

Subject: Minutes of the Pre-Bid Meeting – Request for Bids for Supply, Installation, Commissioning, Testing, Training & Net-Metering of Solarization of Water Supply and Sewerage Schemes under PRSWSSP

Punjab Rural Municipal Services Company (PRMSC) has invited bids for Supply, Installation, Commissioning, Testing, Training & Net-Metering of Solarization of Water Supply and Sewerage Schemes under PRSWSSP for 3 Nos Packages by publishing Specific Procurement Notices (SPN's) - Request for Bids, in combined edition of leading national dailies both English and Urdu and its uploading on PRMSC and Local Govt official websites. As scheduled in SPN, a hybrid Pre-bid Meeting was held on 27th February, 2024 in which potential bidders participated physically as well as through virtual platform namely "**Zoom**" whose Weblink, Meeting ID and Passcode were provided in the Notice. The meeting was attended by the officials/technical resource persons of PRMSC & representatives of potential Service Providers who chose to attend. The list of participants, is attached at **Annex – A**.

Proceedings of Meeting:

2. The proceedings started with welcome remarks by the Chief Operating Officer, followed by introduction of the participants. At the outset of the proceedings, the Chief Operating Officer provided a concise overview of the project's scope and the current status of ongoing as well as planned, civil works' execution. Additionally, he outlined the sustainability strategy of company's interventions amongst which transition to solar energy for reducing electricity expenses besides ensuring its availability was emphasized. He also explained in detail, the evaluation and qualification criteria, as well as the specific requirements focusing on specifications that had been outlined in the Request for Bids (RFB) Documents. Subsequently, the Procurement Specialist elucidated the salient features, sections of the Request for Bids/Procurement Documents & the requirements defined therein, which were publicly available on the company's website for free download. The Procurement Documents' uploading at website was referenced in the Specific Procurement Notice. The terms and conditions pertaining to bid submission and supplier selection were also succinctly communicated, underscoring the significance of the assignment. In addition, the potential bidders were informed that it would be a pre-requisite before the acceptance of the completion of installation of Solar Systems under each package that the successful bidder/supplier should be having proper licensing from the authorized licensing forum (fora) such as Alternate Energy Development Board (AEDB), for claiming the payments.

3. The prospective bidders were thereafter invited to share their queries for clarification. In addition, the representatives were also given two (02) days' time, to share their queries in writing also, enabling avoiding any confusion. In this regard, it was clarified that the Company would reply all the queries of the prospective bidders in the form of Minutes of Pre-bid Meeting, while disregarding any repetitive query by more than

one bidder, however, pursuant to Clause 7: Clarification of the Bidding Document of Section 1 viz. Instructions to Bidders, of the Procurement/RFB Document, the identities of the bidders would not be disclosed in the responses. The Minutes of Pre-bid Meeting would be shared with all the prospective bidders who have participated in the Pre-Bid Meeting and/or would have asked for clarifications subsequent to the Meeting. Besides, the Minutes would also be uploaded on the website of the Company.

4. Accordingly, the following table provides all queries by the prospective bidders and replies thereof by the Company:

Sr. No.	Query	Response
1	Will it a mandatory for the bidder to be on the panel of AEDB?	Yes
2	Who will be responsible for any adjustments after installation if electricity settings/ parameters are changed by WAPDA or any related variance occurs from the supply of WAPDA? Shall those be delt separately than this tender at remote locations?	<p>It is underpinned that the requirements provided therein the Technical Specifications should be read and understood comprehensively.</p> <p>It is required therein that the following shall be exclusive responsibilities of the bidder/supplier:</p> <ul style="list-style-type: none"> (i) Installation of Green Meter along with all necessary test: Complete Job in all respect including all government approvals and processes for Generation License. (ii) Operational & Maintenance: For the operations and maintenance of installed system, provision of two (02) operators (for each site) for one year after successful completion of project. Salary of the operator shall not be less than minimum wage scales notified by the Finance Department, Government of Punjab vide no. RO (Tech) FD 2-2/2022 dated 2nd November, 2023. Notification is attached at Annex-B. (iii) After Sale Service: Two Years comprehensive free after sale service. The Comprehensive aftersales services shall be covering all preventative and corrective actions, including all related costs, such as, but not limited to workmanship, spare parts, repair work, transportation, duties and taxes, clearance costs of spare parts etc., without any cost. (iv) Insurance of Solar System: Supplier has to provide insurance cover of each system from the completion date of installation of system for one year and client shall not pay any kind of depreciation cost if an insurance claim occurs.

		From above it is clear that since the successful installation of Green Meter and till the expiry of After Sales Period, if any variance in electricity parameters of WAPDA occurs, the supplier shall be extending its facilitation to the Company to address such issues.
3	What is the fee of RFB Document?	The Bidders may download the Procurement/RFB Document at no cost from the websites: www.lgcd.punjab.gov.pk/tenders or www.prmisc.punjab.gov.pk/tenders . In addition, the bidders may also acquire Soft copy of the Procurement/RFB Document from PRMSC Head Office, Lahore free of cost by emailing such requests at the email ID mentioned in Special Procurement Notice.
4	What should be the efficiency of Solar Panels & Technology that should be used on the Project site (Mono-Perc , N-Type TOPCon or the latest technology which is N-Type HJT technology)	At our project sites, the solar panels to be utilized must adhere to the standards set forth by IEC 61215 certification, with module efficiency ranging between 20% to 25%, sourced from Tier 1 manufacturers during the third and fourth quarters of 2021. N-type Technology is required however HJT technology will be preferred. For further information, please refer to Section VII - Schedule of Requirements (Technical Specifications).
5	Who will be responsible for warranty Claim for solar Panels?	The warranty requirements are explicitly provided in Section VII viz. Schedule of Requirements under Specifications besides in Section IX viz. Special Conditions of Contract. During the warranty period defined therein the referred sections, claim of warranty from the OEM shall be an exclusive responsibility of the Supplier. Manufacturer shall provide the authorization to supplier regarding warranty claim.
6	Can the nature of work experience be explained which a bidder would be having in terms of eligibility?	Section III viz. Evaluation & Qualification of the Procurement Document outlines Specific Experience at subsection (b). The bidder is required to showcase their capability by having successfully executed a minimum of two projects with a capacity of at least 2 megawatts (MW), either individually or cumulatively, with contract values totaling at least PKR 600 million within the last five years. Solar systems are being installed on the water supply and disposal station pumps. Experience related to solar system for tubewells, municipal tubewells and disposal stations will be preferred.

