



Offshore Client Representatives Geophysical Survey in the Dutch North Sea

Annex 8

Scope of Work

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1 Introduction

1.1 Scope of this document

This document and its appendices detail the Scope of the Work as part of the Contract that Client has awarded to Contractor for provision of Offshore Client Representatives during the geophysical survey at the Dutch North Sea.

1.2 Contract Parties

Expert Contractor	IMDC (International Marine & Dredging Consultants) who has been awarded by Client to perform the technical due diligence related to soil at Wind Farm Zone 6/7
Client	Netherlands Enterprise Agency (RVO)
Contracting Authority	Netherlands Enterprise Agency (RVO)
Offshore Client Representative (CR)	Person working for Contractor on the project of Client to monitor daily HSE, QC and progress for Client
Contractor	Contracting party which supplies the offshore client representatives as part of the Work
Survey Contractor	Contractor awarded by Client who will provide the survey vessels, equipment and personnel to perform the geophysical site investigation

1.3 Background

The Ministry of Economic Affairs and Climate Policy is responsible for the legislative framework for the development of offshore wind farms in the Netherlands. Within this framework (a) (concession) permit tender(s) for construction and operation of (a) wind farm(s) will be organized under the current regulation. As part of the tender documentation, the participants will receive an information package in which detailed information on the offshore site is included. Detailed information on the soil conditions at the site will be part of this information package.

Information on the soil conditions at the site is to be developed through a sequence of commissions for geological, geophysical, geotechnical and morphodynamical studies. Information will be presented as factual data, integrated and interpreted data (an Integrated Ground Model) and will be comprehensively reported.

The Integrated Ground Model is to be of sufficient precision to allow participants to make initial plans and costings for foundation design and cable installation.

This assignment contains the request for Offshore Client Representatives to monitor the field works of the geophysical investigation.

1.4 Site Description

Although the scope of work applies to the whole Dutch North Sea, there is a specific location where the majority of the work is expected. This area is Wind Farm Zone 6/7

(WFZ 6/7), which is being investigated for the offshore wind development of the Netherlands. The geophysical survey will focus on the West of WFZ 6/7, hereafter often called the Investigation Area (IA). For this scope of work, it is the intention to join the geophysical contractor(s) who will obtain a single, comprehensive set of geophysical data, reports, drawings and a preliminary ground model (PGM) for the Investigation Area (IA).

Within the Dutch Shelf of the North Sea, several search areas have been selected with potential for the development of offshore wind. Wind Farm Zone 6/7 (WFZ 6/7) is located approximately 94 km off the northwest coast of the Netherlands and covers an area of approximately 4639 km².

WFZ 6/7 is located within the northern part of the Dutch North Sea. General characteristics of the investigation area are shown in the table below, alongside Figure 1.

