

Bid Evaluation Report

Name of Procuring Agency Agriculture, Supply & Prices Department, Government of Sindh, through Directorate Agriculture Engineering, Sindh, Hyderabad

Tender Reference No: TENDER NOTICE NO. DAE/Stores-969/3132/17 DATED: 06.09.2017. SPPRA SR. NO. 34398. (Technical Evaluation Report hoisted on SPPRA Website # 2823/2017 dated 21st November 2017).

Tender Description/Name of work/item **PROCUREMENT OF:-**
PRE-QUALIFICATION OF FIRMS FOR THE INSTALLATION OF SOLAR WATER PUMP / TUBEWELLS FOR THE YEAR 2017-18.

Under ADP Scheme No. 29 (2017-18) "Provision of Solar Water Pumps / Tubewells on Subsidized Rate to Farmers in Sindh".

Method of Procurement As per Sindh Public Procurement Regulatory Authority Rules 2010 (Amended 2013 & 2017).

Tender Published **Tender Notice was published in Newspapers:-**

- Daily Karachi Times dt: 08-09-2017
- Daily Awaz Karachi dt: 08-09-2017
- Daily Qaid Pakistan dt: 09-09-2017
- Daily National Courier dt: 09-09-2017
- Daily Media Briefing dt: 09-09-2017
- Daily Bakhar News dt: 09.09.2017
- Daily Nadai Karachi dt: 13.09.2017

Total Bid documents Sold 07 Nos.
Total Bids Received: 07 Nos.
Technical Bid Opening date: -
No. of Bid technically qualified 09 Nos.
Bid(s) Rejected -
Financial Bid Opening date 27.03.2018

12. Bid Evaluation Report:

S No	Name of Firm or Bidder	Cost offered by the Bidder	Ranking in terms of cost	Comparison with Estimated cost	Reasons for acceptance/rejection	Remarks
0	1	2	3	4	5	6
SOLAR WATER PUMP LIFT PUMP 6x8 to 8x8 inches (50 ft)						
1.	M/s EBR Energy Pakistan Pvt. Ltd Lahore	Rs. 2,371,443	1 st Lowest	Lower then the estimated unit cost	Accepted as Lowest Evaluated bid.	--
2	M/s Global Business Service, Karachi	Rs. 2,400,000	2 nd Lowest	Lower then the estimated unit cost	Rejected as higher bid.	--
3	M/s Masco Energy Service, Karachi	Rs. 2,489,806	3 rd Lowest	Lower then the estimated unit cost	Rejected as higher bid.	--
4	M/s K-Power Tandojam District Hyderabad	Rs. 2,700,000	4 th Lowest	Lower then the estimated unit cost	Rejected as higher bid.	--
5	M/s KKB Karachi	Rs. 2,750,000	5 th Lowest	Lower then the estimated unit cost	Rejected as higher bid.	--
6	M/s S.M. Engineering & Contractor, Quetta	Rs. 2,900,000	6 th Lowest	Lower then the estimated unit cost	Rejected as higher bid.	--
7	M/s Catkin Engineering Sales & Service, Islamabad	Rs. 2,930,000	7 th Lowest	Lower then the estimated unit cost	Rejected as higher bid.	--

S No	Name of Firm or Bidder	Cost offered by the Bidder	Ranking in terms of cost	Comparison with Estimated cost	Reasons for acceptance/rejection	Remarks
SOLAR WATER PUMP 100 FT. 5" Inch Delivery						
1.	M/s Global Business Service, Karachi	Rs. 3,800,000	1st Lowest	Lower then the estimated unit cost	Accepted as Lowest Evaluated bid.	--
2.	M/s EBR Energy Pakistan Pvt. Ltd Lahore	Rs. 3,810,613	2 nd Lowest	Lower then the estimated unit cost	Rejected as higher bid.	--
3.	M/s Catkin Engineering Sales & Service, Islamabad	Rs. 3,840,000	3 rd Lowest	Lower then the estimated unit cost	Rejected as higher bid.	--
4.	M/s Masco Energy Service, Karachi	Rs. 3,944,718	4 th Lowest	Lower then the estimated unit cost	Rejected as higher bid.	--
5.	M/s K-Power Tandojam, District Hyderabad	Rs. 4,007,500	5 th Lowest	Lower then the estimated unit cost	Rejected as higher bid.	--
6.	M/s K.K.B. Karachi	Rs. 4,055,300	7 th Lowest	Lower then the estimated unit cost	Rejected as higher bid.	--
SOLAR WATER PUMP 150 FT. 5" Inch Delivery						
1.	M/s EBR Energy Pakistan Pvt. Ltd Lahore	Rs. 4,561,858	1st Lowest	Lower then the estimated unit cost	Accepted as Lowest Evaluated bid.	--
2.	M/s Global Business Service, Karachi	Rs. 4,716,000	2 nd Lowest	Lower then the estimated unit cost	Rejected as higher bid.	--
3.	M/s Masco Energy Service, Karachi	Rs. 4,789,950	3 rd Lowest	Lower then the estimated unit cost	Rejected as higher bid.	--
4.	M/s Catkin Engineering Sales & Service, Islamabad	Rs. 4,844,000	4 th Lowest	Lower then the estimated unit cost	Rejected as higher bid.	--
5.	M/s K-Power Tandojam, District Hyderabad	Rs. 5,000,270	5 th Lowest	Lower then the estimated unit cost	Rejected as higher bid.	--
6.	M/s K.K.B. Karachi	Rs. 5,043,250	6 th Lowest	Lower then the estimated unit cost	Rejected as higher bid.	--
SOLAR WATER PUMP 250 FT. 5" Inch Delivery						
1.	M/s EBR Energy Pakistan Pvt. Ltd Lahore	Rs. 6,457,612	1st Lowest	Lower then the estimated unit cost	Accepted as Lowest Evaluated bid.	--
2.	M/s Catkin Engineering Sales & Service, Islamabad	Rs. 6,755,612	2 nd Lowest	Lower then the estimated unit cost	Rejected as higher bid.	--
3.	M/s Masco Energy Service, Karachi	Rs. 6,780,492	3 rd Lowest	Lower then the estimated unit cost	Rejected as higher bid.	--

SIGNATURES OF THE MEMBERS OF THE PROCUREMENT COMMITTEE.



(SHEIKH SHAKIL AHMED)

Director

Agriculture Engineering
Sindh, Hyderabad

CHAIRMAN



(SAIFULLAH MAGSI)

Additional District Accounts Officer-i

District Accounts Office,
Hyderabad

MEMBER



(FARRUKH RASHEED ANSARI)

ADDITIONAL DIRECTOR (ENGG)

Directorate General, AE&WM Sindh
Hyderabad

MEMBER



(MUMTAZ AHMED SIDDIQUI)

DEPUTY DIRECTOR (MECH)/HQ

Agriculture Engineering Sindh
Hyderabad

MEMBER / SECRETARY



(Musarrat Mokhtar)

Deputy Director (Inspection)

Industries & Commerce
Department,
Government of Sindh, Karachi

MEMBER



**GOVERNMENT OF SINDH
AGRICULTURE, SUPPLY & PRICES
DEPARTMENT**

NOTIFICATION

No.13(347)SO(DEV:)/2013: In supersession of this department's Notification of even number dated 06-02-2017 in pursuance of rule – 7 of SPP Rules 2010, Government of Sindh, Agriculture, Supply & Prices Department is pleased to reconstitute a Procurement Committee for the schemes / Projects of Agricultural Engineering Sindh with following composition and Terms of References:-

I. COMPOSITION

1.	Director, Agricultural Engineering, Sindh, Hyderabad.	Chairman
2.	Mr.Farrukh Rasheed Ansari. Additional Director (Engg), Directorate General, AE&WM, Sindh Hyderabad.	Member
3.	Representative of Industries and Commerce Department GoS, Karachi.	Member
4.	District Accounts Officer / Representative of District Accounts Officer, Hyderabad.	Member
5.	Deputy Director (Head quarter), Agricultural Engineering Sindh Hyderabad.	Member/Secretary

II. Terms of References:

- i. Prepare bidding documents.
- ii. Carry out Technical as well as Financial evaluation of the bids.
- iii. Prepare evaluation report as provided in Rule – 45 of SPPRA.
- iv. Make recommendations for the award of contract to the Competent authority.
- v. Perform any other function ancillary and incidental to the above as per SPPRA Rules.

**SAJID JAMAL ABRO
SECRETARY TO GOVT. OF SINDH**

No.13(347)SO(DEV:)/2013

Karachi, dated the 28-02-2018

A copy is forwarded for information and necessary action to:

- 1- The Secretary to Government of Sindh, Industries Department, Karachi.
- 2- The Managing Director, Sindh Public Procurement Regulatory Authority, Karachi.
- 3- The Director General, Agricultural Engineering & Water Management Sindh, Hyderabad.
- 4- All Members of Committee.

**(ABDUL AZIZ CHANNA)
DEPUTY SECRETARY (TECH:)**

C. c. to:-

- P.S. to Minister Agriculture, Supply & Prices Department, Govt. of Sindh, Karachi.
- P.S. to Secretary Agriculture, Supply & Prices Department, Govt. of Sindh, Karachi.

ANNUAL PROCUREMENT PLAN OF DIRECTORATE AGRICULTURE ENGINEERING SINDH HYDERABAD
FOR FISCAL YEAR 2017-18

Rs. in Million

Description of Procurement	Quantity (Where Applicable)	Estimated Unit Cost (Where Applicable)	Estimated Total Cost	Funds Allocated	Source of Funds (ADP / Non-ADP)	Proposed Procurement Method	Timing of Procurement				Remarks
							1 st Qtr	2 nd Qtr	3 rd Qtr	4 th Qtr	
ADP # 29 Provision of Solar Water Pumps / Tubewells on Subsidized Rate to Farmers in Sindh. (Revised) GOS Share Rs. 802.00 Million Farmers Share Rs. 198.00 Million Total Rs. 1000.00 Million. (SDG # 2, 6)	53 Nos. Solar Water Pumps	-	Rs. 148.668 Million	Rs. 148.668 Million	ADP through Re-appropriation of non-utilized funds.	Pre-qualification of Contractors	-	-	✓	✓	All Procurement under SPPRA Rules and subjected to the Release of funds.



DIRECTOR

AGRICULTURE ENGINEERING SINDH
HYDERABAD

Evaluation Report / Qualification Criteria for the Pre-qualification of firms for the Installation of Solar Water Pump / Tubewells

Sr. No.	Information to be supplied	M/s EBR Energy Pakistan Pvt. Ltd. Lahore	M/s Nizam Energy System Pvt. Ltd. Karachi	M/s K.K. B. Karachi	M/s Smart Int., Quetta	M/s Global Business Service, Karachi	M/s Catkin Engineering Sales & Service, Islamabad	M/s S.M. Engineer & Contractor	M/s MASCO Karachi	M/s Skyways Karachi	M/s K Power Tandojam	M/s M.A. Enterprises
1.	Name of the Bidder	M/s EBR Energy Pakistan Pvt. Ltd. Lahore	M/s Nizam Energy System Pvt. Ltd. Karachi	M/s K.K. B. Karachi	M/s Smart Int., Quetta	M/s Global Business Service, Karachi	M/s Catkin Engineering Sales & Service, Islamabad	M/s S.M. Engineer & Contractor	M/s MASCO Karachi	M/s Skyways Karachi	M/s K Power Tandojam	M/s M.A. Enterprises
2.	Legal status of the Bidder (Company / Partnership / Joint Venture)	Company	Company	Company	Company	Company	Company	Company	Company	Joint Venture	Company	Company
3.	Valid Registration Certificate of Pakistan Engineering Council in at-least C5 Category or up, with at-least one of the following specialization codes CE-09/CE-10/CE-11/ME-06/ME-07/EE-03/EE-05/EE-11	C-3 Valid upto 30.06.2018	C-2 Valid upto 30.06.2018	C-A Valid upto 30.06.2018	C-5 Valid upto 30.06.2018	C-4 valid upto 30.06.18	C-3 valid upto 30.06.2018	C-3 applied (Application attached)	C-5 Applied	C-6 valid upto 31.12.2014	C-4 valid upto 18.06.2018	C-5 Applied
4.	Certificate from the original Manufacturer certifying the nomination of the Bidder/Tenderer as Authorized Sole Agent with year of nomination and current year's renewal agreement.	Provided	Provided	Provided	Provided	Provided	Provided	Provided	Provided	Solar Panel & Solar Inverter	Provided	Not Provided
5.	Registered with Income Tax, Sales Tax Departments, Sindh Revenue Board Provide Registration Number. With documentary evidence.	Provided	Provided	Provided	Provided	Provided	Provided	Provided	Provided	Provided	Provided	Provided
6.	Name and address of the quoted equipment manufacturer. Please provide the details in separate sheet.	Provided	Provided	Provided	Provided	Provided	Provided	Provided	Provided	Provided / Pump details not indicated	Provided	Provided
7.	Names, qualification and experience of the service engineers and technicians. Location where they are posted / working provide complete address and detail of equipment and machinery. Details of service center /workshops to provide the repair and after sale services in Sindh (Location, Address, Telephone numbers to be provided)	Provided	Provided	Provided	Provided	Provided	Provided	Provided	Provided	Swiss Solar of Provided	Provided	Provided





Sr. No.	Information to be supplied	M/s EBR Energy Pakistan Pvt. Ltd. Lahore	M/s Nizam Energy System Pvt. Ltd. Karachi	M/s K.K. B. Karachi	M/s Smart Int., Quetta	M/s Global Business Service, Karachi	M/s Catkin Engineering Sales & Service, Islamabad	M/s S.M. Engineer & Contractor	M/s MASCO Karachi	M/s Skyways Karachi	M/s K Power Tandojam	M/s M./ Enterprises
8.	Reference list of Similar works where same / Similar Equipment were installed locally and or internationally during last three years.	Provided	Provided	Provided	Provided	Provided	Provided	Provided	Provided	Provided	Provided	Not Provided
9.	Performance certificate from the Organization in Government or private companies to whom the bidder or the company has supplied and installed the similar kind goods in Pakistan or abroad.	Provided	Provided	Provided	Provided	Provided	Provided	Provided	Provided	Swiss Solar of Provided	Only Private Person Provided	Not Provided
10.	Bank reference, name of banks and address may be given. The Banker's certificate regarding financial capability of the Bidder/Tenderer shall be furnished. (Bank Statement of last 03 years, indicating turnover of atleast Rs. 50.00 Million per annum.	Provided	Provided	Provided	Provided	Provided	Provided	Provided	Provided	Bank Account Certificate balance on 30.6.17 Rs. 15.00 Million	Only 03 months provided 9.28 Million	Provided
11	Details of similar nature projects under execution.	Provided	Provided	Provided	Provided	Provided	Provided	Provided	Provided	Not Provided	Provided	Provided
12	Facilities of After Sales Service facilities in Sindh.	Provided	Provided	Provided	Provided	Provided	Provided	Provided	Provided	Not Provided	Provided	Provided
13	Item wise List of IEC / EU / USA Standards followed by the manufacturer	Provided	Provided	Provided	Provided	Provided	Provided	Provided	Provided	Provided	Provided	Provided
14	Item wise warranty periods	Provided	Provided	Provided	Provided	Provided	Provided	Provided	Provided	Not Provided	Provided	Provided
15	Confirmation of Schedule of Requirement	Provided	Provided	Provided	Provided	Provided	Provided	Provided	Provided	Provided	Provided	Provided
16	Confirmation of Delivery Schedule.	Provided	Provided	Provided	Provided	Provided	Provided	Provided	Provided	Provided	Provided	Provided
17	Any other documents please specify.	Qualified	Qualified	Qualified	Qualified	Qualified	Qualified	Qualified	Qualified	Dis-qualified	Qualified	Dis-qualified

(Signature)
(Sheikh Shakil Ahmed)
 -Director
 Agriculture Engineering Sindh
 Hyderabad
CHAIRMAN

(Signature)
(Mussarat Mokhtar)
 Deputy Director (Insp)
 Industries & Commerce Department,
 Government of Sindh Karachi
MEMBER

(Signature)
(Saifullah Magsi)
 Rep: of District Accounts Officer,
 District Hyderabad
MEMBER

(Signature)
(Shakil Ahmed Rahemoo)
 Director,
 Water Management
 Hyderabad Division
MEMBER

(Signature)
(Mumtaz Ahmed Siddiqui)
 Deputy Director Mech / HQ
 Agriculture Engineering Sindh
 Hyderabad
MEMBER/SECRETARY

COMPARISON OF TECHNICAL DATA (LIFT PUMP)

Size : 6X8" to 8x8"

Capacity : 500,000 L/day (Min)

Depth : 50 ft.

Rated Power : 12 to 15 kw ±10%

Item	Specification	1	2	3	4	5	6	7	8	9	10	11
		M/s EBR Energy Pakistan Pvt. Ltd. Lahore	M/s Nizam Energy System Pvt. Ltd. Karachi	M/s K.K. B. Karachi	M/s Smart Int., Quetta	M/s Global Business Service, Karachi	M/s Catkin Engineering Sales & Service, Islamabad	M/s S.M. Engineer & Contractor	M/s MASCO Karachi	M/s Skyways Karachi	M/s K Power Karachi	M/s M.A. Enterprises
		Lorentz PSK2-9CS-G100-22/2-1	Grundfos NB125-200/219	Maxisu	PEM (Local)	KSB / Dongfeng	Alarko	Xunong	Lorentz PSK2 9CS-G100-22/2-1		Maxisu	Komex
a.	Rated Power	10 HP (10.8 KW-PV)	11kw	15kw	12kw	12 to 15 Kw (±10%) both limits	20 to 24 Kw (±10%) both limits	11 kw	7.5kw	Not Provided	15kw	12 to 15 Kw (±10%) both limits
b.	Discharge Capacity	738,000 L/day	798600 L/day	±10%	650,000 L/day	Average 650,000 Litre / day	Average 450,000 Litre / day	700000 Litre / day	650,000 L/day	Not Provided	±10%	Average 650,000 Litre / day
c.	Rated Speed	1400-2900	1475 rpm	2800	2600rpm	2400 - 3000 RPM	2700 - 3000 RPM	2700 - 3000 RPM	1400-2905	Not Provided	2800	2400 - 3000 RPM
d.	Efficiency	79%	75.50%	80%	90%	More than 75%	More than 75%	More than 75%	70%	Not Provided	80%	More than 75%
e.	Power factor	0.87	0.85	0.8 to 0.9	0.8	0.8 to 0.9	0.8 to 0.9	0.8 to 0.9	0.87%	Not Provided	0.8 to 0.9	0.8 to 0.9
f.	Voltage Tolerance	±5% to - 15%	Yes	±5% to - 15%	±5%	±5% to - 15%	±5% to - 15%	±5% to - 15%	±5%	Not Provided	±5% to - 15%	±5% to - 15%
g.	Protection Type	IPX4	Yes	IP68	IP68	IP68 or Equivalent	IP68 or Equivalent	IP68 or Equivalent	IP54	Not Provided	IP68	IP68 or Equivalent
h.	Insulation Class	F	F	Better	Y	Y or better	Y or better	Y or better	F	Not Provided	Better	Y or better
i.	Flange	NEMA	NEMA	NEMA	6"x8"	NEMA or Equivalent	NEMA or Equivalent	Comply	AISI304, ASTM25B	Not Provided	NEMA	NEMA or Equivalent
j.	Warranty	1 Year	2 Years	1 Year Plus	1 year	Atleast 1 year	1 year minimum	1 Year	2 Years	Not Provided	1 Year Plus	Atleast 1 year



Item	Specification	M/s EBR Energy Pakistan Pvt. Ltd. Lahore	M/s Nizam Energy System Pvt. Ltd. Karachi	M/s K.K. B. Karachi	M/s Smart Int., Quetta	M/s Global Business Service, Karachi	M/s Catkin Engineering Sales & Service, Islamabad	M/s S.M. Engineer & Contractor	M/s MASCO Karachi	M/s Skyways Karachi	M/s K Power Karachi	M/s M.A. Enterprises
k.	Country of Origin	1	2	3	4	5	6	7	8	9	10	11
	Please Specify	German Made in China	Denmark	Turkey	Pakistan	German / China	Turkey	Xunong, China	Germany	Not Provided	Turkey	China
Solar Panels												
a.	Max. Power / No. of Panels	ESM-300-156 300W / 36 Panels (10,800 Watt)	Canada Solar CS6U-330P 330 W	Jinko 320 Watt	Maysun Solar MS-72 Poly 300 Watt	China 300 to 320 Watt	Talesun China 280 to 320 W	Perlight 265 to 325 Watt	Jinko Solar 320 W	Not Provided	Jinko 320 Watt	Hanwa Solar 280 to 320 W
b.	Optimum Operating Voltage	38 V	37.2 V	37V	37V	35 to 36 V	35 to 37 V	35 to 37 V	37.4	Not Provided	37V	35 to 37 V
c.	Optimum Operating Current	7.89 Amp	8.88 A	8.56A	9 Amp	8.4 Amp	7 to 9 Amp	7 to 9 Amp	8.56 A	Not Provided	8.56A	7 to 9 Amp
d.	Module Efficiency	16.10%	16.68%	16.49%	16.00%	16%	Atleast 16% or higher	16%	16%	Not Provided	16.49%	Atleast 16% or higher
e.	Operating Temperature	-40°C to 85°C	Yes	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	Not Provided	-40°C to 85°C	-40°C to 85°C
f.	Type	Poly Crystalline	Yes	Poly	Poly	Poly Crystalline	Poly Crystalline	Poly Crystalline	Poly Crystalline	Not Provided	Poly	Poly Crystalline
g.	Front Glass	3.2 mm low iron toughened glass	Yes	4mm	4mm	better tempered glass	4mm or better tempered glass	4mm or better tempered glass	4mm or better tempered glass	Not Provided	4mm	4mm or better tempered glass
h.	Frame	Anodized aluminum alloy	Yes	Anodized aluminum alloy	Anodized aluminum alloy	Anodized aluminum alloy	Anodized aluminum alloy	Anodized aluminum alloy	Yes	Not Provided	Anodized aluminum alloy	Anodized aluminum alloy
i.	Product Warranty	10 Years	Yes	Atleast 10 years.	Atleast 10 years.	10 years.	Atleast 10 years.	10 Years	10 Years	Not Provided	Atleast 10 years.	Atleast 10 years.










