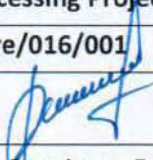

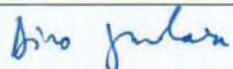





TENDER
DOCUMENT

TIMOR GAP OFFSHORE BLOCK
UNIPESSOAL, LDA

INVITATION TO BID
3D SEISMIC PROCESSING PROJECT

Document Title		3D Seismic Processing Project			
ITB No.		ITB/TG-Offshore/016/001			
17 March 2016	0		 Domingos Freitas	 Jacinta Bernardo	 Dino Gandara
Date	Revision	Description	Prepared by	Review by	Approved by



	TENDER DOCUMENT	TIMOR GAP OFFSHORE BLOCK UNIPESSOAL, LDA
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OVERALL CONTENT

PART A	GENERAL INFORMATION
PART B	ACKNOWLEDGEMENT FORM
PART B	SCOPE OF WORK
PART C	CONTENT OF THE PROPOSAL
PART D	EVALUATION CRITERIA
PART E	FORM OF AGREEMENT AND CONDITION OF CONTRACT




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**TIMOR GAP OFFSHORE BLOCK
UNIPESSOAL, LDA**


PART A GENERAL INFORMATION

- 1) Proposal shall be delivered on or before **“08 April 2016 at 16.00pm Timor-Leste time”** at the latest.
- 2) The proposal can be submitted via email or courier mail to the following address:

TIMOR GAP Offshore Block Unipessoal, Lda.
Attention: Mr. Dino Gandara – Managing Director
Level 3, Timor Plaza, Rua Presidente Nicolau Lobato,
Comoro, Dili, Timor-Leste
Email: bid.procurement@timorgap.com (Proposal Submission Only)
Email: dino.gandara@timorgap.com (Queries only – Do not submit your proposal via this email account)
- 3) Any proposal received after the stipulated date will be rejected and not considered.
- 4) The submitted proposal to the COMPANY shall be irrevocable for **a period of six (6) months** or until the bidding process is completed whichever is longer.
- 5) In case additional and/or revised and/or more detailed information becomes available before the proposal is submitted, such information in kind of numbered addendum will be provided to the ITB. Such additional data, if any, shall be an integral part of the ITB; it shall be taken into consideration and treated as if it were a part of the initially submitted ITB Documents.
- 6) The currency of the proposed price shall be limited to **U.S Dollar only.** All rates and prices shall be firmed and fixed and not be subject to escalation / increase.
- 7) An award criteria to be used in selecting the most responsive Proposal is the ***Highest Combined Scoring Method***, using **50%-50%** distribution for Technical Capabilities and Price Proposals, where the minimum passing score of technical proposal is 70 points out of 100 points.
- 8) TIMOR GAP Offshore Block, Unipessoal, Lda. reserves the right to accept or reject any proposal, and to cancel the bidding process and reject all bids, at any time prior to the award of the Contract, without thereby incurring any liability to the affected Bidder or bidders or having any obligation to inform the affected bidder or bidders of the grounds rejection.

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- 9) Information relating to the examination, clarification, evaluation, and comparison of proposal and recommendations for the award of a contract shall not be disclosed to bidders or any other persons not officially concerned with such process until the award to the successful bidder has been announced. Any effort by a bidder to influence the Company's processing of bids or award decisions may result in the rejection of his Bid.
- 10) Payment terms are 30 days after the invoice date.
- 11) Bidders are mandatory required to comply with all applicable law of Republic Democratic of Timor-Leste (RDTL) in connection to this project.
- 12) The awarded bidder(s) shall be solely liable for and pay any tax arising from income, gains and profits that the awarded bidder(s) will receive from the Company or realizes in connection with this project. The Company shall be entitled to withhold from any payments due and payable to the awarded bidder(s) any taxes and to remit such tax to the relevant Timor-Leste tax authority, as and when required under the applicable laws.
- 13) TIMOR GAP Offshore Block Unipessoal, Lda. reserves the right at the time of contract award to increase or decrease the quantity of product originally specified in the bid document without any change in unit price or other terms and conditions.
- 14) Please address all inquiries by email only to dino.gandara@timorgap.com or budi.priasati@timorgap.com. You are requested not to contact any other person for matters related to this ITB. If you attempt to contact any person other than the nominated contact person for ITB queries, TIMOR GAP Offshore Block Unipessoal Lda. may, at its sole discretion, disqualify your company. Manner of disseminating supplemental information to the ITB and responses/clarifications to queries will be direct communication to prospective bidders shall be in writing or by email.

