
TENDER DOCUMENT

Reprocessing of 2D seismic data acquired in the Norwegian sea

(Sak 12/1366)

Open tendering competition of the Public Procurement Act and the Regulations relating to public procurement part I and III

Submission deadline: 18.01.2013

12:00 noon local time (Norway)



**NORWEGIAN PETROLEUM
DIRECTORATE**

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2 General description

2.1 About the Norwegian Petroleum Directorate

The Norwegian Petroleum Directorate (NPD) is a governmental specialist directorate and administrative body established in 1972.

The paramount objective of the NPD is to contribute to creating the greatest possible values for society from the oil and gas activities by means of prudent resource management based on safety, emergency preparedness and safeguarding of the external environment.

For more information about NPD, visit our website www.npd.no.

2.2 Scope of procurement

The NPD hereby invites potential bidders to submit a tender for re-processing of 2D seismic data from the Norwegian Sea as described below.

See attachment no 1 for further description.

2.3 Public announcement

Tender competition is announced in the Mancell-database, DOFFIN-database and in the TED-database.

3 Competition rules

3.1 Procedure

Open tendering competition, cf the Public Procurement Act of 16 July 1999 No. 69 as amended, see also the Regulations relating to public procurement, laid down by Royal Decree on 7 April 2006 No 402. This type of procedure does not allow for contract negotiations. Only bidders that fulfil the qualification requirements will have their tenders evaluated. Bidders are not allowed to change the tender after the submission deadline.

3.2 Reservations and non-conformity

If the supplier has reservations regarding parts of the tender documentation, required specifications, contract or other tender documents, it shall be clearly stated in the bid. Any reservations must be specified, including consequences for performance, prices or other conditions.



The same applies to non-conformity. Reservations and non-conformities shall be stated precisely and unambiguously. They shall be stated in the bid letter in such a manner that the contractor can evaluate them without it being necessary to contact the supplier, cf. Section 20-3 of the Public Procurement Act. Substantial reservations, and reservations or non-conformities that can result in uncertainty regarding evaluation of the bid compared to other bids, will result in the bid being disallowed, cf. Section 20-13(1) of The Public Procurement Act.

If the supplier's reference to standardized terms of delivery, or something similar, deviates from existing tender or contract provisions, it will be regarded as a reservation.

3.3 Abidance

The bidder must abide by his/her tender until 90 days after the submission deadline.

3.4 Communication during the tender process

All communication during the process shall be routed via the Merzell-portal, www.merzell.no. This is to assure that all communication will be logged. When you are logged on to the competition, chose the flag marked "Communication", click on the symbol  "New message". Enter the information to the authority and then click . The authority will then receive your message. If the question regards all bidders, the authority will answer the inquiry anonymously by giving the answer as additional information. Additional information is available under the flag "Enquiry", then the flag "Additional information". You will also receive an e-mail with a link to the additional information.

Requests received later than 5 working days prior to the deadline for the offer will not be answered.

4 Qualification requirements

4.1 General requirements

Requirement	Documents required
Circumstances regarding the bidder's tax remittances shall be in order (this only applies to Norwegian companies).	<ul style="list-style-type: none"> • Tax certificate • VAT certificate <p>More information: http://www.skatteetaten.no/no/Alt-om/Skatteattest/</p>
The bidder shall have a HES-system in line with current regulations.	<ul style="list-style-type: none"> • A HES self-declaration from the bidder (see attachment no 2)

4.2 Company registration

Requirement	Documents required
The bidder shall be registered in the "The Register of Business Enterprises" in Brønnøysund or registration in a trade register or the like as set out in the laws of the country of registration of the bidder.	<ul style="list-style-type: none"> • Copy of company registration Certificate or similar.

4.3 Financial strength

Requirement	Documents required
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<p>The bidder must have a sufficient financial and economic position to fulfil the assignment.</p>	<ul style="list-style-type: none"> • A copy of company yearly accounts or extracts thereof, with notes from an authorised public accountant.
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4.4 Experience

Requirement	Documents required
<p>The bidder must have considerable experience with similar assignments.</p>	<p>Description of the company`s most relevant previous assignments. The description must include an overall description of the assignment, extract of the study, value, timing and contact information of the client. (CVs are not acceptable documentation in this context)</p>

5 Award criteria

Only tenders that is submitted by qualified bidders and that meet the requirements and specifications given in the tender document will be considered.

