

GENERAL SPECIFICATION

SURVEYS

GS EP GEO 511

Technical Assessment of Metocean Surveys Providers

00	10/2012	First Issue
Rev.	Date	Purpose of the revision

Owning entity: DEV/TEC	Managing entity: DEV/TEC/GEO
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1. Scope

This General Specification is applicable to:

- Onshore and offshore metocean surveys
- Monitoring of metocean, motion and positioning parameters for offshore units

This specification covers the technical assessment required of suppliers providing the above services.

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
NORSOK Standard N-002, edition 2 - Oct 2010	Collection of metocean data
WMO no.8 – 2008	Guide to meteorological instruments and methods of observations
OGP report 447 Oct 2011	HSE guidelines for metocean & Arctic surveys

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 GEO 501	Meteorological and Oceanographic survey
GS EP GEO 504	Comprehensive evaluation of metocean conditions
GS EP GEO 505	Monitoring of Metocean Conditions for Offshore Units
GS EP POS 001	Offshore surface positioning works
GS EP POS 002	Subsea positioning works
GS EP POS 003	Onshore Land surveying and positioning works

3. Technical Assessment Process

The technical assessment of Contractor performing metocean surveys is provided in Appendix 1.

English is the required language for any documentation and correspondence.

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If a subcontractor is involved, they shall comply with the same requirements as Contractor.

The technical assessment process of a Metocean Survey Contractor is part of the global assessment process of a Supplier lead by the E&P Purchasing Division.

3.1 Step 1: Information Gathering

Appendix 1 of this document (Technical Assessment Form) shall be sent to Metocean Survey Contractor by Company or its representative in order to start the technical assessment process.

The technical Assessment Form shall be filled and sent back by the Contractor to Company with all required documents.

3.2 Step 2: Appendix 1 Analysis and ensuing actions

After Appendix 1 analysis, GEO discipline of the E&P Technology Division shall decide whether to proceed or not to the following step of the Contractor technical assessment process.

3.2.1 Case 1: Appendix 1 Analysis is negative

In case of a negative result following the Appendix 1 analysis, the technical assessment process shall stop. Contractor is deemed unsuitable.

3.2.2 Case 2: Appendix 1 analysis is positive – Audit of Contractor production site deemed mandatory

Following a positive results of Appendix 1 analysis, an audit of Contractor production site might be deemed mandatory by GEO discipline of the E&P Technology Division.

This audit shall be performed by GEO discipline of the E&P Technology Division or its representative, and will provide the final results to the Contractor technical assessment.

3.2.3 Case 3: Appendix 1 analysis is positive – Audit of Contractor production site deemed not mandatory

Following a positive results of Appendix 1 analysis, an audit of Contractor production site might not be deemed mandatory by GEO discipline of the E&P Technology Division.

The technical assessment of Contractor is considered positive.

3.3 Step 3: Assessment notification to Contractor

The result of Step 2 shall be consolidated by the authorized Company entity together with additional parameters such as finances, contractual and social responsibility, Quality, HSE, etc. for final decision.

Contractor will be notified by Company of the outcome of the global assessment.

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Bibliography

Reference**Title of the publication**

GS EP POS 004

The use of Differential Global Navigation Satellite System

ISO 19901-1 - 2005

Petroleum and natural gas industries – Specific requirements for offshore structures – Part 1: Metocean design and operating conditions

WMO no.49 Vol I – 1988

General meteorological standards and recommended practice

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Appendix 1

Appendix 1 Technical Assessment Form: Metocean Surveys – Excel Spreadsheets

	Technical Assessment Form : Metocean Surveys	GS EP GEO 511
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Quick guidelines to use this document: the objective of the following indications, is to help the user fill the **Technical Assessment Form**.

This document has to be sent to the survey company to start the technical assessment process before any visit to office/workshop/vessel location.
The survey company has to fill all information requested in all tables.

1) "Synthesis" sheets:

On this sheet all general information (name, adress, contact of manufacturer, date of audit, assessment report n°, Total specifications linked,...) wrote will be automatically pasted in all the others sheets.

First section of this sheet has to be filled by the survey company, indicating its general information: name, adress, contact, its concerned, etc.

The three others sections have to be filled by Total representative to summarize result and decision after analysis of the **Technical Assessment Form**.

Total representative will have to sign the last section to validate the results of the analysis.

