

OIL & GAS DEVELOPMENT COMPANY LIMITED
PROCUREMENT DEPARTMENT, ISLAMABAD
FOREIGN SECTION E

(To be completed, filled in, signed and stamped by the principal)

ANNEXURE 'A'

Material SERVO HYDRAULIC SEISMIC VIBRATORS FITTED WITH LATEST VIBRATOR CONTROL ELECTRONICS
Tender Enquiry No PROC-FE/LIT/ECMP(GS)-3262/2018
Due Date
Evaluation Criteria FULL

SCHEDULE OF REQUIREMENT

Sr No	Description	Unit	Quantity	Unit Price (FOB)	Total Price (FOB)	Unit Price C & F BY SEA	Total Price C & F BY SEA	Deviated From Tender Spec. If Any
1	SEISMIC SERVO HYDRAULIC VIBRATORS(PEAK FORCE MINIMUM 60,000)FITTED WITH LATEST VIBRATOR CONTROL ELECTRONICS(DETAILS ATTACHED IN ATTACHMENT)	Number	5					

Note.

1. **Bid bond:** - Pursuant to tender clause # 2.2, 11.4, 13 & 35.3.2, bid bond amounting to US\$ 66,000/- (USD Sixty Six Thousand only) or equivalent in Pak Rupees should be submitted with the technical bid.
2. **Foreign Procurement Payment Terms**
Payment to the Contractor/ bidder in foreign currency shall be made by establishing in favor of the Contractor an irrevocable Letter of Credit (hereinafter called the L/C). 80 % Payment (s) under the L/C will be made for the FOB/ CFR / CPT (as the case may be) price of material of each shipment upon submission of the shipping documents. Balance 20% Payment will be released after receipt, inspection (in addition of pre-shipment inspection) and acceptance of material.
3. **Evaluation Criteria:-** FULL CONSIGNMENT WISE ON CFR BY SEA KARACHI BASIS. Bidder to quote following in FINANCIAL BID ONLY:
 - i. UNIT PRICE and quantity of each recommended spare part. Unpriced list to be provided with Technical Bid. Please also see Terms & Conditions Clause 11.
 - ii. Professional Development Program: Training cost to be provided separately and confirmation in technical bid. The cost will be part of Financial Evaluation.
4. **Shipment from ACU member Countries:-** In case of shipment from ACU member countries, the LC beneficiary should be of that particular country from where the consignment is being shipped.
5. **Terms and conditions:-**Bidders are advised to carefully read all the terms and,conditions of the Tender Document available at OGDCL website in the master tender document and attached technical Terms & Conditions.
6. **Delivery Period:** 120 days
7. **Other Details:** 06 pages attached

Oracle Attachment for The Import of 05 Nos Servo Hydraulic Seismic Vibrators Fitted With Latest Vibrator Control Electronics Requisition No. ECMP (GS)F-1/2018 Dated 07-02-18

Seismic Servo Hydraulic Vibrators (Peak force Minimum 60,000) With Vibrator control Electronics

Following are the main parts of annexure

- A. Latest Brand New Servo-Hydraulic Vibrators
- B. Latest Brand new Vibrator control electronics of M/s INOVA/ M/s Sercel
- C. Terms and conditions.

