GENERAL SPECIFICATION

SURVEYS

GS EP GEO 110

Requirements for Offshore Survey Vessels

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1. Scope

1.1 Objective

The present General Specification defines the basic requirements for vessels performing offshore survey or construction support works under direct Contract for the Company, or under the responsibility of a Sub-Contractor working for the Company, irrespective of flag or ownership. The objective is to reduce the hazards and risks which may affect survey vessels and their crew under normal operations, and to specify the minimum standard for communication, equipment and work space dedicated to survey operations.

The scope of the document covers both survey construction support vessels, geophysical survey vessels and geotechnical coring vessels, for both dedicated purposely built and permanently converted survey vessels, or for temporarily used vessels.

Other offshore service vessels, e.g. supply vessels, standby vessels, towing vessels, personnel transfer vessels, anchor handling vessels, construction crane vessels, diving support vessels, etc., are covered by other documents.

1.2 Abbreviations

- AHTS Anchor Handling Supply Vessel
- CCTV Closed Circuit TeleVision
- CP Cathodic Protection
- CPT Cone Penetration Test
- DP Dynamic Positioning
- ERP Emergency Response Procedure/Plan
- IMO International Maritime Organization
- ISM International Safety Management
- LBL Long Base Line
- LEL Lower Explosion Level
- MOB Man Over Board
- MPSV Multi-purpose – Platform Supply Vessel
- MRU Motion Reference Unit
- OCIMF Oil Company International Marine Forum
- OIM Offshore Installation Manager
- OVID Offshore Vessel Information Database
- PFD Personnel Flotation Device
- PPE Personnel Protective Equipment

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- PSV Platform Supply Vessel
- HSEQ Heath SafetySocietal security Environment and Quality
- RA / JHA Risk Analysis / Job Hazard Assessment
- ROV Remotely Operated Vehicle
- RSES Responsible for Safety and Environment on Site
- SIT Silicone Intensified Target
- SWL Safe Working Load
- TMS Tether Management System
- USBL Ultra Short Base Line
- VHF / UHF Very High Frequency / Ultra High Frequency

2. Reference documents

The reference documents listed below form an integral part of this General Specification.

External Documents

Unless otherwise stipulated, the applicable version of these documents, including relevant appendices and supplements, is the latest revision published at the effective date of this document.

Reference	Title
API RP 7G	Recommended Practice for Drill Stem Design and Operating Limits
API Spec 13A	Specification for Drilling-Fluid Materials
API Spec 4F	Specification for Drilling and Well Servicing Structures
IMO - ISM	International Safety Management
IMO - ISPS	International Ship and Port Facility Security Code
IMO - MARPOL	International Convention for the Prevention of Pollution from Ships
IMO - MODU	Mobil Offshore Drilling Unit
IMO – SOLAS 74	International Conventions for the Safety of Life at Sea
IMO – STCW-95	International Convention on Standards of Training, Certification and Watchkeeping for SeafarersGuidelines for vessels with dynamic positioning systems
IMO A.481 (XII)	Principles of Safe Manning
IMO A.538 (13)	Maritime Safety Training of Personnel on Mobile Offshore Units
IMO A.680 (17)	Guidelines on Management for the Safe Operation of Ships and for Pollution Prevention

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Reference	Title
IMO MSC Circ. 645	Guidelines for Vessels with Dynamic Positioning Systems
ISO 10407	Petroleum and Natural Gas Industries - Drilling and Production Equipment - Drill Stem Design and Operating Limits
ISO 11961	Petroleum and Natural Gas Industries - Steel Pipes for Use as Drill Pipe - Specification
ISO 13500	Petroleum and Natural Gas Industries - Drilling Fluid Materials - Specifications and Tests
ISO 15546	Petroleum and Natural Gas Industries - Aluminium Alloy Drill Pipe
NORSOK J-003	Marine Operations
OGP and AIGC	All reference documents and safety manuals

Total General Specifications

Unless otherwise stipulated, the applicable version of these documents, including relevant appendices and supplements, is the latest revision published in the applicable yearly collection.