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PART B ACKNOWLEDGMENT FORM

Bidder agrees and acknowledges that information of whatever nature relating to the COMPANY disclosed or made available to you and the information disclosed and contained in this document or referred to in this document together with all other information relating to the COMPANY and/or the scope of services/supplies ("Confidential Information") shall be regarded as secret and confidential and shall not be disclosed by bidder except to the extent that it becomes necessary to furnish information to others solely for the purposes of submitting the proposal under this document. Bidder will also keep confidential all Confidential Information. Bidder shall impose the same obligations of secrecy and confidentiality on those parties to whom the Confidential Information is passed. This obligation of secrecy and confidentiality will continue in full force and effect notwithstanding termination or completion of the proposal submission hereof. Bidder undertakes to indemnify and hold harmless the COMPANY from any damages, loss, cost or liability and the cost of enforcing this indemnity arising out of or resulting from the bidder's breach of these obligations of secrecy and confidentiality or any other unauthorized use or disclosure of the Confidential Information by you.

Bidder acknowledgement that, if at any time in the future any term or provision of the Confidential Information thereof shall be related to any third party, the COMPANY may request bidder to enter into a proper confidentiality agreement and you agree to do so upon the COMPANY's request.

If bidder determines that the transaction will not proceed or you are no longer interested in submitting proposal, bidder will return to the COMPANY, the Confidential Information and copies that are in bidder's possession or under your control which incorporate, reflect or are derived from any of the Confidential Information and will ensure that bidder's representatives, agents and employees will do the same.

Please confirm your acknowledgement and acceptance of the above obligations of secrecy and confidentiality concerning the information disclosed in this Request for Proposal by signing on the attached ACKNOWLEDGEMENT form and returning to us within 2 working days after receipt of this ITB for our records and reference procurement.dept@timorgap.com.

	TENDER DOCUMENT	TIMOR GAP OFFSHORE BLOCK UNIPESSOAL, LDA
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We have received the ITB – Invitation to Bid as well as all related documents and we would like to inform you that

- ☐ We will submit the proposal on or before the Proposal submission date.
- ☐ We will not submit the proposal.


Reason: _____

We further confirm that we comply with the obligations of secrecy and confidentiality concerning the “Confidential Information” as expressed in the ITB.

Name of the Bidder: _____

Date: _____

Signature: _____

	TENDER DOCUMENT	TIMOR GAP OFFSHORE BLOCK UNIPESSOAL, LDA
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PART C SCOPE OF WORK

TIMOR GAP, E.P. is the Timor-Leste's national oil company which was established in 2011 under the Decree Law no. 31/2011. Its main objective is to act, on behalf of the State, in conducting business within the petroleum and gas sector. Its activities vary from Onshore to Offshore and national to international.

TIMOR GAP Offshore Block Unipessoal, Lda. is a subsidiary company of TIMOR GAP, E.P. which was awarded PSC TL-SO-15-01 by the ANP on the 23rd December 2015. PSC TL-SO-15-01 is located in the Timor-Leste Exclusive Area (TLEA). TIMOR GAP Offshore Block is seeking for 3D Seismic Processing Company to process Crocodile 3D Seismic survey 2780 Km2 in the Timor-Leste Offshore Exclusive Area.

Objective:

The main objective of the seismic 3D data processing project is to achieve good quality seismic data sufficient for detailed structural and stratigraphic interpretation and precise reservoir characterization in a timely manner.

Processing Strategy:

The processing shall be conducted as described in this ITB document and Service Agreement.

The processing of acquired data shall be performed in a seismic processing center at contractor designated place with full facilities. The processing center should be capable of providing pre stack and post stack time and depth migration. The personnel assigned to the project must have proven ability and processing experience of 3D broadband marine seismic data processing as described in this ITB document.

The Bidder shall provide the location of its processing center and complete details of installed hardware and software proposed to be used for the project.

The Bidder shall list out the QC schedule at different stages of processing. Adequate facilities to carry out QC of velocity analysis and other parameters shall be available to the Company representative.

On completion of processing, the awarded bidder shall make a presentation at TIMOR GAP Offshore Block Unipessoal, Lda.'s office in Dili, with results of final processing and selection of parameters.

Scope of work Processing Sequence

Testing will include azimuthal anisotropy and interbed multiple removal algorithms to address the complex imaging issues noted in the Bonaparte Basin. And Processing performed at 4msec.