7	Please specify the requirements in respect of hybrid Inverter Batteries for an "On Grid Hybrid Inverter/System" because such system cannot work/function without Batteries. Related details are unavailable in technical specifications provided in RFB Document. In case batteries are required, please specify the type and backup-time required at each site.	PRMSC is intending to acquire an "On Grid Inverter/System" without batteries. The system shall be grid-tied.
8	Please specify about VFD and VFD Type (AC/DC Operated).	Client requires installation of VFD along with On Grid Inverter as in case of non-availability of Grid, Solar system shall be operated through Variable Frequency drive (DC-AC) for the utilization of solar energy. For this purpose, manual/ATS switch will be installed. It is clarified that these solar systems will be installed on the water supply schemes and disposal stations. Submersible Pumps are being used in these schemes.
9	Please provide technical specifications of motors.	The relevant specifications shall be made public in the form of an Addendum to the Procurement/RFB Document shortly that shall be available at the websites wherein the Special Procurement Notice was published. Specification of motor and pumps are attached as Annexure- C
10	Kindly provide coordinates of the sites as survey of all sites is not possible, but survey for one or two sites can be conducted, contact of relevant site representative where Civil Works are finalizing must be provided for visit.	The coordinates of the sites shall be provided as an annexure of the "Minutes of Pre-bid Meeting" which shall be available at the websites wherein the Special Procurement Notice was published. Coordinates of sites are attached as Annex-D
11	Kindly provide basic design as per site requirement if any. Or it will be a responsibility of the solution provider to propose the solution under each package according to their assessment and design.?	<p>Yes. It is emphasized that it is prime responsibility of the bidder to satisfy themselves about the sufficiency of their bid. Currently, the Company is in advance stage with regards to the preparation of respective sites' planning & designing, and to safeguard time lapse, the process for procurement of solar system/solution has been initiated in parallel.</p> <p>It is advised that each bidder wishing to submit bid, should coordinate with the focal person whose details have been provided at Clause 7.1 of Section II viz. Bid Data Sheet of Part I of the Procurement/RFB Document for sites' visits. PRMSC is having their local offices at each site and those offices shall facilitate the sites' inspection by the bidders.</p> <p>The bidders shall be required to offer complete solution with design, keeping in view the requirements provided in Technical Specifications.</p>

12	Please ensure that warranty period on product will be provided as per manufacturer Warranty.	A related query had been responded at Sr. No. 3 which is also referred with following explanations. It will be an exclusive responsibility of the bidder to adhere to the warranty requirements that have been outlined in the Procurement Document whether OEM related or comprehensive ones.
13	It is being assumed that all WAPDA connection pre-requisites for Net Metering, are in client scope.	It is reiterated that complete job related to “Installation of Green Meter” along with all necessary testing, including all government approvals and processes for Generation License, shall be an absolute responsibility of the bidder/supplier.
14	Kindly provide extension in bid submission timeline if possible.	The Company shall consider it and if time is extended, a related notice shall appear in national dailies in which the original SPN was published besides its uploading at websites mentioned in SPN.
15	Is your sites have generator set and controllers as mentioned to synchronize them with solar PV so if yes then what is the rating of generator?	There is no generators are in place right now . But the On Grid Inverter should be compatible with generators.
16	What are the motor ratings of your all site please mention all the sites motor rating?	Detail is attached Annex-C
17	If we want to visit the sites is there any arrangement possible?	Response at Sr. No. 10 is referred.
18	All pumps including disposal pumps are 3 phase pumps?	For each site, three phase connection is available along with PRMSC dedicated transformer.
19	Gensets are available at all existing sites or not?	No Gensets are available at existing sites.
20	Bill copy / Demand notice copies needed for net metering?	Bill copies will be provided at the time of net metering and supplier has to bear demand notice cost and all associated costs for installing green meter at each site.
21	CTs already installed with existing WAPDA meters or not?	Client shall provide 3-Phase connection / meter along transformer at each site.
22	Solar Modules will be installed at ground level for higher capacities 25Kp+? Or rooftop on each site?	Installed at ground level. Revised Technical Specifications (Section VII – Schedule of Requirements) attached as Annex-E
23	Will it be acceptable to make quality inspection of material at centralized warehouse in Lahore and then dispatch equipment to each site?	Inspection of material shall be taken at Tehsil Level.
24	What are the applicable taxes?	All applicable government taxes will be deducted on invoice.

5. The meeting ended with a vote of thanks by the Chief Operating Officer re-assuring the integrity of the bidding process.

Annex – A
LIST OF PARTICIPANTS

S.#	Names of Representatives	Designation/ Contact	Organization/ Service Provider
1.	Mr. Ali Raza Rao	Chief Operating Officer (In chair)	PRMSC
2.	Mr. Muhammad Ahsan Khan	Manager Procurement	PRMSC
3.	Awais Saleem	Procurement Specialist (Consultant)	PRMSC
4.	Mr. Umar Awais	Procurement Officer	PRMSC
5.	Raffay Gulraiz	Representative	Brisk International Pvt Ltd
6.	Ramiz Siddique	Representative	Elite Engineering
7.	Awais Tariq	Representative	Super net Ltd
8.	Mohsin Shaikh	Representative	M/S Ch. Amjad Ali
9.	Saif Ullah	Representative	Zono Ashro
10.	Zulfiqar Ali	Representative	Sohail Kashif & Co
11.	Hafiz Arkam Shoukat	Representative	MK Engineering Consultants
12.	Tamoor Haider	Representative	TH Solars
13.	Jamal	Representative	MK Engineers & Constructors Pvt Ltd
14.	Nasir Leghari	Representative	M/S Sharjeel Brothers Enterprises Dera Ghazi Khan
15.	Muhammad Sheraz	Representative	Solar Tech Private Limited
16.	YALMAZ	Representative	Rafique Enterprises
17.	Muhammad Raza Majeed	Representative	Sympl Energy PVT Ltd
18.	Zahera batool	Representative	Elite Engineering Private Limited
19.	Aniqa Farrukh	Representative	SBU Manager, MKEC
20.	Ch. Haroon Saddique	Representative	Muhammad Siddique ch& Co

Annex – B
SCHEDULE OF WAGE RATES
FINANCE DEPARTMENT, GOP

“SAVE TREES & PROTECT ENVIRONMENT”



Tel: 042-99211088

**GOVERNMENT OF THE PUNJAB
FINANCE DEPARTMENT**

Dated Lahore the 2nd November, 2023

NOTIFICATION

No. RO (Tech) FD 2-2/2022. Governor of the Punjab is pleased to approve the **Schedule of Wage Rates-2023** (Annex-A) with effect from **1st July, 2023**. Schedule of Wage Rates-2022 notified vide No. RO (Tech) FD 2-2/2022 dated 15.07.2022 stands superseded accordingly. Appointments of Work Charged Employees shall be made in accordance with procedure laid down in the preface of Schedule of Wage Rates-2023.

FINANCE SECRETARY

No. & Date Even:-

A copy is forwarded to the Superintendent, Government Printing Press Punjab, Lahore for publishing the above notification.


02/11/23
Technical Advisor


No. & Date Even:-

A copy is forwarded for information to the: -

1. Chairman, P&D, Board, Punjab, Lahore.
2. Chairman, Chief Minister Inspection Team, Lahore
3. All Administrative Secretaries of the Punjab Government.
4. Chairman, Minimum Wages Board, Lahore.
5. All Chief Engineers in the Engineering Departments of the Punjab Government.
6. All Commissioners / Deputy Commissioners in the Punjab.
7. The Director General, PHATA, Lahore.
8. Chief Conservator Forest, Punjab, Lahore.
9. Chief Architect, Punjab, Lahore.
10. Directors General / Heads of all Autonomous Bodies in Punjab.
11. Chief Engineers of all Autonomous Bodies in Punjab.
12. Chief Engineer TEPA, Lahore.


02/11/23
Technical Advisor


No. & Date Even:-

A copy is forwarded to the: -

- 1 Accountant General, Punjab, Lahore.
- 2 Director General Audit (Works), Punjab, Lahore.
- 3 Director General Accounts (Works), Punjab, Lahore.


02/11/23
Technical Advisor


GOVERNMENT OF THE PUNJAB
FINANCE DEPARTMENT



Finance Department

SCHEDULE OF WAGE RATES-2023

PREFACE

Finance Department has prepared Schedule of Wage Rates 2023 prescribing wages of the work charged establishment employed on seasonal and short term basis in the Irrigation, Energy, Communication and Works, Housing Urban Development & Public Health Engineering, Local Government & Community Development Departments and Local Governments as well as all other development works related entities of the Government of the Punjab. Wage rates given in Schedule are revised keeping in view the changes / revisions in the Basic Pay Scales and allowances of civil employees of the Punjab Government. The wage rates have been prepared by taking into account the total emolument, inclusive of allowances admissible to similar employees already converted into regular establishment, and hence no extra payment is admissible on these rates.

2. Appointment to a post included in this Schedule may be made by the competent authority under Delegation of Financial Power Rules 2016 subject to the following conditions:-
 - a) The post(s) shall be advertised properly in the leading newspapers.
 - b) The recruitment to all the posts in the Schedule shall be made on the basis of merit specified for regular establishment vide para 11 of the Recruitment Policy issued by S&GAD vide No.SOR-IV (S&GAD)10-1/2003 dated 17.9.2004(amended to date).
 - c) Terms and conditions of employment shall be governed under Rules 7.12 to 7.14 & 7.37 to 7.41 of DFR (Punjab Financial Handbook No-3).
 - d) The monthly wages shall not exceed the minimum monthly emoluments (inclusive of allowances) admissible on initial recruitment to incumbents of similar posts borne on regular establishment in the same locality.
 - e) The appointment at a time may not exceed the following duration:-
 - i) In case of deposit work, the appointment of seasonal labour may be made for the duration of the project.
 - ii) In all other cases, the appointment may be made up to the end of the financial year or the duration of the project, whichever is earlier.
3. The minimum qualification and experience for appointment to a post in this Schedule shall be the same as prescribed for similar post in the regular establishment.
4. The Senior Research Officers (Grade-18) on the research side of the Research Institutes may also make appointments to the posts controlled by them.
5. The daily wage rates given in the Schedule prescribe the range within which the competent authority may make an appointment on daily wage basis in accordance with daily wage rates as notified on the web site of the Finance Department for the respective District.
6. This Schedule of Wage Rates, 2023 shall come into force with effect from 01.07.2023 and will supercede the Schedule of Wage Rates, 2022 (issued vide notification No.RO (Tech) FD 2-2/2022 dated 15.07.2022)


Additional Finance Secretary (ES)

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1 MONTHLY WAGE RATES

a) CIVIL TRADES

UN SKILLED
SEMI SKILLED
SKILLED GRADE IV
SKILLED GRADE III
SKILLED GRADE II
SKILLED GRADE I
MISCELLANEOUS

b) MECHANICAL TRADES

UN SKILLED
SEMI SKILLED
SKILLED GRADE IV
SKILLED GRADE III
SKILLED GRADE II
SKILLED GRADE I
MISCELLANEOUS

c) ELECTRICAL TRADES

UN SKILLED
SEMI SKILLED
SKILLED GRADE IV
SKILLED GRADE III
SKILLED GRADE II
SKILLED GRADE I
MISCELLANEOUS

2 DAILY WAGE RATES

UN SKILLED
SEMI SKILLED
SKILLED
MISCELLANEOUS

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Sr.No.	Description	MONTHLY WAGE RATES AT	
		Lahore, Rawalpindi, Gujranwala, Sialkot, Multan, Faisalabad, Sargodha, Bahawalpur and D.G.Khan	All Other places
CIVIL TRADES			
1. LABOUR UN-SKILLED		Rupees PM (26 days)	Rupees PM (26 days)
1	Assistant Jamadar (Cooly)	32000	32000
2	Attendant	32000	32000
3	Bahishty (with Mashak)	32000	32000
4	Bearer	32000	32000
5	Bearer cum Cook	32000	32000
6	Beldar	32000	32000
7	Boatman	32000	32000
8	Bullockman	32000	32000
9	Camelman	32000	32000
10	Cartman	32000	32000
11	Chowkidar	32000	32000
12	Chowkidar cum Cook	32000	32000
13	Chowkidar cum Mali	32000	32000
14	Cook	32000	32000
15	Cooly	32000	32000
16	Dak Runner	32000	32000
17	Donkeyman	32000	32000
18	Farash	32000	32000
19	Flagman	32000	32000
20	Gate Keeper	32000	32000
21	Gauge Reader	32000	32000
22	Khadim Masjid	32000	32000
23	Khalasi	32000	32000
24	Leverman	32000	32000
25	Mali	32000	32000
26	Material Checker	32000	32000
27	Messenger	32000	32000
28	Moazin	32000	32000
29	Naib Jamadar	32000	32000
30	Oilman	32000	32000
31	Patroller	32000	32000
32	Punkha Cooly	32000	32000
33	Sewerman	32000	32000
34	Sweeper	32000	32000
35	Trollyman	32000	32000
36	White Washer	32000	32000
37	Laboratory Attendent	32000	32000
38	Keyman	32000	32000
39	Washerman	32000	32000
40	Sasnitary Worker	32000	32000
Sr.No.	2-LABOUR SEMI-SKILLED	Rupees PM (26 days)	Rupees PM (26 days)
1	Carpenter Cooly	33150	32500
2	Cook Cum Khansama	33150	32500
3	Conservancy Jamadar	33150	32500
4	Dresser Earthwork	33150	32500
5	Duplicator Operator	33150	32500
6	Ferry Man-II	33150	32500
7	Furniture Polisher	33150	32500
8	Head Boatman	33150	32500
9	Head Chowkidar	33150	32500
10	Head Jamadar	33150	32500
11	Head Khalasi Servey	33150	32500
12	Head Mali	33150	32500
13	Head Patrolman	33150	32500
14	Head Trolly Man	33150	32500
15	Head Sweeper	33150	32500
16	Jamadar	33150	32500
17	Jamadar Navigator	33150	32500
18	Jamadar Head Works	33150	32500
19	Khansama	33150	32500
20	Mate	33150	32500

Sr.No.	Description	MONTHLY WAGE RATES AT	
		Lahore, Rawalpindi, Gujranwala, Sialkot, Multan, Faisalabad, Sargodha, Bahawalpur and D.G.Khan	All Other places
21	Regulation Jamadar	33150	32500
22	Cooly	33150	32500
23	Tar Sprayer	33150	32500
24	Laboratory Assistant	33150	32500
25	Aircraft Cleaner	33150	32500
Sr.No.	3-LABOUR SKILLED GRADE-IV	Rupees PM (26 days)	Rupees PM (26 days)
1	Assistant Work Mistry	34966	34142
2	Brush Painter	34966	34142
3	Earth Work Mistry	34966	34142
4	Mason Mistry	34966	34142
5	Discharge Mistry	34966	34142
6	Material Mistry	34966	34142
7	Motor Launch Driver	34966	34142
8	Painter	34966	34142
9	Plumber	34966	34142
10	Pressure Pipe Mistry	34966	34142
11	Sounding Mistry	34966	34142
12	Spray Painter	34966	34142
13	Work Mistry	34966	34142
Sr.No.	4-LABOUR SKILLED GRADE-III	Rupees PM (26 days)	Rupees PM (26 days)
1	Concrete Chiseller	36069	35209
2	Ferry Man	36069	35209
3	Mason Mistry	36069	35209
4	Painter	36069	35209
5	Tailor	36069	35209
6	Driver Motor Vehicle	36069	35209
Sr.No.	5-LABOUR SKILLED GRADE-II	Rupees PM (26 days)	Rupees PM (26 days)
1	Earth Work Mistry	37157	36267
2	Mason	37157	36267
3	Plumber	37157	36267
4	Stone Mason	37157	36267
5	Tailor	37157	36267
6	Work Mistry	37157	36267
7	Work Supervisor	37157	36267
Sr.No.	6-LABOUR SKILLED GRADE-I	Rupees PM (26 days)	Rupees PM (26 days)
1	Mason	43900	42855
2	Painter	39225	38299
3	Work Mistry	39225	38299
Sr.No.	7-MISCELLANEOUS	Rupees PM (26 days)	Rupees PM (26 days)
1	Assistant Jamadar(Headworks)	32000	32000
2	Assistant Photographer	32864	32125
3	Assistant Traffic Counter	32864	32125
4	Bindry Foreman	32864	32125
5	Boatman with large Boat (Boat above 35ft in length)	39225	38299
6	Boatman with small Boat (Boat upto 35ft in length)	34966	34142
7	Caretaker	32100	32100
8	Dark Room Assistant	32100	32100
9	Darogha-II	32025	32025
10	Darogha-I	32075	32075
11	Imam Masjid	32100	32100
12	Havaladar Darogha	32025	32025
13	Khatib	32100	32100
14	Road Inspector	32864	32125
15	Security Sargent	32864	32125
16	Store Munshi	32075	32075
17	Surveyor 1st Class	39225	38299
18	Surveyor-II	37157	36267