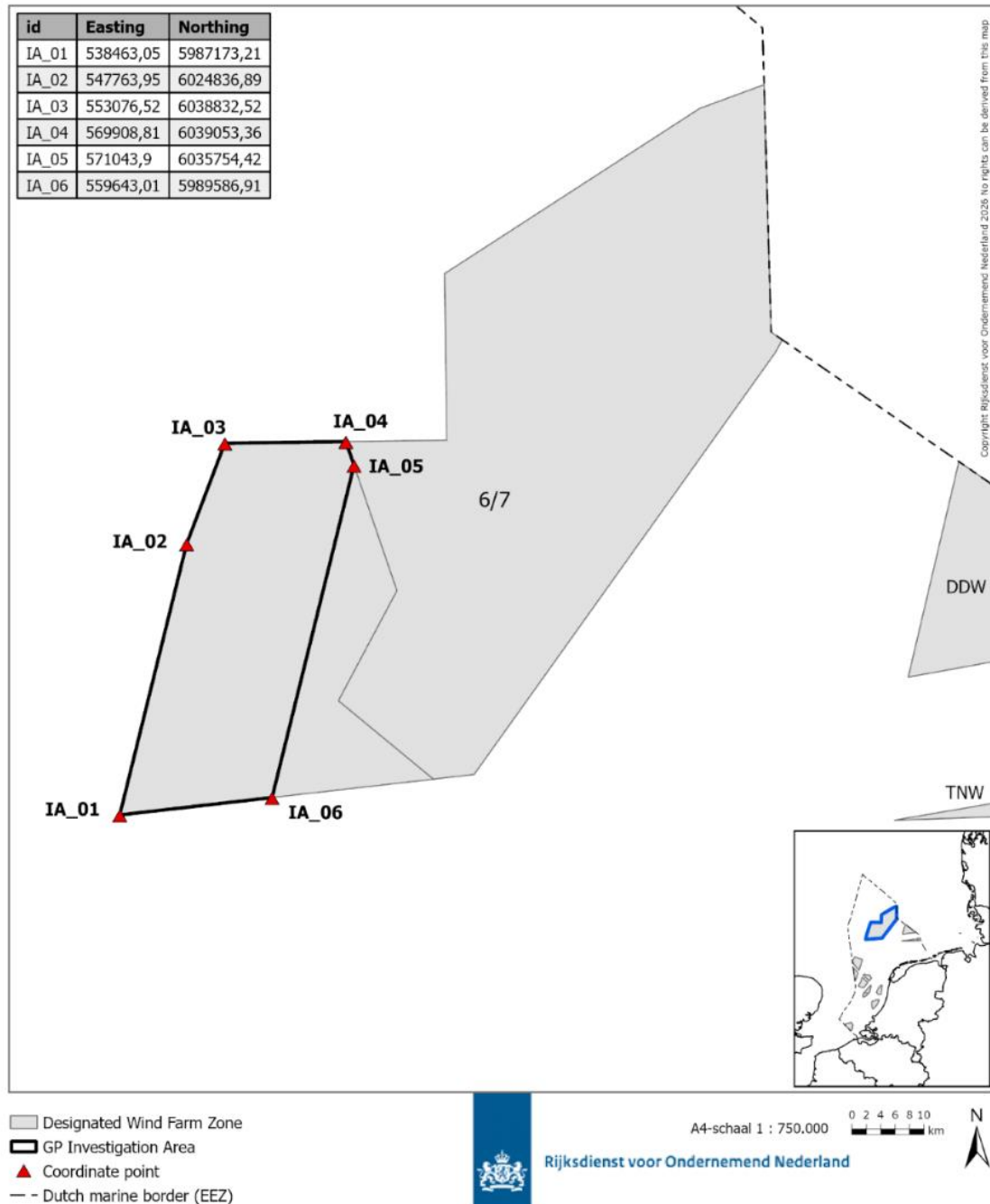
SI units (ISO/IEC 8000) are applicable for any activities carried out in the investigation areas.

The chart datum is Approximate Lowest Astronomical Tide (ALAT). All positioning data shall be collected in the European Terrestrial Reference System 1989 (ETRS89) and projected using ETRS89 Transverse Mercator Coordinate Reference System (UTM Zone 31N), with EPOCH 1 January 2027. The reference for this system is EPSG Projection code 25831 - ETRS89 / UTM zone 31N.

Table 1: Characteristics of the investigation area

Characteristics	
Water depth	Approximately 40-50 m ALAT
Distance from shore	Approximately 94-170 km

Area 6/7 - GP Investigation Area



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Deze kaart is gebaseerd op informatie beschikbaar in augustus 2026. Hoewel de grootst mogelijke zorg is besteed aan het samenstellen van de kaart, kan de Rijksdienst voor Ondernemend Nederland niet verantwoordelijk worden gesteld voor welke schade dan ook, voortvloeiend uit onnauwkeurigheden en/of verouderde informatie. De besluiten over windenergie gebieden zijn nog niet definitief.

date: 2026-08-20 mapnr: 20260820MB

Figure 1 Investigation area within Wind Farm Zone 6/7. The IA covers part of the Western part of WFZ 6/7 (phase 1).