2) "Summary of Audit on Capability" sheet:

On this sheet, the survey company has to indicate its capability in order to be submitted for approval.

After technical assessment, Total representative, is able to indicate for which type/kind of survey is finally approved.

3) "Detailed Capability on Audit" sheet:

On this sheet, Total or representative can assess if the Survey Company can be qualified for the ITT

4) "Theme I to Theme VII" sheets:

In order to have a better understanding of its survey capability, the survey company has to fill all tables of each sheet when applicable.

N/A shall be put if otherwise

For each answer, Total representative shall put his/her score and/or comments in the blue column.

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Appendix 1

	Technical Assessment Form : Metocean Surveys		GS EP GEO 511
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SURVEY COMPANY			
Company Name xxx	Type of Metocean Survey Concerned xxx	Audit Date xxx	
Survey Company Head Office Address xxx xxx xxx	Contacts (name, function, email, phone,...) 		
Name & Address of Audited Place / Vessel xxx xxx xxx xxx			
TOTAL OR REPRESENTATIVE COMPANY TEAM - TO BE FILLED BY TOTAL OR REPRESENTATIVE			
Total Project Concerned xxx	Total or Representative Responsible for Technical Assessment (Name, Function, Service) 		
Objectives of the Technical Assessment			
TECHNICAL ASSESSMENT RESULT (FOR THE PARTICULAR DISCIPLINE) - TO BE FILLED BY TOTAL OR REPRESENTATIVE			
Result of Assessment of GS EP GEO 511 - Appendix 1 filled by the survey company			
	Yes / No	Comments	
Level of information is appropriate			
On site Audit Requested			
Result of Technical Assessment of Survey Company particularly in capability to perform scope of work (to be filled if on site audit is not deemed necessary)			
	Decision *	Comments	
Satisfactory			
Concerns: actions to be engaged			
Not satisfactory			
Notes : * : Tick when appropriate			
CONCLUSIONS OF TECHNICAL ASSESSMENT / GENERAL COMMENTS			
SIGNATURE OF TOTAL OR REPRESENTATIVE TEAM			
NAME	DATE	NAME	DATE

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SURVEY COMPANY		
Name & Address of Audited Place /Vessel XXXXXXXXXX XXXXXXXXXX XXXXXXXXXX	Type of Metocean Survey Concerned XXXXXXXXXX	Audit Date XXXXXXXXXX

SURVEY COMPANY GENERAL CAPABILITY
Statement:
ACTUAL CAPABILITY TO PERFORM THE SURVEY WORK

To list all the actual capability of the audited survey company and approved ones with its comments

	<i>To be completed by the survey company</i>	<i>To be completed by Total or representative Company</i>	
	Proposed Capability <i>*tick when applicable</i>	Remarks Approved Capability and Remarks	
	General Information & CONTRACTOR's Availability		
	CONTRACTOR's Corporate Structure	☐	
	Financial Information	☐	
	Maximum Admissible Workload	☐	
	Current Workload	☐	
	Potential Workload	☐	
	Project Experience		
	Similar Project Experience in the area	☐	
	Similar Project Experience elsewhere	☐	
	Contractor Organisation / personnel	☐	
	Management & Controls		
	Inc CV's & Inc company organisation chart	☐	
	JV, Subcontractor, Affiliate details provided	☐	
	Office Locations	☐	
	Project Controls (outside HSE & Quality)	☐	
	Survey Vessel (if applicable)		
	- Vessel	☐	

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SURVEY COMPANY		
Name & Address of Audited Place /Vessel XXX XXX XXX	Type of Metocean Survey Concerned XXX	Audit Date XXX

SURVEY COMPANY GENERAL CAPABILITY
Statement:
ACTUAL CAPABILITY TO PERFORM THE SURVEY WORK

To list all the actual capability of the audited survey company and approved ones with its comments

To be completed by the survey company		To be completed by Total or representative Company
Proposed Capability <i>*tick when applicable</i>	Remarks	Approved Capability and Remarks
Acquisition on site survey data concerns		
- Positioning		
- Bathymetry		
- Meteorological Parameters Measurements		
- Wave Measurements		
- Wind Measurements		
- Current Measurements		
- Meteorological Station		
- Tide/Water Level Measurements		
- Oceanographic Parameters Measurements		
- Satellite Data Transmission		
- Mooring Procedure		
- Calibration Procedure		
Processing, Analysis and Reporting		
- Field reports / Onboard QC		
- Data Quality Control		
- Processing, Analysis and reporting		
HSE		
- Policy		
- Nominated Officer		
- Safety Plan / Manual		
Quality		
- Policy		
- Quality management system		
- ISO Certification - have or working towards		