Sr.No.	Description	MONTHLY WAGE RATES AT	
		Lahore, Rawalpindi, Gujranwala, Sialkot, Multan, Faisalabad, Sargodha, Bahawalpur and D.G.Khan	All Other places
19	Traffic Count Helper	32025	32025
20	Traffic Count Supervisor	34966	34142
21	Traffic Count Sorter	32864	32125
22	Waterman	32000	32000
23	Work Superintendent-II	36069	35209
24	Silt Observer	32100	32100
25	Silt Analyst	34966	34142
26	Research Assistant	37157	36267
27	Graduate Engineer	88790	86574
28	Sub Engineer	46442	45335
29	Junior Computer Operator	41311	40331
MECHANICAL TRADES			
Sr.No.	1-LABOUR UN-SKILLED	Rupees PM (26 days)	Rupees PM (26 days)
1	Assistant Jamadar	32000	32000
2	Attendant	32000	32000
3	Cleaner	32000	32000
4	Cooly	32000	32000
5	Fireman	32000	32000
6	Greaser	32000	32000
7	Oil Man	32000	32000
8	Hammerman	32000	32000
9	Helper	32000	32000
10	Valveman	32000	32000
11	Gas Man	32000	32000
12	Sanitary Worker	32000	32000
Sr.No.	2-LABOUR SEMI-SKILLED	Rupees PM (26 days)	Rupees PM (26 days)
1	Assistant Mixer Operator	33150	32500
2	Carpenter Cooly	33150	32500
3	Fitter Helper	33150	32500
4	Fitter Cooly	33150	32500
5	Glazier	33150	32500
6	Hammerman	33150	32500
7	Jamadar	33150	32500
8	Jamadar(Colies), Mate	33150	32500
9	Smith Cooly	33150	32500
10	Cooly	33150	32500
11	Tubewell Driver	33150	32500
12	Pipe Fitter	33150	32500
13	Assistant Operator	33150	32500
14	Aircraft Cleaner	33150	32500
Sr.No.	3-LABOUR SKILLED GRADE-IV	Rupees PM (26 days)	Rupees PM (26 days)
1	Black Smith	34966	34142
2	Boiler Attendant	34966	34142
3	Carpenter	34966	34142
4	Denter	34966	34142
5	Driller	34966	34142
6	Driver Air Compressor	34966	34142
7	Diesel Engine Driver	34966	34142
8	Driver Disposal Works	34966	34142
9	Pump Driver	34966	34142
10	Fitter	34966	34142
11	Glazier	34966	34142
12	Launch Driver	34966	34142
13	Lift Operator	34966	34142
14	Loader Operator	34966	34142
15	Mechanic	34966	34142
16	Moulder	34966	34142
17	Oil Engine Driver	34966	34142
18	Plumber	34966	34142
19	Tin Smith	34966	34142
20	Tubewell Operator cum Mechanic	34966	34142
21	Turner	34966	34142

Sr.No.	Description	MONTHLY WAGE RATES AT	
		Lahore, Rawalpindi, Gujranwala, Sialkot, Multan, Faisalabad, Sargodha, Bahawalpur and D.G.Khan	All Other places
22	Welder	34966	34142
23	Well Borer Grade	34966	34142
24	Work Supervisor	34966	34142
25	Gas Fitter	34966	34142
Sr.No.	4-LABOUR SKILLED GRADE-III	Rupees PM (26 days)	Rupees PM (26 days)
1	Black Smith	36069	35209
2	Driver Road Roller	36069	35209
3	Air Condition Operator	36069	35209
4	Driver Motor Vehicle	36069	35209
Sr.No.	5-LABOUR SKILLED GRADE-II	Rupees PM (26 days)	Rupees PM (26 days)
1	Assistant Rig Operator	37157	36267
2	Auto Fitter	37157	36267
3	Boiler Attendant	37157	36267
4	Boring Rig Operator	37157	36267
5	Chargeman	37157	36267
6	Crane Operator	37157	36267
7	Driller	37157	36267
8	Denter	37157	36267
9	Driver Road Roller (Steam/Diesel)	37157	36267
10	Dragline Operator	37157	36267
11	Diesel Mechanic	37157	36267
12	Fitter	37157	36267
13	Machine Man	37157	36267
14	Mechanic	37157	36267
15	Instrument Mechanic	37157	36267
16	Model Marker	37157	36267
17	Moulder	37157	36267
18	Mobile Crane Operator Grade	37157	36267
19	Offset Machine Operator	37157	36267
20	Operator	37157	36267
21	Pipe Fitter	37157	36267
22	Plumber	37157	36267
23	Pattern Marker	37157	36267
24	Rivertor	37157	36267
25	Serviceman	37157	36267
26	Chargeman cum Foreman	37157	36267
27	Turner	37157	36267
28	Upholstery Repairer	37157	36267
29	Welder	37157	36267
Sr.No.	6-LABOUR SKILLED GRADE-I	Rupees PM (26 days)	Rupees PM (26 days)
1	Black Smith	39225	38299
2	Bulldozer Operator	39225	38299
3	Captain Motor Launch	39225	38299
4	Carpenter	39225	38299
5	Dollyman Fitter	39225	38299
6	Driller	39225	38299
7	Dragline Operator	39225	38299
8	Fitter	39225	38299
9	Fitter Foreman	39225	38299
10	Grader	39225	38299
11	Machine Man	39225	38299
12	Mechanic	39225	38299
13	Moulder	39225	38299
14	Dragline Operator	39225	38299
15	Pattern Maker	39225	38299
16	Turner	39225	38299
17	Welder	39225	38299

Sr.No.	Description	MONTHLY WAGE RATES AT	
		Lahore, Rawalpindi, Gujranwala, Sialkot, Multan, Faisalabad, Sargodha, Bahawalpur and D.G.Khan	All Other places
Sr.No.	7-MISCELLANEOUS	Rupees PM (26 days)	Rupees PM (26 days)
1	Artificer	32050	32050
2	Auto Motor Mechanic-I	36069	35209
3	Crank Shaft Grinder	36069	35209
4	Foreman Grade-II	34966	34142
5	Foreman Grade-I	39225	38299
6	Marker-I	32864	32125
7	Offset Camera Operator-I	39225	38299
8	Plant Superintendent Grade-I	39225	38299
9	Plant Superintendent Grade-II	36069	35209
10	Superintendent Workshop Grade-I	39225	38299
11	Superintendent Workshop Grade-II	36069	35209
12	Traffic Count Machine Repairer	32864	32125
13	Graduate Engineer	88790	86574
14	Sub Engineer	46442	45335
15	Junior Computer Operator	41311	40331
<u>ELECTRICAL TRADE</u>			
Sr.No.	1-LABOUR UN-SKILLED	Rupees PM (26 days)	Rupees PM (26 days)
1	Assistant Wire Man	32000	32000
2	Cooly	32000	32000
3	Helper	32000	32000
4	Sanitary Worker	32000	32000
Sr.No.	2-LABOUR SEMI-SKILLED	Rupees PM (26 days)	Rupees PM (26 days)
1	Cooly	33150	32500
2	Tubewell Driver	33150	32500
3	Jamadar (Coolies)Mate	33150	32500
4	Aircraft Cleaner	33150	32500
Sr.No.	3-LABOUR SKILLED GRADE-IV	Rupees PM (26 days)	Rupees PM (26 days)
1	Armature Winder	34966	34142
2	Coil Winder	34966	34142
3	Driver cum Tubewell Operator	34966	34142
4	Electrician	34966	34142
5	Electrician cum Tubewell Driver	34966	34142
6	Driver	34966	34142
7	Lift Operator	34966	34142
8	Line Man	34966	34142
9	Operator Power Plant	34966	34142
10	Tubewell Operator cum Mechanic	34966	34142
11	Motor Winder	34966	34142
12	Wire Mistry	34966	34142
13	Wire Man	34966	34142
Sr.No.	4-LABOUR SKILLED GRADE-II	Rupees PM (26 days)	Rupees PM (26 days)
1	Armature Winder	37157	36267
2	Electrician	37157	36267
3	Mechanic Instrument	37157	36267
4	Operator Power Plant	37157	36267
5	Switch Board Attendent	37157	36267
Sr.No.	5-LABOUR SKILLED GRADE-I	Rupees PM (26 days)	Rupees PM (26 days)
1	Armature Winder	39225	38299
2	Electrician	39225	38299
3	Motor Winder	39225	38299
Sr.No.	6-MISCELLANEOUS	Rupees PM (26 days)	Rupees PM (26 days)
1	Auto Electric Mechanic	37157	36267
2	Auto Electrician	37157	36267
3	Foreman-II	34966	34142
4	Foreman-I	39225	38299
5	Operator Power Plant	39225	38299
6	Graduate Engineer	88790	86574
7	Sub Engineer	46442	45335
8	Junior Computer Operator	41311	40331

