

Organization Name	Khyber Pakhtunkhwa Oil & Gas Company Limited (KPOGCL)
Subject	Purchase of Gravity Meter, Magnetometer, Resistivity Meter & Required Softwares.
Address	3rd floor Ali Tower, Opposite Custom House University Road Peshawar, Pakistan.
City	Peshawar
Tel No.	+92 91-9216695, +92 91-92166023, +92 333-5380240, +92 300-5001038, +92 300-6286618,
Fax No.	+92 91-9216697
Tender No	KPOGCL/Tender/456/2017
Procedure	Single Stage, Two Envelope.
Terms & Conditions	<ol style="list-style-type: none"> 1. Quotations must be submitted in two separate envelopes clearly marked as technical and commercial offers. Both these envelopes must be enclosed in a brown envelope clearly marked on the top in bold as tender documents and below that tender number be written. 2. Technical Offer must be without price and should contain all relevant essential specifications along with literatures / brochures. An affidavit on the stamp paper to be placed in the technical offer stating that a bid security amounting 2 percent without indicating the amount, has been placed in the financial offer. Otherwise the technical proposal will be considered non-responsive and will be returned to the bidder after being examined by the technical committee. 3. Commercial Offer should indicate price of quoted Items and confirmation to the terms and conditions of our tender inquiry. Original bank draft for 2% bid security must be attached with commercial offer. 4. Ensure completion of Annex-A Performa, Bid to be submitted on same Bid Document . 5. The firm should be registered with Tax Department having income tax and sales tax certificates. The firm should be on

Active Tax Payer List.

6. Quoted rates/price shall remain valid for a period of minimum 90 days.
7. Item(s) are required within minimum possible delivery period. Offer with minimum delivery period are likely to be preferred. However, the delivery period should be factual as no extension will be subsequently granted except under extreme / unavoidable circumstances.
8. The quotations must be in original and are to reach at KPOGCL Head Office by **12:00PM on 31-May-2017**. No quotation will be accepted in photocopy, through Fax or e-mail and after due date and time.
9. KPOGCL reserves the right to cancel or reject all bids/ proposals at any time prior to its acceptance, as per KPPRA Rule 47 (1).
10. Government taxes will be deducted at the time of payment as per Government prescribed rates.
11. Offers are liable to be rejected if: -
 - a) There is any deviation from any instruction.
 - b) Offers are found conditional or incomplete in any respect.
 - c) Overwriting /Erasing in prices.
12. Payment and acceptance of tendered items will be made after inspection in the premises of HQ,KPOGCL.
13. All terms and conditions by the supplier must be specified clearly.
14. Supplier must be authorized dealer of the concerned brand, must provide the warranty as given by the manufacturer.
15. No Refurbished items will be accepted, if such practice is observed the Bid Security will be forfeited and action will be taken against such firm as per KPPRA Rule 44(1).
16. If any fault / defect occurs in the Equipment during the Warranty Period, it will be repaired/ replaced by the Supplier at his own Risk and Cost satisfying KPOGCL.
17. The quantity of items may increase or decrease depending upon circumstances.
18. In the event of maximum items being quoted lowest by a single bidder, the KPOGCL at its discretion may request the lowest bidder to match the rate for remaining items at a price quoted lowest by other bidders.
19. Technical specifications of tendered items are at **Annex B**

Advertisement Date	17/May/2017 (Wednesday)
Closing Date	31/May/2017 (Wednesday)
Closing Time	12:00:00 PM
Opening Date	31/May/2017 (Wednesday)
Opening Time	12:30:00 PM
Bid Security	2%
Document Cost	Free to download from KPOGCL website.
Remarks	For any questions, please send email to: muhammad.lkram@kpogcl.com.pk

TECHNICAL EVALUATION CRITERIA

ELIGIBILITY MARKS: A bidder not meeting 70% pass marks limit will be rejected in Technical Evaluation, and its sealed/unopened Financial Proposal shall be returned back. All bidders scoring greater than or equal to 70% of the marks will be accepted in technical proposal, and their financial bids will be opened. 30% marks of Financial bid will be given to lowest prices quoted bidder and other's shall be rated accordingly.

The Bidders who have duly complied with the Eligibility/Qualification and Evaluation Criteria against all items will be eligible for further processing.

The Bids which do not conform to the Technical Specifications as mentioned in Annexure B or Bid conditions and the Bidders without adequate capabilities for supply and warranty will be rejected. The Eligible/Technically Qualified Bidders will be considered for further evaluation.

The Technical proposals shall be evaluated by the committee in the light of following evaluation criteria categorized as under:

TECHNICAL EVALUATION CRITERIA

Category	Description	Points
Legal Requirement	Certificate of Company/Firm Registration/Incorporation under the laws of Pakistan	10
	Valid Income Tax Registration	10
	Valid General Sales Tax Registration (Status = Active with FBR)	10
	Submission of undertaking on legal valid and attested stamp paper that the firm is not blacklisted by any of Provincial or Federal Government Department, Agency, Organization or autonomous	10

	body or Private Sector Organization anywhere in Pakistan.	
	Compliance to the technical specifications of hardware (all items) to be procured mentioned vide Annex-B of this document, in full compliance of the Execution Schedule and Delivery Period mentioned in tender document (Undertaking of same on legal stamp paper is must)	60

FINANCIAL PROPOSAL EVALUATION

- 1) Single stage – two envelope procedure as laid down in Khyber Pakhtunkhwa Public Procurement Rules 2014 (KPPRA) would be followed for the evaluation and final selection of the firm for the award of this Contract. The weights given to the Technical (T) and Financial (F) Proposals are:

T=70%

F=30%

- 2) The lowest priced Financial Proposal (Lp) will be given a financial score (Sf) of 100 points. The financial scores (Sf) of the other Financial Proposals will be computed as per the formula i.e. $Sf = 100 * Lp / Ep$, in which Sf is the financial score, Lp is the lowest proposal and Ep the Evaluated proposal under consideration.
- 3) The Proposals will be ranked according to their combined technical (St) and financial (Sf) scores using the weights (T & F) in the formula i.e. $S = St * 70\% + Sf * 30\%$.

ANNEX-B

1. **Gravity Meter**: (Req: 2 Sets)

A Gravity Meter is an instrument used for measuring the local gravitational field of the Earth. The instrument is used for the measurement of the constant downward acceleration of gravity, which normally varies by about 0.5% over the surface of the Earth. As to minimize the risks of failure advanced Gravity meters are required to be used with latest software's used in the modern day industry. Gravity meters are used for petroleum and mineral prospecting, seismology, geodesy, geophysical surveys and other geophysical research.

Gravity Meter "CG-5/Equivalent/Latest SPECIFICATIONS"	
Sensor Type:	Fused Quartz using electrostatic nulling
Reading Resolution:	1 microGal
Standard Field Repeatability:	<5 microGal
Operating Range:	8,000 mGal without resetting
Residual Long-Term Drift:	Less than 0.02 mGal/day (static)
Range of Automatic Tilt Compensation:	±200 arc sec
Tares:	Typically less than 5 microGals for shocks up to 20 G
Automated Corrections:	Tide, Instrument Tilt, Temperature, Noisy Sample, Seismic Noise Filter
Dimensions:	30 cm (H) x 22 cm x 21 cm
	12 in (H) x 8.5 x 8 in
Weight (including batteries:	8 kg (17.5 lbs)
Battery Capacity:	2 x 6Ah (10.8V) rechargeable Lithium-Ion Smart Batteries. Full day operation in normal survey conditions with two fully charged batteries
Power Consumption:	4.5 Watts at 25°C
Standard Operating Temperature Range:	-40°C to +45°C
Ambient Temperature Coefficient:	0.2 microGal/°C (typical)
Pressure Coefficient:	0.15 microGal/kPa (typical)
Magnetic Field Coefficient:	1 microGal/Gauss (typical)
Memory:	Flash Technology (data security)
Digital Data Output:	RS-232C and USB interface is optimized for Win XP™
Analog Data Output:	Strip-Chart Recorder
Display Screen:	¼ VGA 320 x 240 pixels

Keypad:	27 key alpha/numeric
Standard System:	CG-5 Console, Tripod base, 2 rechargeable batteries, Battery Charger 110/240V, External Power 110/240 V, RS-232 and USB Cables, Carrying Bag, Data dump and utilities software, Operating Manual (CD), Transit Case

2. **Magnetometer:** (Req: 2-4 Sets)

Magnetometer is an instrument used in the industry for the measurement of the magnetic field of the Earth. By the measurement of the magnetic field of the area the material lying under the surface of the Earth can easily be predicted. This will greatly enhance the studies and research carried out for the exploration of the hydrocarbons.

G-857 Magnetometer/Equivalent/Latest:

The newly re-engineered G-857 provides a reliable, low cost solution for a variety of magnetic search and mapping applications. Single key stroke operation means the G-857 can be operated by non-technical field personnel or used in teaching environments. The G-857 uses the well-established proton precession method, allowing accurate measurements to be made with virtually no dependence upon variables such as sensor orientation, temperature, or location. The unit provides a repeatable absolute total field magnetic reading, traceable to the National Institute of Standards and Technology. The unit offers new features such as GPS time synchronization, GPS positions and in-field navigation with a hand held Garmin GPS.

