

GENERAL SPECIFICATION

STRUCTURAL

GS EP STR 611

Determination of the location of an offshore terminal

07	05/2015	Organisation change – January 2015
06	10/2008	General revision
05	10/2007	General revision – New text
04	10/2005	Addition of “EP” root to GS identification
00	02/2001	First issue
Rev.	Date	Purpose of the revision

Owning entity: DSO/TEC

Managing entity: DSO/TEC/STR

Document update realised by
standards coordination
Reorganisation 2015

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1. Scope

This specification defines the minimum requirements for the location and the layout of an offshore oil terminal composed of:

- a Floating (Production) Storage and Offloading unit (F(P)SO) alone,
- or a Single Point Mooring (SPM) alone,
- or a F(P)SO and a SPM,
- or a Floating Production Unit (FPU) and a Floating Storage and Offloading unit (FSO),

with respect to sea surface obstacles and water depth.

A SPM is used to moor and to load or offload the oil tanker.

F(P)SO covers both FPSO and FSO. A F(P)SO is either spread moored or turret moored.

When the F(P)SO is alone, the offloading operation from the F(P)SO to the oil tanker is done with the oil tanker moored in tandem to the F(P)SO. When the F(P)SO is associated with a SPM, the offloading operation from the F(P)SO to the oil tanker can be done either through a SPM or with the oil tanker moored in tandem to the F(P)SO.

In the FPU + FSO arrangement, the FPU is considered spread moored and the FSO is considered turret moored. The offloading operation from the FSO to the oil tanker is done with the oil tanker moored in tandem to the FSO. No offloading operation is done from the FPU to the oil tanker.

The determination of the location and the layout of an offshore oil terminal shall be assessed taking into consideration:

- the location of other offshore installations,
- the water depth,
- the geotechnical aspects for mooring foundations,
- the local metocean conditions,
- the size of oil tankers,
- the normal manoeuvres of the oil tankers: approach, mooring, weathervaning (if any) with assistance tug, and sail away,
- the emergency withdrawal manoeuvres of the oil tankers,
- the design of the offshore terminal.

Minimum requirements presented in this specification are typical for operation with assistance tugs in Gulf of Guinea (GoG). If absence of assistance tugs or metocean conditions more severe than in GoG (typically current speed higher than 0.5m/s with more than 80% of occurrences, or frequent wind speed higher than 10m/s), numerical simulations shall be carried out to validate or adapt these minimum requirements. These shall be approved by Company.

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
PIANC Publications	Approach channels preliminary guidelines

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
Not applicable	

3. Minimum requirements on the manoeuvring zone

3.1 Definition of manoeuvring zone

A manoeuvring zone is defined around the facilities of the offshore terminal. In this specification, it corresponds to the area needed for the normal manoeuvres of the oil tankers (approach, mooring, weathervaning (if any) with the assistance tug, and sail away) and for the emergency withdrawal manoeuvres of the oil tanker.

3.2 Requirement on the minimum size of the manoeuvring zone

For an offshore terminal involving a **SPM**:

- The manoeuvring zone of the SPM is defined by a circle centred on the centre of the SPM with a radius of 1.5 nautical miles minimum.

For an offshore terminal involving a **spread moored F(P)SO** offering the possibility to do the oil offloading operation with the oil tanker moored in tandem to the F(P)SO:

- The manoeuvring zone of the F(P)SO is defined by a circle centred on the mooring point of the oil tanker on the F(P)SO with a radius of 1.5 nautical miles minimum.

For an offshore terminal involving a **turret moored F(P)SO** offering the possibility to do the oil offloading operation with the oil tanker moored in tandem to the F(P)SO:

- The manoeuvring zone of the F(P)SO is defined by a circle centred on the F(P)SO mooring point with a radius of 1.65 nautical miles minimum.

For an offshore terminal involving a **SPM and a F(P)SO** offering the possibility to do the oil offloading operation with the oil tanker moored in tandem to the F(P)SO: