

Pre-Qualification Document

RFP No: DAE (L)/03/Power Drilling Rigs

National Competitive Bidding

PROCUREMENT OF 02 NOS. WATER WELL POWER DRILLING RIGS ALONG WITH SPARE PARTS & ACCESSORIES

Project: Strengthening of Well Drilling Services through Procurement of Power Drilling Rigs (ADP Scheme No. 4867)

Issued By:

Name:
Designation:
Date:

Document Fee (PKR): Rs. 2000.00/- only

Director Agricultural Engineering (Lahore Region)

13 K.M, Multan Road, Thokar Niaz Baig,
Lahore, Distt. Lahore
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March-2020

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Grievance Redressal Committee

As per Rule 67 of Punjab Procurement Rules-2014.

Sr. No.	Name	Designation	Position	Phone	Mobile	Email	Address
1	Muhammad Anjum Ali	Director General Agriculture (Ext & AR) Punjab, Lahore	Convener	04299200732	03006625136	dgaextar@gmail.com	21-Davis Road Lahore
2	Iqbal Sabir	Agricultural Mechanization Research Institute (AMRI) Multan.	Member	0619200786	03007305464	amrimultan@gmail.com	Old Shujaabad Road, Multan
3	Engr. Muhammad Wasim	Deputy Director (Mech), Directorate General Agriculture (Field) Punjab, Lahore.	Member	04299200721	03334079644	fieldwing@gmail.com	21-Davis Road Lahore

NOTICE FOR PRE-QUALIFICATION

PROCUREMENT OF 02 NOS. WATER WELL POWER DRILLING RIGS ALONG WITH SPARE PARTS & ACCESSORIES

National Competitive Bidding

Ref: DAE (L)/03/Power Drilling Rigs Dated: 28th January, 2020

- 1. Director Agricultural Engineering (Lahore Region), 13 K.M, Multan Road, Thokar Niaz Baig, Lahore,** invites applications from the **Original Manufacturers/Importers/Authorized Distributors**, registered with Income Tax and Sales Tax Departments and who are on Active Taxpayers List of the Federal Board of Revenue for pre-qualification of Firms for the procurement of **02 Nos. Water Well Power Drilling Rigs along with Spare Parts & Accessories** under the ADP scheme title **“Strengthening of Well Drilling Services through Procurement of Power Drilling Rigs”**.
2. Prequalification documents, containing detailed terms and conditions can be purchased IMMEDIATELY from office of the **Director Agricultural Engineering (Lahore Region)** at address **13 K.M, Multan Road, Thokar Niaz Baig, Lahore**. Price of the prequalification documents is PKR. 2000.00, **(Rs. Two Thousand Only)** as per Rule 17(2) of Punjab Procurement Rules - 2014. **Prequalification documents** can be VIEWED on <http://www.agripunjab.gov.pk> & <http://www.ppra.punjab.gov.pk> for information only.
3. The proposals, prepared in accordance with the instructions provided in the pre-qualification documents, must reach at office of the **Director Agricultural Engineering (Lahore Region)** at address **13 K.M, Multan Road, Thokar Niaz Baig, Lahore**, on or before **Tuesday, 03rd March, 2020 11:00 AM**. Proposals will be opened on the same day, i.e. **Tuesday, 03rd March, 2020 11:30AM** in the presence of applicant firms or their authorized representative, who choose to be present. This advertisement is also available on <http://www.agripunjab.gov.pk> and <https://www.ppra.punjab.gov.pk>

Director Agricultural Engineering (Lahore Region),

13 K.M, Multan Road, Thokar Niaz Baig, Lahore,

Ph: 92 42 9923 3566, Cell: 92 300 957 2241

Email: daelahore@yahoo.com

1. INTRODUCTION

The Field Wing of Agriculture Department is carrying out activity of drilling of tubewell bores for the last more than four decades. For well drilling operation, the Department has 60 Nos. Hand Boring Plants, 19 Nos. Power Drilling Rigs and 28 Nos. Electric Resistivity Meters. This machinery is provided to the farmers at subsidized rates. The hand boring plants are located in all districts of Punjab while rigs are mainly available for deep drilling operation in rocky areas. The Department also conducts surveys with electrical resistivity meters prior to drilling of bores on request of the farmers. Currently, 19 Nos. direct rotary rig machines are being engaged in drilling bore holes in the hilly areas throughout the Punjab province. It has become imperative to add up new fleet of drilling rig machines to accelerate drilling in the districts of province Punjab having underground rocky / hard formations. The new drilling rigs with improved and advanced technology will enhance the installation of tube wells remarkably by conducting drilling work. By the induction of these drilling rig machines with advanced technology and efficient working the effective depth of drilling will also enhance.

Keeping in view the above facts, Government of Punjab, Agriculture Department has approved a project titled **“Strengthening of Well Drilling Services Through Procurement of Power Drilling Rigs”** for the year 2019-20 to 2020-21 to procure 02 Nos. more **Direct Rotary Water Well Power Drilling Rigs along with Spare Parts & Accessories** for carrying out efficient drilling work in the rocky districts of Punjab province along the Western CPEC Route such as Attock, Chakwal and Mianwali. This will help to improve the economic condition of the farmers as well as will increase farm productivity by increasing crop yield per unit area and more area under production.

Field Wing of Agriculture Department, Government of Punjab, 21-Davis Road, Lahore intends to Pre-Qualify Firms for supply of water well Power Drilling Rigs along with Spare Parts & Accessories under PPRA rule 16. This exercise will enable all interested suppliers for the supply of goods and will make them eligible to fairly compete for business opportunities that may be available under the project titled **“Strengthening of Well Drilling Services Through Procurement of Power Drilling Rigs”** for the supply of water well Power Drilling Rigs along with Spare Parts & Accessories. The approved **technical specifications of Direct Rotary Water Well Power Drilling Rigs along with Spare Parts & Accessories** are attached herewith (See Annexure-J, Appendices A to D)

2. OBJECTIVE

Field Wing of Agriculture Department, Government of Punjab intends to Pre-Qualify Firms in order to:

- 2.1 Search for suppliers of water well Power Drilling Rigs along with Spare Parts & Accessories having drilling capacity ≥ 250 m with initial bore 254 mm and reaming upto 457 mm in the field.
- 2.2 Create a list of suppliers as per scope of PPR-16 “Pre-Qualification”
- 2.3 Bench mark quality and competitiveness.
- 2.4 Ensure the transparency in the procurement.