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SURVEY COMPANY GENERAL CAPABILITY	
Statement:	
ACTUAL CAPABILITY TO PERFORM THE SURVEY WORK	

To list all the actual capability of the audited survey company and approved ones with its comments

Proposed Capability <i>*bck when applicable</i>	Comments <i>To be filled by TOTAL or Company representative</i>
EXPERIENCE	
Survey Company can demonstrate track record in the acquisition and processing of offshore metocean data for end use	
Survey Company has supplied names, c.v's. and qualification and training certificates of personnel assigned to the project	
Survey Company has demonstrated that all personnel are qualified, competent and medically fit to undertake the tasks assigned to them	
Survey Company has provided clear details of previous similar projects carried out locally in last 5 years	
Survey Company has provided clear details of previous similar projects carried out elsewhere in last 2 years	
PROJECT ORGANISATION & RESOURCING	
Survey Company structure shows Project Manager with an appropriately senior position within the Survey Company's organisation	
Survey Company clearly indicates hierarchy of authority, and identifies key staff to the project, including field party chief, on-site representative and data analysis technical reviewer	
Project structure is a true representation of how the project will be run	
Survey Company has procedure for addressing resource limitation issues should conflict arise	
Survey Company has identified adequate number of personnel to safely and effectively execute the requirements	
HEALTH & SAFETY	
Survey Company has certified HSE policy	
Survey Company commitment to staff HSE training and awareness	
Survey Company will have relevant HSE plan prior to mobilisation	
Survey Company has dedicated HSE personnel	

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SURVEY COMPANY GENERAL CAPABILITY	
Statement:	
ACTUAL CAPABILITY TO PERFORM THE SURVEY WORK	

To list all the actual capability of the audited survey company and approved ones with its comments

Proposed Capability <i>*tick when applicable</i>	Comments <i>To be filled by TOTAL or Company representative</i>
QUALITY MANAGEMENT	
Survey Company has ISO Quality Assurance accreditation or is actively pursuing it	
Survey Company has suitable Quality Assurance Plan	
Survey Company clearly describes data quality checking procedures	
EQUIPMENT & INSTALLATION	
Vessels (if applicable)	
Survey Company identification's of proposed support vessel(s)	
Vessel(s) name and specification in accordance with App. C of HSE Guidelines	
Logistics	
Offer gives details of operational organisation and related details	
Instruments	
Assess whether current meters in proposed arrays meet COMPANY specifications and data requirements, inc. battery life vs sampling rate	
Assess whether wave sensors in proposed arrays meet COMPANY specifications and data requirements inc. battery life vs sampling rate	
Assess whether wind sensor in proposed arrays meet COMPANY specifications and data requirements	
Assess whether all other sensors in proposed arrays meet COMPANY specifications and data requirements	
Assess whether Survey Company has arranged for adequate spares and replacement equipment to be available	
Survey Company gives accuracies, ranges of operation, sampling frequencies and recording intervals for all proposed instruments, including positioning	
Actual mooring arrangements and characteristics specified, including ARGOS and acoustic beacons	
Survey Company gives clear proposed instrument deployment procedures, including calibration	
Offer gives clear details of modality in service visits	
Offer gives clear proposed instrument retrieval procedures	

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SURVEY COMPANY GENERAL CAPABILITY	
Statement:	
ACTUAL CAPABILITY TO PERFORM THE SURVEY WORK	

To list all the actual capability of the audited survey company and approved ones with its comments

Proposed Capability <i>*bck when applicable</i>	Comments <i>To be filled by TOTAL or Company representative</i>
DATA HANDLING AND TRANSMISSION	
Assess whether proposals for real time data display meet COMPANY requirements	
Assess whether proposals for data archiving meet COMPANY requirements	
Assess whether proposals for data transmission meet COMPANY requirements	
Assess whether proposals for data transfer comply with COMPANY GIS standards	
ANALYSIS & REPORTING	
Survey Company states proposed data processing software	
Survey Company includes samples of current and other data presentations	
Proposed measurement processing complies with COMPANY requirements	
Proposed data analyses & presentations comply with COMPANY requirements	