1.5 Aims of the geophysical survey

The aim of the geophysical soil investigations carried out by the Survey Contractor(s) is to contribute to the geological understanding of the IA. The investigation is required to obtain seabed and sub-seabed information. The information is in turn required to be suitable for the planning and preparation of geotechnical investigations, and suitable for integration into a ground model of sufficient quality to progress the design and installation requirements for offshore wind farms, including, but not limited to, foundations and cables.

This tender requests Client Representatives (CRs) to be present at the vessels or site of the Geophysical surveys. The geophysical contractor(s) will perform several investigations for the RVO. These will consist of:

LOT 1: Seabed survey (SS) including Sub-Bottom Profiling (SBP), Magnetic Survey (MAG), Side Scan Sonar (SSS), Multibeam Echosounder (MBES) and seabed sampling by means of grab samples.

LOT 2: 3D Seismic Survey (3D Ultra-High Resolution Seismic survey (3D-UHRS), Multibeam Echosounder (MBES), integration of the LOT 1 data and delivery of a Preliminary Ground Model based on the available survey data.

The CRs shall monitor whether the services and products to be performed and delivered by the geophysical contractor(s) are carried out in accordance with the applicable HSE and Quality requirements and in compliance with the scope and conditions of the contract for the geophysical surveys, as further specified in Annex 5, Section V (HSE Requirements Sa 67 GP_F) of the tender documentation for the Geophysical Surveys.

To be sure the CR is aware of the scope and work the geophysical survey contractor(s) will perform, it is expected that the CR will read project documentation and join meetings (if required) before mobilizing. An office rate should be given for this scope.

In LOT 1, the Geophysical Survey CONTRACTOR is expected to provide:

- (i) A high-resolution bathymetric dataset;
- (ii) Sub-seabed sub-bottom profiler (SBP) data;
- (iii) SBP interpretation as input to a Preliminary Ground Model (PGM) of the site, including as a minimum;
- (iv) Estimated elevation (depth in meters below LAT) and depth below seabed for a set of interfaces between principal geological formations or other horizons of interest; see stratigraphy model for an overview of Formations and units expected across the site (reference to Geological Desk Study);
- (v) The locations of visible structural features or geohazards within the shallow geological succession including but not limited to faulting, accumulations of shallow gas, organic sediments/peat, buried/infilled channels, depth to hard ground/bedrock, soft sediments, salt diapir (deformation), structures associated with sub-glacial processes or glaciotectonism;
- (vi) Comprehensive packaging of the Lot 1 seabed survey results, including but not limited to the MBES and SBP;
- (vii) Co-creation and providing assistance where required to the Lot 2 CONTRACTOR, who will integrate the datasets;
- (viii) Correlation with existing geophysical and geotechnical interpretation as available.

- (ix) A comprehensive Final Interpretation Report on the survey results obtained, describing the Preliminary Ground Model (PGM);
- (x) A preliminary zonation of the site for input into the specification and scope for a geotechnical sampling and testing program to follow the completion of the geophysical survey;

In LOT 2, the Geophysical Survey CONTRACTOR is expected to provide:

- (xi) An accurate bathymetric dataset;
- (xii) Sub-Seabed datasets of sufficient quality to support construction of a ground model to at least 100 m below seabed, with penetration, resolution and signal-to-noise ratio optimised for production of an Integrated Ground Model;
- (xiii) 3D-UHRS interpretation as input to a Preliminary Ground Model (PGM) of the site, including as a minimum; - Estimated elevation (depth in meters below LAT) and depth below seabed for a set of interfaces between principal geological formations and other horizons of interest. The GDS report and data contain information on the known formations and units which can be expected across the site; - The locations of structural features or geohazards within the shallow geological succession including but not limited to faulting, accumulations of shallow gas, organic sediments/peat, buried/infilled channels, depth to hard ground/bedrock, soft sediments, salt diapir (deformation), structures associated with sub-glacial processes or glaciotectionism; - Integration of Lot 1 seabed survey results, including but not limited to the MBES and SBP, as interpreted by Lot 1 CONTRACTOR; - Correlation with existing geophysical and geotechnical interpretation as available.
- (xiv) A comprehensive Final Interpretation Report on the survey results obtained, describing the Preliminary Ground Model (PGM);
- (xv) A preliminary zonation of the site for input into the specification and scope for a geotechnical sampling and testing program to follow the completion of the geophysical survey;
- (xvi) Recommendations for a geotechnical location plan including 100 (deep) seabed CPT's, 100 Vibrocores, 100 x 60m boreholes, with reasoning.