DAILY WAGE RATES - 2023

Sr.No.	Description	All Other Places	Lahore, Rawalpindi, Gujranwala, Sialkot, Multan, Faisalabad, Sargodha, Bahawalpur and D.G.Khan
A	UN-SKILLED COOLY	Other Cities (Per Day)	Big Cities (Per Day)
1	Chowkidar	1231	1231
2	Gate keeper	1231	1231
3	Beldar	1231	1231
4	Boatman	1231	1231
5	Bullockman	1231	1231
6	Cartman	1231	1231
7	Camelman	1231	1231
8	Donkeyman	1231	1231
9	Greaser	1231	1231
10	Oiler	1231	1231
11	Punkha Cooly	1231	1231
12	Sweeper	1231	1231
13	Sewerman	1231	1231
14	White Washer	1231	1231
15	Cooly Un-Skilled (All Types)	1231	1231
16	Washerman	1231	1231
17	Sanitary Worker	1231	1231
B	SEMI SKILLED COOLY	Other Cities (Per Day)	Big Cities (Per Day)
1	Bahishti	1250	1275
2	Chainman	1250	1275
3	Dresser Earthwork	1250	1275
4	Head Khalasi Survey	1250	1275
5	Hammer Man	1250	1275
6	Mali	1250	1275
7	Quarryman	1250	1275
8	Cooly	1250	1275
9	Tar Sprayer	1250	1275
10	Aircraft Cleaner	1250	1275
C	SKILLED COOLY	Other Cities (Per Day)	Big Cities (Per Day)
1	Armature Winder	1473	1509
2	Auto Electric Mechanic	1473	1509
3	Black Smith	1473	1509
4	Carpenter	1473	1509
5	Caner	1473	1509
6	Chiset	1473	1509

DAILY WAGE RATES - 2023

Sr.No.	Description	All Other Places	Lahore, Rawalpindi, Gujranwala, Sialkot, Multan, Faisalabad, Sargodha, Bahawalpur and D.G.Khan
7	Denter	1473	1509
8	Driller	1473	1509
9	Driver	1473	1509
10	Electrician	1473	1509
11	Furniture Polisher	1473	1509
12	Glazier	1473	1509
13	Instrument Mechanic	1473	1509
14	Machine Man	1473	1509
15	Mason	1600	1650
16	Electric Motor Winder	1473	1509
17	Moulder	1473	1509
18	Mechanic	1473	1509
19	Painter	1473	1509
20	Pattern Maker	1473	1509
21	Pipe Fitter	1473	1509
22	Plumber	1473	1509
23	Spray Painter	1473	1509
24	Sawyer	1473	1509
25	Turner	1473	1509
26	Tailor	1473	1509
27	Tin Smith	1473	1509
28	Welder	1473	1509
D	IV - MISCELLANEOUS	Other Cities (Per Day)	Big Cities (Per Day)
1	Boatman with Large Boat (above 35ft Length)	1473	1509
2	Boatman with Small Boat (upto 35ft Length)	1313	1345
3	Bullock(each)(without Attendant)	450	500
4	Camel (each)(without Attendant)	500	550
5	Donkey (each)(without Attendant)	400	450
6	Bullock Cart (without Bullock and Attendant)	300 Per day	
7	Camel Cart (without Camel and Attendant)	350 Per day	
8	Donkey or Mule Cart (without Animal and Attendant)	300 Per day	
E	Description	Other Cities (Per Hour)	Big Cities (Per Hour)
1	Unskilled Worker	153.85	153.85
2	Semi Skilled Worker	156.31	159.37
3	Skilled Worker	184.13	188.58
haroon.aro.fd@gmail.com			

Annex – C
SPECIFICATION OF MOTOR AND PUMPS

Package-2

Sr. No.	Tehsils Name	Village Name	Tubewells					
			Solar System on tubewells	motor #1 ratings in hp	Solar System on tubewells	motor #2 ratings in hp	Solar System on tubewells	motor #3 ratings in hp
62	Pakpattan	Chak No. 47 SP	33	25				
63		CHAK SARDUL SINGH	20	25	20	25		
64		Chak No. 57 SP	33	25				
65		Chak No. 66 D	20	15				
66		Chak No. 22 SP	33	25				
67		Karam Pur Bhatti	20	15				
68		Dedar Singh	20	15				
69		Jiwana Mehtam	20	15				
70		Kalewal	20	15				
71		Chak No. 34 Sp	33	25				
72		Chak Killi	20	15	20	15		
73		Farid Pur Dogran	33	25				
74		Sohara	20	15				
75		Ghuri						
76		Chak 23 SP	52	40				
77		Chak 16 SP	20	15	20	15	20	15
78		Chak 2 KB	20	15				
79		Chak 15 SP	33	25				
80		93 D						