- *Input SEG-D*
- *Nav-Seismerged shot gathers*
- *Remove instruments delay*
- *Bad shot and trace edits*
- *Deterministic zero-phasing with de-bubble*
- *Temporal Anti-alias filter resample to 4 msec*

- *Spherical divergence correction, removal*
- *Low cut filter, if required*
- *Swell and cable noise suppression*
- *Spatial anti-alias –K filter*
- *Deghosting (position in sequence to be confirmed)*
- *3D SRME on 12.5m x 25m bin size maximum of 0.5 Km xline half aperture and 2 Km inline half aperture on average (maybe offset variant) or*
- *Shot –Channel-Scalars*
- *Alternate Trace drop to 25m (12.5 m CPD increment)*
- *Hi-res Parabolic Random demultiple – using 2 Km velocity field from the vessel*
- *Inverse Q Compensation, phase only*
- *Short to Common offset*
- *3D binning and fold harmonization (12.5 m x 25 m grid) including bin centering using Fourier Regularization*
- *3D Noise Attenuation (FXY decon) on common offset planes, if required*
- *Migrated velocity line and pick on a 1Km x 1 Km grid*
- *3D Kirchhoff Anisotropic PreSTM using smoothed velocity field 5.0 Km half aperture*
- *RNMO velocity analysis 50 m x 50 m automatically*
- *Hi-res Parabolic Random demultiple*
- *NMO correction with final stacking velocity*
- *MUTE (full, near, mid, far angles)*
- *Stack 4 volume*
- *Footprint removal*
- *Inverse Q compensation, amplitude only*
- *Deconvolution after stack, if required*
- *Residual de-ghosting , if required*
- *Time variant filtering and scaling*
- *Source and streamer static correction*

For the PreStack Depth Migration processing, at least 5 Iteration (2 isotropic and 3 anisotropic) is required. The minimum PreSDM processing flow is :

- *Initial velocity model creation*
- *Target line Migration (QC-1)*
- *1st Isotropic update (Grid migration 100m x 100m, CIP Picking, Tomography)*
- *Target line Migration (QC-2)*
- *2nd Isotropic update (Grid migration 100m x 100m, CIP Picking, Tomography)*
- *Target line Migration (QC-3)*


- Define Anisotropic parameters: delta and epsilon, calibrate with wells
- 3rd update – Anisotropic (Grid migration 100m x 100m, CIP Picking, Tomography)
- Target line Migration (QC-4)
- Adjust Anisotropic parameters (if required), calibrate with wells
- 4th update – Anisotropic (Grid migration 100m x 100m, CIP Picking, Tomography)
- Target line Migration (QC-5)
- 5th update – Anisotropic (Grid migration 100m x 100m, CIP Picking, Tomography)
- Target line Migration (QC-6)
- Migration tests for final migration (dip and aperture)
- Final Migration
- Hi-res Parabolic Radon demultiple
- Gather flattening
- MUTE (full, near, mid, far angles)
- Stack 4 volume
- Footprint removal
- Inverse Q compensation, amplitude only
- Deconvolution after stack, if required
- Residual de-ghosting, if required
- Time variant filtering and scaling

Technical Specification and QA requirements:

- Working experience in 3D marine seismic data processing projects completions in the last 5 years
- Must provide a processing server with cluster technology comprising all the following : 1500 CPU or total 10.000 cores on PC cluster technology; CPU speed=2G hertz/node and total disch space=500 terabytes
- Must complete parameters testing and production for APSTM and APSDM including FWI within 6 months and provide two separate team for time and depth projects
- Must provide complete 3D broadband marine seismic data processing package, inclusive of related processing software for seismic inversion, AVO analysis, APSTM and APSDM and also able to do acoustic FWI
- Must own data processing centre
- Must be capable to process 3D data based on company scope of works

Contractor Personneel:

- Must provide area geophysicist/technical supervisions support separately for APSTM time processing and FWI and APSDM depth processing.

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- *Provide qualified and experienced processing technical advisor for 3D marine seismic data processing (10 years of experience)*
- *Bachelor of science degree in applied science or engineering major minimum 3 years*
- *3 years of experience using current company software in time and depth processing*
- *3 years of experience in broadband seismic processing for conventional flat streamer and variable depth streamer in time processing*
- *Two years of experience as an advisor in acoustic FWI in depth processing.*
- *Must provide established dedicated and functional processing/ QC center for company processing and interpretation.*


Deliverables:

- *Velocity Model*
- *Final 3D stack data*
- *Final navigation data*
- *Final Processing report in digital and paper versions. The final processing report shall include, but not be limited to, a description of the methodology, summary on each processing sequence, parameter test results and decisions and conclusions of the processing.*

Time schedule:

The 3D seismic data processing project is estimated to start in [...] 2016. The Bidder's proposed turnaround schedule shall be reflected in the final executed agreement.