3. ADVANTAGES OF PREQUALIFICATION

Pre-qualification is an assessment made by the Central Procurement Committee, of the appropriate level of experience and capacity of firms expressing interest in undertaking a particular contract, before inviting them to bid.

Pre-qualification of Suppliers is very useful for the Central Procurement Committee (also to the Suppliers) to carry out selection of firms for award of contracts. The basic aim of the pre-qualification is intended to eliminate, early in procurement proceedings, Suppliers that are not suitably qualified to perform the Contract. Also sometimes Suppliers are reluctant to participate in procurement proceedings for high value Contracts, if the competitive field is too large and where they run the risk of having to compete with unrealistic tenders submitted by unqualified or disreputable Suppliers. Furthermore, the Prequalification is the basic tool to:

- i. Encourage realistic bids by the Bidders because they know that they are competing against qualified bidders who have cleared the minimum competence criteria;
- ii. Assess the interest of the prospective bidders in the bidding process;
- iii. Make any adjustments / modifications in the bidding documents if a pointer is available from the lack of interest by the prospective bidders applying for pre-qualification;

- iv. Reduce the effort and so the time in evaluation of bids from un-qualified bidders;
- v. Help the bidders to evaluate and take stock of their capability and consequently to form joint ventures with other firms;
- vi. Reduce the problems associated with low priced bids from bidders of doubtful capability and;

Help the bidders who are insufficiently qualified to avoid the expense of bidding.

4. RECAPITULATION

To recapitulate the afore-given, the pre-qualification specifically means selection of competent bidders prior to issuance of the invitations to bid. It is required for large or complex contracts, in certain cases for custom designed equipment and specialized services. Pre-qualification is also helpful for providing a chance for selection of smaller Suppliers under “Slice and Package” system of tendering. Pre-qualification is also useful in saving the Central Procurement Committees from numerous un-necessary problems.

5. INSTRUCTIONS TO APPLICANTS

Submission of Applications

- Applications for pre-qualification (one original and 1 copies) must be received in sealed envelopes to be delivered by hand to: -
Director Agricultural Engineering (Lahore Region), 13 K.M, Multan Road, Thokar Niaz Baig, Lahore, not later than Tuesday, 03rd March, 2020 11:00 AM and be clearly marked “Application for Pre-qualification” for **PROCUREMENT OF 02 NOS. WATER WELL POWER DRILLING RIGS ALONG WITH SPARE PARTS & ACCESSORIES**
REFNo: DAE (L)/03/Power Drilling Rigs.
- The name and mailing address of the Applicant shall be clearly marked left hand on the envelope.
- The applications on prescribed format (**See Annexures**) shall be prepared in the English language. Information in any other language shall be accomplished by its translation in English. Central Procurement Committee reserves the rights for dis-qualification in case of non-compliance of the above requirement.
- The Applicants must respond to all questions and provide complete information as advised in this document. Any lapses to provide essential information may result in dis-qualification of the Applicant.
- Any query regarding this Prequalification Document may be addressed in writing to **Director Agricultural Engineering (Lahore Region)** address **13 K.M, Multan Road, Thokar Niaz Baig** till **Tuesday 25th February, 2020 11:00 am.**
- A clarification meeting **will not be** held.

6. QUALIFICATION CRITERIA

6.1 General

Pre-qualification will be based on the criteria given in succeeding paras and as demonstrated by the Applicant’s responses in the forms attached to this letter. The Evaluation Criteria shall result in fail / pass (qualified / not qualified) on the basis of minimum prescribed requirements. The ‘pass’ (qualified) Applicants shall be

allowed to participate in the Request for Proposal (RFP) stage. The Central Procurement Committee reserves the right to waive minor deviations, if these don't materially affect the capability of an applicant to perform the contract.

6.2 Mandatory Requirements

Sr. No.	DESCRIPTION	DOCUMENTS REQUIRED
1	Firms having Income Tax and General Sales Tax Registration with ACTIVE status on Active Taxpayers' List (ATL) of Federal Board of Revenue (FBR).	Copy of NTN and GST Certificates
<u>2</u>	<u>All requirements of Application Forms (See Annexures-A-I).</u>	As per format provided in Annexures
<u>3</u>	Minimum 200 Million financial turn over for each year during last 03 years	Income Tax and Sales Tax Returns for the last 03 years.
4	Submission of undertaking on legal valid and attested stamp paper that the firm/company is not blacklisted by any of Provincial or Federal Government Department, Agency, Organization or autonomous body or Private Sector Organization anywhere in Pakistan.	Affidavit on legal stamp paper worth Rs. 100
5	Must have 03 years of relevant experience with the Government/Semi Government/Autonomous Organizations	Contract copies or any other document
6	Must have Office / Warehouse in Punjab	Copy of Registration of Property/Lease Agreement in case of hiring
7	Past performance from at-least two organizations in Government sector or autonomous body using engineering goods supplied by the bidding firm in Pakistan	Customer Satisfaction Certificate

6.3 Qualification Score Distribution

Sr. No.	Description	Score
1	Experience	35
2	Personnel Capabilities	15
3	Ware House / Equipment Capabilities	15
4	Financial Position	35
Total:		100

Note: Prequalification status shall be decided on the basis of Pass/Fail (qualified / not qualified) basis. The applicant must secure at least 50 score in each category and 70 aggregate score to qualify.

The further detailed criteria for each category is as follows:

6.3.1 Experience

Score for experience shall be awarded on the basis of following qualifications:

Sr. No.	Description	Maximum Score
1	Contracts of supply of engineering goods and complexity* completed over last 05 years not less than Rs. 5 million for each contract. The marks will be awarded proportionately as per contract/s value. The contract/s of Rs. 5.00 million or above will only be considered for scoring (01 score for each 5.00 million or maximum score (35) will be given having a contract/s of Rs. 175 million or above)	35
Sub-Total :		35

The decision of Central Procurement Committee regarding nature & complexity shall be final.