Disposals																
Solar System on Disposal 1	Disposal Motor (HP) (1no of pump + 1no of pump)	Solar System on Disposal 2	Disposal Motor (HP) (1no of pump + 1no of pump)	Solar System on Disposal 3	Disposal Motor (HP) (1no of pump + 1no of pump)	Solar System on Disposal 4	Disposal Motor (HP) (1no of pump + 1no of pump)	Solar System on Disposal 5	Disposal Motor (HP) (1no of pump + 1no of pump)	Solar System on Disposal 6	Disposal Motor (HP) (1no of pump + 1no of pump)	Solar System on Disposal 7	Disposal Motor (HP) (1no of pump + 1no of pump)	Solar System on Disposal 8	Disposal Motor (HP) (1no of pump + 1no of pump)	
8	6															
8	6	8	6													
8	6															
8	6	8	6													
8	6	8	6													
8	6															
8	6															
8	6															
8	6															
8	6	8	6													
8	6	8	6													
8	6															
8	6	8	6	8	6	8	6									
8	6	8	6													
10	8															

NOTE: Disposal Motor i.e (5+5) Means disposal consist of two motors each 5 hp

Package-3

Sr. No.	Tehsils Name	Village Name	Tubewells				
			Solar System on tubewells	motor #1 ratings in hp	Solar System on tubewells	motor #2 ratings in hp	Solar System on tubewells
1	Bhowana	Chak No. 190	20	15			
2		Chak No. 192	20	15			
3		Chak No. 199	26	20			
4		Chak No. 221	26	20			
5		Chak No. 226	26	20			
6		Taja Beerwala					
7		Chak No. 191	26	20			
8		Chak No. 195	26	20			
9		Thatta Jhamb					
10		Barkhurdar	26	20			
11		Suleman	26	20			
12		Bilharke					
13		HID					

Disposals															
Solar System on Disposal 1	Disposal Motor (HP) (1no of pump + 1no of pump)	Solar System on Disposal 2	Disposal Motor (HP) (1no of pump + 1no of pump)	Solar System on Disposal 3	Disposal Motor (HP) (1no of pump + 1no of pump)	Solar System on Disposal 4	Disposal Motor (HP) (1no of pump + 1no of pump)	Solar System on Disposal 5	Disposal Motor (HP) (1no of pump + 1no of pump)	Solar System on Disposal 6	Disposal Motor (HP) (1no of pump + 1no of pump)	Solar System on Disposal 7	Disposal Motor (HP) (1no of pump + 1no of pump)	Solar System on Disposal 8	Disposal Motor (HP) (1no of pump + 1no of pump)
6	1+1														
8	1.5+1														
20	2.5+2.5														
15	2+2														
15	2+2														
13	2+1														
13	2+2														
11	1.5+1.5														
8	1.5+1														

NOTE: Disposal Motor i.e (5+5) Means disposal consist of two motors each 5 hp

14	Darya Khan	Surani Daggar	10	10			
15		Surani Nasheb					
16		Sandi	13	10			
17		Murani Shumali					
18		Angara Daggar	23	20			
19		Lundi Daggar					
20		Lundi Nasheb	13	10			
21		Haji Hussain Shah Daggar & Tiba Murtaza shah Daggar	20	15			
22	Chak No. 17 TDA						

11	1.5+1.5														
6	1+1														
19	5+1.5														
15	2.5+1.5														
21	5+2														

NOTE: Disposal Motor i.e (5+5) Means disposal consist of two motors each 5 hp

23	Isa Khel	Kachh Tundar Khel						
24		Khudozai	40	30				
25		Kotki						
26		Ganda	10	10	10	10	7	7.5
27		Kot Chandana	40	30	40	30	40	30
28		Tola Mangli						
29		Paccakis Umer Khan	20	15				
30		Karandi						
31		Vanjari						

5	1+1	5	1+1												
5	3+3			5		5									
5	1+1														
5	2+2					5									
5	3+3					5									
5	1+1	5	1+1	5	1+1	5									
5	1.5+1.5														
5	1+1														
5	1+1	5	1+1	5											

NOTE: Disposal Motor i.e (5+5) Means disposal consist of two motors each 5 hp

Package-3

Sr. No.	Tehsils Name	Village Name	Tubewells				
			Solar System on tubewells	motor #1 ratings in hp	Solar System on tubewells	motor #2 ratings in hp	Solar System on tubewells
32	Kot momin	Naseerpur Khurd	40	30			
33		Burj Muhammad Khan	26	20			
34		Ghulla pur	98	75			
35		Kirari Wala	26	20			
36		Kot Ummerana	40	30			
37		Kotla Panah	52	40			
38		Mohri Wal	52	40			
39		Naseerpur Kalan	78	60			
40		Said Nau	40	30			

Disposals															
Solar System on Disposal 1	Disposal Motor (HP) (1no of pump + 1no of pump)	Solar System on Disposal 2	Disposal Motor (HP) (1no of pump + 1no of pump)	Solar System on Disposal 3	Disposal Motor (HP) (1no of pump + 1no of pump)	Solar System on Disposal 4	Disposal Motor (HP) (1no of pump + 1no of pump)	Solar System on Disposal 5	Disposal Motor (HP) (1no of pump + 1no of pump)	Solar System on Disposal 6	Disposal Motor (HP) (1no of pump + 1no of pump)	Solar System on Disposal 7	Disposal Motor (HP) (1no of pump + 1no of pump)	Solar System on Disposal 8	Disposal Motor (HP) (1no of pump + 1no of pump)
5	2+2	5	2+2	5	2+2	5	2+2								
5	4+4														
5	1.5+1.5														
5	1.5+1.5														
5	1.5+1.5														
5	2.5+2.5	5	2.5+2.5												
5	1.5+1.5	5													

NOTE: Disposal Motor i.e (5+5) Means disposal consist of two motors each 5 hp

41	Noorpur Thal	Tetri	17	15			
42		Chak 17/M.B.	13	10			
43		Chak 49 DB	33	25			
44		Chak 29 MB	17	15			
45		Chak 53 DB	33	25			
46		Rangpur Baghure	40	30			
47		Adhi Sergal	26	20			
48		Nawa Saggu	52	40			
49		Maikan	33	25			
50		Chak 51 DB	33	25			
51		Chak 52 DB	33	25			
52		Katimar	52	40			