Companies who meet minimum requirements outline above and are capable of providing the service are invited to submit their proposal no later than 08 April 2016 for the attention of Mr. Dino Gandara – Managing Director to.

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PART D CONTENT OF PROPOSAL


1. Cover page
2. Company Overview
3. Bidders shall provide the following information on their Capabilities or Technical Proposal
 - a) Signed Acknowledgment Form: Bidder shall attach the signed Acknowledgment Form as per PART B.
 - b) A statement confirming the capacity to perform the scope of work, as well as an indication, where appropriate, of any previous experience in performing audit.
 - c) Work program and timelines.
 - d) Skills and qualifications of members of the team to perform audit works.
4. Bidders shall provide the following information on Price Proposal:
 - The fee proposed must be a total fixed price quoted indicating a total gross amount in USD which is 10% withholding tax included
 - Any incidental out of pocket expenses, such as travel and accommodation must be included in the overall fixed price fees submitted
 - No amount other than the proposed total fixed price shall be paid
5. Payment terms: 30 days after the invoice date.
6. Deliverables and Time Schedule

12

	TENDER DOCUMENT	TIMOR GAP OFFSHORE BLOCK UNIPESSOAL, LDA
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PART E EVALUATION CRITERIA

TECHNICAL EVALUATION CRITERIA	Weight 100 % (A)	Rating (0-100 points) (B)	Score A x B
I. Essential Criteria (Compliance to the scope of work)	40		
a) Compliance to Scope of Works. Compliance to scope of works and technical specifications and meet COMPANY's minimum standard requirement.			
b) Bidder's or Principal's Experience. Bidder or Principal shall have related working experience in 3D marine seismic data processing inclusive of variable-depth and constant-depth streamer deghosting and source-side deghosting with at least ten (10) 3D marine seismic processing project completion in the last five (5) years (2011 – 2015) inclusive of minimum two (2) FWI projects completion.			
c) Processing System Capabilities. Bidder or Principal must be able to provide a Processing Server with cluster technology comprising all the following: <ul style="list-style-type: none"> ▪ 1500 CPU or total 10,000 cores on PC Cluster technology ▪ CPU speed = 2 GHertz/ node ▪ Total disk space = 500 Terrabytes Any use of non PC Cluster computer technology is acceptable for COMPANY but the capacity should be equivalent to the above specifications. Bidder or Principal must be able to provide a Processing Server with cluster technology that is sufficient to cater the scope of work.			
d) Project Turnaround Time Bidder is able to: <ul style="list-style-type: none"> a) Complete parameter testing and production for APSTM and APSDM (including FWI) within 6 months starting from confirmed receipt of complete 			


	TENDER DOCUMENT	TIMOR GAP OFFSHORE BLOCK UNIPESSOAL, LDA
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dataset. b) Provide two (2) separate teams for time and depth projects.			
e) Processing Software Capabilities Bidder must be able to provide complete 3D broadband marine seismic data processing package, inclusive of related processing software for seismic inversion, AVO analysis, APSTM and APSDM. Bidder must be able to do acoustic Full Waveform Inversion (FWI)			
f) Data Processing Centre Bidder or Principal must have own Data Processing Centre and data will be processed in the Bidder's processing center.			
g) Compliance to Functional Processing Center Facilities. Bidder's ability to provide "established, dedicated and functional" Processing/QC center for COMPANY processing and interpretation team. -High Speed Internet Connectivity -Two (2) Workstations for processing client QC purposes (i.e. for interactive velocity picking, seismic display on screen (24" HD screen or larger, -Web Client Portal set-up -Video Conference Meeting facilities or equivalence e.g. VNC, Lync and Webex -Client conference/meeting room with minimum 12 pax and equipped with High Resolution Screen and projector with facilities as mentioned above			
II. Key Personnel	35		
h) Geophysicist / Technical Supervisors Separately for APSTM Time Processing and FWI & APSDM Depth Processing): Bidder/Principal must be able to provide one(1) for time processing and one(1) for depth-processing: Qualified and Experienced Processing Technical Advisor / Area Geophysicist for 3D marine seismic data processing with the following minimum requirements for time &			