Item	Specification	M/s EBR Energy Pakistan Pvt. Ltd. Lahore	M/s Nizam Energy System Pvt. Ltd. Karachi	M/s K.K. B. Karachi	M/s Smart Int., Quetta	M/s Global Business Service, Karachi	M/s Catkin Engineering Sales & Service, Islamabad	M/s S.M. Engineer & Contractor	M/s MASCO Karachi	M/s Skyways Karachi	M/s K Power Karachi	M/s M.A. Enterprises
		1	2	3	4	5	6	7	8	9	10	11
j. Standards	IEC 61701, IEC 62716, DIN 60068 - 2 - 68 or Equivalent	IEC 61215:2005, EN 61215:2005, IEC 617301:2004, EN 61730-1:2007, IEC 61730-2:2004, EN 61730-2:2007	Yes	IEC 61701, IEC 62716, DIN 60068 - 2 - 68 or Equivalent	IEC 61701, IEC 62716, DIN 60068 - 2 - 68 or Equivalent	Equivalent	IEC 61701, IEC 62716, DIN 60068 - 2 - 68 or Equivalent	IEC 61701, IEC 62716, DIN 60068 - 2 - 68 or Equivalent	IEC 61701, IEC 62716, DIN 60068 - 2 - 68 or Equivalent	Not Provided	IEC 61701, IEC 62716, DIN 60068 - 2 - 68 or Equivalent	IEC 61701, IEC 62716, DIN 60068 - 2 - 68 or Equivalent
k. Junction box	IP68 Rated	IP65	Yes	IP68 Rated	IP68 Rated	IP68 Rated	IP68 Rated	IP68 Rated	IP67	Not Provided	IP68 Rated	IP68 Rated
l. Connector	MC4 Compatible	MC4 Compatible	Yes	MC4 Compatible	MC4 Compatible	MC4 Compatible	MC4 Compatible	MC4 Compatible	Yes	Not Provided	MC4 Compatible	MC4 Compatible
m. Country of Origin	Please Specify.	China	China	China	UAE	China / Dubai	Talesun China	China	China	Not Provided	China	China
n. Total no. of Panels for the rated power.	Please Specify.	36 Panels 36x300 = 10800 W	48 Pcs	46	300x400 = 12000 Watt	48	42 @ 310W / Panel	40 x 315 W / Panel	34	Not Provided	46	30 to 40 Nos.
o. Linear Performance Warranty.	20 to 25 years	25 Years	25 years	25 Years	25 Years	20	20 to 25 years	20 Years	25 Years	Not Provided	25 Years	20 to 25 years
Inverter												
a. Amperage	25 to 32 Amp	17 Amp	31 Amp	15kw	30 Amp	25 Amp	30 to 45 Amp	30 Amp	Max 17x3	Not Provided	15kw	25 to 32 Amp
b. Power	12 to 15 kw	10 kw	15 kw	12 to 15 kw		15 kw	20 to 24 kw	15 kw	10 kw	Not Provided	12 to 15 kw	12 to 15 kw
c. Output	3 Phase 370 to 385 Vac	3 Phase 380 to 415 Vac	3 Phase 380 to 415 Vac	3 Phase 370 to 385 Vac	3 Phase 370 to 385 Vac	3 Phase 370 to 385 Vac	3 Phase 370 to 385 Vac	3 Phase 370 to 385 Vac	380 Vac	Not Provided	3 Phase 370 to 385 Vac	3 Phase 370 to 385 Vac


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Item	Specification	M/s EBR Energy Pakistan Pvt. Ltd. Lahore	M/s Nizam Energy System Pvt. Ltd. Karachi	M/s K.K. B. Karachi	M/s Smart Int., Quetta	M/s Global Business Service, Karachi	M/s Catkin Engineering Sales & Service, Islamabad	M/s S.M. Engineer & Contractor	M/s MASCO Karachi	M/s Skyways Karachi	M/s K Power Karachi	M/s M.A. Enterprises
d. Input	340to 650 Vdc	300 to 850 VDC	300 to 850 VDC	340to 650 Vdc	340to 650 Vdc	340to 650 Vdc	340to 650 Vdc	340to 650 Vdc	Max 850 Vac	Not Provided	340to 650 Vdc	340to 650 Vdc
e. MPPT	Inbuilt	In Built	Yes	Inbuilt	MPPT	In Built	Inbuilt	Inbuilt	Agreed	Not Provided	Inbuilt	Inbuilt
f. Protection	In built for over current, over load, anti-lightening etc.	Yes, In Built	Yes	In built for over current, over load, anti-lightening etc.	IP68	over current, over load, anti-lightening etc.	In built for over current, over load, anti-lightening etc.	In built for over current, over load, anti-lightening etc.	Agreed	Not Provided	In built for over current, over load, anti-lightening etc.	In built for over current, over load, anti-lightening etc.
g. Efficiency	95% or more.	98%	Yes	95% or more.	98%	95%	95% or more.	95% or more.	Max 98%	Not Provided	95% or more.	95% or more.
h. Country of Origin	Please Specify	German Brand Made in China	Italy	China	China	China	Larens China	Hober /China	Germany	Not Provided	China	China
i. Warranty	Two years minimum	2 Years	2 Years	2 Years	2 Years	02 Years	Two years minimum	2 Years	2 Years	Not Provided	2 Years	Two years minimum
Cables & Wires	99.9% Copper UV Protection of matching configuration.	99.90%	Yes	99.9% Copper UV Protection of matching configuration.	99.9% Copper UV Protection of matching configuration.	99.90%	99.9% Copper UV Protection of matching configuration.	99.9% Copper UV Protection of matching configuration.	Agreed	Not Provided	99.9% Copper UV Protection of matching configuration.	99.9% Copper UV Protection of matching configuration.
Grounding Kit	Standard	Yes	Yes	Standard	Standard	Yes	Standard	Standard	Agreed	Not Provided	Standard	Standard
Water out let & accessories	5" HDPE or M/s Steel Pipes	Suction 8" Discharge 6" Steel	Yes	5" HDPE or M/s Steel Pipes	Steelex	Standard	5" HDPE or M/s Steel Pipes	5" HDPE or M/s Steel Pipes	Agreed	Not Provided	5" HDPE or M/s Steel Pipes	5" HDPE or M/s Steel Pipes
Mounting Structures	Rust free powdered coated.	GI Structure	Yes	Rust free powdered coated.	Local	Yes	Rust free powdered coated.	Rust free powdered coated.	Agreed	Not Provided	Rust free powdered coated.	Rust free powdered coated.







Item	Specification	M/s EBR Energy Pakistan Pvt. Ltd. Lahore	M/s Nizam Energy System Pvt. Ltd. Karachi	M/s K.K. B. Karachi	M/s Smart Int., Quetta	M/s Global Business Service, Karachi	M/s Catkin Engineering Sales & Service, Islamabad	M/s S.M. Engineer & Contractor	M/s MASCO Karachi	M/s Skyways Karachi	M/s K Power Karachi	M/s M.A. Enterprises
		1	2	3	4	5	6	7	8	9	10	11
Mounting Plate / box.	Rust free powder coated of Iron & G.I. with environmental protection for inverter, switches, junction box etc.	GI Mounting Plate with Environmental Protection	Yes	Rust free powder coated of Iron & G.I. with environmental protection for inverter, switches, etc.	Local	Rust Free Standard Installation	Rust free powder coated of Iron & G.I. with environmental protection for inverter, switches, etc.	Rust free powder coated of Iron & G.I. with environmental protection for inverter, switches, etc.	Agreed	Not Provided	Rust free powder coated of Iron & G.I. with environmental protection for inverter, switches, etc.	Rust free powder coated of Iron & G.I. with environmental protection for inverter, switches, junction box
Execution of Tubewell bore, casing & excavation with necessary support structures & pipping	Yes as per requirement of Solar Pump at specified depth.	It's a surface pump, so bore hole is not applicable.	Yes	Yes as per requirement of Solar Pump at specified depth.	as per requirement	Yes specified depth	Yes as per requirement of Solar Pump at specified depth.	Yes as per requirement of Solar Pump at specified depth.	Agreed	Not Provided	Yes as per requirement of Solar Pump at specified depth.	Yes as per requirement of Solar Pump at specified depth.


 Director
 (Sheikh Shakil Ahmed)
 Agriculture Engineering Sindh Hyderabad
CHAIRMAN


 (Mussarat Mokhtar)
 Deputy Director (Insp)
 Industries & Commerce
 Department, Government of
 Sindh Karachi
MEMBER


 (Saifullah Magsi)
 Rep: of District Accounts Officer, District
 Hyderabad
MEMBER



 Director,
 (Shakil Ahmed Itahemmoon)
 Water Management
 Hyderabad Division
MEMBER


 (Mumtaz Ahmed Siddiqui)
 Deputy Director Mech / HQ
 Agriculture Engineering Sindh Hyderabad
MEMBER/SECRETARY

COMPARISON OF TECHNICAL DATA (SUBMERSIBLE PUMP 100 FT.)

Delivery Size : 5" Capacity : 500,000 L/day (Min) Depth : 100 ft. Rated Power : 15 to 18 kw ±10%

Item	Specification	M/s EBR Energy Pakistan Pvt. Ltd. Lahore	M/s Nizam Energy System Pvt. Ltd. Karachi	M/s K.K. B. Karachi	M/s Smart Int., Quetta	M/s Global Business Service, Karachi	M/s Catkin Engineering Sales & Service, Islamabad	M/s S.M. Engineer & Contractor	M/s MASCO Karachi	M/s Skyways Karachi	M/s K Power Karachi	M/s M.A. Enterprises
		1	2	3	4	5	6	7	8	9	10	11
Submersible Pump (Make & Model)		Lorentz PSk2-21 C-SJ75-4	Grundfos SP-77-4	MAXISU	Komax KSP-6/7	GreenFox	Alarko	Xunong	Lorentz PSK2-15C-SJ75-3		Maxisu	Komex
a.	Rated Power	20-HP (16.20 KW-PV)	15 kw	18kw	15kw	15 to 18 Kw	15 to 18 Kw (±10%) both limits	14 kw	11 kw	Not Provided	18kw	15 to 18 Kw (±10%) both limits
b.	Discharge Capacity	Average 500,000 Litre / day	472,740 L/day	Average 500,000 Litre / day	500,000 L/day	Average 500,000 Litre / day	Average 500,000 Litre / day	500000 Litre / day	450000 to 700000 litre / day	Not Provided	Average 500,000 Litre / day	Average 500,000 Litre / day
c.	Rated Speed	1400-2850 rpm	2900 rpm	2660 - 3000 RPM	2700rpm	2660 - 3000 RPM	2660 - 3000 RPM	2660 RPM	1400 - 2850 rpm	Not Provided	2660 - 3000 RPM	2660 - 3000 RPM
d.	Efficiency	79%	75.00%	More than 75%	98%	85%	More than 75%	More than 75%	70%	Not Provided	More than 75%	More than 75%
e.	Power factor	0.87	0.85	0.8 to 0.9	0.8	0.85	0.8 to 0.9	0.8 to 0.9	0.87	Not Provided	0.8 to 0.9	0.8 to 0.9
f.	Voltage Tolerance	±5% to -15%	Yes	±5% to -15%	±5%	±5% to -15%	±5% to -15%	±5% to -15%	±5%	Not Provided	±5% to -15%	±5% to -15%
g.	Protection Type	IP68	Yes	IP68 or Equivalent	IP68	Equivalent	IP68 or Equivalent	IP68 or Equivalent	IP54	Not Provided	IP68 or Equivalent	IP68 or Equivalent
h.	Insulation Class	F	F	Y or better	F	Better	Y or better	Y or better	F	Not Provided	Y or better	Y or better
i.	Flange	NEMA	NEMA	NEMA	5"	Equivalent	NEMA or Equivalent	NEMA or Equivalent	AISI304 (Agreed)	Not Provided	NEMA	NEMA or Equivalent
j.	Warranty	1 Year	2 Years	1 year	1 year	1 Year	Atleast 1 year	1 Year	2 Years	Not Provided	1 year	Atleast 1 year
k.	Country of Origin	German Brand China	Denmark	Turkey	UAE	China	Turkey	Xunong, China	Germany	Not Provided	Turkey	China





