



Exploration & Production

GENERAL SPECIFICATION

STRUCTURAL

GS EP STR 404

Marine aspects for load-out, transportation and installation of offshore structures

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1. Scope

1.1 Purposes

This General Specification defines the conditions and methods required by COMPANY for load-out, towing, sea transportation and installation of offshore structures and cargos.

1.2 Scope of application

This specification shall apply to steel structures and/or loose items to be transported on board a cargo barge, the cargo barge being towed by tug.

The specification states COMPANY' requirements through three different chapters as follows:

- The tow (cargo barge) (chapter 3)
Item being towed as a cargo barge carrying a cargo.
- The tug (chapter 4)
Defined as the vessel performing the towage.
- The towing gears (chapter 5)
Incorporating all equipment and materials between tow and tug allowing the towage.

The present General Specification shall be supplemented by a Particular Specification to cover the particular circumstances and requirements of a given Project.

1.3 Contractual documents

The documents to be used by the CONTRACTOR are listed below in order of priority:

- The Particular Specification of the project
- This specification used in conjunction with COMPANY's General Specifications **GS EP STR 401**, **GS EP STR 101** and **GS EP STR 102**
- Bureau Veritas: Rules for towing
- Guidelines for the Design and Construction of Offshore Supply Vessels Resolution A.469 XII - International Maritime Organisation
- Local legislation relating to marine operations.

1.4 Marine surveyor

When Marine Surveyor is elected by COMPANY, the Particular Specification will stipulate:

- Type and number of interventions to be carried out by the Marine Surveyor
- Share-out of responsibilities between the COMPANY, CONTRACTORS, Certification Authorities, Marine Surveyor and Warranty Insurance Surveyor, if any.

1.5 Studies (refer to **GS EP STR 401**)

A feasibility study shall be carried out by CONTRACTOR at an early stage based on known characteristics of the cargo/structure and assumed characteristics of cargo barge (basic engineering).

A final study shall then be carried out in due time before load-out by CONTRACTOR using the actual conditions of the operations, namely:

- Characteristics of the structure and equipment to be transported
- Characteristics of the loading/off loading site
- Means planned to be used for the loading/off loading operations
- Towing routes and distances
- Weather/oceanologic conditions at the scheduled period of transport.

The final study shall indicate:

- The actual size of the cargo barge
- The requirements for barge deck reinforcement and sea fastening structure
- The tug size and power (minimum Bollard Pull)
- The requirements for towing equipment
- The route and estimated towage duration.

Both studies shall be submitted to COMPANY for comments and approval.

2. Reference documents

The reference documents listed below form an integral part of this General Specification. Unless otherwise stipulated in the CONTRACT, the applicable version of these documents, including relevant appendices and supplements, is the latest revision published at the EFFECTIVE DATE of the CONTRACT. References to superseded standards that may occur on technical documents will not over-write this clause.

Standards

Reference	Title
Not applicable	

Professional Documents

Reference	Title
Not applicable	

Regulations

Reference	Title
Not applicable	

Codes

Reference	Title
Not applicable	

Other documents

Reference	Title
Not applicable	

Total General Specifications

Reference	Title
GS EP STR 101	Design of offshore jacket and subsea structures
GS EP STR 102	Design of offshore topside structure
GS EP STR 401	Load-out, sea-fastening, transportation and installation of offshore structures

3. Cargo barge

3.1 Cargo barge selection

3.1.1 Size

Cargo barge selection shall be made by CONTRACTOR taking into account:

- Overall size of the barge - to accommodate the cargos, and in view of transportation and also load-out and off loading operations
- Strength of hull and deck
- Water tight compartmentation.

The barge shall be classed by one of the following Classification Societies : American Bureau of Shipping, Bureau Veritas, Det Norske Veritas, Lloyd's Register, Germanischer Lloyd, and inspected/approved by the Marine Surveyor and COMPANY.

The barge shall not be older than 25 years.

The selected barge shall be submitted to COMPANY for approval, at least three months prior to load-out operations.

3.1.2 Cargo barge documentation

The following documents shall be forwarded to COMPANY for review:

- Certificate of class issued by a recognized Classification Society
- Certificate of Registry
- Tonnage Certificate