptance based on an inspection file before selection of the barge. During acceptance, compliance with specifications and the availability and validity of related documents shall be checked:

- General appearance (jibs, cables, pulley blocks, hooks)
- Indicators and alarms in the crane operator's cabin (load, jib angle movement/ accelerations at the end of the jib).

In particular, note shall be made of which parameters can be continuously recorded:

- Visual inspection of all equipment (cables, structures, rigging)
- Inspection of clear maximum load marking
- Inspection of certificates, including lifting cables certificates, date of last load tests, inspections, non-destructive tests on structures.

All lifting/handling equipment shall be certified by an independent organization and the tests certificates shall be old less than one year at the planned time of the operations.

Pipe laying equipment:

- Storage rack, pipe transfer systems
- Laying ramp (check the condition of rollers)
- Tensioner (jaws, condition of skids)
- Laying winch
- Welding units
- X-rays inspection unit
- Coating inspection and touching unit. Repair unit
- Stinger and its ballasting.

5.5.3 Flexible pipe and cable laying equipment

- Storage and handling
- Winches and laying equipment.

5.5.4 Fire fighting equipment (“FI-FI”) on a support vessel

A 5-minute test at nominal flow rate shall be carried out for all barges with a “FI-FI” function.

5.5.5 Tug

- Towing and anchor handling equipment
- On-board positioning equipment.

5.5.6 Cargo areas on the deck and/or in the hold

- Liquid and powder storage capacities, mainly for support and supply
- Loading deck.

5.5.7 Miscellaneous equipment

- Installation equipment: driving hammers, welding equipment
- Lifting rigging, miscellaneous fittings
- Boilers, compressors, mechanics workshops
- Surface and/or saturation driving equipment
- Surface and submarine positioning equipment
- ROV equipment
- Etc.