

GENERAL SPECIFICATION

CIVIL WORKS

GS EP CIV 501

Execution of Dredging and Rock Dumping Works

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1. Scope

This document specifies the technical requirements to be fulfilled by Contractor during the execution phase of nearshore and offshore dredging and rock dumping works. This General Specification applies particularly to:

- General dredging works: access channels, berths, turning circles, etc.
- Trench dredging, shore approach works in view of pipeline laying
- Rock dumping works: seabed preparation, scour protection, backfilling, pipeline protection and the like.

The structural integrity of any pipeline or structure affected by any of the above operations shall be checked and risk assessment carried out, prior to work execution.

Dredging works cover underwater excavation of soil / rock by dedicated equipment, soil / rock transportation and offshore soil / rock disposal, and all associated pre-dredge / post-dredge surveys.

Rock dumping works cover berth loading and transportation to worksite of selected rock fragments, dumping / placement onto seabed target locations, and all associated pre-rock dump / post-rock dump surveys.

Reference is made to **GS EP CIV 102** for dredging work preparation prior to the execution phase.

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 addendums, is the latest revision published at the effective date of this document.

Reference	Title
IMO ISM	International Safety Management
IMO MSC 645	Guidelines for Vessels with Dynamic Positioning Systems
IOGP Report 343	Managing Health for field operations in oil & gas activities
ISO 80000-1	Quantities and units - Part 1: General

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Total General Specifications

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Reference	Title
GS EP CIV 102	Dredging and Reclamation Works
GS EP ENV 112	Environmental baseline and monitoring studies: Offshore and Nearshore Sites
GS EP ENV 120	Environmental impact assessment of E&P activities
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 GEO 401	GIS Requirements for Engineering Site Surveys and Studies
GS EP GEO 402	GIS Requirements for Field Development Project
GS EP GEO 501	Meteorological and Oceanographic survey
GS EP GEO 505	Monitoring of Metocean Conditions for Offshore Units
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 PJC 702	Requirements for electronic Documents at Project Execution and Field Operations Phases
GS EP PJC 703	Contractor final documentation requirements
GS EP PLR 100	Submarine Pipeline Systems
GS EP PLR 401	Installation of submarine pipelines
GS EP POS 001	Offshore surface positioning works
GS EP POS 002	Subsea positioning works
GS EP POS 003	Land surveying and positioning works
GS EP POS 004	The use of Differential Global Navigation Satellite System
GS EP POS 007	Airborne Laser Scanning Survey (LIDAR)
GS EP STR 402	Anchorage for a support vessel on an offshore site

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3. Units and abbreviations

3.1 Units

Only the ISO international system of units (ISO 80000-1) shall be used. However, the standard diameter and wall thickness of steel tubular pipes can also be expressed in inches (1 inch = 25.4 mm). When this is the case, the symbol used for the inch unit (" or in.) shall be clearly indicated.

3.2 Abbreviations

CCTV	Closed-Circuit Television
DP	Dynamic Positioning
DTM	Digital Terrain Model
ERP	Emergency Response Plan
GNSS	Global Navigation Satellite System
HSE	Health, Safety and Environment
IACS	International Association of Classification Societies
ITP	Inspection and Test Plan
JHA	Job Hazard Assessment
MBES	Multi-Beam Echo Sounder
MEDEVAC	Medical Evacuation
NCR	Non-Conformance Report
OIM	Offshore Installation Manager
PPK	Post Processed Kinetic
PPP	Precise Point Positioning
RA	Risk Assessment
ROV	Remotely Operated Vehicle
RSES	Responsible for Safety and Environment on Site
RTK	Real Time Kinematic
SBES	Single Beam Echo Sounder
TSHD	Trailing Suction Hopper Dredger
VHF/UHF	Very/Ultra High Frequency
VPN	Virtual Private Network
WTS	Work Time Schedule

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4. Marine spread

4.1 Safety requirements

4.1.1 Safety and quality management

In order to enhance safety of marine operations, Company has established general requirements covering marine operations and vessels selection. This system is fully described in Company's rules and procedures.

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

4.1.1.1 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 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.

4.1.1.2 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 (in particular the "dredging" and "sand/gravel discharge" variants), 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.

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4.1.1.3 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. The full compliance with the approved procedures will be checked by Company by any appropriate way, including the attendance of Company Supervisor 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.

4.1.1.4 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.

4.1.2 Risk analysis and job hazard assessment

Risk analysis and job hazard assessment (RA/JHA) documents covering all operations and activities on the dredging or dumping vessel shall be established. Project specific risk analyses and hazard assessments may be required on certain projects, for example for a dredging vessel operating in suspected gas charged sediments or a rock dumping vessel operating in vicinity of assets.

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 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.

Maintenance records shall be as per qualification requirements.

4.1.3 Safety zones and offshore responsibilities

Contractor shall comply with:

- All local (national and regional) regulations on Safety
- All environmental rules and regulations
- All local instructions like Company Marine Standing Instructions from the Operation Area.

The vessel shall hold a valid Entry Permit before entering any 500 metre zone around an offshore installation, or a temporary limited area corresponding to a safety zone (refer to [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 (RSSES).