A	Brand New Servo-Hydraulic Vibrators	05
A-1	<p><u>GENERAL</u></p> <ol style="list-style-type: none"> 1. Latest design for simplified operation and easy access for maintenance. Low center of gravity suitable for high sand dunes and high hilly areas. Enhanced visibility to meet all the safety requirements. 2. Power take off / engine and pump drive with flexible coupling, reliability should be of high level and heavy duty. 3. Simplified hydraulic hose installation to avoid the complications of the piping system with no compromise in the overall performance. 4. Operator cabin leather insulated be facilitated with camera to keep an eye on the Front, back and Mass/ Base plate of vibrator during operation. 5. Reduced Noise level in the vibrator cabin and around the vibrator at HSEQ standards. 	
A-2	<p><u>VIBRATOR</u></p> <ol style="list-style-type: none"> 1. Peak Force : Minimum 60,000 lbf 2. Rated Frequency : Minimum 1 to 250 HZ (With Maximum Peak Force at 5.5 Hz Minimum) 3. Balancing Technique : Air Bags 4. Isolation Method : Air Bags 	
A-3	<p><u>HYDRAULIC SYSTEM/ PNEUMATIC</u></p> <ol style="list-style-type: none"> 1. Filtration : Minimum 3 Micron 2. Accumulators : Minimum 04 for smooth operation (02 on manifold and 02 for mass) 3. Heat Exchanger : Heavy Duty Core with Hydraulic driven Motor Multi wing fan with temperature control unit 4. Air Pressure System : Clean dry air at Minimum 90 PSI for pneumatic components with moisture control unit 	
A-4	<p><u>BASE PLATE</u></p> <ol style="list-style-type: none"> 1. Type : Rectangular, reinforced P wave type. 2. Isolation : Air bags 3. Lift System : Minimum 2 Guide Rods and 2 Lift cylinders. 4. Ground Clearance : Minimum 18 inch. 	
A-5	<p><u>ENGINE</u></p> <ol style="list-style-type: none"> 1. Engine : Water cooled 4 stroke Diesel 2. BHP : Minimum 400 HP 3. RPM : Maximum 2200. 4. Cooling : Heavy Duty water cooled radiator to work in very high temperature Areas (i-e +50 degree C). 5. On/Off : Internal and external start/ stop switch with emergency shutdown safety 	

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<p>A-6</p>	<p><u>MISCELANEOUS</u></p> <ol style="list-style-type: none"> 1. Fuel Tank : Minimum for 16 hour operation. 2. Axle : Inboard/outboard planetary axle with operator control differential lock. 3. Brake : Hydraulic actuated Internal Wet Disc, spring actuated wet Disc Parking. 4. Frame : High Strength frame for maximum strength and reliability. 5. Steering : Articulated assembly with hydraulic power steering 6. Bumper : Front & rear bumper 7. Mud Guards : Tire front & rear Mud Guards 8. Plate form : Working Plate form with railing for working on vibrator. 9. Fueling : Fast Fueling system or quick fueling system 10. Canopy : Sound proof canopy for Engine 	
<p>A-7</p>	<p><u>CABIN</u> Steel Construction, Fully Insulated, Tinted Glass, Carpeted, Two Doors, Cooling and Heating system, Adjustable driver and passenger seats with safety Belt, fitted with roll over protection, Engine and hydraulic/ pneumatic circuit monitoring display, outside rear view mirror, Fire extinguisher to be provided inside the driver cabins, Defroster, wiper, dome light, AC sunroof Cover (Incase AC is on Roof), automatic centralize greasing system, camera to keep an eye on the Front, back and Mass/ Base plate of vibrator during operation, Central Tire inflating and deflating system etc</p>	
<p>A-8</p>	<p><u>BUGGY</u></p> <ol style="list-style-type: none"> 1. Length : Maximum 11.5 Meters 2. Width : Maximum 3.75 Meters 3. Height : Maximum 3.75 Meters with all vehicle accessories 4. Grade ability : Minimum 60 % (31 degree) 5. Gross Vehicle Weight : Maximum 71,000 Lbs 6. Electrical : 24V/12V start 7. Winch Capacity : 30,000 lbs minimum hydraulically operated. 8. Tires Type : All Weather /terrain size 66x43x25 minimum 20 PR Lug Tire (Made in Europe/ USA / North America only) with central tire air inflating system (With one spare tire complete(with bar and spanner) with rim for each vibrator) 9. Paint : White color 	
<p>A-9</p>	<p><u>TEST BENCH AND TOOLS</u></p> <p><u>TEST BENCH</u></p> <ol style="list-style-type: none"> 1. Hydraulic system maintenance tool with different size quick coupler fittings/ gauge to check different pressure. 2. Engine Basic diagnostic tool (10 Year License) if deem necessary. <p><u>TOOLS</u> All the standard tools for the repair and maintenance of the equipment must be provided (List must be provided with the bid with literature in English language).</p>	<p>02</p>