6.3.2 Personnel Capabilities

Score shall be awarded under this category using the following criteria:

Sr.No.	Description	Maximum Score
1	Technical Team 2 Score for each qualified engineer 1 Score for Technical TeamMember (Mention qualification and experience of Technical Team Members)*	10
2	Management Team 1 Score for each Management TeamMember (Mention qualification and experience of Management Team Members)*	5
Sub-total:		15

Modify Application Form *Annexure-D* according to qualification and experience requirements of Personnel.

6.2.3 Warehouse Capabilities

Score shall be granted on the basis of the following criteria:

Sr. No.	Description	Maximum Score
1	01 score for inventory level of engineering goods worth Rs. 1.00 million	15
Sub-total:		15

6.3.4 Financial Position

Score shall be awarded on the basis of the following criteria:

Sr. No.	Description	Maximum Score
1	01 Score for each Rs. 10 million above the qualifying financial capability i.e. Rs. 200 million (to be verified from Sale Tax Returns of last 03 years)	35
Sub-total:		35

7. CONFLICT OF INTEREST

The Applicant must not be associated, nor have been associated in the past, with the consultant or any other entity that has prepared the design, specifications, and other prequalification and bidding documents for this procurement, over the last five years. Any such association may result in disqualification of the Applicant.

8. UPDATING PREQUALIFICATION INFORMATION

Bidders shall be required to update **all** information used for prequalification at the time of submitting their bids, to confirm their continued compliance with the qualification criteria and verification of the information provided at the time of prequalification. A bid shall be rejected if the Applicant's qualification thresholds are no longer met at the time of bidding.

9. OTHER FACTORS

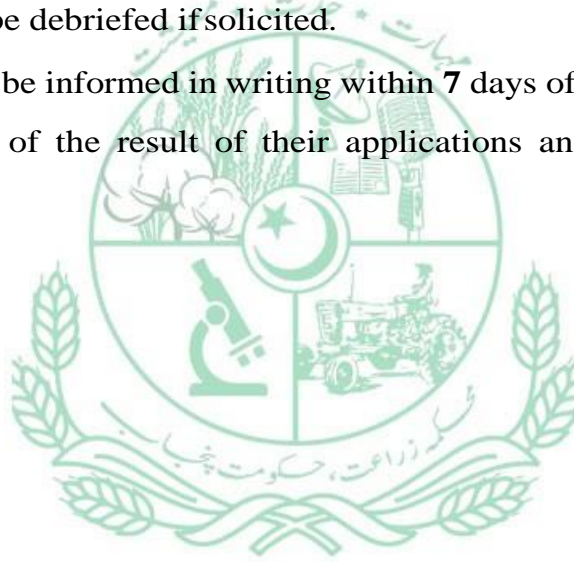
Only firms that have been prequalified under this procedure shall be invited to bid. A qualified firm shall submit only one bid for the contract. If a firm submits more than one bid, all bids will be rejected. This rule will not apply in respect of bids which include specialist sub-contractors who are used by more than one bidder.

The Procurement Committee reserves the right to: -

- a. Reject or accept any application on the basis of evaluation; and
- b. Cancel the prequalification process and reject all applications.

The Central Procurement Committee shall neither be liable for any such actions nor be under any obligation to inform the Applicant of the grounds for rejection, however, may be debriefed if solicited.

Applicants will be informed in writing within 7 days of the date for submission of applications of the result of their applications and may be debriefed, if solicited.

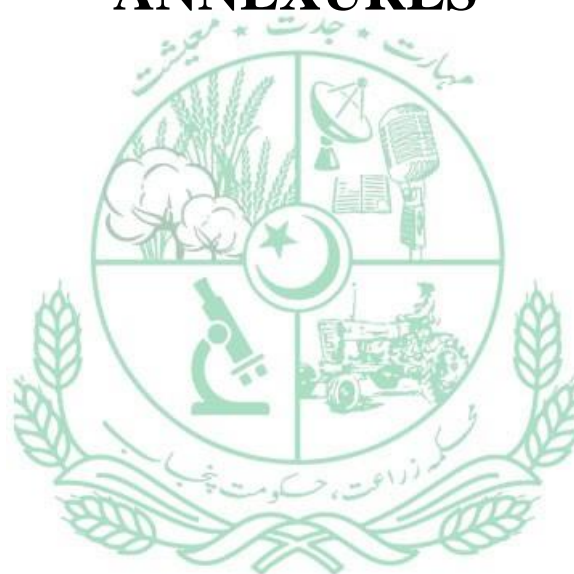


EVALUATION CRITERIA

Applicants meeting the minimum requirements mentioned in Para 6 besides other factors shall be considered for pre-qualification. No compromise shall be made on minimum requirements of 50% score in each category and 70% aggregate score.



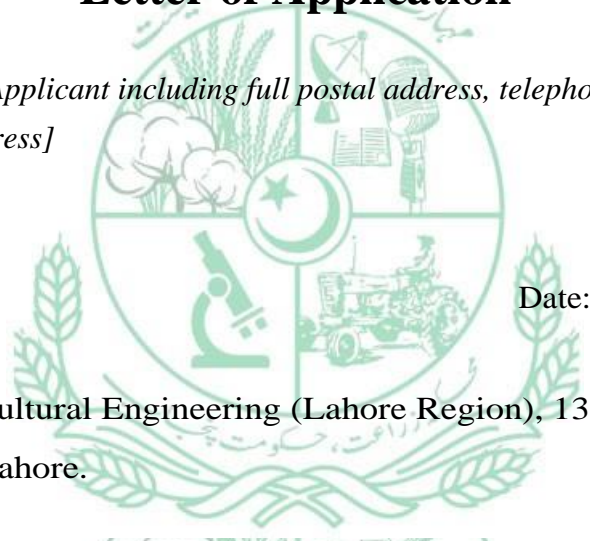
ANNEXURES



Annexure-A

Letter of Application

[Letterhead paper of the Applicant including full postal address, telephone no., fax no., telex no., cable and e-mail address]



Date:.....