G-857/Equivalent/Latest Magnetometer Specifications	
Resolution:	0.1 nT
Accuracy :	Absolute 0.5 nT
Clock:	Julian date, accuracy 5 sec per month.
Tuning:	Auto or manual, range 20,000 to 90,000 nT
Gradient Tolerance:	1000 nT/meter
Cycle time:	1.6 sec to 999 sec standard
Read:	Manual, or auto cycle for base station use.
Memory:	65,000 field or base station readings
Display:	Six digit display of field/time, three digit auxiliary display of line number, day

Digital Output:	RS-232, switch selectable to 115200 baud.
Input:	Will accept external cycle command.
Physical Console:	7 × 10.5 × 3.5 inches, (18 × 27 × 9 cm) 6 lbs (2.7 kg)
Sensor:	3.5 × 5 inches (9 × 13 cm) 4 lbs (1.8 kg)
Environmental:	Meets specifications within 0 to 40 C Will operate satisfactorily from -20 to 50 C
Power:	12 Volt rechargeable Gel Cell

3. **Resistivity Meter: (Req: 2 Sets)**

Resistivity meter is used for the measurement of Resistivity in the Earth. As every material has its own different Resistivity value so by the use of the Resistivity for the measurement of resistance the hidden material can easily be identified. They are widely used in the advance studies carried out for the exploration of natural resources lying under the surface of the Earth. The instrument can be widely applied in metal and non-metal mineral resources detection, city geophysical exploration, railway and bridge exploration, and other application. It is also applied in hydrologic geology and engineering geology such as searching for ground water, locate base of dam and flood protection levee incipient fault, can still use for geothermal prospecting.

WGMD Multi-electrode Resistivity Surveying System:

The instrument can be widely applied in metal and nonmetal mineral resources detection, city geophysical exploration, railway and bridge exploration, and other application. It is also applied in hydrologic geology and engineering geology such as searching for ground water, locate base of dam and flood protection levee incipient fault, can still use for geothermal prospecting.

WDJD-4/Equivalent/Latest Resistivity/IP Meter Specifications	
Receiving	
Voltage	± 6 V, ±1 % ± 1LSB
Measurement accuracy	if $V_p \geq 10\text{mV}$, ± 5% ± 1LSB; if $V_p < 10\text{mV}$, ±1% ± 1LSB;
	if $V_p \geq 10\text{mV}$, ± 5% ± 1LSB; if $V_p < 10\text{mV}$, ±1% ± 1LSB
Input impedance	≥50MΩ
Measurement precision of apparent polarizability	± 1%± 1LSB

SP compensation range	± 10V
Current	6 A,±1% ± 1 LSB
Measurement accuracy	if IP≥10mA, ± 5%± 1LSB; if IP<10mA,± 1%± 1 LSB
Suppression	over 90Db for 50Hz industrial frequency (common mode interference or differential mode interference)
Transmitting	
Maximum transmitting power	±6600W
Maximum voltage	±1100V
Maximum current	±56A (when voltage ≤900V)
Pulse width	1~60s, duty cycle is 1:1
Others	
Working temperature	-10°C~+50°C (Environmental), 95 %RH
Storage temperature	-20°C~+50°C (Environmental)
Power supply	internal 12V 9Ah rechargeable battery , lasts for 30 hours (or 12V external power supply)
Overall current	≤55mA
Weight	≤4.5Kg
Dimension (LxWxH)	270mmx246mmx175mm
WDZJ-4 Switcher	
Max electrode connected	60 and 120 (for option)
Insulation impedance	≥500MΩ
Max working voltage	500VDC
Max working current	2.5ADC
Power supply	Internal 7.4V 4AH rechargeable lithium battery, last for continuously 25 hours work
Working temperature	-10°C~+50°C

WORKSTATIONS

Sr.No.	Item Detail	Specification	Unit	Qty
1.	Workstation (Geosciences software Geographix)	<u>Branded IBM/DELL/HP/Compaq or Equivalent/Latest</u> Form Factor: Tower Processor: Intel (R) Xeon (R)/Equivalent/Latest (3.2 GHz, 25 MB cache, 8 cores) Memory: RAM +64 GB DDR4-1600 Internal Storage: +4 TB Graphics Card: Nvidia(R) Quadro(R) Latest version 4 GB Video RAM,dual extended display on LEDs(Optional) DVD: DVD RW Drive,	Each	2