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A-10	<p><u>SPARES</u></p> <p><u>MECHANICAL SPARES</u></p> <p>1. Adequate Mechanical spares for all the equipment must be quoted for the repair and maintenance for a period of 2 year operation in the remote area's after commissioning including engine top overhauling kit.</p> <p>2. Item wise list of all spares would be provided with technical literature (but prices must be mentioned in financial bid only).</p> <p>3. The price of spares would not be part of financial evaluation at the time of financial bid opening.</p> <p>4. Selection of spares from list would be finalized according to the requirement by indenting department.</p>	01
A-11	<p><u>SET OF DOCUMENTATION.</u></p> <p>Set of manuals for vibrators and all associated equipment in English. Complete operation/workshop manuals and part catalogues for all the manufacturer's units fitted on vibrators in soft and hard form.</p>	03
A-12	<p><u>PROFESSIONAL DEVELOPMENT PROGRAM:</u></p> <p>Bidder will arrange Two weeks training for 02 professionals (01 for Engine and 01 for Vibrator Hydraulics) from indenting department at manufacturer's works for operation, repair and maintenance of Vibrator engine, Vibrator Hydraulics, etc.</p>	01
A-13	<p><u>COMMISSIONING AND START UP ON SITE.</u></p> <p>Two weeks for Vibrators onsite equipment commissioning by the bidder/ manufacturer's engineer free of charge, including travel and living expenses at seller's account OGDCL will provide in land transportation from Hotel to Commissioning site.</p>	01
A-14	<p><u>WARRANTY</u></p> <p>All the equipment must be warranted for a minimum period of two years for all components of main equipment and standard warranty for all other components, which will start after completion of commissioning and defective items will be replaced free of charge including freight and other during warranty period by bidder and OEM.</p> <p>OEM certificate of warranty must be provided with the bid.</p>	

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B	<u>LATEST BRAND NEW VIBRATOR DIGITAL CONTROL ELECTRONICS SYSTEM FOR OGDCL DATA ACQUISITION SYSTEMS i-e SERCEL 428XL & INOVA G3I SEISMIC DATA ACQUISITION SYSTEMS WITH LATEST DIGITAL/ TDMA RADIO AND VIBRATOR GUIDANCE SYSTEM)</u>	
B-1	<p>Vibrator Electronics with digital/ TDMA radio, guidance system, Wi-Fi for inter vibrator communication and DGPS/RTK.</p> <ul style="list-style-type: none"> • Latest Vibrator digital control electronics installed on each vibrator with guidance system installed in each vibrator. • Wifi Wireless for inter vibrator communication to calculate COG. • Performs real time Quality control of the vibrator ground force, computes & transmits complete attribute set for quality control data base to Recording System. • Provides an optimal control which minimizes distortion & maximizes the fundamental output force & phase locking while controlling ground force amplitude. • Performs continuous tests to check the reliability & integrity of the accelerometers. • Having capability of both radio & wire line similarity of vibs (to check vibs. performance). • Vibrator electronics Must be equipped with DGPS/ RTK 	09
B-2	<p><u>Pilot generator with digital/ TDMA radio with guidance system/ software</u></p> <ul style="list-style-type: none"> • Capable to work all Sercel 428XL and onward and INOVA G3I HD and onward Seismic Data Acquisition Systems with quality parameter and Quality files and if any Hardware/Software are required to work with any of the said system OEM will be responsible to provide necessary software or any other hardware interface/ standalone to work with different Acquisition system. • Having capability of both radio & wire line similarity of vibs (to check vibs. performance). • It enables the use of advanced vibroseis techniques such as: Random, linear, non-linear sweeps & Pulse etc. Simultaneous or slip-mode capable combination of sweep segments with no dead time multiple simultaneous source application fully compatible with most satellite DGPS for recording and display of vibrators GPS positioning and navigation and guidance system/ software. 	03
B-2-1	<p><u>Real time Quality Control & data monitoring</u></p> <ul style="list-style-type: none"> • Ensuring that the vibrator generates the proper sweep without any risk of polarity inversion. • A complete QC data base is generated for real time/post processing analysis including, Phase, Distortion, Fundamental ground force. • Vibrator signature cross-correlation wavelet, Earth ground model characteristics. All the QC data from Vibrator's Control Electronics can be saved and displayed (at Recording Truck) <u>in detailed Line & Bar graphs</u> for each vibrator current values and average values for a sum of sweeps. Provides comprehensive data analysis and data storage. Also alarms reporting of out of tolerance vibrator. • QC database format : APS files, COG, VP attributes. Other QC files may also be generated by system. 	
B-3	<p><u>Recording Truck equipment for interfacing Vibrator with data acquisition system</u></p> <p>Complete with computer, Software, recording system interface, radio set, antenna, cables & accessories to completely interface with Data Acquisition system and Capable to work with Sercel 428XL and INOVA G3I HD Seismic Data Acquisition Systems.</p>	02
B-4	<p><u>VHF Radio</u></p> <p>For Vibrator and recording truck cabin voice communication.</p> <p><u>Description General</u></p> <p>VHF mobile two ways radio (transceiver)</p> <p>frequency range 136 to 174 MHz</p> <p>output power 40 to 45 watts</p>	10