To: Director Agricultural Engineering (Lahore Region), 13 K.M, Multan Road, Thokar Niaz Baig, Lahore.

Sirs,

1. Being duly authorized to represent and act on behalf of (hereinafter “the Applicant”), and having reviewed and fully understood all the prequalification information and requirements provided, the undersigned hereby apply to be prequalified as a bidder for the contract [name of the Contract]. Attached to this letter are copies of all the required documents.
2. Your Central Procurement Committee and its authorized representatives are hereby authorized to conduct any inquiries or investigations to verify the statements, documents, and information submitted in connection with this application, and to seek clarification from our bankers and clients regarding any financial and technical aspects. This Letter of Application will also serve as authorization to any individual or authorized representative of any institution referred to in the supporting information, to provide such information deemed necessary and requested by yourselves or the authorized representative to verify statements and information provided in this application, or with regard to the resources, experience, and competence of the Applicant.

3. Your Central Procurement Committee and its authorized representatives may contact the following persons for further information, if needed.

General and Managerial Inquiries	
Contact 1	Telephone 1
Contact 2	Telephone 2

Personnel Inquiries	
Contact 1	Telephone 1
Contact 2	Telephone 2

Technical Inquiries	
Contact 1	Telephone 1
Contact 2	Telephone 2

Financial Inquiries	
Contact 1	Telephone 1
Contact 2	Telephone 2

4. This application is made with the full understanding that:
- a. bids by prequalified applicants will be subject to verification of all information submitted for prequalification at the time of bidding;
 - b. your Central Procurement Committee reserves the right to reject or accept any application as per evaluation criteria, cancel the prequalification process, and reject applications; and
 - c. your Central Procurement Committee shall not be liable for any such actions and shall be under no obligation to inform the Applicant of the grounds for actions at 4 (b) here above.

- d. your Central Procurement Committee shall not be liable for consequence of, and shall be under no obligation to inform the applicant of the grounds for, actions taken under para 4 (b) here above.
5. The undersigned declare that the statements made and the information provided in the duly completed application are complete, true, and correct in every detail.

Signed:	
Name:	
For and on behalf of (name of Applicant)	

Annexure-B

**Application Form
General Information**

All individual applicants applying for prequalification are requested to complete the information in this form. Nationality information is also to be provided.

1.	Name of Firm / Company	
2.	Head Office Address	
3.	Telephone	Contact Person: Name: Title:
4.	Fax	Telex
5.	Place of Incorporation/Registration	Year of incorporation/registration

NATIONALITY OF OWNER(S)	
NAME	NATIONALITY
1.	
2.	

Annexure-C

Application Form

**Experience Details of Completed Contracts of Similar Nature
Complexity**

Use a separate sheet for each contract:

1.	Name of Contract
	Country
2.	Name of Department / Agency
3.	Department / Agency Address
4.	Nature of Contract and special features relevant to the contract for which the Applicant wishes to prequalify
5.	Contract Role (Tick One) a. Sole Contractor b. Sub- Contractor

6.	Value of the total contract (in specified currencies) at completion, or at date of award for current contract Currency..... Currency..... Currency.....
7.	Equivalent in PKR.
8.	Date of Award:
9.	Date of Completion:
10.	Contract Duration (Years and Months) ____ Years ____ Months
11.	List of Items supplied under the Contract:

Annexure-D

**Application Form
Personnel Capabilities**

For specific positions essential to contract implementation, Applicants should provide the names of at least two candidates qualified to meet the specified requirements stated for each position. The data on their experience should be supplied on separate sheets using one Form for each candidate (Application Form Annexure-D).

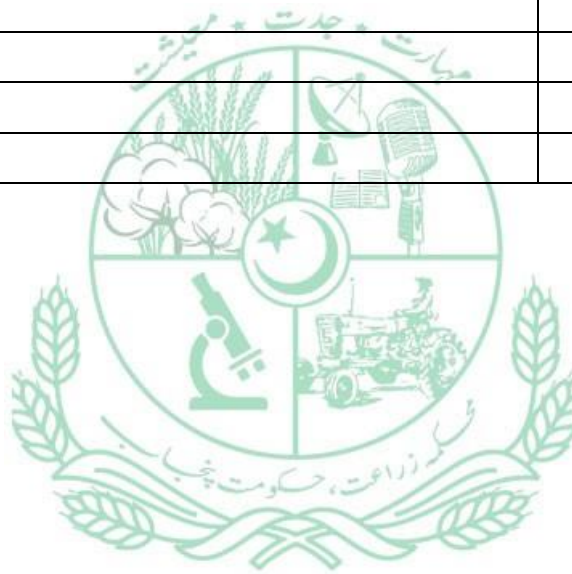
1.	Title of Position
	Name of Prime Candidate
	Name of Alternate Candidate
2.	Title of Position
	Name of Prime Candidate
	Name of Alternate Candidate
3.	Title of Position
	Name of Prime Candidate
	Name of Alternate Candidate
4.	Title of Position
	Name of Prime Candidate
	Name of Alternate Candidate

Annexure-E

**Application Form
Warehouse/Stock Capabilities**

The Applicant shall provide information regarding warehouse i.e. location, inventory list of engineering goods, equipment etc. and vehicles with their verifiable value i.e. GD, Import document

Sr. No.	Description	Assessed value of GD in PAK Rupees.



Annexure-F

Application Form Financial Capability

Applicants should provide financial information to demonstrate that they meet the requirements stated in the Instructions to Applicants

Note:

*Must attach **Sales tax, Income tax returns** for the years acquired in **Mandatory Requirement** of this document.*



Annexure-G

Undertaking for Correctness of Information and Non-Blacklisting

(To be provided on the Rs. 100 Stamp Paper)

I, the undersigned, do hereby certify that all the statements made in this application / bid and in the supporting documents are true, correct and valid to the best of my knowledge and belief and may be verified by Central Procurement Committee at any time, if deems it necessary.

That the undersigned hereby authorize and request the bank, person, firm or corporation to furnish any additional information requested by the Central Procurement Committee deemed necessary to verify this statement regarding my (our) competence and general reputation.