		<p>USB Port: Minimum 6</p> <p>LAN: Dual Port Gigabit Ethernet</p> <p>Monitor: 2x21 inch for each system</p> <p>Operating System: Windows® 7™ 64-bit with restore CD</p> <p>Peripherals: Keyboard, Optical Mouse, Required cables, connectors & accessories</p> <p>Warranty: 03 Years on site</p>		
2.	<p>Workstation/ Server</p> <p>(Geosciences Processing Software ProMax/Omega or Equivalent)</p>	<p><u>Branded IBM/DELL/HP/Compaq or Equivalent/Latest workstation / Servers</u></p> <p>Form Factor: Tower</p> <p>Processor: Intel (R) Xeon (R)/Equivalent/Latest (2.2 GHz, 55 MB cache, 22 cores)</p> <p>Memory: RAM +128 GB DDR4-1600</p> <p>Optional cost for additional 128GB RAM</p> <p>Internal Storage: +4 TB</p> <p>Graphics Card: Nvidia(R) Quadro(R) Latest version 4 GB Video RAM, HDMI, dual extended display on LEDs(Optional)</p> <p>DVD: DVD RW Drive,</p> <p>USB Port: 6</p> <p>LAN: Dual Port Gigabit Ethernet</p> <p>Monitor: 2x21 inch for each system</p> <p>Operating System: Dual Boot Operating System with Red Hat Linux 6.4/latest with restore cd & Windows® 7™ 64-bit with restore CD</p> <p>Peripherals: Keyboard, Optical Mouse, Required cables, connectors & accessories</p> <p>Warranty: 03 Years on site</p>	Each	2 or more
3.	<p>Workstation</p> <p>(Geosciences software DSG)</p>	<p><u>Branded IBM/DELL/HP/Compaq or Equivalent/Latest</u></p> <p>Form Factor: Tower</p> <p>Processor: Intel (R) Xeon (R)/Equivalent/Latest (2.2 GHz, 55 MB cache, 22 cores)</p> <p>Memory: RAM +128 GB DDR4-1600</p> <p>Internal Storage: +4 TB</p> <p>Graphics Card: Nvidia(R) Quadro(R) Latest version 4 GB Video RAM,dual extended display on LEDs(Optional)</p> <p>DVD: DVD RW Drive,</p> <p>USB Port: 6</p> <p>LAN: Dual Port Gigabit Ethernet</p> <p>Monitor: 2x21 inch for each system</p> <p>Peripherals: Keyboard, Optical Mouse, Required cables, connectors & accessories</p>	Each	2

		Warranty: 03 Years on site Operating System: Dual Boot Operating System with Red Hat Linux 6.4/latest with restore cd & Windows® 7™ 64bit with restore CD		
4.	External Hard Drive(Optional) for LINUX/Windows Servers	+20 TB (or 2x10TB) USB/SCSI/fiber optics/equivalent support. Installation with above workstation at serial no 1,2 & 3. Necessary Networking SCSI/fiber optics card	Each	3

Note: Above Gravity, Magnetic and resistivity equipment prices are inclusive of all required softwares for processing/interpretation/modeling software's for Gravity, Magnetic and resistivity surveys.

Software Requirement:

1.MESA®12 Equivalent/Latest:

Software required for 2D/3D seismic acquisition planning & designing.

Main functionality of MESA includes:

- Survey design and subsoil coverage analysis for 3D acquisitions.
- Chronological monitoring of projects and production statistics of the Crews.

2.ProMax 2D & 3D Equivalent/Latest:

SeisSpace® ProMAX® Seismic Processing Software family helps get the most out of seismic data, increase productivity, reduce project cycle times and understand even the most difficult geologic targets. GLI/Geotomo/Equivalent for Refraction statics Software. PSTM from float datum Promax /Seispace /Equivalent.

The processing software must be compatible for the following:h

- Single dataset that can be viewed and analyzed from multiple domains. e.g. 1 dataset can be qc from shot domain, channel domain, cdp domain, offset domain, swath domain, offset-Azimuth without requirements to output multiple dataset. The dataset can be sorted and viewed on multi dimensions.
- Capable to add Full Waveform Inversion workflow for future use.
- Advanced Depth Imaging, velocity modeling algorithms.

- Developments kit for KPOGCL to build their own proprietary workflow.
- Direct connectivity with Petrel/DSG/GGX/GLI/GeoTomo/others and Open works database for Seismic Interpretative processing workflow
- Local support, training, commissioning, installations etc.

Computer Tables, Chairs and other logistics:

S. No	Materials (Description)	Quantity
1	Computer Tables (4 ft x 3 ft)	6
2	Revolving Chairs	12

UPS/Backup for Workstations:

UPS/Backup system for workstations which give back up time for at least one hour.

S. No	Materials (Description)	Quantity
1	INVEREX XP PRO 2600 1440-W UPS or Equivalent	6
2	Exide 240 AH wet Battery/Equivalent	6