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	input voltage DC 12V	
B-5	<p><u>TEST BENCH AND TOOLS</u> <u>TEST BENCH</u> Test bench for Vibrator electronics and pilot generator if deem necessary to repair control electronics in Lab. <u>TOOLS</u> All the standard tools for the repair and maintenance of the equipment must be provided (List must be provided with the bid with literature in English language).</p>	02
B-6	<p><u>PROFESSIONAL DEVELOPMENT PROGRAM:</u> Bidder will arrange Two weeks training for 02 professionals from indenting department at manufacturer's works for operation, repair and maintenance of; vibrator digital/electronics control system and DGPS.</p>	01
B-7	<p><u>SET OF DOCUMENTATION.</u> Set of manuals for vibrators and all associated equipment in English. Complete operation/workshop manuals and part catalogues for all the manufacturer's units fitted on vibrators in soft and hard form.</p>	03
B-8	<p><u>COMMISSIONING AND START UP ON SITE.</u> Two weeks for Vibrator Electronics onsite equipment commissioning by the manufacturer's engineer free of charge, including travel and living expenses at seller's account OGDCL will provide in land transportation from Hotel to Commissioning Site.</p>	01
B-9	<p><u>WARRANTY</u> All the equipment must be warranted for a minimum period of two years for all components of main equipment, which will start after completion of commissioning and defective items will be replaced free of charge including freight and other during warranty period by bidder and OEM. OEM certificate of warranty must be provided with the bid.</p>	

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TERMS AND CONDITIONS.

1. Bidder must be OEM of vibrator, Vibrator control electronics.
2. Vibrator electronics must be compatible with OGDCL data Acquisition systems i-e Sercel 428XL and INOVA G3I Seismic Data Acquisition Systems.
3. OEM will ensure and give certificate to provide necessary cables/software/ hardware to work Sercel 428XL and INOVA G3I Seismic Data Acquisition Systems.
4. OEM will ensure and give certificate for Technical support and supply of spare parts and Service for **minimum 10 years** for both vibrators and vibrator control electronics.
5. Local representative of OEM will also be responsible for in-time warranty replacement (please provide certificate from bidder on original letter head pad)
6. Complete technical bid should be submitted in all respects, with detailed technical English literature and provide compliance sheet with bid of each and every clause of Annex "A".
7. Third party Pre- shipment inspection will be conducted as per OGDCL procedure at manufacturer's works (at customer's account). 02 No. professionals from indenting department will witness the inspection at bidder's cost.
8. Bidder/ OEM will fully cooperate with TPI inspector and witness team during inspection at Manufacturer work place.
9. Third party Inspection doesn't limit any of OEM/Bidder obligation and responsibility regarding short/ wrong shipment during post inspection in Pakistan.
10. Operational performance will be checked after commissioning and deployment in field.
11. Cost / Price of Mechanical Spares will not be considered in financial evaluation of main equipment and it must not exceed 10% of total price of main equipment. List of spares will be finalized during financial evaluation.
12. Delivery Period 120 Days maximum.

Note: - Certified Translation in English must be provided in case of any of the bid document is in any other Language.