The output of the investigations shall be delivered in digital raw & processed data, metadata, Seismic Interpretation System Package, Geographic Information System project files, chart data, and reports.

1.6 Indicative timing of the Investigations

The data acquisition for the geophysical survey shall be carried out from the end of Q1 2027. The precise schedule will be drawn up in consultation with the Survey Contractor(s). The majority of the data acquisition is expected to take place in 2027, but the Survey Contractor(s) has the option to carry out data acquisition in 2028 as well.

1.7 Available Information

1.7.1 *WFZ specific information*

Client has carried out site characterisation studies on WFZ 6/7. The following studies are available on <https://offshorewind.rvo.nl>:

- (xvii) Geological desk study;
- (xviii) UXO desk study;
- (xix) Metocean Campaign.

1.7.2 *Other information*

Further, for information, the results of the geophysical and geotechnical surveys carried out for other Wind Farm Zones are available at <https://offshorewind.rvo.nl/>. It should be noted that this scope of work deviates from those of previous investigations and the currently planned works may introduce additional requirements.

1.7.3 *Geophysical Tender*

Client has published the tenders to select the Survey Contractor(s). Information regarding the requirements set for the Survey Contractor(s) can be found in the tender documents by link below.

Link to tender documents published at Tendered for the WFZ 6/7 geophysical tender:

<https://www.tendered.nl/aankondigingen/overzicht/439922>

2 Scope of Work

This section describes the Scope of Work for the Client Representative (CR). Details of the Survey works are presented in Section **Fout! Verwijzingsbron niet gevonden..**

2.1 Monitoring of Survey Activities

The CR will monitor the field works performed by the Survey Contractor(s) during the execution of the works. The CR will have the task to monitor safety, quality and progress of the data acquisition. The CR must also monitor any SIMOPS if more than one vessel is present in the IA simultaneously. The geophysical survey works will consist of two lots:

- Sa 67 GP Lot 1: A seabed survey (SS), which includes
 - o High resolution bathymetric and backscatter survey by means of Multi-Beam Echo Sounder (MBES);
 - o Magnetometer (MAG) survey
 - o High resolution Side Scan Sonar (SSS) survey
 - o Shallow Penetration Sub-Bottom Profiler (SBP) survey
 - o Seabed grab sampling;
- Sa 67 GP Lot 2: A 3D Ultra High-Resolution Survey (UHRS), including MBES.

As such, all Offshore Client Representatives should have experience with the complete scope of Sa 67 GP Lot 1. At least four (4) of the ten (10) offered CRs should have experience with the scope of Sa 67 GP Lot 2.

2.2 Health, Safety, Environmental, and Quality monitoring

The CR will monitor daily the Health, Safety, Environmental, and Quality (HSEQ) of the works performed by the Survey Contractor(s). The CR will assess if the Survey Contractor is working according their own HSEQ procedures and as per the requirements as set by Client. Reference is made to the HSE and Quality requirements as set in the tender for the Survey Contractor.

Furthermore, the CR will monitor if the Survey Contractor respects the criteria, which will be provided as part of the exemption for underwater noise, which are likely to include;

- Use of Acoustic Deterrent Device (ADD) for porpoises before sub-bottom profilers or sparker sources will be turned on.
- Soft start procedure of the sub-bottom equipment with description of duration and power settings of the equipment to allow porpoise mammals to leave site.

2.3 Number of Client Representatives

Client expects the Survey Contractor(s) will work with a different number of vessels for the execution of the different LOTs within the geophysical survey:

For the Seabed Survey (LOT 1) one (1) to three (3) vessels are expected to perform the work, but this might change. There is a possibility that the works might be performed by Unmanned Survey Vessel (USVs)¹. For the 3D UHRS survey (LOT 2) one vessel is expected to perform the work.