	TENDER DOCUMENT	TIMOR GAP OFFSHORE BLOCK UNIPESSOAL, LDA
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<p>depth processing respectively:</p> <ul style="list-style-type: none"> • Bachelor of Science degree in any applied science or engineering major. • Ten (10) years' experience in seismic data processing projects in time & depth processing respectively • Three (3) years' experience using current company software in time & depth processing respectively • Three (3) years' experience in broadband seismic processing for conventional flat streamer and variable depth streamer in time processing • Two (2) years' experience as an advisor in acoustic FWI projects in depth processing 			
<p>i) Project Leader / Team Leader Bidder or Principal must be able to provide two (2) Qualified and Experience Processing Project Leader for APSTM and APSDM projects respectively of 3D marine seismic data processing with the following minimum requirements each:</p> <ol style="list-style-type: none"> a) Bachelor of Science degree in any applied science or engineering major. b) Six (6) years of experience in marine conventional flat streamer and variable depth streamer seismic data processing inclusive of two (2) years of experience as a Team Leader for marine seismic data processing for time and depth processing respectively. c) Two (2) years' experience using current company software. d) Two (2) years' experience in acoustic FWI projects for depth processing. 			
<p>j) Processing Geophysicist Bidder or Principal must be able to provide two (2) Qualified and Experience Processing Geophysicists for each APSTM and APSDM project respectively of 3D marine seismic data processing with the following minimum requirements each:</p> <ol style="list-style-type: none"> a) Bachelor of Science degree in any applied science or engineering major. b) Three (3) years of experience in marine seismic data processing in time and depth processing 			


	TENDER DOCUMENT	TIMOR GAP OFFSHORE BLOCK UNIPESSOAL, LDA
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respectively. c) Three (3) years of experience using current company seismic processing software in time and depth processing respectively. d) For high end processing, involvement in at least one (1) FWI seismic data depth processing projects			
III. General Criteria	25		
k) Bidder's Personnel Availability Bidder's ability to provide personnel to carry out the work upon receipt of notification			
l) Processing Software Capabilities Bidder's seismic software should be capable to process 3D data based on COMPANY's scope of work			
m) Compliance with HSE Management System Bidder to provide their HSE policy			
n) Bidder's Financial Performance Bidder's financial performance is based on the most current, audited financial report/update. Financial analysis shall include the following: <ul style="list-style-type: none"> ▪ Liquidity Ratios ▪ Leverage Ratios ▪ Profitability Ratios ▪ Efficiency Ratios 			
o) Compliance with Terms and Conditions Compliance to Terms and Conditions (including Liquidated Damages, Bank Guarantee, Performance Guarantee, Insurance, Conflict of Interest, Compliance with Law, Drug and Alcohol, Liability and Indemnity, etc.)			
TOTAL	100 %		

Rating: Excellent: 100, Very Good: 90, Above Average: 80, Average: 70, Below Average: 50, None Complying: 0.

Note: Minimum passing score of technical proposal is 70 points out of 100 points.



	TENDER DOCUMENT	TIMOR GAP OFFSHORE BLOCK UNIPESSOAL, LDA
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II. Commercial Proposal

Bids are technically compliant and pass the threshold will check for arithmetical errors. Errors will be corrected by the TIMOR GAP as follows:

- Where there is a discrepancy between the amounts in figures and in words, the amount in words will govern; and
- Where there is a discrepancy between the unit rate and the line item total resulting from multiplying the unit rate by the quantity, the unit rate as quoted will govern, unless in the opinion of the Employer there is an obviously gross misplacement of the decimal point in the unit rate, in which case the line item total as quoted will govern, and the unit rate will be corrected.

The formula to be utilized for the evaluation of financial proposal is described in below;

1. COMMERCIAL PROPOSAL	Weight 50 % (A)	Weighted Score <u>Lowest Price</u> x 50 Bidder Price
Financial Proposal cost to implement the project (BOQ)	50	
TOTAL	50%	

	TENDER DOCUMENT	TIMOR GAP OFFSHORE BLOCK UNIPESSOAL, LDA
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PART E FORM OF AGREEMENT AND CONDITION OF CONTRACT

This part contains draft of Agreement including the following information. Apart from Part A and Part B, Bidder shall strictly follow this part to prepare the proposals.

- APPENDIX I - SCOPE OF WORK
- APPENDIX II - SCHEDULE OF FEES AND INSURANCE COVERAGE
- APPENDIX III - SERVICE LEVELS
- APPENDIX IV - COMPANY AND CONTRACTOR REPRESENTATIVE

12