That the undersigned understands and agrees that further qualifying information may be requested and I agree to furnish any such information at the request of the Central Procurement Committee.

That the undersigned / Applicant is not insolvent and not blacklisted by any of Provincial or Federal Government Department, Central Procurement Committee, Organization, NGO, INGO, IGO, or any other autonomous or corporate body anywhere in Pakistan.

The undersigned certify that my firm / company is not involved in * litigation or arbitration and has not been declared ineligible / debarred by any of the Federal / Provincial Government or any other entity due to any reason whatsoever and is eligible to carry out the business in Pakistan for which this Bid / Application for Prequalification is being made.

Signed by an authorized representative

Name of the Bidder: _____

Date: _____

**In case of involvement of applicant / bidder in any litigation or arbitration, current status or the proof of dispute resolution along with the history of litigation / arbitration for last ten years on Litigation History Form (See Annexures) shall be provided with the bid.*

Annexure-H

[To be printed on a PKR 100 stamp paper]

Power of Attorney (For signatory of Application)

KNOW ALL MEN BY THESE PRESENTS THAT by this Power of Attorney (**“Power of Attorney”**), _____ [*Insert name firm/Company*] having its registered office at [-----], does hereby nominate, appoint and authorize Mr. _____, having CNIC No. _____ hereinafter referred to as the **“Signatory of Application”**, to do in our name and on our behalf the following:

- i. Sign and submit to _____ or its authorized nominee, the Prequalification Application / Bid for **“PROCUREMENT OF POWER DRILLING MACHINES WITH ACCESSORIES”**, in response to the advertisement dated [----] issued by The Central Procurement Committee and all other documents and instruments required to submit the Prequalification Application / Bidding Documents.
- ii. execute all such contracts, deeds, documents and instruments as may be considered necessary and expedient in relation to the foregoing; and
- iii. do and carry out all other actions as may be required by the Central Procurement Committee in connection with the Prequalification / bidding process as a whole;
- iv. To immediately notify The Central Procurement Committee in writing of any impending or actual revocation as well as any change in the terms of this Power of Attorney.
- v. To do in our name and on our behalf, all such acts, deeds and things necessary in connection with or incidental to our Prequalification / Bid in response to the above referred Advertisement including signing and submission of all documents, instruments and deeds (including correcting any deficiencies or mistakes therein), attending any meetings organized by the Central Procurement Committee (including pre-bid conference meetings and bid opening meetings) and providing information/responses to the Central Procurement Committee in all matters in connection with our Bid.

We, [*Insert name of Firm/Company*], do hereby ratify and confirm whatsoever

the Signatory of Application shall do by virtue of these presents and further agree that whatever the Signatory of Application shall do or cause to be done pursuant to this Power of Attorney shall be binding on us.

Furthermore, each provision of this Power of Attorney is severable and distinct from the others. The invalidity, illegality or unenforceability of any one or more provisions of this Power of Attorney at any time shall not in any way affect or impair the validity, legality and enforceability of the remaining provisions hereof.

IN WITNESS WHEREOF, we have executed this **POWER OF ATTORNEY**
as of [Date].

FOR: [INSERT NAME OF BIDDER]

Signature: _____

Name: _____

Title: _____

CNIC/Passport No. _____

Annexure-I

Litigation History

Applicants should provide information on any history of litigation or arbitration resulting from contracts executed in the last ten years or currently under execution.

Sr.	Year	Award FOR or AGAINST Applicant	Name of client, cause of litigation / arbitration, and matter in dispute	Disputed amount (current value in PKR)	Current Status

Annexure-J

**TECHNICAL SPECIFICATIONS OF TRUCK MOUNTED
WATER WELL DRILLING RIG MACHINE**

Sr. No.	Parameters	Specifications	
1.	Application	Water Well Drilling	
2.	General	The straight rotary rig machine, top head drive, enabling both conventional mud rotary with DTH, Compatible Hydraulic Pump driven by truck engine via PTO, closed hydraulic circuits for all main components driven by hydraulic motors with all the rig components assembled, a large capacity duplex or higher mud pump, pull down system, draw works and drilling pipes sizes (89 mm / 120 mm or compatible with drilling capacity) and all other essential operational components with standard accessories, mounted on 6x6 / 6x4 right hand drive Heavy Duty truck. Hydraulic pumps/motors installed on Power Drilling Rig should be of Nachi, Uchida, Bosch Rexroth, Schaefer-Urbach, Sauer-Danfoss, Linde or equivalent.	
3.	Drilling Method	Direct Mud circulation with provision of DTH method	
4.	Drilling Capacity	The Rig must have a capacity of Drilling boreholes with diameter and depth	
	a)	Depth	≥ 250 m
	b) c)	Bore Dia	Initial bore 254 mm Reaming up to 457 mm
5.	Rotary Head/Top Head Rotation/Swivel Head	The power swivel (drive head) is hydraulically driven top head drive, oil bath lubricated. It travels up and down along the mast with hydraulic pull down/hold-back system and be retractable in the mast when not in use. The hydraulic hoses must be properly arranged in the mast. Rotation Speed <ul style="list-style-type: none"> a) Minimum 0-36 or above b) Minimum 0-100 or above c) Torque Max ≥ 7.5 kN Must be Compatible with Drilling Capacity	
6.	Mud Pump	The mud pump for mud circulation drilling as duplex or higher piston pump, driven by hydraulic motor. The hydraulic motor should be of NOV Mission, Nachi, Reman, Gardener Denver, FMC or equivalent. The pump must be complete unit equipped with a surge chamber, a relief valve, piston rod lubricants etc. normally required for mud circulation operation <ul style="list-style-type: none"> a) Duplex or higher piston pump, b) Discharge volume ≥ 1500 lit/min 	