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SURVEY COMPANY			
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THEME I - SURVEY COMPANY GENERAL INFORMATIONS			
<i>All facilities described herein are meant to be permanent in-house facilities only. Any sub-contracted activity must be clearly indicated showing the names and addresses of related Subcontractors. The number, type and status of all listed equipment are subject to thorough checks by the COMPANY representative in charge of the audit during his/her visit to the facilities.</i>			
Table 1.1.a - SURVEY COMPANY GENERAL INFORMATIONS - Facilities : Office, Processing Centre and Workshop			
General Info			
Name of Contracting Company			
Address for Communications			
Telephone Number			
Fax Number			
Contact for Enquiries			
Name			
Title			
Telephone Number			
Address			
Utility	Area (m²) / number	Description / Comments	Comments To be filled by TOTAL or Company representative
Overall			
Offices			
Processing Centre			
Workshops			
Vessel (if applicable)			
Table 1.1.b - SURVEY COMPANY GENERAL INFORMATIONS - Management : organization chart to join			
Position	Names	Comments	Comments To be filled by TOTAL or Company representative
CEO			
Operation Manager			
Workshop Manager			
Quality Assurance / Control Manager			
R&D Manager			
Metocean Manager			
EBS Manager			
HSE Manager			
Data Centre / Processing Manager			
Logistic Manager			
Project Manager (1)			
Project Manager (2)			

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THEME I - SURVEY COMPANY GENERAL INFORMATIONS					
All facilities described herein are meant to be permanent in-house facilities only. Any sub-contracted activity must be clearly indicated showing the names and addresses of related Subcontractors. The number, type and status of all listed equipment are subject to thorough checks by the COMPANY representative in charge of the audit during his/her visit to the facilities.					
Table 1.1. f - SURVEY COMPANY GENERAL INFORMATIONS - Last 10 major projects					
Year	Project name	Country	Client	Value	Comments <i>To be filled by TOTAL or Company representative</i>
Professional Organisation Membership (ISO, SUT, etc...)		Since, Achievements		Comments <i>To be filled by TOTAL or Company representative</i>	
Table 1.1. g - PROJECT CONTROL					
List policies and procedure used for project control and describe how they are implemented (reference to additional documents acceptable)					Comments <i>To be filled by TOTAL or Company representative</i>
Table 1.2 - SURVEY COMPANY GENERAL INFORMATIONS - List of documents to be sent by the SURVEY company to Total, in English language, with all Tables filled, prior to technical review					
List of documents	Documents received : YES / NO ?	Documents available in English language : YES / NO ?	Comments <i>To be filled by TOTAL or Company representative</i>		
Company Profile					
General organization chart					
Curriculum Vitae of Key Personnel					
Quality Assurance / Control Flow Chart					
ISO certificates, others, ...					
Financial Annual Reports (Last 3 years)					
List of Equipment					
Equipment Specifications					
Vessel Specifications					
Survey Procedure templates					
Processing Procedures					
General Quality Control / Assurance Procedures					
HSE Policy and Documents					
HSE Record and Reports					
Previous Quality audit reports					
Previous HSE audit reports					

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THEME II - PROJECT EXPERIENCE
Table 2.1a - SIMILAR PROJECT EXPERIENCE

Client/Project/ Nature of work	Value USD	Deliverables*	Role**	Award Date (MM/YYYY)	Completion Date (MM/YYYY)	% of project undertaken	Comments <i>To be filled by TOTAL or Company representative</i>

*Deliverables: Wa=Wave parameters; Wi=wind parameters; M=meteorological parameters; O=other parameters

**Role: SC=sole contractor; AF=Affiliate; JV=joint venture; SB=subcontractor

Table 2.1b - SIMILAR PROJECT EXPERIENCE IN THE SELECTED AREA

Client/Project/ Nature of work	Value USD	Deliverables*	Role**	Award Date (MM/YYYY)	Completion Date (MM/YYYY)	% of project undertaken	Comments <i>To be filled by TOTAL or Company representative</i>

*Deliverables: Wa=Wave parameters; Wi=wind parameters; M=meteorological parameters; O=other parameters

**Role: SC=sole contractor; AF=Affiliate; JV=joint venture; SB=subcontractor

Attachment to be provided:

Historical data in an electronic format (FTP or CD-Rom) of experience of survey in the selected area (preferably) or elsewhere

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THEME III - HSE		

Table 3.1.a - QUALITY ASSURANCE/QUALITY CONTROL				
	Yes	No	Date of implementation	Comments <i>To be filled by TOTAL or Company representative</i>
Do you have a QA/QC policy?				
Do you have a Quality Management System?				
Have you been audited by independent certifying authorities?				
Have you been presented for ISO certification?				
Remarks and Details of above:				
Indicate responsibilities and authority of QA/QC manager and assistant:				
Standards				
List Standards with which the QA/QC system complies:				
	Yes	No	Comments <i>To be filled by TOTAL or Company representative</i>	
Do you operate with various quality standards on the same project?				
Attachments to be provided:				
Policy Statements with regard to QA				
QA/QC organisation				
Quality Plan				

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THEME IV - HSE		

Table 4.1.a - HEALTH AND SAFETY				
	Yes	No	Date of implementation	Comments <i>To be filled by TOTAL or Company representative</i>
Do you have a Health and Safety policy?				
Do you have a nominated Health and Safety Officer?				
Do you have a Health and Safety Plan?				
Do you have a Health and Safety Manual?				
Remarks and Details of above:				
Indicate responsibilities and authority of Health and Safety manager and assistant:				

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SURVEY COMPANY								
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">Name & Address of Audited Place / Vessel</th> </tr> <tr> <td>XXX XXX XXX</td> </tr> </table>	Name & Address of Audited Place / Vessel	XXX XXX XXX	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: center;">Type of Metocean Survey Concerned</th> </tr> <tr> <td style="text-align: center;">XXX</td> </tr> </table>	Type of Metocean Survey Concerned	XXX	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: center;">Audit Date</th> </tr> <tr> <td style="text-align: center;">XXX</td> </tr> </table>	Audit Date	XXX
Name & Address of Audited Place / Vessel								
XXX XXX XXX								
Type of Metocean Survey Concerned								
XXX								
Audit Date								
XXX								
THEME V - TECHNICAL INFORMATION								
All equipments described herein are meant to be available during survey. Any shortage / delay of equipment availability shall be clearly indicated along with description of reason and proven document when necessary.								
Table 5.1 - POSITIONING - TOTAL General Specifications Compliances - To be filled by TOTAL or Company Representative								
COMPLIANCE	Yes / No	Audit Result	Date of Audit	Remarks	Comments <i>To be filled by TOTAL or Company representative</i>			
Positioning Compliant with GS EP POS 001 (Offshore Surface), GS EP POS 002 (Subsea), GS EP POS 003								
Table 5.2 - SENSOR DEPLOYMENTS - Standard Survey Operation								
Positioning / Compasses / Motion Sensors / Tides gauges	Type	Effective Accuracy	Remarks	Comments <i>To be filled by TOTAL or Company representative</i>				
Primary Surface Positioning								
Secondary Surface Positioning								
Acoustic Positioning								
Gyro Compass								
Magnetic Compass / Fluxgates								
Echosounder								
Calibration (if applicable)	Type	Effective Accuracy	Remarks	Comments <i>To be filled by TOTAL or Company representative</i>				
Calibration details								