Item	Specification	M/s EBR Energy Pakistan Pvt. Ltd. Lahore	M/s Nizam Energy System Pvt. Ltd. Karachi	M/s K.K. B. Karachi	M/s Smart Int., Quetta	M/s Global Business Service, Karachi	M/s Catkin Engineering Sales & Service, Islamabad	M/s S.M. Engineer & Contractor	M/s MASCO Karachi	M/s Skyways Karachi	M/s K Power Karachi	M/s M.A. Enterprises
		1	2	3	4	5	6	7	8	9	10	11
Solar Panels												
a.	Max. Power / No. of Panels	ESM 300-156 300 W/ 54 Panels (16200 Watt)	Canada Solar CS6U-330P 330 W	Jinko 320 Watt	Maysun Solar MS-72 Poly 300w	China Made 300 to 320 W	Talesun China 280 to 320 W	Perlight 265 to 325 Watt	Janko Solar 320 Watt	Not Provided	Jinko 320 Watt	Hanwa Solar 280 to 320 W
b.	Optimum Operating Voltage	38 V	37.2 V	37V	37V	35 to 36 Volt	35 to 37 V	35 to 37 V	37.4 V	Not Provided	37V	35 to 37 V
c.	Optimum Operating Current	7.89 Amp	8.88 A	8.56 Amp	9 Amp	8.4 Amp	7 to 9 Amp	7 to 9 Amp	8.56 Amp	Not Provided	8.56 Amp	7 to 9 Amp
d.	Module Efficiency	16.10%	16.68%	16.49%	16%	16%	Atleast 16% or higher	16%	16%	Not Provided	16.49%	Atleast 16% or higher
e.	Operating Temperature	-40°C to 85°C	Yes	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	Not Provided	-40°C to 85°C	-40°C to 85°C
f.	Type	Poly Crystalline	Yes	Poly Crystalline	Poly Crystalline	Poly Crystalline	Poly Crystalline	Poly Crystalline	Poly Crystalline	Not Provided	Poly Crystalline	Poly Crystalline
g.	Front Glass	3.2 mm low iron toughened glass	Yes	4mm or better tempered glass	4mm	High tempered glass	4mm or better tempered glass	4mm or better tempered glass	4mm or better tempered glass	Not Provided	4mm or better tempered glass	4mm or better tempered glass
h.	Frame	Anodized aluminum alloy	Yes	Anodized aluminum alloy	Anodized aluminum alloy	Anodized aluminum alloy	Anodized aluminum alloy	Anodized aluminum alloy	Anodized aluminum alloy	Not Provided	Anodized aluminum alloy	Anodized aluminum alloy
i.	Product Warranty	10 Years	Yes	10 years.	10 Years	10 Years	Atleast 10 years.	10 Years	10 Years	Not Provided	10 years.	Atleast 10 years.

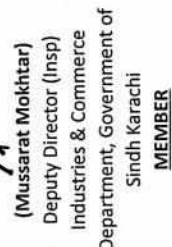
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Item	Specification	M/s EBR Energy Pakistan Pvt. Ltd. Lahore	M/s Nizam Energy System Pvt. Ltd. Karachi	M/s K.K. B. Karachi	M/s Smart Int., Quetta	M/s Global Business Service, Karachi	M/s Catkin Engineering Sales & Service, Islamabad	M/s S.M. Engineer & Contractor	M/s MASCO Karachi	M/s Skyways Karachi	M/s K Power Karachi	M/s M.A. Enterprises
		1	2	3	4	5	6	7	8	9	10	11
j. Standards	IEC 61701, IEC 62716, DIN 60068 - 2 - 68 or Equivalent	IEC 61215:2005, EN 61215:2005, IEC 61730:2004, EN 61730-1:2007, IEC 61730-2:2004, EN 61730-2:2007	Yes	IEC 61701, IEC 62716, DIN 60068 - 2 - 68	IEC 61701, IEC 62716, DIN 60068 - 2 - 68	Equivalent	IEC 61701, IEC 62716, DIN 60068 - 2 - 68 or Equivalent	IEC 61701, IEC 62716, DIN 60068 - 2 - 68 or Equivalent	IEC 61701, IEC 62716, DIN 60068 - 2 - 68	Not Provided	IEC 61701, IEC 62716, DIN 60068 - 2 - 68	IEC 61701, IEC 62716, DIN 60068 - 2 - 68 or Equivalent
k. Junction box	IP68 Rated	IP65	Yes	IP68 Rated	IP68	IP68	IP68 Rated	IP68 Rated	IP67	Not Provided	IP68 Rated	IP68 Rated
l. Connector	MC4 Compatible	MC4 Compatible	Yes	MC4 Compatible	MC4 Compatible	MC4 Compatible	MC4 Compatible	MC4 Compatible	Yes	Not Provided	MC4 Compatible	MC4 Compatible
m. Country of Origin	Please Specify.	China	China	China	UAE	China	Talesun China	China	China	Not Provided	China	Please Specify.
n. Total no. of Panels for the rated power.	Please Specify.	54 Panels	64 Pcs	56	300x66	64	75 @ 310 W / Panel	72 x 315 W / Panel	54	Not Provided	56	Please Specify.
o. Linear Performance Warranty.	20 to 25 years	25 Years	25 years	20 to 25 years	25 years	20 Years	20 to 25 years	20 Years	25 Years	Not Provided	20 to 25 years	20 to 25 years
Inverter												
a. Amperage	30 to 40 Amp	33 Amp	31 Amp	30 to 40 Amp	36 Amp	30 to 40 Amp	32 Amp	32 Amp	3x24 Amp	Not Provided	30 to 40 Amp	30 to 40 Amp
b. Power	15 to 18 kw	21 kw	15 kw	15 to 18 kw	18kw	15 to 18 kw	15 to 18 kw	15 kw	15kw	Not Provided	15 to 18 kw	15 to 18 kw
c. Output	3 Phase 370 to 385 Vac	3 Phase 370 to 385 Vac	3 Phase 380 to 415 Vac	3 Phase 370 to 385 Vac	3 Phase	3 Phase 370 to 385 Vac	3 Phase 370 to 385 Vac	3 Phase 370 to 385 Vac	3P, 380 V	Not Provided	3 Phase 370 to 385 Vac	3 Phase 370 to 385 Vac

Item	Specification	M/s EBR Energy Pakistan Pvt. Ltd. Lahore	M/s Nizam Energy System Pvt. Ltd. Karachi	M/s K.K. B. Karachi	M/s Smart Int., Quetta	M/s Global Business Service, Karachi	M/s Catkin Engineering Sales & Service, Islamabad	M/s S.M. Engineer & Contractor	M/s MASCO Karachi	M/s Skyways Karachi	M/s K Power Karachi	M/s M.A. Enterprises
d. Input	340to 650 Vdc	1 340to 650 Vdc	2 300 to 850 VDC	3 340to 650 Vdc	4 340to 650 Vdc	5 340to 650 Vdc	6 340to 650 Vdc	7 340 to 650 Vdc	8 Max 850	9 Not Provided	10 340to 650 Vdc	11 340to 650 Vdc
e. MPPT	Inbuilt	In Built	Yes	Inbuilt	MPPT	Inbuilt	Inbuilt	Inbuilt	Agreed	Not Provided	Inbuilt	Inbuilt
f. Protection	In built for over current, over load, anti-lightening etc.	In Built	Yes	In built for over current, over load, anti-lightening etc.	IP68	In built for over current, over load, anti-lightening etc.	In built for over current, over load, anti-lightening etc.	In built for over current, over load, anti-lightening etc.	Agreed	Not Provided	In built for over current, over load, anti-lightening etc.	In built for over current, over load, anti-lightening etc.
g. Efficiency	95% or more.	98%	Yes	95% or more.	98%	95%	95% or more.	95% or more.	98%	Not Provided	95% or more.	95% or more.
h. Country of Origin	Please Specify	German Brand China	Italy	China	China	china	Larens China	Hober / China	Germany	Not Provided	China	Please Specify
i. Warranty	2 years minimum	2 Years	2 Years	2 Years	2 years	02 Years	2 years minimum	2 Years	2 Years	Not Provided	2 Years	2 Years minimum
Cables & Wires	99.9% Copper UV Protection of matching configuration.	99.90%	Yes	99.9% Copper UV Protection of matching configuration n.	As per requirement	99.9% Copper UV Protection of matching configuration n.	99.9% Copper UV Protection of matching configuration n.	99.9% Copper UV Protection of matching configuration	Agreed	Not Provided	99.9% Copper UV Protection of matching configuration.	99.9% Copper UV Protection of matching configuration.
Grounding Kit	Standard	Standard	Yes	Standard	Standard	Standard	Standard	Standard	Agreed	Not Provided	Standard	Standard
Water out let & accessories	5" HDPE or M/s Steel Pipes	5" Steel or pipe	Yes	5" HDPE or M/s Steel Pipes	Steelex	Yes	5" HDPE or M/s Steel Pipes	5" HDPE or M/s Steel Pipes	Agreed	Not Provided	5" HDPE or M/s Steel Pipes	5" HDPE or M/s Steel Pipes
Mounting Structures	Rust free powdered coated.	GI Structure	Yes	Rust free powdered coated.	Rust free powdered coated.	Yes	Rust free powdered coated.	Rust free powdered coated.	Agreed	Not Provided	Rust free powdered coated.	Rust free powdered coated.

Item	Specification	M/s EBR Energy Pakistan Pvt. Ltd. Lahore	M/s Nizam Energy System Pvt. Ltd. Karachi	M/s K.K. B. Karachi	M/s Smart Int., Quetta	M/s Global Business Service, Karachi	M/s Catkin Engineering Sales & Service, Islamabad	M/s S.M. Engineer & Contractor	M/s MIASCO Karachi	M/s Skyways Karachi	M/s K Power Karachi	M/s M.A. Enterprises
		1	2	3	4	5	6	7	8	9	10	11
Mounting Plate / box.	Rust free powder coated of Iron & G.I. with environmental protection for inverter, switches, junction box etc.	GI Mounting Plate with Environmental Protection	Yes	Rust free powder coated of Iron & G.I. with environmental protection for inverter, switches, junction box etc.	As per requirement	Rust free powder coated of Iron & G.I. with environmental protection for inverter, switches, junction box etc.	Rust free powder coated of Iron & G.I. with environmental protection for inverter, switches, junction box etc.	Rust free powder coated of Iron & G.I. with environmental protection for inverter, switches, junction box etc.	Agreed	Not Provided	Rust free powder coated of Iron & G.I. with environmental protection for inverter, switches, junction box etc.	Rust free powder coated of Iron & G.I. with environmental protection for inverter, switches, junction box etc.
Execution of Tubewell bore, casing & excavation with necessary support structures & pipping	Yes as per requirement of Solar Pump at specified depth.	Yes	Yes	Yes as per requirement of Solar Pump at specified depth.	As per requirement	Yes as per requirement of Solar Pump at specified depth.	Yes as per requirement of Solar Pump at specified depth.	Yes as per requirement of Solar Pump at specified depth.	Agreed	Not Provided	Yes as per requirement of Solar Pump at specified depth.	Yes as per requirement of Solar Pump at specified depth.