		<p>c) Pressure ≥ 1.70 MPa Or Compatible with Drilling Capacity</p>
7.	Foam Injection Pump	<p>The water /foam injection system for down-the-hole hammer drilling consists of a high pressure pump of reciprocating type and injection line to with-stand high pressure connected to down-the-hole, complete with accessories such as safety valve etc.</p> <p>a) Discharge ≥ 30 liter/min b) Pressure ≥ 1.96 MPa Or Compatible with Drilling Capacity</p>
8.	Hold/Pull Back and Pull Down	<p>The pulldown/hold-back system hydraulically actuated to feed thrust and lifting power on the drilling strings so that the drill bit load can be easily controlled</p> <p>a) Hold/Pull Back ≥ 120 kN b) Pull down ≥ 60 kN Or Compatible with Drilling Capacity</p>
9.	Mast	<p>Mast is of electrically welded rugged/ high tensile steel construction, having strength sufficient for full load operation, raised and lowered hydraulically by twin hydraulic cylinders. The manual mechanism for raising/ lowering of mast in case of failure of hydraulic system, equipped with a ladder may be provided</p> <p>a) Height from ground level ≥ 10.8 m b) Gross capacity ≥ 120 kN c) Hook load capacity: ≥ 120 kN Must be Compatible with Drilling Capacity</p>
10.	Draw Works	<p>The draw works composed of drum with clutch and heavy duty band brake is hydraulically driven with free falling mechanism to enable quick lowering of drill strings or casing pipes</p> <p>a) Hydraulically driven b) Single line pulls ≥ 49 kN c) Line Speed ≥ 42 m/min d) Spooling capacity ≥ 100 m with ≥ 16 mm cable Must be Compatible with Drilling Capacity</p>
11.	Sand Reel	<p>Sand Reel is hydraulically driven drum with clutch of heavy duty band brake, equipped with free falling mechanism to enable quick lowering</p> <p>a) Hydraulically Driven b) Single line pull (Hoisting Capacity) ≥ 24.5 kN c) Spooling capacity ≥ 450 m with ≥ 9 mm cable Or Compatible with Drilling Capacity</p>
12.	Truck	
	Make	Truck: Isuzu, Hino, Man, Iveco, Mercedes or equivalent
	Description	All the Rig components including the main power unit must be

		mounted on a heavy duty 6x6 / 6x4 drive, right hand steering, water-cooled, turbo charged diesel engine driven truck, modified / reinforced for Rig mounting, having service facilities in Pakistan. One spare tire and manufacturers standard accessories.
	a) Type	Water-cooled Diesel Turbo charged Engine, 6x6 / 6x4
	b) Drive System	Right Hand Drive
	c) Emission	Tier 0 to 3
	d) Engine Net Power HP	≥ 250 HP
	e) GVW	≥ 21,000 kg
	f) PTO	For Power source truck engine PTO to drive hydraulic pumps, mud pump and other systems on rig frame.
13.	Devices on Rig	
	a) Controls/Control Panel / Automatic Rod Handling System	All controls and gauges required for drilling and rig operation are grouped and fitted at driller's operational panel. Automatic drill rod/pipe loading/un-loading & handling device should be provided to load/ un-load drill rods/pipes to rotary head from ground level in front of drill rig during drilling operations to minimize labour work.
	b) Break Out System	Breakout system is equipped with breakout tong for easy disconnection of tool joints.
	c) Leveling Jacks	Individually controlled hydraulic jacks each two at front and rear installed under rig common base, fully equipped with safety devices. All jacks are enclosed in housing to prevent piston rod from damage.
	d) Lightings	The Rig must be equipped with appropriate flood light arrangement for night operation.
14.	Rig Frame	The rig frame independent from the truck chassis must be fabricated with shaped structural steel suitably reinforced. Rig frame must be covered with non-slip plates where necessary. All moving parts such as chain drive, v-belts etc. must be covered with safety guards. Must be suitable to mount all rig components.
15.	Standard Accessories	Standard Drilling accessories with all necessary compatible parts that will ensure drilling capability of above said depth and size. Manufacturer's standard accessories but at least furnished with following Equipments per unit for truck. <ul style="list-style-type: none"> i. Head lamp ii. Tail lamp iii. Stop lamp iv. Back-up lamp v. Turn Signed lamp vi. Lamp for meter vii. Room lamp