¹ If works are performed by means of Unmanned Service Vessels (USVs) RVO and GP Contractor will need to define in the lead up to the WORKS how CRs will perform their activities. There is a possibility that GP Contractor will offer CR to perform works at their base of operation or the CR might be requested to work from home.

For each survey one (1) CR shall be available on the vessel and will work in a 12-hour shift.

The duration of rotations between crew changes is to be determined by the Survey Contractor(s). The CR rotation schedule shall be based on the Survey Contractor's rotation plan. Client expects a possibility to change CR each 3-5 weeks. Client requests Tenderers to submit ten (10) CRs during the tender phase, who are able to perform the work. CRs will be selected from the offered CR pool during the scheduled work. For clarity, not all ten CRs are expected to perform the works simultaneously, but according to the schedule of the GP Survey Contractor(s).

2.4 Schedule of the Work

Duration of the Work will be depending on the workability, the number and efficiency of the vessels as provided by the Survey Contractor(s).

The Surveys are expected to start at the end of Q1 2027. The majority of the data acquisition is expected to take place in 2027, but the GP contractor has the option to carry out data acquisition in 2028 as well. Client expects starting date of the mobilization in March 2027 at the earliest. However, the CR should be present (preferably in person) during the technical Kick off-meeting, approximately three weeks before the start of work, as well as being able to perform a review on the project documentation.

For the purpose of this Scope of Work a total number of 460 vessel days are expected, divided over multiple vessels. However the Framework Agreement has a maximum volume of 750 days. The estimated volume of 460 CR days is indicative and does not constitute a guaranteed minimum purchase commitment. Services will be commissioned through call-off orders based on actual requirements, within the maximum volume of 750 CR days

The timeline specifying the starting date of the offshore works for which the CR(s) need to be made available, will be defined as follows:

- *Client will as soon as possible provide information on the indicative period in which the survey will take place.*
- *One month before the intended start of the offshore works, Client will provide a best estimation of the mobilisation date and location.*
- *One week before the intended start of the offshore works, Client will provide an update with best estimation of the mobilisation date and location.*
- *After award of the contract with the Survey Contractor(s), a more detailed overall planning can be made with the winner of this tender.*

After the start of the Work notifications on the exact crew change date will be provided by Client as follows:

- *One week before crew change, the crew change date can be specified with a precision of 2 days;*
- *48 hours before crew change, the exact crew change date shall be specified.*

Approximately three weeks prior to the start of the campaign, a kick-off meeting is held between Client and Survey Contractor. At least one of the CRs who will join the first rotation on the vessel is requested to attend this meeting in person in order to learn and give input on the campaign strategy. In case other CRs cannot attend the meeting, the attending CR will brief the other CRs on the content. If the attending CR is not available at the start of the campaign, the substitute CR should be briefed on the content of this meeting as well.

2.5 Mobilization / demobilization

Contractor shall arrange all travel arrangements from and towards the mobilization port set by the Survey Contractor(s).

Travel arrangements include:

- Flight / train or other travel costs
- Hotel and foods
- Mandatory vaccinations if applicable / test to be able to travel

Client expects the mobilization port of the Survey Contractor(s) to be within the Netherlands.

2.6 Team set-up

The Client has organised the project set-up within the WFZ 6/7 investigations by splitting the works of Wind & Water investigations and Soil investigations. The Geophysical survey is part of the Soil site investigation.

The Soil site investigation for 6/7 is managed by RVO project managers together with a team of contracted experts. The package is set up under supervision of a package manager from RVO overseeing all the studies related to soil for WFZ 6/7. The RVO package manager is supported by a lead expert who is involved as well in all studies. Both the package manager and the lead expert will manage all interfaces between the studies. The Geophysical survey will be managed by an RVO project manager who is supported by a team of contracted experts with in-depth knowledge related to the study. An organogram of the project set-up is presented in Figure 2.