Reference	Title
GS EP GEO 101	Offshore Geotechnical Survey
GS EP GEO 201	Offshore Geophysical Site Investigation
GS EP GEO 202	ROV Survey Work for the Installation and/or the Inspection of Offshore Structures and Flowlines
GS EP LSO 202	Personnel transfer between watercrafts and between watercrafts and offshore structures
GS EP LSO 207	Notices to Mariners and restricted navigation zone
GS EP LSO 306	Selection and Operation of Dynamically Positioned Vessels
GS EP POS 001	Offshore surface positioning works
GS EP POS 002	Subsea positioning works
GS EP STR 402	Anchorage for a support vessel on an offshore site

3. General requirements

3.1 Safety requirements

3.1.1 Safety and quality management

In order to enhance safety of marine operations, Company applies a strict marine operations control system. This system is fully described in Company's rules and procedures.

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Contractor will have to comply with this system, and particularly with the following control steps:

3.1.1.1 Contractor qualification for marine services

Company selects Contractors that are entitled to provide marine services through a pre qualification system.

Marine services are those performed using vessel(s) including, but not limited to, PSV, AHTS, TUG, CREWBOATS, MPSV, DSV, FLOTEL, WORKBARGE charter.

The qualification evaluation is based on a documentary review, linked with a standard questionnaire. It includes 3 parts: Technical/HSEQ, Financial situation, Compliance.

The Technical/HSEQ part is mainly based on IMO's ISM code, technical and personnel management evaluation.

As part of the execution of the contract, all contractors operating marine units (contract holder or sub-contractor as applicable) will have to be qualified by Company for marine services.

Should a marine operator fail to be qualified, even for the contract holder, Contractor will have to nominate an alternate qualified operator for the related marine operation.

Potential marine operators therefore need to be nominated in due time so that their actual status can be confirmed, and to launch a qualification process if necessary (2 to 3 months are necessary).

It should be noted that there is a similar (but independent) qualification system for diving and ROV services contractors.

3.1.1.2 Vessels selection

All vessels that will be nominated within the contract's Marine Support Services will have to be inspected and accepted by Company.

Inspections will be based on the OCIMF's OVID system. Vessel owner/operator will be responsible of registering his vessel(s) into the OVID electronic database, to fill in and update the online particulars questionnaire, and to review/comment on-line the inspection report after the inspection.

Should a vessel not be accepted after inspection evaluation, Contractor will have to nominate an alternate vessel.

- **There is no age limit for surface support vessels built initially as geophysical survey vessel, geotechnical survey vessel, and survey assistance vessels - vessels older than 20 years need to be inspected annually and maintenance and dry docking records will be required for evaluation**
- **For geophysical survey vessels, geotechnical survey vessels and survey assistance vessels who had initially another function but have been converted into survey or survey assistance vessels the age limitation is 20 years.**

3.1.1.3 Procedure control

All marine operation procedures (including but not limited to towing, moving, mooring…) will have to be submitted to Company for approval before being implemented. Any rejected procedure will have to be re issued and re submitted to Company.

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The full compliance with the approved procedures will be checked by Company by any appropriate way, including the attendance of Company man onboard vessels during the operations. Company will be entitled to stop the operations if the procedure is not fully applied or if vessels condition or environment conditions justifies it.

3.1.1.4 Complementary measures

In addition to the above, Contractor agrees that Company proceeds to formal and/or informal inspections on board chartered vessels upon request.

Contractor also agrees that Headquarters or Affiliates of nominated marine operators (contract holder or sub contractor) are audited by Company's marine specialists upon request.

3.1.2 Risk analysis and job hazard assessment

Risk analysis and job hazard assessment (RA/JHA) documents covering all operations and activities on the survey vessel shall be established. Project specific risk analyses and hazard assessments may be required on certain projects, for example for a geotechnical survey vessel drilling in a suspected shallow gas area (see section 6.2).