 Director
 (Sheikh Shakil Ahmed)
 Agriculture Engineering Sindh Hyderabad
CHAIRMAN


 Deputy Director (Insp)
 Industries & Commerce
 Department, Government of
 Sindh Karachi
MEMBER


 (Saifullah Magsi)
 Rep. of District Accounts Officer, District
 Hyderabad
MEMBER


 Director,
 Water Management
 Hyderabad Division
MEMBER


 Deputy Director Mech / HQ
 Agriculture Engineering Sindh Hyderabad
MEMBER/SECRETARY

COMPARISON OF TECHNICAL DATA (SUBMERSIBLE PUMP 150 FT.)

Rated Power : 20 to 24 kw ±10%

Depth : 150 ft.

Capacity : 450,000 L/day (Min)

Delivery Size : 5"

Item	Specification	M/s EBR Energy Pakistan Pvt. Ltd. Lahore	M/s Nizam Energy System Pvt. Ltd. Karachi	M/s K.K. B. Karachi	M/s Smart Int., Quetta	M/s Global Business Service, Karachi	M/s Catkin Engineering Sales & Service, Islamabad	M/s S.M. Engineer & Contractor	M/s MASCO Karachi	M/s Skyways Karachi	M/s K Power Karachi	M/s M.A. Enterprises
		1	2	3	4	5	6	7	8	9	10	11
		Lorentz (PSK2-21 CSJ75-4)	Grundfos SP-95-4	Maxisu	KOMAX KPS-6/9	Greenfox	Alarko	Xunong	Lorentz PSK2 21-C-SI42-10		Maxisu	Komex
a. Rated Power	20 to 24 Kw (±10%) both limits	(21.6-HP KW-PV)	18.5 kw	18 kw	20kw	20 to 24 Kw	20 to 24 Kw (±10%) both limits	18 kw	15kw	Not Provided	24kw	20 to 24 Kw (±10%) both limits
b. Discharge Capacity	Average 450,000 Litre / day	Average 474,000 Litre / day	454,800 L/day	Average 450,000 Litre / day	450,000 L/day	Average 450,000 Litre / day	Average 450,000 Litre / day	450000 Litre / day	Average 450,000 Litre / day	Not Provided	Average 450,000 Litre / day	Average 450,000 Litre / day
c. Rated Speed	2700 - 3000 RPM	1400-2850 rpm	2900 rpm	2700 - 3000 RPM	2800rpm	2700 - 3000 RPM	2700 - 3000 RPM	2700 RPM	1400-2850rpm	Not Provided	2700 - 3000 RPM	2700 - 3000 RPM
d. Efficiency	More than 75%	79%	75.70%	More than 75%	75%	80%	More than 75%	More than 75%	70%	Not Provided	More than 75%	More than 75%
e. Power factor	0.8 to 0.9	0.87	0.85	0.8 to 0.9	0.8	0.85	0.8 to 0.9	0.8 to 0.9	0.87	Not Provided	0.8 to 0.9	0.8 to 0.9
f. Voltage Tolerance	±5% to -15%	±5% to -15%	Yes	±5% to -15%	±5%	±5% to -15%	±5% to -15%	±5% to -15%	±5%	Not Provided	±5% to -15%	±5% to -15%
g. Protection Type	IP68 or Equivalent	IP68	Yes	IP68 or Equivalent	IP68	Equivalent	IP68 or Equivalent	IP68 or Equivalent	IP68	Not Provided	IP68 or Equivalent	IP68 or Equivalent
h. Insulation Class	Y or better	F	F	Y or better	Y	Better	Y or better	Y or better	F	Not Provided	Y or better	Y or better
i. Flange	NEMA or Equivalent	NEMA	NEMA	NEMA	5"	Equivalent	NEMA or Equivalent	NEMA or Equivalent	AISI304, ASTM25B	Not Provided	NEMA or Equivalent	NEMA or Equivalent
j. Warranty	1 year minimum	1 Year	2 Years	1 year minimum	1 year	1 Year	1 year minimum	1 Year	2 Years	Not Provided	1 year minimum	1 year minimum



Item	Specification	M/s EBR Energy Pakistan Pvt. Ltd. Lahore	M/s Nizam Energy System Pvt. Ltd. Karachi	M/s K.K. B. Karachi	M/s Smart Int., Quetta	M/s Global Business Service, Karachi	M/s Catkin Engineering Sales & Service, Islamabad	M/s S.M. Engineer & Contractor	M/s MASCO Karachi	M/s Skyways Karachi	M/s K Power Karachi	M/s M.A. Enterprises
k. Country of Origin	Please Specify	German Brand China	Denmark	Turkey	UAE	China	Turkey	Xunong, China	Germany	Not Provided	Turkey	China
Solar Panels												
a. Max. Power / No. of Panels	280 to 320 W	ESM 300-156 300 W/ 72 Panels (21600 Watt)	Canada Solar CS6U-330P 330 W	Jinko 320 Watt	Maysun Solar MS-72 Poly 300W	China 300 to 320 W	Talesun China 280 to 320 W	Perlight 265 to 325 Watt	Jai'ko Solar 320 W	Not Provided	Jinko 320 Watt	280 to 320 W
b. Optimum Operating Voltage	35 to 37 V	38 V	37.2 V	37 V	37V	35 to 37 V	35 to 37 V	35 to 37 V	37.4V	Not Provided	37 V	35 to 37 V
c. Optimum Operating Current	7 to 9 Amp	7.89 Amp	8.88 A	8.56 Amp	9A	8.4 Amp	7 to 9 Amp	7 to 9 Amp	8.56 Amp	Not Provided	8.56V	7 to 9 Amp
d. Module Efficiency	Atleast 16% or higher	16.10%	16.68%	16.49%	16%	16%	Atleast 16% or higher	16%	16%	Not Provided	16.49%	Atleast 16% or higher
e. Operating Temperature	-40°C to 85°C	-40°C to 85°C	Yes	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	Not Provided	-40°C to 85°C	-40°C to 85°C
f. Type	Poly Crystalline	Poly Crystalline	Yes	Poly Crystalline	Poly	Poly Crystalline	Poly Crystalline	Poly Crystalline	Poly Crystalline	Not Provided	Poly Crystalline	Poly Crystalline
g. Front Glass	4mm or better tempered glass	3.2 mm low iron toughened glass	Yes	4mm or better tempered glass	4mm	better tempered glass	4mm or better tempered glass	4mm or better tempered glass	4mm or better tempered glass	Not Provided	4mm or better tempered glass	4mm or better tempered glass
h. Frame	Anodized aluminum alloy	Anodized aluminum alloy	Yes	Anodized aluminum alloy	Anodized aluminum alloy	Anodized aluminum alloy	Anodized aluminum alloy	Anodized aluminum alloy	Anodized aluminum alloy	Not Provided	Anodized aluminum alloy	Anodized aluminum alloy
i. Product Warranty	Atleast 10 years.	10 Years	Yes	Atleast 10 years.	10 years	10 years	Atleast 10 years.	10 Years	10 Years	Not Provided	Atleast 10 years.	Atleast 10 years.






Item	Specification	M/s EBR Energy Pakistan Pvt. Ltd. Lahore	M/s Nizam Energy System Pvt. Ltd. Karachi	M/s K.K. B. Karachi	M/s Smart Int., Quetta	M/s Global Business Service, Karachi	M/s Catkin Engineering Sales & Service, Islamabad	M/s S.M. Engineer & Contractor	M/s MASCO Karachi	M/s Skyways Karachi	M/s K Power Karachi	M/s M.A. Enterprises
		1	2	3	4	5	6	7	8	9	10	11
j. Standards	IEC 61701, IEC 62716, DIN 60068 – 2 – 68 or Equivalent	IEC 61215:2005, EN 61215:2005, IEC 617301:2004, EN 61730-1:2007, IEC 61730-2:2004, EN 61730-2:2007	Yes	IEC 61701, IEC 62716, DIN 60068 – 2 – 68 or Equivalent	IEC 61701, IEC 62716, DIN 60068 – 2 – 68	Equivalent	IEC 61701, IEC 62716, DIN 60068 – 2 – 68 or Equivalent	IEC 61701, IEC 62716, DIN 60068 – 2 – 68 or Equivalent	IEC 61701, IEC 62716, DIN 60068 – 2 – 68 or Equivalent	Not Provided	IEC 61701, IEC 62716, DIN 60068 – 2 – 68	IEC 61701, IEC 62716, DIN 60068 – 2 – 68 or Equivalent
k. Junction box	IP68 Rated	IP65	Yes	IP68 Rated	IP68	IP68 Rated	IP68 Rated	IP68 Rated	IP67	Not Provided	IP68 Rated	IP68 Rated
l. Connector	MC4 Compatible	MC4 Compatible	Yes	MC4 Compatible	MC4 Compatible	MC4 Compatible	MC4 Compatible	MC4 Compatible	Yes	Not Provided	MC4 Compatible	MC4 Compatible
m. Country of Origin	Please Specify.	China	China	China	UAE	China	Talesun China	Perlight, China	China	Not Provided	China	China
n. Total no. of Panels for the rated power.	Please Specify.	72 Panels	80 Pcs	56	300x81	72	42 @ 310W / Panel	72 x 315 W / Panel	76	Not Provided	75	50 to 60 Nos.
o. Linear Performance Warranty.	20 to 25 years	25 Years	25 years	20 to 25 years	25 Years	Yes	20 to 25 years	20 Years	25 Years	Not Provided	20 to 25 years	20 to 25 years
		PSK-2 21	Grundfos Renewable Solar Inverter (RSI 18.5kw)	Jintech	ADA SP-100	INVT	Talesun	Hober	PSK2-21 (Lorentz)	Not Provided	Jintech	INVT
a. Amperage	30 to 45 Amp	33 Amp	38 Amp	30 to 45 Amp	38 Amp	30 to 45 Amp	45 Amp	32 Amp	3x33Amp	Not Provided	30 to 45 Amp	30 to 45 Amp
b. Power	20 to 24 kw	21 kw	18.5 kw	20 to 24 kw	22 kw	Yes	20 to 24 kw	15 kw	21 kw	Not Provided	20 to 24 kw	20 to 24 kw


