

GENERAL SPECIFICATION

SURVEYS

GS EP GEO 203

Geophysical survey for offshore pipeline inspection

06	10/2015	Addition of AUV section / deletion of reference to subsidence
05	10/2014	General Review - Added references to GS EP EXP 311
04	10/2009	Revision § 2, 5.2.2.1.2, 5.2.2.1.3, 5.2.2.1.4, 5.2.3 & 6.3.3
03	10/2008	Added references to GS EP GEO 301 and GS EP GEO 302
00	02/2001	First issue
Rev.	Date	Purpose of the revision

Owning entity: DSO/TEC

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1. Scope

The aim of the General Specification for geophysical survey for offshore pipeline inspection is:

- To check the thickness of clay/sand/gravel cover (in both horizontal and vertical planes) on all pipelines
- To check the integrity of the pipelines, to locate any unusual situation (exposure, free span) and to follow the evolution in time of the already known specific features.

The requirement for geophysical survey for offshore pipeline inspection shall be driven by Company Plant integrity and Minimum inspection requirements philosophy as defined in **GS EP EXP 311**.

The geophysical survey for offshore pipeline inspection shall be carried out from a dedicated survey vessel by means of Multi Beam Echo Sounder (MBES), Side Scan Sonar (SSS), and Sub-Bottom Profiler (SBP). AUV solution may also be used for the purpose of pipeline and seabed asset inspection using high definition sensors.

Pipeline Inspection survey using ROV are detailed in **GS EP GEO 202**.

The work program defined in this General specification considers the minimum requirements and some complementary investigations may be required in the course of the survey. They shall be defined in the Particular Specification.

Note that particular care shall be given:

- To the various calibrations and offsets determination
- To the presentation in the final report of the results of the quality control.

Recording parameters and vessel's speed shall be adjusted in order to obtain the best possible data quality, especially for the detection of the pipelines, which have been recently buried.

2. Reference documents

The reference documents listed below form an integral part of this General Specification.

In addition, applicable codes and Standards which are to be used in conjunction with this specification will be listed in the Particular Specification.

The order of precedence of the applicable documents shall be:

- The Particular Specification
- The present General Specification
- The Codes and Standards in reference.

Where this specification states no overriding requirements, the referenced Codes and Standards shall apply in full. Standards equivalent to those referenced herein shall not be substituted without written approval from the Company.

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 EXP 311	Plant integrity - Minimum inspection requirements
GS EP GEO 110	Requirements for Offshore Survey Vessels
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 306	Selection and Operation of Dynamically Positioned Vessels
GS EP POS 001	Offshore surface positioning works
GS EP POS 002	Subsea positioning works
GS EP POS 004	The use of Differential Global Navigation Satellite System

3. Pipeline network description

The pipe line network description is supplied in the Particular Specification.

3.1 Platforms coordinates

Platform co-ordinates are given in the Particular Specification.

3.2 Pipeline corridors

Pipeline corridors are defined in the Particular Specification.

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3.3 Coverage

All pipelines of the network are protected. The majority of the pipelines are buried, of which some with artificial back filling. Some pipelines laid at an early stage were only protected by sand.

The thickness of the sand coverage over the pipelines is ranging from a few centimetres up to 2 metres in some places.

3.4 Natural Seabed (NSB)

Natural seabed is defined as the seabed level, which has not been disturbed by pipeline laying, dumping, and trenching operations or other.

Natural seabed level at pipe location is the average of the seabed level taken at least 80 m either side of the pipeline.

Natural seabed shall be taken as the relative vertical reference level for the mapping of the pipeline position when required.

3.5 Line crossings

They include subsea lines from other gas/oil fields and telephone cables.

3.6 Specific features

Some of the specific features detailed in the Particular Specification shall be checked during the annual inspection.

3.7 Chainage

Corridor data (lengths, KP's, key points) shall be referenced to the kilometric chainage (and associated UTM co-ordinates) established from a reference survey.

3.8 Water depth

The water depths shall be reduced to the LAT datum.

4. Survey procedures

Basic procedure applied over the entire length of each corridor. The programme frequency is defined in [GS EP EXP 311](#).

Specific procedure which consists of a more detailed inspection, over limited sections, where particular or unusual features have been observed during previous survey or may be detected during the year campaign.

From the survey results of the above programmes (basic and specific), additional works may be required.