Further, the vessel Owner/Manager shall have established emergency response procedures (ERP) to ensure that any emergency can be handled safely, including any potential emergency situations that may arise in conjunction with survey operations on the vessel, which are likely to represent a danger to personnel, environment or equipment.

All accidents and incidents occurring on board a survey vessel under Contract shall be reported to the Company as soon as reasonably practicable in addition to any Contractor, vessel Owner/Manager, or flag state reporting requirements.

All incidents with the potential to cause pollution, or which have already resulted in such, must be reported to the Company and to the appropriate Regulatory Bodies.

Master of the vessel must ensure that all wastes are properly stowed, secured and segregated. All wastes shall be properly declared, packaged and marked in accordance with legislation prior to their transfer to a quayside facility. Waste disposal records shall be provided to Company.

Maintenance records shall be as per qualification requirements.

3.1.3 Safety zones and offshore responsibilities

Vessels are prohibited from entering inside the 500-metre safety zone around an offshore installation, or a temporary limited area corresponding to a safety zone, without formal approval issued by the Company Representative (refer to the General Specification GS EP LSO 207).

Vessels operating inside the safety zone are under the responsibility of the Company Offshore Installation Manager (OIM), acting as Responsible for Safety and Environment on Site (RSES). Masters should co-operate with OIM/RSES in carrying out their responsibilities, for example, OIM/RSES can modify or terminate any survey vessel activity which they regard as hazardous with respect to other operations which may be in progress. In particular, any hot work permit approved by the Master shall also be approved and counter-signed by the OIM/RSES, and the Master shall ensure that the OIM/RSES is advised when the work/permit is complete.

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Prior to entering the 500-metre safety zone surrounding a floating structure, and prior to manoeuvring close to the structure, the Master shall ascertain the following as part of the pre-approach checks:

- Vessel propulsion systems
- Motion characteristics of the floater
- Number and type of thrusters running on the floater (if any)
- Floater mooring system characteristics and position of the mooring lines (if applicable)
- Sea height and its effect on the vessel's position keeping capability
- Wind and current characteristics at the site
- Weather conditions and risk of weather deterioration.

Should equipment failure or a problem occur with the survey vessel's machinery/control systems, the Master must inform the OIM/RSES immediately and leave the 500-metre safety zone as soon as practicable. The vessel will not be allowed to re-enter until remedial action has been taken and that the Master and OIM/RSES are satisfied that the vessel is fully operational.

For a survey vessel operating in open seas outside safety zones, the Company Representative on board the vessel acts as RSES, in particular for liaison between the Master and the Company facilities offshore and/or onshore.

Fishing within the 500-metre safety zone is strictly prohibited.

3.1.4 Vessel classification

All survey vessels shall maintain valid class with a recognised Classification Society.

The classification should include all systems of importance to the safety of the operations, i.e. mooring systems, dynamic positioning (DP) systems, helicopter landing systems (if any), cargo handling systems, crane or lifting systems (e.g. A-frame, etc.), diving systems or sub-sea operations systems (e.g. ROV, if applicable), etc.

3.1.5 Communications and liaison between the Contracted vessel and the Company

A direct line of communication shall be established between the Master of the survey vessel and the Company facilities offshore and/or onshore, using VHF/UHF channel, satellite phone/fax, or mobile cell phone. Contacts from all parties shall be clearly identified for this purpose.

This direct communication line should not replace the first offshore communication between the Master of the survey vessel and the OIM/RSES but should complement it by ensuring that any on-going safety issues or other urgent concerns can be resolved efficiently.

Vessel shall maintain a continuous listening watch on the nominated working VHF/UHF channels. The survey vessel must also monitor the international marine emergency VHF channel at all times.

Effective communication shall be maintained between the bridge, engine room and deck crew at all times.

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