The position of the CR in the organogram is highlighted red.

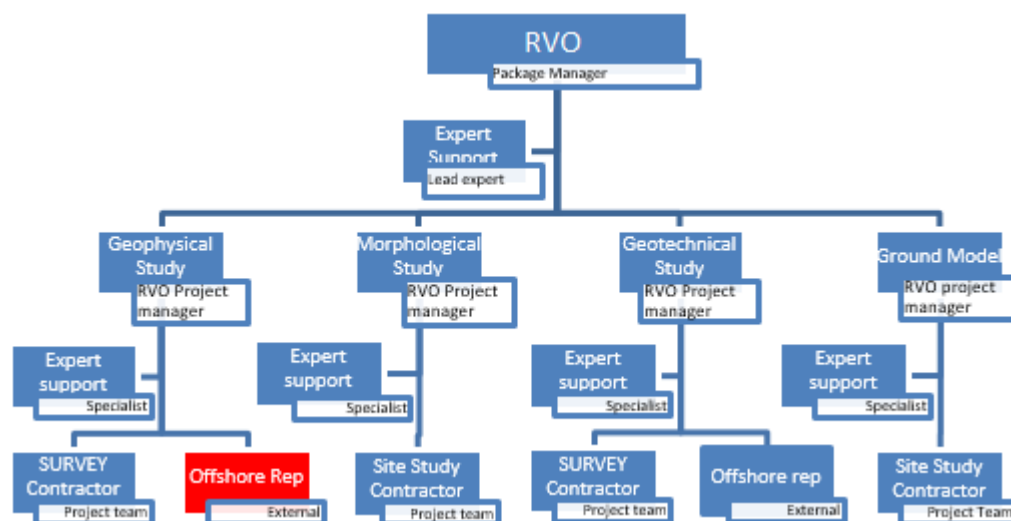


Figure 2. Organogram soil package WFZ 6/7

2.7 Communication

The communication lines are based on the team organisation as presented in Section 2.6. The communication from the CR shall always include the RVO project manager and related expert(s). The expert team will advise together with the RVO project manager on any queries from the CR regarding to contract, HSEQ and/or progress. The CR shall discuss queries during the WORK with Client's onshore team, consisting of the RVO project manager and the Expert Contractor. For the CR first point of communications is presented as below:

- 1) Contractor; Travel arrangements
- (xx) RVO project manager; for planning, contractual items and approval of travel arrangements
- (xxi) Lead Expert; for technical questions and data acquisition.

Figure 3 presents the communication lines within the WFZ 6/7 Geophysical investigation with the position of the CR indicated in red.

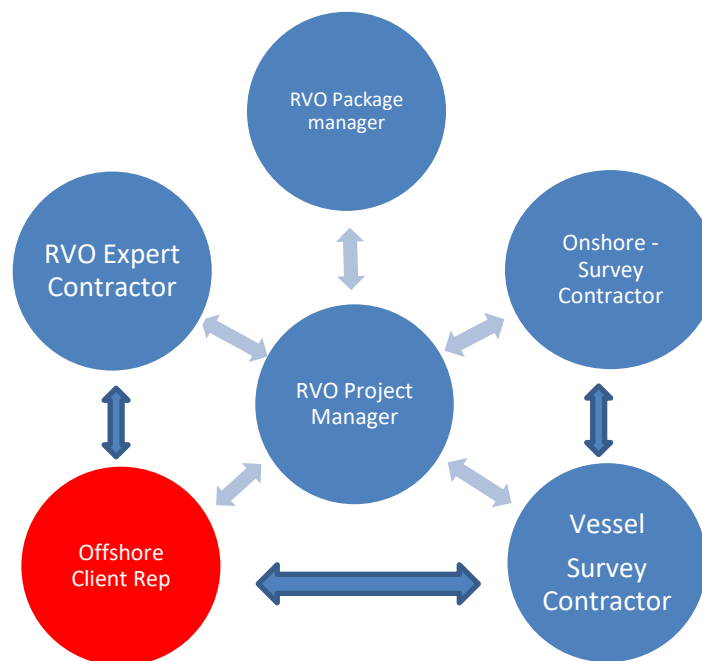


Figure 3. Communication lines

2.8 Reporting

The reporting requirements for the geophysical survey work are as follows:

Daily & Weekly reporting

The Survey Contractor(s) is to submit daily reports throughout the period of the fieldwork, providing full details of previous 24 hours' work and results.