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SURVEY COMPANY										
Name & Address of Audited Place / Vessel XXXX XXXX XXXX	Type of Metocean Survey Concerned XXXX	Audit Date XXXX								
THEME V - TECHNICAL INFORMATION										
All equipments described herein are meant to be available during survey. Any shortage / delay of equipment availability shall be clearly indicated along with description of reason and proven document when necessary.										
Table 5.3 - SPECIFICATIONS - Particular for Meteorological measurement										
Sensors/Equipments	Type / Descriptions	Range	Resolution	Accuracy	Sampling Period	Averaging Period	Recording Interval	Compliant with GS EP GEO 505* ? Yes/No	Remarks	Comments <i>To be filled by TOTAL or Company representative</i>
Air Pressure										
Air temperature										
Visibility										
Relative Humidity										
Rainfall										
Solar radiation										
Wind Speed										
Wind Direction										
Spectral Frequency										
* in accordance with NORSOK N-002 and WMO no 8										
Table 5.4 - SPECIFICATIONS - Particular for WAVE measurement										
Sensors/Equipments	Type / Descriptions	Range	Resolution	Accuracy	Sampling Period	Averaging Period	Recording Interval	Compliant with GS EP GEO 505* ? Yes/No	Remarks	Comments <i>To be filled by TOTAL or Company representative</i>
Significant wave height										
Wave period										
Wave Direction										
Spectral Frequency										
* in accordance with NORSOK N-002 and WMO no 8										
Table 5.5 - SPECIFICATIONS - Particular for TIDE/WATER LEVEL measurement										
Sensors/Equipments	Type / Descriptions	Range	Resolution	Accuracy	Sampling Period	Averaging Period	Recording Interval	Compliant with GS EP GEO 505* ? Yes/No	Remarks	Comments <i>To be filled by TOTAL or Company representative</i>
Water Level										
* in accordance with NORSOK N-002 and WMO no 8										
Table 5.6 - SPECIFICATIONS - Particular for CURRENT measurement										
Sensors/Equipments	Type / Descriptions	Range	Resolution	Accuracy	Sampling Period	Averaging Period	Recording Interval	Compliant with GS EP GEO 505* ? Yes/No	Remarks	Comments <i>To be filled by TOTAL or Company representative</i>
Current speed										
Current direction										
Measurement Level (where applicable)										
* in accordance with NORSOK N-002 and WMO no 8										

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SURVEY COMPANY										
Name & Address of Audited Place / Vessel XXX XXX XXX	Type of Metocean Survey Concerned XXX	Audit Date XXX								
THEME V - TECHNICAL INFORMATION										
All equipments described herein are meant to be available during survey. Any shortage / delay of equipment availability shall be clearly indicated along with description of reason and proven document when necessary.										
Table 5.7 - SPECIFICATIONS - Particular for OCEANOGRAPHIC PARAMETERS measurement										
Sensors/Equipments	Type / Descriptions	Range	Resolution	Accuracy	Sampling Period	Averaging Period	Recording Interval	Compliant with GS EP GEO 505* ? Yes/No	Remarks	Comments <i>To be filled by TOTAL or Company representative</i>
Temperature										
Conductivity										
Salinity										
Dissolved Oxygen										
pH										
Turbidity										
Sound velocity										
* in accordance with NORSOK N-002 and WMO no.8										
Table 5.8 - OTHER REQUIREMENTS - Spare Equipments and Documents										
Equipments	Quantity	Remarks							Comments <i>To be filled by TOTAL or Company representative</i>	
Spare set										
Actual mooring arrangements and characteristics specified, including ARGOS and acoustic beacons										
Positioning system set										
Processing centre (mobile)										
Service Visit Program										
Documents	Quantity (%)	Remarks							Comments <i>To be filled by TOTAL or Company representative</i>	
Equipments manuals										
Templates equipment's operating procedures										
Templates of survey procedures										
Troubleshoots hand books										
Procedures of Quality Control for each particular sensor acquisition										
Procedures of Launching and Recovery of each deployed sensor										

**General Specification****GS EP GEO 511****Technical Assessment of Metocean Surveys Providers**

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According to Total specifications : GS EP GEO 501&505		Assessment report N° :	
SURVEY COMPANY			
Name & Address of Audited Place / Vessel	Type of Metocean Survey Concerned	Audit Date	
XXXX XXXX XXXX	XXXX	XXXX	
THEME V - TECHNICAL INFORMATION			
<i>All equipments described herein are meant to be available during survey. Any shortage / delay of equipment availability shall be clearly indicated along with description of reason and proven document when necessary.</i>			
Table 5.9 - PERSONNEL - Party Chief, Oceanographers, Surveyors, Engineers, Technicians, Operators			
Name	Degrees / disciplines / function	Years of experience	Comments <i>To be filled by TOTAL or Company representative</i>

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SURVEY COMPANY		
Name & Address of Audited Place / Vessel XXX XXX XXX	Type of Metocean Survey Concerned XXX	Audit Date XXX

THEME VI - DATA PROCESSING, INTERPRETATION AND REPORTING

All items described herein are meant to be owned and/or under control of the survey company. Any other condition must be clearly indicated.