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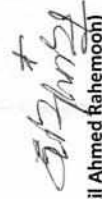
Item	Specification	M/s EBR Energy Pakistan Pvt. Ltd. Lahore	M/s Nizam Energy System Pvt. Ltd. Karachi	M/s K.K. B. Karachi	M/s Smart Int., Quetta	M/s Global Business Service, Karachi	M/s Catkin Engineering Sales & Service, Islamabad	M/s S.M. Engineer & Contractor	M/s MASCO Karachi	M/s Skyways Karachi	M/s K Power Karachi	M/s M.A. Enterprises
c. Output	3 Phase 370 to 385 Vac	1 3 Phase 370 to 385 Vac	2 3 Phase 380 to 415 Vac	3 3 Phase 370 to 385 Vac	4 3 Phase 340 to 650 Vdc	5 3 Phase 370 to 385 Vac	6 3 Phase 370 to 385 Vac	7 3 Phase 370 to 385 Vac	8 3P 380Vac	9 Not Provided	10 3 Phase 370 to 385 Vac	11 3 Phase 370 to 385 Vac
d. Input	340 to 650 Vdc	340 to 650 Vdc	300 to 850 VDC	340 to 650 Vdc	340 to 650 Vdc	340 to 650 Vdc	340 to 650 Vdc	340 to 650 Vdc	Max 850 Vdc	Not Provided	340 to 650 Vdc	340 to 650 Vdc
e. MPPT	Inbuilt	In Built	Yes	Inbuilt	MPPT	Inbuilt	Inbuilt	Inbuilt	Agreed	Not Provided	Inbuilt	Inbuilt
f. Protection	In built for over current, over load, anti-lightening etc.	In Built	Yes	In built for over current, over load, anti-lightening etc.	IP68	over current, over load, anti-lightening etc.	In built for over current, over load, anti-lightening etc.	In built for over current, over load, anti-lightening etc.	Agreed	Not Provided	In built for over current, over load, anti-lightening etc.	In built for over current, over load, anti-lightening etc.
g. Efficiency	95% or more.	98%	Yes	95% or more.	98%	95%	95% or more.	95% or more.	98%	Not Provided	95% or more.	95% or more.
h. Country of Origin	Please Specify	German Brand China	Italy	China	China	China	Larens China	Hober / China	Germany	Not Provided	China	China
i. Warranty	Two years minimum	2 Years	2 Years	Two years minimum	Two years	Two years	Two years minimum	2 Years	2 Years	Not Provided	Two years	Two years minimum
Cables & Wires	99.9% Copper UV Protection of matching configuration.	99.90%	Yes	99.9% Copper UV Protection of matching configuration.	99.9% Copper	Yes	99.9% Copper UV Protection of matching configuration.	99.9% Copper UV Protection of matching configuration.	Agreed	Not Provided	99.9% Copper UV Protection of matching configuration.	99.9% Copper UV Protection of matching configuration.
Grounding Kit	Standard	Standard	Yes	Standard	Standard	Yes	Standard	Standard	Agreed	Not Provided	Standard	Standard
Water out let & accessories	5" HDPE or M/s Steel Pipes	5" Steel Iron pipe	Yes	5" HDPE or M/s Steel Pipes	Steelex	Yes	5" HDPE or M/s Steel Pipes	5" HDPE or M/s Steel Pipes	Agreed	Not Provided	5" HDPE or M/s Steel Pipes	5" HDPE or M/s Steel Pipes
Mounting Structures	Rust free powdered coated.	GI Structure	Yes	Rust free powdered coated.	As per requirement	Yes	Rust free powdered coated.	Rust free powdered coated.	Agreed	Not Provided	Rust free powdered coated.	Rust free powdered coated.

Handwritten signatures and initials are present on the right side of the page, including a large signature at the bottom right and several smaller initials above it.

Item	Specification	M/s EBR Energy Pakistan Pvt. Ltd. Lahore	M/s Nizam Energy System Pvt. Ltd. Karachi	M/s K.K. B. Karachi	M/s Smart Int., Quetta	M/s Global Business Service, Karachi	M/s Catkin Engineering Sales & Service, Islamabad	M/s S.M. Engineer & Contractor	M/s MASCO Karachi	M/s Skyways Karachi	M/s K Power Karachi	M/s M.A. Enterprises
		1	2	3	4	5	6	7	8	9	10	11
Mounting Plate / box.	Rust free powder coated of Iron & G.I. with environmental protection for inverter, switches, junction box etc.	GI Mounting Plate with Environmental Protection	Yes	Rust free powder coated of Iron & G.I. with environmental protection for inverter, switches, junction box etc.	As per requirement	Rust free Standard Installation	Rust free powder coated of Iron & G.I. with environmental protection for inverter, switches, junction box etc.	Rust free powder coated of Iron & G.I. with environmental protection for inverter, switches, junction box etc.	Agreed	Not Provided	Rust free powder coated of Iron & G.I. with environmental protection for inverter, switches, junction box etc.	Rust free powder coated of Iron & G.I. with environmental protection for inverter, switches, junction box etc.
Execution of Tubewell bore, casing & excavation with necessary support structures & pipping	Yes as per requirement of Solar Pump at specified depth.	Yes	Yes	Yes as per requirement of Solar Pump at specified depth.	As per requirement	Yes as per specified depth	Yes as per requirement of Solar Pump at specified depth.	Yes as per requirement of Solar Pump at specified depth.	Agreed	Not Provided	Yes as per requirement of Solar Pump at specified depth.	Yes as per requirement of Solar Pump at specified depth.


(Mussarat Mokhtar)
 Deputy Director (Insp)
 Industries & Commerce
 Department, Government
 of Sindh Karachi
MEMBER


(Saifullah Magsi)
 Rep: of District Accounts Officer, District
 Hyderabad
MEMBER


(Shakil Ahmed Rahemooon)
 Director,
 Water Management
 Hyderabad Division
MEMBER


(Mumtaz Ahmed Siddiqui)
 Deputy Director Mech / HQ
 Agriculture Engineering Sindh Hyderabad
MEMBER/SECRETARY


(Sheikh Shabbir Ahmed)
 Director
 Agriculture Engineering Sindh Hyderabad
CHAIRMAN

COMPARISON OF TECHNICAL DATA (SUBMERSIBLE PUMP 250 FT.)

Delivery Size : 5" Capacity : 400,000 L/day (Min) Depth : 250 ft. Rated Power : 28 to 32 kw ±10%

Item	Specification	M/s EBR Energy Pakistan Pvt. Ltd. Lahore	M/s Nizam Energy System Pvt. Ltd. Karachi	M/s K.K. B. Karachi	M/s Smart Int., Quetta	M/s Global Business Service, Karachi	M/s Catkin Engineering Sales & Service, Islamabad	M/s S.M. Engineer & Contractor	M/s MASCO Karachi	M/s Skyways Karachi	M/s K Power Karachi	M/s M.A. Enterprises
		1	2	3	4	5	6	7	8	9	10	11
		Lorentz (PSK2-25 CS/75-12)	Grundfos SP-778	Maxisu	KOMAX KPS-06/11	Greenfox	Alarko	Xunong	Lorentz (PSK2-25CS/42-12)		Maxisu	Komex
a.	Rated Power	(25 HP 32.4 KW PV)	30 kw	32kw	30kw	30kw	28 to 32 Kw (±10%) both limits	27 kw	18.5 kw	Not Provided	32kw	28 to 32 Kw (±10%) both limits
b.	Discharge Capacity	Average 400,500 Litre / day	493,560 L/day	Average 400,000 Litre / day	400000 L/day	400000 L/day	Average 400,000 Litre / day	400000 Litre / day	Average 400,000 Litre / day	Not Provided	Average 400,000 Litre / day	Average 400,000 Litre / day
c.	Rated Speed	1400-2850 rpm	2900 rpm	2700 – 3000 RPM	2800rpm	2700 – 3000 RPM	2700 – 3000 RPM	2700 RPM	1400-2850 rpm	Not Provided	2700 – 3000 RPM	2700 – 3000 RPM
d.	Efficiency	79%	75.70%	More than 75%	75%	85%	More than 75%	77%	70%	Not Provided	More than 75%	More than 75%
e.	Power factor	0.87	0.85	0.8 to 0.9	0.8	0.8	0.8 to 0.9	0.8 to 0.9	0.87	Not Provided	0.8 to 0.9	0.8 to 0.9
f.	Voltage Tolerance	±5% to – 15%	Yes	±5% to – 15%	±5%	±5% to – 15%	±5% to – 15%	±5% to – 15%	±5%	Not Provided	±5% to – 15%	±5% to – 15%
g.	Protection Type	IP68	Yes	IP68 or Equivalent	IP68	Equivalent	IP68 or Equivalent	IP68 or Equivalent	IP68	Not Provided	IP68 or Equivalent	IP68 or Equivalent
h.	Insulation Class	F	F	Y or better	F	Better	Y or better	Y or better	F	Not Provided	Y or better	Y or better
i.	Flange	NEMA	NEMA	NEMA or Equivalent	5"	Equivalent	NEMA or Equivalent	NEMA or Equivalent	AIS1304, ASJM25B	Not Provided	NEMA or Equivalent	NEMA or Equivalent
j.	Warranty	1 Year	2 Years	Atleast 1 year	1 year	1 Year	1 year	1 Year	2 Years	Not Provided	Atleast 1 year	Atleast 1 year
k.	Country of Origin	German Brand China	Denmark	Turkey	UAE	China	Turkey	Xunong, China	Germany	Not Provided	Turkey	China






Item	Specification	M/s EBR Energy Pakistan Pvt. Ltd. Lahore	M/s Nizam Energy System Pvt. Ltd. Karachi	M/s K.K. B. Karachi	M/s Smart Int., Quetta	M/s Global Business Service, Karachi	M/s Catkin Engineering Sales & Service, Islamabad	M/s S.M. Engineer & Contractor	M/s MASCO Karachi	M/s Skyways Karachi	M/s K Power Karachi	M/s M.A. Enterprises
		1	2	3	4	5	6	7	8	9	10	11
Solar Panels												
a.	Max. Power / No. of Panels	ESM 300-156 300 W/ 108 Panels (32.40 KW-PV)	Canadia Solar CS6U-330P 330 W	Jinko 320 Watt	Maysun Solar MS-72 Poly 300 watt	China 280 to 320 W	Talesun China 280 to 320 W	265 to 325 Watt	Jinko Solar 320 W	Not Provided	Jinko 320 W	Hanwa Solar 280 to 320 W
b.	Optimum Operating Voltage	38 V	37.2 V	37 V	37V	35 to 36.5 V	35 to 37 V	35 to 37 V	37.4 V	Not Provided	37 V	35 to 37 V
c.	Optimum Operating Current	7.89 Amp	8.88 A	8.56 Amp	9Amp	8.4 Amp	7 to 9 Amp	7 to 9 Amp	8.56 Amp	Not Provided	8.56 Amp	7 to 9 Amp
d.	Module Efficiency	16.10%	16.68%	Atleast 16% or higher	16.00%	16%	Atleast 16% or higher	16%	16.49	Not Provided	Atleast 16% or higher	Atleast 16% or higher
e.	Operating Temperature	-40°C to 85°C	Yes	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	Not Provided	-40°C to 85°C	-40°C to 85°C
f.	Type	Poly Crystalline	Yes	Poly Crystalline	Poly	Poly Crystalline	Poly Crystalline	Poly Crystalline	Poly Crystalline	Not Provided	Poly Crystalline	Poly Crystalline
g.	Front Glass	3.2 mm low iron toughened glass	Yes	4mm or better tempered glass	4mm	Better tempered glass	4mm or better tempered glass	4mm or better tempered glass	4mm or better tempered glass	Not Provided	4mm or better tempered glass	4mm or better tempered glass
h.	Frame	Anodized aluminum alloy	Yes	Anodized aluminum alloy	Anodized aluminum alloy	Anodized aluminum alloy	Anodized aluminum alloy	Anodized aluminum alloy	Anodized aluminum alloy	Not Provided	Anodized aluminum alloy	Anodized aluminum alloy
i.	Product Warranty	10 Years	Yes	Atleast 10 years.	10 Years	10 Years	10 years.	10 Years	10 Years	Not Provided	Atleast 10 years.	Atleast 10 years.