The Survey Contractor(s) may be requested by the Client to provide Data Quality Reports ("DQR") when appropriate. The DQR will not have to be provided on a daily

basis but the Survey Contractor(s) must be prepared to compile and provide these reports under the supervision of the CR. Content of standardised elements of DQRs is to be established at the TKOM (Technical Kick Off-Meeting).

The CR will issue a daily update to the Client including:

- Summary of works completed last 24 hours
- Planning upcoming 24 hours
- HSE items of last 24 hours
- Quality items of last 24 hours
- Any observations and/or notes

Furthermore, the CR will participate in short progress meetings with Client and Survey Contractor(s), three (3) times a week (vessel progress calls).

Client also suggests having an internal call between CR and Client to get a short update on works one (1) time a week (internal vessel progress call).

3 Survey Requirements

The CR shall monitor the field works as performed by the Survey Contractor(s). This section describes the main requirements of the survey components. Detailed information can be found in the Scope of Work for the Survey Contractor(s).

Link to tender documents published at Tenders for the WFZ 6/7 geophysical survey tender:

<https://www.tenders.nl/aankondigingen/overzicht/439922>

3.1 Requirements of the Survey Layout and Configuration

It is anticipated that the acquisition of geophysical, hydrographic and environmental datasets may involve one or more passes across the IA. The Survey Contractor(s) shall select their optimum survey layout and acquisition configuration (e.g. single or multiple passes, single- or multi-vessel solution) to achieve the survey objectives and data quality requirements.

3.2 Mobilization and demobilization

Mobilization of the vessel(s) to the site will be considered completed when all necessary Survey and Project Documentation, equipment, critical spares and personnel are accepted as operational to the specification agreed by the Client and approved by the Client. Verification of performance shall be made according to an agreed plan with all required testing and calibration of vessel and equipment (defined during TKOM) documented and signed off (this is regarded as part of the mobilization).

The harbour to be used for mobilization of survey vessel(s), equipment and personnel is chosen by the Survey Contractor(s) with approval of the Client.

Demobilization of the vessel will be authorised when all the data required have been acquired and have passed field QA & QC criteria to the satisfaction of the CR.

3.3 Lost Equipment

Survey Contractor(s) shall be responsible at their own cost for marking the location and recovery of equipment dropped or lost during the execution of the project. Survey Contractor(s) shall mark the positions of equipment on or below the seabed with marker buoys if necessary and recover the equipment at the earliest possible opportunity. All equipment shall be removed to a reference level which is the trough of mobile sand waves in the area.

3.4 Testing

Following mobilization, a testing phase shall be implemented to establish the appropriate configuration and parameterisation of data acquisition equipment and finalisation of the survey QA parameters. Where data processing operations are critical to either in-field QA/QC or evaluation of the suitability of the data acquisition configuration, design and parameterisation of these operations shall be part of the testing phase.

A testing programme shall be agreed as part of the planning phase, and should include the collection of data properly representative of the range of ground conditions at the site. Provision shall be made for tests to be evaluated by both CR and Quality experts onshore.

The CR shall not sign off for mobilization unless the testing phase is considered completed and approved for, in close consultation with Client and onshore quality experts.

Acceptance by Client of data acquisition configuration is expected to take place as soon as possible after mobilization and testing. Production data acquired prior to acceptance of the data acquisition configuration is acquired at the Survey Contractor's risk, shall be subject to rigorous QC and may be rejected by the CR.

During the Testing phase and first data acquisition Client will have the option to send one of the experts to join the vessel for the first one – two weeks to assist the CR with the set-up and first data collection.