The NPD will choose the most economically advantageous tender, based on the following criteria:

Criteria	Weight	Documents required
<p>5.1.Price</p>	<p>25%</p>	<p>A quotation of prices in accordance with article 7. "Costs"</p>
<p>5.2. Quality, including offered technology and competence</p>	<p>45%</p>	<p>A brief description of your offered technology in accordance with article 3. "Processing Sequence"</p>
<p>5.3 The key persons experience with processing of similar seismic data</p>	<p>30%</p>	<p>Manpower for this assignment (organization plan) with names and CV`s for the key persons who shall carry out the services.</p>

6 Submission and disposition of tender

6.1 Submission of tender

All tenders shall be submitted electronically via the Mercell portal, www.mercell.no by the tender deadline. Tenders delivered after the deadline will not be accepted. (The system does not permit tenders to be sent electronically via Mercell after the tender deadline.)

If you are not a Mercell customer, or you have questions regarding how the application functions, e.g how to submit a tender, please contact Mercell Support at tel +47 21 01 88 60, or by e-mail to support@mercell.com. It is recommended to submit the tender in adequate time before the deadline. A minimum of 1 hour before the deadline is suggested.

If the authority should provide additional information that results in you wanting to change your tender before the deadline, you can access your offer, open it, make the necessary changes and send it again right up to the deadline. The last submitted tender will be regarded as the final one.

The tender requires an electronic signature when it is submitted. When sending the tender electronically, an electronic signature will be requested to confirm that you are the actual bidder who has submitted the tender. An electronic signature can be obtained at www.commfides.com, www.buypass.no or www.bankid.no.

We would like to remind you that it can take some days to acquire an electronic signature, and therefore recommend that this process be initiated as soon as possible.

6.2 Disposition of tender

The tender shall be enunciated in English and as in this disposition:

File name	Contents
Qualification requirements	Documents are to be enclosed in the step Kvalifikasjonskrav/Qualification requirements when you submit the tender in Mercell.
K01 – Tax certificate	Ref 4.1
K02 - company`s registration	Ref 4.2
K03 – company yearly account	Ref 4.3
K04 – description of previous assignment	Ref 4.4.
Documents required	Documents are to be enclosed under the tab Dokumenter/Documents when you submit the tender in Mercell.
DOK01 – Cover page	Signed by a responsible/liable representative for the bidder. Confirmation that the NPD's contract terms are accepted. Minor reservations with reference to specific contract clauses must be quoted with alternative proposals, as this type of procedure does not allow for negotiations. Name and contact information of the bidder.
DOK02 – Price	Ref.5.1.
DOK03 – Description of technology	Ref.5.2
DOK 04 Cv`s of key persons	Ref 5.3

7 Annex

- Annex 1 - Scope of work/Terms of reference (included in this document)
- Annex 2 – HES self declaration
- Annex 3 – Processing report
- Annex 4 – Contract conditions

7.1 Annex 1 - Scope of work / Terms of reference

7.1.1 Seismic Data Processing

The Contractor shall process 2D seismic data as described below:

Area: principally from Nordland IV & V

Total data volume: will range from 1.000 – 2.000 km

Survey: will consist of up to four surveys

The following points need special attention:

- Multiple removal
- Noise removal
- Imaging deep strata
- Imaging steep- and deep fault planes
- Velocity analysis

7.1.2 Data Acquisition Parameters

The field parameters for the 2D surveys are as follows:

Data Acquisition Parameters (Main Volume)	
Shot point interval	25 m
Active Streamer length	3000 m / 6000 m
Number of groups	240 / 480
Group interval	12.5 m
Tape format	SEG-D
Tape media	3592
Recording length	8 sec.
Sample interval	2 ms

7.1.3 Processing Sequence

Algorithms and parameters used at each step in the processing sequence must be agreed with the NPD in writing prior to the production processing. Deviations from the basic sequence must also be in agreement with the NPD.