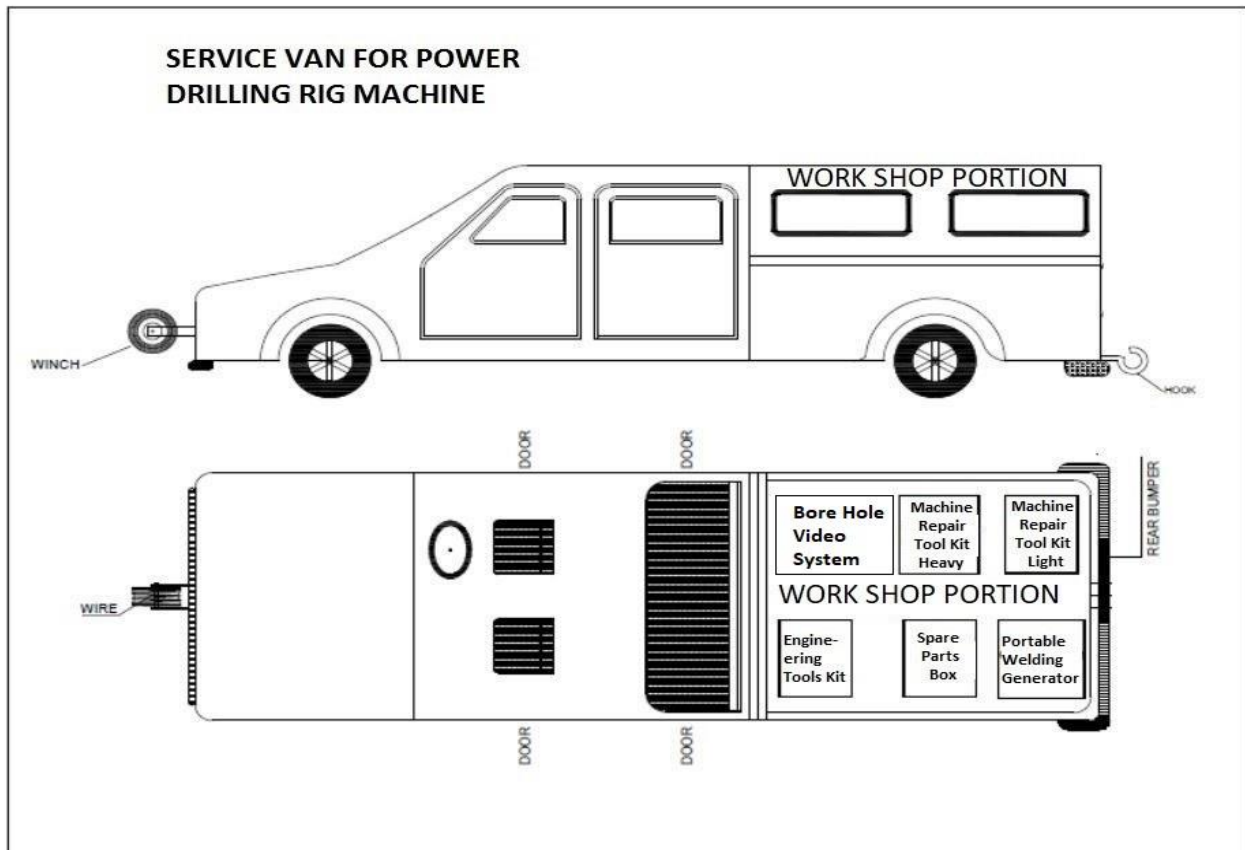
		<ul style="list-style-type: none"> viii. Rear view mirror (left and right side) ix. Inside rear view mirror x. FM Radio xi. Hydraulic Jack (1 pcs.) xii. Gear puller, 300 mm (1 pcs.)
16.	Accessories & Tools	Service Van fully equipped with tools or equipment for mobile repair of Rig machines, as per details given in Appendix-A.
Optional		
1.	DTH	All systems required for DTH operation including necessities items. Technical specifications for Hammering Bits for DTH Hammering (Convex, Flat front, Speed Bit, Concave and Rocket Bit, the size of bits 10” to 18” or compatible to drilling capacity)
2.	Bore Hole Video System	HD camera water proof with color image and all its necessary operational system to investigate water well. Technical specifications attached here as Appendix-B.
3.	List of Spare Parts	List of spare parts is attached here as Appendix-C.
4.	Drilling Tools and Equipment	List of drilling tools and equipment is attached here as Appendix-D.
5.	Warranty for Optional Items	As per manufacturer’s standard.

ACCESSORIES

A. SERVICE VAN (4x4)

Sr. No.	Parameters	Description	
1.	Body type	Standard	
2.	Displacement	2700 – 3100 CC	
3.	Overall Length	5260 mm \pm 75 mm	
4.	Overall Width	1835 mm \pm 75 mm	
5.	Overall Height	1860 mm \pm 75 mm	
6.	Towing Capacity	Braked: > 2750 Kg Un-braked: > 725 Kg	
7.	Ground Clearance (Min.)	212 mm \pm 20 mm	
8.	Fuel tank capacity (min.)	80 lit.	
9.	Fuel System	Direct Injection Common Rail Diesel Engine	
10.	Speedometer	Standard	
11.	Differential Lock	Provided	
12.	Seating Capacity	04	
13.	Seatbelt	Provided	
14.	Customization	Work Shop portion should be customized as per details given below:	
		Description	Specifications
		Hood	Aero Dynamic Fiber Glass (6 mm thick) Canopy with deck dimensions 1545 \pm 75 mm length and 1515 \pm 75 mm width, with side windows sliding glasses, rear pillars with imported reflective type red PVC covers roof molding set made of aluminum and powder coated and 04 Nos. of windows of 02 on each side of the hood, dimensions 1' x 1.5' each.
		Interior	Rear internal roof lamp, double foam thick sides, artificial leather upholstery with color to match interior. Roof installation with 5 mm heat resistant material
		Rear Door	OEM manufactured best quality Thailand rubbers, rear double vertical fiber doors with imported water proof lid mechanism lock 02 Nos. of vertical high door at rear side of the canopy
AC System	AC Denso unit with ducts and fans for rear seats		

		(Dual)	
		Paint	2K paint baked in imported dust free paint booth
		Warranty	Free: One year free for parts and service Extended: 05 years for parts supply on demand
15.	Welding Generator	Description	Specifications
		Type	Hydraulically driven
		Welding Current	min 30A, max. 220 A
		Total Capacity	3,5 / 6,5 KVA
		Voltage	230V / 400 V, 3-phase, 50 Hz
16.	List of Tools	Machine Repair Tool Kit Heavy	
		Machine Repair Tool Kit Light	
		Tools Kit	
		Winch (Optional)	
17.	Warranty	1 year / 25,000 Km for parts and service 5 years for parts on payment	



Appendix-B

BORE HOLE VIDEO SYSTEM

Sr. No.	Parameters	Specifications
1	Application	For scanning of tube well pipe and filter
2	Color Camera	Diameter in inches $\frac{3}{4}$ to $1\frac{3}{4}$ and Length in inches $2\frac{3}{4}$ to 10 with housing material plastic CPVC/ Stainless Steel and covered with Glass/ Sapphire.
3	Lux rating at F2.0	0.2-2.0
4	Resolution horizontal Lines	550 or above
5	Bore Hole Diameter	Minimum bore hole size for good imagery 02 inches Maximum bore hole size for good Imagery 36 inches
6	Focal Length	Min. distance in inches to subject for excellent focus 02 inches Max. distance in inches to subject for excellent focus 36 inches
7	Maximum Camera Depth	Cable length and under water limit must be up to 1000 / 300 (feet/meter)
8	Monitor	LCD / LED 5.6 inch color display with sun shade and winch mounting bracket
9	Image Recorder	With computer interface and compatible software
10	Operating Temperature	Min. 0 °C and Max. 60 °C
11	Camera Lights	Provision of at least 08 High Brightness LED's in Camera with On / off circuitry
12	Winch with Tripod	Motorized winch with tripod for monitor attachment and control panel with power supply box 110-250 V or compatible for operational requirement, AC 50-60 Hz with motorized Pan and Tilt Attachment and cable protector arrangement.
13	Literature	Operational manual in English
14	Warranty	Free. Two year including parts and service Extended. Five years for parts supply and service on payment.

