

GENERAL SPECIFICATION

LOGISTICS AND OPERATIONAL SUPPORT

GS EP LSO 204

Marine berthing and navigation aids for coastal and offshore terminals

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1. Scope

This general specification gives the general requirements to be applied regarding marine berthing and navigation aids for onshore and offshore terminals within the framework of the general E&P policy governing Marine Operations.

The purpose of the tanker berthing and navigation aids is to provide the Terminal Pilot with a positioning assistance during the transit to the terminal and the tanker loading/offloading operations with a SPM (e.g. offloading buoy), with an F(P)SU (tandem or STS), or berthing alongside, in order to help to improve the safety, the efficiency of complex marine operations, and reduce the risk of collision.

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
Not applicable	

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 TEL 130	Marine and Air/Ground Radio Links
GS EP TEL 410	Installation rules
GS EP TEL 700	Telecommunications Engineering services
GS EP TEL 710	Telecom equipment numbering

3. Definitions and acronyms

The following common terms and abbreviations may be used in this document. For the purpose of this document only, the following terms and definitions apply.

Item	Definition
AIS	Automatic Identification System
BSU	Base Station Unit
Company	means Total
Contract	means the F(P)SU Telecom Unit awarded to the Subcontractor

Contractor	means First General Engineering.
DC	Direct Current
DGPS	Differential Global Positioning System
FAT	Factory Acceptance Test
F(P)SU	Floating (Production) Storage Unit
ICSS	Integrated and Control Safety System
PPU	Pilot Portable Unit
SPM	Single Point Mooring
STS	Ship to Ship
Subcontractor	means Specialised Telecom Engineering.
Terminal Pilot	The competent person, who uses specialized local knowledge, employed by the Company (and approved by the National competent authority as required) responsible for the berthing and un-berthing of tankers (oil and/or LNG) at the loading/ off-loading facilities.
TFT-LCD	Thin-film Transistor Liquid Crystal Display
TBU	Tug Base Unit
TER	Telecom Equipment Room
TOU	Terminal Operator Unit
TPU	Tug Portable Unit
UHF	Ultra High Frequency
UPS	Uninterruptible Power Supply
UTS	Upper Telecom Shelter
Vendor	means Telecom supplier
VBU	Vessel Base Unit

4. Field of application

This document represents Total E&P policy, and should be part of the standing instructions established by Total affiliates for loading/offloading marine operations.

The provisions of this document apply to all operated Exploration & Production affiliates, or through a Contractor on behalf of an Affiliate or the Company, whenever national rules and regulations either fail to cover the subject or are less stringent for both shore terminals, offshore terminals.

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The marine berthing and navigation aids shall be used by the Terminal Pilot for all tanker vessels operations related to:

- The supply of methanol, bunkers or chemicals ;
- The loading or discharging liquid petroleum cargoes such as crude oil, condensate, liquefied natural gas, liquefied petroleum gas.

And during:

- Inbound and outbound transit to terminal ;
- Final terminal approach ;
- Mooring/unmooring ;
- Residence at terminal.

5. General Characteristics

The berthing aid system consists of several units located in various places depending of the type of operations to be carried out and the terminal design (shore, offshore, SPM, F(P)SU).

Due to the variety of terminal and operations, the marine berthing and navigation aids system can be framed in three main modes, each of them having its own features:

- Mode 1 – Floating facilities operation ;
- Mode 2 – Berth facilities operation ;
- Mode 3 – Navigation assistance.

This document covers three (3) different modes of the marine berthing and navigation aids system.

The marine berthing and navigation aids system shall, as a minimum, provide the feature of the mode 1 or the mode 2, and upon of the Terminal Pilots needs and the terminal location / configuration, the Mode 3 might be added.

Nevertheless, in all case, the marine berthing and navigation aids system shall have the following general characteristics:

- Portable units shall be light, quick and easy to install ;
- The equipment shall have reinforced components for long term durability and reliability ;
- The interfaces shall provide a familiar interface for the operators ;
- The information provided shall be accurate and up to date ;
- The system shall be sensitive enough to highlight slow speed motion ;
- The information shall be available at all key locations (Tanker, tugs, control rooms) ;
- The equipment shall integrate navigation and meteocean systems ;
- All data/events shall be recorded in the system with an uploading function available in order to permit archiving and protection of data on computer hard drive (the data collected shall be archived for an unlimited period) ;