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Item	Specification	M/s EBR Energy Pakistan Pvt. Ltd. Lahore	M/s Nizam Energy System Pvt. Ltd. Karachi	M/s K.K. B. Karachi	M/s Smart Int., Quetta	M/s Global Business Service, Karachi	M/s Catkin Engineering Sales & Service, Islamabad	M/s S.M. Engineer & Contractor	M/s MASCO Karachi	M/s Skyways Karachi	M/s K Power Karachi	M/s M.A. Enterprises
		1	2	3	4	5	6	7	8	9	10	11
j. Standards	IEC 61701, IEC 62716, DIN 60068 - 2 - 68 or Equivalent	IEC 61215:2005, EN 61215:2005, IEC 617301:2004, EN 61730-1:2007, IEC 61730-2:2004, EN 61730-2:2007	Yes	IEC 61701, IEC 62716, DIN 60068 - 2 - 68 or Equivalent	IEC 61701, IEC 62716, DIN 60068 - 2 - 68 or Equivalent	Equivalent	IEC 61701, IEC 62716, DIN 60068 - 2 - 68 or Equivalent	IEC 61701, IEC 62716, DIN 60068 - 2 - 68 or Equivalent	IEC 61701, IEC 62716, DIN 60068 - 2 - 68 or Equivalent	Not Provided	IEC 61701, IEC 62716, DIN 60068 - 2 - 68	IEC 61701, IEC 62716, DIN 60068 - 2 - 68 or Equivalent
k. Junction box	IP68 Rated	IP65	Yes	IP68 Rated	IP68	IP68 Rated	IP68 Rated	IP68 Rated	IP67	Not Provided	IP68 Rated	IP68 Rated
l. Connector	MC4 Compatible	MC4 Compatible	Yes	MC4 Compatible	MC4 Compatible	MC4 Compatible	MC4 Compatible	MC4 Compatible	Yes	Not Provided	MC4 Compatible	MC4 Compatible
m. Country of Origin	Please Specify.	China	China	Please Specify.	UAE	China	Talesun China	Perlight, China	China	Not Provided	China	China
n. Total no. of Panels for the rated power.	Please Specify.	108 Panels	128 Pcs	100	300x100	102	135 @ 310 Watt / Panel	132 x 315 W/ Panel	108	Not Provided	100	100 to 110
o. Linear Performance Warranty.	20 to 25 years	25 Years	25 years	20 to 25 years	25 Years	20 years	20 to 25 years	20 Years	25 Years	Not Provided	20 to 25 years	20 to 25 years
Inverter												
a. Amperage	55 to 75 Amp	40 Amp	61 Amp	55 to 75 Amp	60 Amp	55 to 75 Amp	60 Amp	30 Amp	Max 3x40 Amp	Not Provided	55 to 75 Amp	55 to 75 Amp
b. Power	28 to 32 kw	25 kw	30 kw	28 to 32 kw	30kw	Yes	28 to 32 kw	30 kw	25 kw	Not Provided	28 to 32 kw	28 to 32 kw
c. Output	3 Phase 370 to 385 Vac	3 Phase 370 to 385 Vac	3 Phase 380 to 415 Vac	3 Phase 370 to 385 Vac	3 Phase	3 Phase 370 to 385 Vac	3 Phase 370 to 385 Vac	3 Phase 370 to 385 Vac	380 Vac	Not Provided	3 Phase 370 to 385 Vac	3 Phase 370 to 385 Vac






Item	Specification	M/s EBR Energy Pakistan Pvt. Ltd. Lahore	M/s Nizam Energy System Pvt. Ltd. Karachi	M/s K.K.B. Karachi	M/s Smart Int., Quetta	M/s Global Business Service, Karachi	M/s Catkin Engineering Sales & Service, Islamabad	M/s S.M. Engineer & Contractor	M/s MASCO Karachi	M/s Skyways Karachi	M/s K Power Karachi	M/s M.A. Enterprises
d. Input	340to 650 Vdc	340to 650 Vdc	300 to 850 VDC	340to 650 Vdc	340 to 650 Vdc	340 to 650 Vdc	340to 650 Vdc	340 to 650 Vdc	Max 850 dc	Not Provided	340to 650 Vdc	340to 650 Vdc
e. MPPT	Inbuilt	In Built	Yes	Inbuilt	MPPT	In built	Inbuilt	Inbuilt	Agreed	Not Provided	Inbuilt	Inbuilt
f. Protection	In built for over current, over load, anti-lightening etc.	In Built	Yes	In built for over current, over load, anti-lightening etc.	IP68	over current, over load, anti-lightening etc.	In built for over current, over load, anti-lightening etc.	In built for over current, over load, anti-lightening etc.	Agreed	Not Provided	In built for over current, over load, anti-lightening etc.	In built for over current, over load, anti-lightening etc.
g. Efficiency	95% or more.	98%	Yes	95% or more.	98%	95%	95% or more.	95% or more.	Max 98%	Not Provided	95% or more.	95% or more.
h. Country of Origin	Please Specify	German Brand China	Italy	Please Specify	China	China	Larens China	Hober / China	Germany	Not Provided	China	Please Specify
i. Warranty	Two years minimum	2 Years	2 Years	Two years minimum	Two years	Two years	Two years minimum	2 Years	2 Years	Not Provided	Two years minimum	Two years minimum
Cables & Wires	99.9% Copper UV Protection of matching configuration.	99.90%	Yes	99.9% Copper UV Protection of matching configuration n.	99.90%	99.90%	99.9% Copper UV Protection of matching configuration n.	99.9% Copper UV Protection of matching configuration n.	Agreed	Not Provided	99.9% Copper UV Protection of matching configuration n.	99.9% Copper UV Protection of matching configuration.
Grounding Kit	Standard	Standard	Yes	Standard	Standard	Standard	Standard	Standard	Agreed	Not Provided	Standard	Standard
Water out let & accessories	5" HDPE or M/s Steel Pipes	5" Steel Iron pipe	Yes	5" HDPE or M/s Steel Pipes	Steelex 5"	Yes	5" HDPE or M/s Steel Pipes	5" HDPE or M/s Steel Pipes	Agreed	Not Provided	5" HDPE or M/s Steel Pipes	5" HDPE or M/s Steel Pipes
Mounting Structures	Rust free powdered coated.	GI Structure	Yes	Rust free powdered coated.	as per requirement	Yes	Rust free powdered coated.	Rust free powdered coated.	Agreed	Not Provided	Rust free powdered coated.	Rust free powdered coated.


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Item	Specification	M/s EBR Energy Pakistan Pvt. Ltd. Lahore	M/s Nizam Energy System Pvt. Ltd. Karachi	M/s K.K. B. Karachi	M/s Smart Int., Quetta	M/s Global Business Service, Karachi	M/s Catkin Engineering Sales & Service, Islamabad	M/s S.M. Engineer & Contractor	M/s MASCO Karachi	M/s Skyways Karachi	M/s K Power Karachi	M/s M.A. Enterprises
		1	2	3	4	5	6	7	8	9	10	11
Mounting Plate / box.	Rust free powder coated of Iron & G.I. with environmental protection for inverter, switches, junction box etc.	GI Mounting Plate with Environmental Protection	Yes	Rust free powder coated of Iron & G.I. with environmental protection for inverter, switches, junction box etc.	as per requirement	as per requirement	Rust free powder coated of Iron & G.I. with environmental protection for inverter, switches, junction box etc.	Rust free powder coated of Iron & G.I. with environmental protection for inverter, switches, junction box etc.	Agreed	Not Provided	Rust free powder coated of Iron & G.I. with environmental protection for inverter, switches, junction box etc.	Rust free powder coated of Iron & G.I. with environmental protection for inverter, switches, junction box etc.
Execution of Tubewell bore, casing & excavation with necessary support structures & pipping	Yes as per requirement of Solar Pump at specified depth.	Yes	Yes	Yes as per requirement of Solar Pump at specified depth.	as per requirement	as per requirement	Yes as per requirement of Solar Pump at specified depth.	Yes as per requirement of Solar Pump at specified depth.	Agreed	Not Provided	Yes as per requirement of Solar Pump at specified depth.	Yes as per requirement of Solar Pump at specified depth.


 (Sheikh Shakil Ahmed)
 Director
 Agriculture Engineering Sindh Hyderabad
CHAIRMAN


 (Mussarat Mokhtar)
 Deputy Director (Insp)
 Industries & Commerce
 Department, Government of
 Sindh Karachi
MEMBER


 (Saifullah Magsi)
 Rep: of District Accounts Officer, District
 Hyderabad
MEMBER


 (Shakil Ahmed Rahemoo)
 Director,
 Water Management
 Hyderabad Division
MEMBER


 (Mumtaz Ahmed Siddiqui)
 Deputy Director Mech / HQ
 Agriculture Engineering Sindh Hyderabad
MEMBER/SECRETARY

LIST OF PRE-QUALIFIED FIRMS FOR YEAR 2017-18
FOR THE INSTALLATION OF SOLAR WATER PUMP /
TUBEWELLS TO FARMERS IN SINDH

1. M/s EBR Energy Pvt. Ltd. Lahore
2. M/s K.K.B., Karachi.
3. M/s Catkin Engineering Sales & Service, Islamabad.
4. M/s Global Business Service, Karachi
5. M/s Smart International, Quetta.
6. M/s K-Power Tandojam
7. M/s Masco Energy Service, Karachi
8. M/s Nizam Energy Pvt. Ltd. Karachi
9. M/s S. M. Engineers & Contractors, Quetta

MINUTES OF MEETING OF PROCUREMENT COMMITTEE HELD ON 27.03.2018 AT 11:30AM, IN THE COMMITTEE ROOM OF DIRECTOR, AGRICULTURE ENGINEERING SINDH, HYDERABAD TO OPEN & EVALUATE THE FINANCIAL DOCUMENT OF TENDER NOTICE NO. DAE/STORES-969/3132/17 DATED: 06.09.2017 FOR PRE-QUALIFICATION OF CONTRACTORS FOR THE INSTALLATION OF SOLAR WATER PUMP / TUBEWELLS IN SINDH (2017-18)

The meeting started with the name of Allah.

Opening of the discussion Chair welcomed the participants, and briefed about the pre-qualification process and informed that Eleven firms submitted their bid offers for the Installation of Solar Water Pump / Tubewells, out of them Nine firms were declared technically responsive by the Procurement Committee in its meeting held on 27.10.2017 and financial proposal were issued by department for the submission of financial proposal. The scheme was executed accordingly for tender quantity as per SPPRA rules, fresh NIT was issued by department for the submission of financial proposal and opened on 27.03.2018.

With the permission of the Chair, the sealed financial proposals were shown to the participants and opened accordingly in the presence of the representatives of firms. The rates were read aloud and noted down by the participant's alongwith the position of their bid security.