Note: Supplier should arrange portable installation of Bore Hole Video Camera on Work Shop Portion of the Vehicle and also arrange training of Field Engineers at Lahore.

List of Spare Parts for Drilling Rigs

Sr#	Item/Description/Part Name
A	Compound Case:
1.	Chain
2.	Sprocket Gear
3.	Bearing
4.	Oil Seal
5.	Universal Joint Assy: (Cross)
B	Mud Pump:
1.	Mud pump Plunger
2.	Plunger Rod
3.	Valve Seat
4.	Valve Spring
5.	Plunger Rod Oil Seal
6.	Plunger Rod Dust Seal
7.	V. Packing
8.	Bearing
9.	Bearing Set Crank Shaft
10.	Hydraulic Motor
C	Swivel Water:
1.	Oil Motor
2.	Bearing
3.	Gear
4.	Main Shaft
5.	Oil Seal
D	Hydraulic System:
1.	Hydraulic Pump
2.	Hydraulic Pipe
E	Engine Parts:
1.	Gasket Cylinder Head
2.	Crank Shaft
3.	Seal Valve Stem oil
4.	Liner Cylinder
5.	Washer set Crank Shaft
6.	Bearing set crank shaft
7.	Ring set Piston
8.	Bearing set con rod
9.	Piston S/S
10.	Pin Piston
11.	Bushing Con rod
12.	Ring Retainer

13.	Valve Intake
14.	Valve Exhaust
15.	Valve spring outer
16.	Valve spring inner
17.	Valve seat lower
18.	Valve seat upper
19.	Cap Valve stem
20.	Seal Ring
21.	Repair joint kit
22.	Pump Assy: Coolent
23.	Clutch sub Assy
F	Fuel Pump Parts:
1.	Nozzle Assy
2.	Delivery Valve Assy
3.	Plunger Assy:

Note: The nomenclature and quantity of parts mentioned in Appendix-C is variable and will be finalized after addition/ deletion according to the manufacturer's offered model.

Appendix-D

List of Drilling Tools & Equipment for Rigs

A. Drilling Accessories per Unit:

Sr. No.	Description of Article	Quantity
1.	Hoisting wire rope with safety clevis	1 roll.
2.	Sand line wire rope with safety clevis	1 roll.
3.	Hoisting swivel for drill pipe	1 pc.
4.	Drill collar lifting plug, 6 ton	1 pc.
5.	Travelling block, single sheave,	1 pc.
6.	High pressure delivery hose with fittings	1 pc.
7.	High pressure intermediate hose with fittings	1 pc.
8.	High pressure mixer hose with fittings	1 pc.
9.	Suction hose with quick coupling,	1 pc.
10.	Foot valve with fittings,	1 pc.
11.	Drill pipe hanger	1 pc.
12.	Drill pipe trolley	1 set.
13.	Breakout tong for drill pipe	1 pc.
14.	Breakout ton for drill collar	1 pc.
15.	Back-up wrench for drill pipe	1 pc.
16.	Back-up wrench for drill collar	1 pc.
17.	Air/water swivel, built-in type, to be fitted on the rig	1 set.
18.	Damper Assembly	1 pc.

B. Drilling Tools per Unit:

Sr. No.	Description of Article	Quantity
1.	Drill pipe API Standard, 6 m long	45 pcs.
2.	Drill pipe API Standard, 3 m long	2 pcs.
3.	Drill collar, 6 m long	2 pcs.
4.	Tricone rock roller bit, 9-5/8" for hard formation	6 pcs.
5.	Tricone rock roller bit, 9-5/8" TC insert type for extremely hard formation.	2 pcs.
6.	Tricone rock roller bit, 10-5/8" for hard formation.	6 pcs.

7.	Tricone rock roller bit, 10-5/8" TC insert type for extremely hard formation	2 pcs.
8.	Tricone rock roller bit, 12-1/4" hard formation	2 pcs.
9.	Tricone rock roller bit, 14-3/4" hard formation	2 pcs.
10.	Tricone rock roller bit, 17-1/2" hard formation	2 pcs.
11.	Hole opener body, size 14-3/4" x 9-5/8"	2 pcs.
12.	Spare cutter for hole opener, for extremely hard formation, TC insert type	4 sets.
13.	Hole opener body, size 17-1/2" x 10-5/8" with 6-5/8 REG box up to 6-5/8 REG box down	2 pcs.
14.	Spare cutter for hole opener, for extremely hard formation, TC insert type	2 sets.
15.	Bit sub for given range of Drilling Bits	4 pcs.

C. Fishing Tools per Unit:

Sr. No.	Description of Article	Quantity
1.	Drill pipe male tap	1 pc.
2.	Drill pipe female tap	1 pc.
3.	Hydraulic jack, twin type, with hose and hand pump, 30 ton	1 set.

D. Hand Tools and Other Miscellaneous Equipment per Unit:

Sr. No.	Description of Article	Quantity
1.	Pipe Wrench, 1200 mm	2 pcs.
2.	Pipe Wrench, 900 mm	2 pcs.
3.	Pipe Wrench, 600 mm	2 pcs.
4.	Pipe Wrench, 450 mm	2 pcs.
5.	Super tong, ST-2	2 pcs.
6.	Super tong, ST-3	2 pcs.
7.	Wire rope cutter	1 pc.
8.	Oiler, hand jet type	2 pcs.
9.	Oil jug	2 pcs.
10.	Chain block, 5 ton	1 pc.
11.	Snatch block	1 pc.

12.	Mud testing kit, consisting of mud balance, marsh funnel, PH meter, sand content	1 set.
13.	Portable water level indicator, battery operated, for 300 m depth	1 set.
14.	Portable water analysis kit	1 set.
15.	Disassembling tools for the rig and mud pump	1 set.
16.	All other standard tools except all above	1 set

D. Engineering tools kit

Sr. No.	Description of Article	Quantity
1.	Standard Engineering tool kit for drilling Rig operation	1 set

Note: The nomenclature and quantity of list of accessories mentioned in Appendix-D is variable and will be finalized after addition/ deletion according to the manufacturer's offered model.