The basic processing price shall be based on the following estimated processing sequence:

- *Reformat from SEG-D to contractor's own data format. Static shift correction for source/receiver depth. Bad shot and channel edits. Gain recovery*
- *Spherical divergence correction*
- *Merging the seismic traces to the navigation*
- *Resample to 4 ms*
- *Noise attenuation. The data will be searched for spikes, spurious high amplitudes and swell noise*
- *Deterministic signature deconvolution (zero phasing) which shall be applied using an operator designed to transform the modeled far field source signature to its zero phase equivalent. This process shall also take care of source and receiver ghost as well as the air gun bubble pulse*
- *Linear noise attenuation in shot and receiver domain, focused on direct arrivals and refractions, contractor to specify methods*
- *2D Surface Related Multiple Elimination (SRME), as appropriate*
- *Wave Equation Multiple Attenuation (required in shallow water areas)*
- *Tau-p De-convolution & Mute*
- *First pass velocity analysis every 2 Km. All velocity picking should be performed in agreement/co-operation with NPD staff. The data shall be muted (& proper pre-conditioned) prior to all velocity analysis*
- *FX de-convolution on common offsets*
- *Common offset linear noise attenuation (FK filter), as appropriate*
- *Hi-Resolution Radon de-multiple with appropriate interpolation*
- *Second pass velocity analysis every 1 Km. Input to Pre stack time migration (PSTM).*
- *Full 2D Kirchhoff Pre stack time migration (PSTM)*
- *Third pass velocity analysis every 1 km. Final velocities which have to be exported to EssoV2 and diskos98.1 format*
- *NMO correction. Pre-stack scaling, inner trace mute and outer trace mute.*
- *CDP Relevant post stack signal enhancement procedures*
- *Post-stack Scaling*
- *SEG-Y output*

Methods/procedures:

Methods/procedures for multiple attenuation swell noise attenuation, imaging and steep and deep fault planes & velocity analysis should be specified.

Optional processing sequence:

- Tau-p De-convolution in the receiver domain

The NPD see it as necessary that processing parameters shall be tested on two or three parts from different lines and confirmed on two more lines before being applied in production. The test data should be available via FTP-server in SEG-Y format.

7.1.4 Other requirements

The contractor shall at no extra cost establish a secure online client monitoring and supervision site where test results, project status, meeting summaries and other required data will be available to the NPD throughout the processing.

7.1.5 Products to be delivered after processing

Item	Format	Media
Final processing report	MS Word or PDF format	CD / DVD
Raw field data as received from client	SEG-D	3592
Final stacking & migration velocities	EssoV2 & diskos98.1	CD / DVD
Raw CDP gather before PSTM	SEG-Y	Hard disk
Raw common image gather (CIG) after PSTM	SEG-Y	Hard disk
Raw migration full-offset stack volume and sub stack volum (near,- mid- and far- angle)	SEG-Y	Hard disk
Final PSTM (unscaled true amplitudes full offset volume)	SEG-Y	Hard disk
Final PSTM (TVS full offset volume)	SEG-Y	Hard disk

- All SEG-Y tapes shall have the navigation data included in the trace header
- Each tape shall be labelled with a detailed list of contents in agreement with the NPD personnel

7.1.6 Timing

Data processing shall commence as soon as the field tapes are delivered to the chosen processing centre.

Delivery of finalized product should be performed within May 2013

7.1.7 Costs

Prices shall be quoted in NOK and shall comprise the specified basic processing sequence in accordance with Section 3, above. Test processing shall be included as part of the basic processing sequence.

Seismic data processing cost shall be stated as:

- Rate per kilometre based on the estimated processing sequence in Section 3.
- Rate per kilometre for optional extra processing
- Above rates shall be quoted for respectively streamer length of 3000 m and 6000 m

7.1.8 General

The project is fully subject to funding from the Norwegian Government. The NPD therefore reserves the right to stop the bidding process or declare it null and void or reduce the volume of the programme due to budgetary reasons or other unforeseen circumstances outside the NPD's control.

7.1.9 Contract terms

The NPD standard terms are enclosed

See tender document point 3.2. about reservations.

The Appendix I refers to Point No 3 "Processing Sequence" and Point No 4 "Other requirements" in the Tender Document.

The Appendix II refers to Point No 5 "Products to be delivered after processing" in the Tender Document.

The Appendix III specifies the minimum content of the final processing report, see attached document "Appendix III"

The contents in Appendix IV "Prices for Optional Processing" shall be worked out by the bidder. All Appendixes (I to IV) will be completed when the parties enter into agreement.

7.2 Annex 4 - Contract terms

Annex 3 - Contract terms are enclosed the in a separate PDF-file.