Table 6.1.a - DATA PROCESSING - Metocean survey data			
Standard Metocean survey data	Type / description (hyperlink or reference to documents)	Remarks	Comments <i>To be filled by TOTAL or Company representative</i>
Procedure for pre-acquisition calibration and correction			
Recording system			
Onboard / onsite processing system			
Inhouse data processing and QC procedures (Ref. GS EP GEO 504)			
Sample of metocean data			
Metocean data storage procedures			

Table 6.1.b - PROCESSORS, TECHNICIAN, ENGINEER			
Company / Personnel Name	Degrees / disciplines	Years of experience	Comments <i>To be filled by TOTAL or Company representative</i>

Table 6.2.a - ANALYSIS AND REPORTING - Softwares			
Analysis & Displaying Software	Descriptions	Remarks	Comments <i>To be filled by TOTAL or Company representative</i>

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SURVEY COMPANY

Name & Address of Audited Place / Vessel XXX XXX XXX	Type of Metocean Survey Concerned XXX	Audit Date XXX
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THEME VI - DATA PROCESSING, INTERPRETATION AND REPORTING

All items described herein are meant to be owned and/or under control of the survey company. Any other condition must be clearly indicated.

Table 6.2.b - ANALYSIS AND REPORTING - Specialists and Experts

Name	Degrees / disciplines	Years of experience	Comments <i>To be filled by TOTAL or Company representative</i>

Table 6.2.c - ANALYSIS AND REPORTING - Sample of 5 latest related reports

Project Titles	Description of the project	Reference numbers	Comments <i>To be filled by TOTAL or Company representative</i>

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SURVEY COMPANY		
Name & Address of Audited Place / Vessel XXX XXX XXX	Type of Metocean Survey Concerned XXX	Audit Date XXX

THEME VII - SURVEY VESSEL (if applicable)
<i>All facilities/equipments described herein are meant to be permanent onboard vessel only. Any additional facility must be clearly indicated. Comments shall intending to assess the ability of vessel performing the survey as assigned.</i>

Table 7.1 - SURVEY VESSEL - Vessel Specification (if applicable)					
Vessel Name	Year of Built	Re-Built	Flag	Designated / Utilities	Comments <i>To be filled by TOTAL or Company representative</i>

Vessel Name	Length	Breadth	Draft	Gross ton	A-Frame	Endurance (days)	Comments <i>To be filled by TOTAL or Company representative</i>

Vessel Name	Main engine(s)	Thrusters	DP system	Able to navigate at survey speed	Helideck	Comments <i>To be filled by TOTAL or Company representative</i>

Table 7.1.a - SURVEY VESSEL - TOTAL General Specification Compliances (if applicable)				
COMPLIANCE	Date of Audit	Result	Remarks	Comments <i>To be filled by TOTAL or Company representative</i>
Compliant with OGP Report 447				

Table 7.1.b - SURVEY VESSEL - Particular Offshore Metocean Survey Requirements (if applicable)				
Equipment	Yes/No	Type	Remarks	Comments <i>To be filled by TOTAL or Company representative</i>
Echosounder				
Gyro Compass				

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SURVEY COMPANY		
Name & Address of Audited Place / Vessel 	Type of Metocean Survey Concerned 	Audit Date

THEME VII - SURVEY VESSEL (if applicable)
<i>All facilities/equipments described herein are meant to be permanent onboard vessel only. Any additional facility must be clearly indicated. Comments shall intending to assess the ability of vessel performing the survey as assigned.</i>

Table 7.1.c - SURVEY VESSEL - Master and Officers Minimum Requirement (if applicable)						
Name	Position - Vessel	Grade / Diploma	Fluent Languages	Medic Qualification	Remarks	Comments <i>To be filled by TOTAL or Company representative</i>

Table 7.1.d - SURVEY VESSEL - Accomodation Required for Survey (including onboard processing) (if applicable)				
Facility	Quantity	Area	Remarks	Comments <i>To be filled by TOTAL or Company representative</i>
Single-person Extra Cabin				
Two-persons Extra Cabin				
More than 2 Person Extra Cabin				
Working Space for Processing				
Galley				
Recreation/Gym				
Facility	Yes/No	Limitation	Type / Remarks	Comments <i>To be filled by TOTAL or Company representative</i>
Voice/Fax Satellite Communication				
Data / Email / Internet Communication				
Printer				
Others	Yes/No	Remarks		Comments <i>To be filled by TOTAL or Company representative</i>
Alcohol and drugs Policy				
Noise test of Survey Vessel				
Vessel specification attached				