POSITION OF UNIT RATES OFFERED (INCLUDING TAXES) BY THE FIRMS ARE AS UNDER:-

M/S K.K.B KARACHI

Sr. No.	Tubewell	Rates Offered inclusive all applicable taxes
1	Solar Power Water Lift Pump (50 ft.)	Rs. 2,750,500 Per Unit
2	Solar Water Pump / Tubewell 100 ft.	Rs. 4,055,300 Per Unit
3	Solar Water Pump / Tubewell 150 ft.	Rs. 5,043,250 Per Unit
4	Solar Water Pump / Tubewell 250 ft.	Not Quoted

M/S K-POWER TANDOJAM DISTRICT HYDERABAD

Sr. No.	Tubewell	Rates Offered inclusive all applicable taxes
1	Solar Power Water Lift Pump (50 ft.)	Rs. 2,700,000 Per Unit
2	Solar Water Pump / Tubewell 100 ft.	Rs. 4,007,550 Per Unit
3	Solar Water Pump / Tubewell 150 ft.	Rs. 5,000,270 Per Unit
4	Solar Water Pump / Tubewell 250 ft.	Not Quoted

M/S S.M. ENGINEERS & CONTRACTOR, QUETTA

Sr. No.	Tubewell	Rates Offered inclusive all applicable taxes
1	Solar Power Water Lift Pump (50 ft.)	Rs. 2,900,000 Per Unit
2	Solar Water Pump / Tubewell 100 ft.	-
3	Solar Water Pump / Tubewell 150 ft.	-
4	Solar Water Pump / Tubewell 250 ft.	-

M/S EBR ENERGY PAKISTAN PVT. LTD., LAHORE

Sr. No.	Tubewell	Rates Offered inclusive all applicable taxes
1	Solar Power Water Lift Pump (50 ft.)	Rs. 2,371,443 Per Unit

2	Solar Water Pump / Tubewell 100 ft.	Rs. 3,810,613 Per Unit
3	Solar Water Pump / Tubewell 150 ft.	Rs. 4,561,858 Per Unit
4	Solar Water Pump / Tubewell 250 ft.	Rs. 6,457,612 Per Unit

M/S CATKIN ENGINEERING SALES & SERVICE, ISLAMABAD

Sr. No.	Tubewell	Rates Offered inclusive all applicable taxes
1	Solar Power Water Lift Pump (50 ft.)	Rs. 2,930,000 Per Unit
2	Solar Water Pump / Tubewell 100 ft.	Rs. 3,840,000 Per Unit
3	Solar Water Pump / Tubewell 150 ft.	Rs. 4,844,000 Per Unit
4	Solar Water Pump / Tubewell 250 ft.	Rs. 6,755,000 Per Unit

M/S GLOBAL BUSINESS SERVICE, KARACHI

Sr. No.	Tubewell	Rates Offered inclusive all applicable taxes
1	Solar Power Water Lift Pump (50 ft.)	Rs. 2,400,000 Per Unit
2	Solar Water Pump / Tubewell 100 ft.	Rs. 3,800,000 Per Unit
3	Solar Water Pump / Tubewell 150 ft.	Rs. 4,716,000 Per Unit
4	Solar Water Pump / Tubewell 250 ft.	Not Quoted

M/S MASCO ENERGY SERVICE, KARACHI

Sr. No.	Tubewell	Rates Offered inclusive all applicable taxes
1	Solar Power Water Lift Pump (50 ft.)	Rs. 2,489,806 Per Unit
2	Solar Water Pump / Tubewell 100 ft.	Rs. 3,944,718 Per Unit
3	Solar Water Pump / Tubewell 150 ft.	Rs. 4,789,950 Per Unit
4	Solar Water Pump / Tubewell 250 ft.	Rs. 6,780,492 Per Unit

The Committee advised to department to prepare detailed report of offered bid value & bid security along-with calculating the subsidy amount.

The detail comparison is as under:-

Amount in Rupees

S. #.	Name of Firms	No. of Case Offered	Total Bid Value	Amount required (2%)	Amount Deposited
1	M/s K.K.B. Karachi	06 Nos.	23,697,100	473,942	Rs. 500,000 Pay Order No. 00409409 dated 26.03.2018, JS Bank Limited Karachi
2	M/s K-Power Tandojam Distt Hyderabad	06 Nos.	23,415,540	468,311	Rs. 500,000 Pay Order # 50617582 dated 26.03.2018 Summit Bank Limited Karachi
3	M/s S.M. Engineers & Contractors, Quetta	15 Nos.	43,500,000	870,000	Rs. 870,000 Pay Order # 0070079 dated 27.03.2018 Bank Alfalah Limited, Hyderabad
4	M/s EBR Energy Pakistan Pvt. Ltd. Lahore	53 Nos.	186,667,364	3,733,348	Rs. 3,800,000 Pay Order No. 19862691 dated 22.03.2018 HBL Main Boulevard Lahore
5	M/s Catkin Engineering Sales & Service, Isb	34 Nos.	131,679,000	2,633,580	Rs. 2,635,000 Pay Order # 01287420 dated 27.03.2018 Dubai Islamic Bank Hyderabad
6	M/s Global Business Service, Karachi	09 Nos.	33,232,000	664,640	Rs. 700,000 Pay Order # 04690334 dated 26.03.2018 Bank Al-Habib Limited Hyderabad
7	M/s Masco Energy Service, Karachi	20 Nos.	72,552,484	1,451,049	Rs. 1,451,049 Pay Order No. 11917313 dated 26.03.2018, Habib Metropolitan Bank Ltd Korangi Karachi

The Procurement Committee evaluated the financial proposal and found that deposited amount of Bid Security from every firm is in-line with the tender requirement. Lowest rates offered by the firms in all categories are as under:-

Sr. No.	Name of Category	Unit Cost of Solar Water Pump inclusive Taxes	Offered by firm
a.	Solar Power Water Lift Pump (50 ft.)	Rs. 2,371,443	Lowest rates offered by M/s EBR Energy Pakistan Pvt. Ltd. Karachi is recommended
b.	Solar Water Pump / Tubewell 100 ft.	Rs. 3,800,000	Lowest rates offered by M/s Global Business Service, Karachi is recommended
c.	Solar Water Pump / Tubewell 150 ft.	Rs. 4,561,858	Lowest rates offered by M/s EBR Energy Pakistan Pvt. Ltd. Karachi is recommended
d.	Solar Water Pump / Tubewell 250 ft.	Rs. 6,457,612	Lowest rates offered by M/s EBR Energy Pakistan Pvt. Ltd. Karachi is recommended

The Procurement Committee calculated the amount of Subsidy on the basis of lowest rates offered as under:-

Sr. No.	Category of Tubewell	Subsidy Amount in Rs.
1	Solar Power Water Lift Pump	Rs. 1,897,154 Per Unit
2	Solar Water Pump / Tubewell 100 ft.	Rs. 3,040,000 Per Unit
3	Solar Water Pump / Tubewell 150 ft.	Rs. 3,649,486 Per Unit
4	Solar Water Pump / Tubewell 250 ft.	Rs. 5,166,090 Per Unit

The Procurement Committee advised to refer the case to the competent authority as per provision of SPPRA Rules (amended 2013 & 2017).

The meeting ended with vote of thanks.

MEMBER / SECRETARY
PROCUREMENT COMMITTEE

Dated: 27 /03/2018.

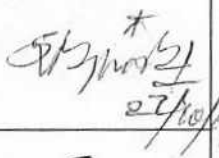
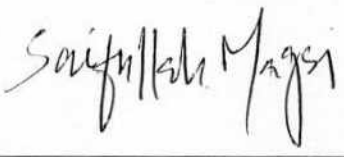


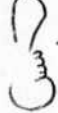
NO. DAE/STORES-969/¹⁴⁸³/₁₈

C.C. to:

- The Director General Agricultural Engineering & Water Management Sindh, Hyderabad for kind information.
- The Additional Secretary (Tech) Agriculture Department Government of Sindh Karachi for kind information.
- PS to Secretary Agriculture Department Government of Sindh, Karachi for kind information.
- Member Procurement Committee _____ (All).


MEMBER / SECRETARY
PROCUREMENT COMMITTEE

**LIST OF MEMBERS OF PROCUREMENT COMMITTEE PARTICIPATED FOR THE
EVALUATION OF PRE-QUALIFICATION DOCUMENT AGAINST TENDER NOTICE NO.
DAE/STORES-969/3132/17 DATED: 06.09.2017 FOR PRE-QUALIFICATION OF
CONTRACTORS FOR THE INSTALLATION OF SOLAR WATER PUMP / TUBEWELLS IN
SINDH (2017-18) IN THE COMMITTEE ROOM OF DIRECTOR, AGRICULTURE
ENGINEERING SINDH HYDERABAD ON 27.10.2017 AT 03:00 P.M.**

S. #.	NAME	DESIGNATION	SIGNATURES
01	SHEIKH SHAKIL AHMED	Director, Agriculture Engineering Sindh, Hyderabad	IN CHAIR
02	SHAKEEL AHMED RAHEMOON	Director, Water Management, Hyderabad Division MEMBER	 27/10/17
03		Representative of District Accounts Officer, District Hyderabad MEMBER	
04	MUSARRAT MOKHTAR	Deputy Director (Inspection) Industries & Commerce Department, Government of Sindh, Karachi MEMBER	
05	MUMTAZ AHMED SIDDIQUI	Deputy Director (Mech) Agriculture Engineering Sindh Hyderabad MEMBER / SECRETARY	

COMPARATIVE STATEMENT SHOWING OFFERED UNIT RATES (INCLUDING ALL APPLICABLE TAXES) AGAINST TENDER NOTICE NO. DAE/Stores-969/3132/17 DATED: 06.09.2017 FOR PRE-QUALIFICATION OF CONTRACTORS FOR THE INSTALLATION OF SOLAR WATER PUMP / TUBEWELLS IN SINDH 2017-18

S #	Description	Qty	PC-I Rates	K.K.B Karachi	EBR Energy Pakistan Pvt. Ltd Lahore	Catkin Engg: Sales & Service Islamabad	Global Business Service, Karachi	K-Power Tandojam District Hyderabad	S.M. Engineers & Contractors Quetta	Masco Energy Service, Karachi	AMOUNT IN RS.
1	SOLAR POWER WATER LIFT PUMP										
	Water Pump 6"x8" to 8"x8" Suction pipe upto 50 ft. Capacity minimum 650000 L/P/day, Built on Iron frame with Solar Panels minimum of 12kw.	24 Nos.	4,000,000	2,750,500	2,371,443	2,930,000	2,400,000	2,700,000	2,900,000	2,489,806	
2	SOLAR WATER PUMP / TUBE WELLS										
	Delivery 5" inch, Depth 100 ft. Capacity minimum 500,000 L/P/day, Water Pump / Submersible Pump with Solar Panels minimum of 15kw Allied piping & civil work.	16 Nos.	5,000,000	4,055,300	3,810,613	3,840,000	3,800,000	4,007,500	N.Q.	3,944,718	
3	SOLAR WATER PUMP / TUBE WELLS										
	Delivery 5" inch, Depth 150 ft. Capacity minimum 450,000 L/P/day, Water Pump / Submersible Pump with Solar Panels minimum of 22kw Allied piping & civil work.	08 Nos.	6,000,000	5,043,250	4,561,858	4,844,000	4,716,000	5,000,270	N.Q.	4,789,950	
4	SOLAR WATER PUMP / TUBE WELLS										
	Delivery 5" inch, Depth 250 ft. Capacity minimum 400000 L/P/day, Water Pump / Submersible Pump with Solar Panels minimum of 30kw Allied piping & civil work.	05 Nos.	7,000,000	N.Q.	6,457,612	6,755,000	N.Q.	N.Q.	N.Q.	6,780,492	
	TOTAL	53 Nos.	--	--	--	--	--	--	--	--	


SHEIKH SHAKIL AHMED
 DIRECTOR
 AGRICULTURE ENGINEERING SINDH
 HYDERABAD
CHAIRMAN


MUSARRAT MOKHTAR
 DEPUTY DIRECTOR (INSP.)
 INDUSTRIES DEPARTMENT
 KARACHI
MEMBER


FARRUKH RASHEED ANSARI
 ADDITIONAL DIRECTOR (ENGG)
 DIRECTORATE GENERAL, AE&WM
 SINDH HYDERABAD
MEMBER


SAIFULLAH MAGI
 ADDITIONAL DISTRICT ACCOUNTS OFFICER-I,
 DISTRICT ACCOUNT OFFICE, HYDERABAD
MEMBER


MUMTAZ AHMED SIDDIQUI
 DEPUTY DIRECTOR (MECH) / HQ
 AGRICULTURE ENGINEERING SINDH
 HYDERABAD
MEMBER/ SECRETARY