



Exploration & Production

GENERAL SPECIFICATION

PIPELINES - RISERS

GS EP PLR 404

**Installation of steel pipeline by horizontal
directional drilling**

03	10/08	Updating of referenced documents
02	10/05	Addition of "EP" root to GS identification
01	10/03	Change of Group name and logo
00	02/01	First issue
Rev.	Date	Notes

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1. Scope

This specification covers the minimum requirements for the installation of pipelines by Horizontal Directional Drilling technique. This specification excludes the fabrication of the pipe string (covered by an other specification).

This general specification shall be considered as a framework stating the technical guidelines of the COMPANY and may be completed by a particular specification detailing specific aspects of the works.

While remaining within the requirements of the specification, alternative methods and drawings, other than those specified here, may be proposed. These alternatives must be properly justified (preferably based on previous experience) and will be subject to approval by the COMPANY.

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.

Pipeline installed by HDD may be considered as submerged and consequently offshore code/specification may apply.

Detail design and construction work shall be carried out in accordance with one the following Standard, unless otherwise specified by COMPANY and in accordance with appropriate sections of the specifications and standards listed below.

Differences that could occur between this general specification and the references shall be brought to the COMPANY's notice for clarification.

Standards

Reference	Title
API RP 1111	Design, Construction, Operation, and Maintenance of Offshore Hydrocarbon Pipelines
DNV OS F101	Submarine Pipeline Systems

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 COR 220	Three layer polyethylene external coating for pipelines
GS EP COR 221	Three layer polypropylene external coating for pipelines
GS EP COR 560	Physical and chemical treatment of hydrostatic test water
GS EP PLR 102	Design of submarine pipelines API RP 1111 and ANSI B 31.4/B 31.8
GS EP PLR 103	Design of submarine pipelines DNV OS F101
GS EP PLR 501	Hydrostatic testing of pipelines

3. General

3.1 Definitions

For the purpose of this specification, the following are interpretations irrespective of any other meanings the words may have in other connections:

COMPANY	Means Total or agents acting on its behalf
HDD	Means Horizontal Directional Drilling
CONTRACTOR	Means the COMPANY or its SUBCONTRACTOR performing the work
Work	Means HDD and associated works
Site	Means the locations where the work is to be performed and the vicinity thereof.

3.2 Local Authorities

The Work shall be executed in full compliance with the authorisations and permits from the local governing Authorities for activities.

4. Performance of the Work

The Work to be performed shall consist in all the works necessary to complete the installation of pipelines by HDD in accordance with the best and latest approved practices in oil and gas pipeline industry. The fabrication of the pipe string is not covered by this specification.

The Work to be performed includes, but is not limited to the following:

- Management
- Engineering
- Survey
- Site preparation
- Drilling
- Reaming
- Pulling
- Pre-commissioning
- Reinstatement
- As built.

4.1 Management

4.1.1 Personnel Organisation

CONTRACTOR shall provide experienced personnel familiar with the Work.

CONTRACTOR functional departments shall support its team at all stages of the Work.

CONTRACTOR shall inform COMPANY of the operations on a regular basis (daily on Site).

CONTRACTOR shall ensure that its personnel and equipment are working in accordance with the approved procedures.

4.1.2 Permits

CONTRACTOR shall get the following permit/authorisation from the relevant authorities:

- Working hours (extra work, night work, Sunday work, bank holiday work)
- Transport (equipment mobilisation and demobilisation, etc.)
- Water intake (from the open water or springs for the drill fluid mixing or ballasting)
- Groundwater table lowering
- Drill fluid (evacuation, disposal, etc.)
- Traffic Deviations (road obstruction, traffic lane deviations, speed limitations, etc.).

Should other permits have to be obtained via COMPANY, CONTRACTOR shall formally request COMPANY to obtain the required permits and provide all necessary information.

In most cases CONTRACTOR will work under a work permit system, and shall organise itself accordingly.

4.1.3 Management Manual - Deliverables

CONTRACTOR shall produce and submit to COMPANY a Management Manual in accordance with the time schedule included in Section 8. This Management Manual shall include as a minimum the following documents:

- Organisation Chart of the project team
- Health Safety and Environment Plan (as defined in 6.1)
- Emergency Procedure (as defined in 6.1)
- Inspection and test Plan (as defined in 7.2).

Similarly, CONTRACTOR shall issue on a regular basis the following documents:

- Master schedule
- Master Document Register
- Daily report and logs (see Appendix 2).

4.2 Engineering

CONTRACTOR shall prepare and submit to COMPANY an Engineering Dossier in accordance with the time schedule stated in Section 8. This dossier shall cover all aspects of the design of the line and include all drawings, calculation notes and procedures necessary to complete the work. This Engineering Dossier shall include as a minimum the following documents:

- Work Procedures Manual
- Design Manual
- Mobilisation Manual
- Drawings File.

4.2.1 Work Procedures Manual

The Work Procedures Manual shall include as a minimum the following procedures:

- Survey
- Site Preparation
- Drilling, Reaming and Pulling
- Coating Repair
- Pipe Pre-commissioning
- Contingency.

4.2.1.1 Survey procedure

This procedure shall include as a minimum, the equipment specifications, the calculation methods, the system of reference, the reference points, the formats, the accuracy of the survey, the true track description, the positioning technique, etc. This procedure shall cover all aspects of the survey works (survey of the river, positioning of the drilling tool, etc.).