5	1.5+1.5														
5	2+2														
5	1+1														
5	1.5+1.5			5											
5	1+1														
5	2.5+2.5	5	2.5+2.5	5	2.5+2.5	5	1.5+1.5	5	1.5+1.5	5		5		5	
5	2+2	5	2+2	5	2+2	5		5		5					
5	2+2							5							
5	2+2														
5	1.5+1.5	5	1.5+1.5	5											
5	1.5+1.5	5													

NOTE: Disposal Motor i.e (5+5) Means disposal consist of two motors each 5 hp

53	Kalarkahar	Gahi	20	15			
54		Makhyal	65	50			
55		Guffanwala	78	60			
56		Jhamra	98	75	98		
57		Khairpur	130	100	130		
58		Khairpur	52	40			
59		Sarkalan	52	40	52		
60		Wasnal	78	60	26	20	26

7	1.5+1.5			5	2+2	5									
5	1.5+1.5	5	1.5+1.5	5	1.5+1.5	5									
5	1.5+1.5	7	1.5+1.5												
7	2+2	7	2+2												
7	1.5+1.5	7	1.5+1.5	7	1.5+1.5	7	1.5+1.5								
7	1.5+1.5	7	1.5+1.5	7	1.5+1.5										
7	2+2	7	1.5+1.5												
	1.5+1.5	7	1+1												

NOTE: Disposal Motor i.e (5+5) Means disposal consist of two motors each 5 hp

Annex – D
COORDINATES OF SITES

SR#	Tehsil	Total No. of Villages	Village Name	Settlement Name	Village Coordinates		TW1 Coordinates		TW2 Coordinates		TW3 Coordinates		TW4 Coordinates		TW5 Coordinates		TW6 Coordinates		SPS1/ABR1 Coordinates		SPS2/ABR2 Coordinates		SPS3/ABR3 Coordinates		SPS4/ABR4 Coordinates			
					Northing	Easting	Northing	Easting	Northing	Easting	Northing	Easting	Northing	Easting	Northing	Easting	Northing	Easting	Northing	Easting	Northing	Easting	Northing	Easting	Northing	Easting	Northing	Easting
1	Jhansi	12	Sheikh Wahan	Sheikh Wahan	29°39'57.95"N	72°21'32.13"E	29°39'57.95"N	72°21'32.13"E	29°38'36.62"N	72°21'51.98"E																		
2			Chak Isa	Chak Isa	29°40'13.90"N	72°18'48.88"E	29°40'13.90"N	72°18'48.88"E													29°40'11.97"N	72°18'41.08"E						
3			Golh Nour Muhammad	Golh Nour Muhammad	29°29'24.39"N	72°32'26"E	29°29'24.39"N	72°32'26"E													29°29'25.7"N	72°32'02.1"E						
4			Kot Azam	Kot Azam	29°37'58.58"N	72°16'15.60"E																29°37'56.26"N	72°16'24.01"E					
5			Gulpur Hthar	Gulpur Hthar	29°37'2.20"N	72°16'8.84"E	29°37'2.20"N	72°16'8.84"E																				
6			Usman Ali Shah	Usman Ali Shah	29°41'22.81"N	72°17'12.43"E	29°41'32.62"N	72°17'13.72"E	29°40'44.56"N	72°17'50.86"E												29°41'21.78"N	72°17'8.67"E					
7			Awal Khan	Awal Khan	29°41'00.6"N	72°21'45.7"E																						
8			Jilani	Jilani	29°43'31.36"N	72°13'36.46"E																						
9			Shajrat	Shajrat	29°45'28.03"N	72°20'58.07"E	29°45'28.03"N	72°20'58.07"E																				
10			Kara Budhu	Kara Budhu	29°14'46.96"N	72°11'33.39"E	29°14'46.96"N	72°11'33.39"E														29°14'44.84"N	72°11'35.65"E					
11			Karam Pur	Karam Pur	29°43'52.66"N	72°18'29.58"E	29°43'46.63"N	72°18'26.25"E														29°43'41.13"N	72°18'45.13"E					
12			Ahmed pur	Ahmed pur	29°37'2.32"N	72°16'59.90"E																29°37'2.18"N	72°16'56.89"E					
13			Sadio Nagar	Chak Sarkari			29°53'12.51"N	72°58'53.87"E														29°57'17.6"N	73°08'51.6"E	29°55'27.3"N	72°58'54.1"E			
14	Chak Muhammad Zaman	Umer din,Basti Sial Wali			29°58'05"N	73°09'27"E														29°57'28"N	73°08'38"E	29°57'30"N	73°08'39"E					
15	Rati Rampura	Gulab Ali			29°39'22"N	73°17'07"E			29°39'41"N	73°17'17"E										29°40'38.57"N	73°16'27.52"E	29°40'58.63"N	73°16'28.10"E	29°41'26"N	73°17'24"E			
16	Kamal Muhammad	Kot Azam			29°48'32"N	73°10'11"E														29°45'45"N	73°11'12"E	29°45'45"N	73°11'13"E	29°46'32"N	73°10'26"E			
17	Ghulam Muhammad				29°59'09"N	73°10'58"E														29°55'22"N	73°10'51"E	29°55'32"N	73°10'55"E					
18	Anokh Singh	Anokh Singh			30°03'01"N	73°20'11"E														30°02'32"N	73°20'49"E							
19	Mominabad																			29°57'55"N	73°04'00"E	29°58'02"N	73°04'37"E					
20	Phoganwala				29°56'26"N	73°05'59"E														29°56'54"N	73°04'30"E							
21	Ajtar Singh Sani				29°58'05"N	73°25'49"E														29°59'55"N	73°21'34"E							
22	Chohan Wala				29°41'31"N	73°09'52"E														29°42'22"N	73°09'43"E	29°42'39"N	73°09'20"E					
23	Damar-Lid-Din Bodla																											
24	Damar-Lid-Din Bodla				30°01'02"N	73°14'52"E														30°01'59"N	73°13'48"E	30°01'46"N	73°14'17"E					
25	Jundwala Katan				29°47'23"N	73°06'15"E	29°47'08"N	73°05'47"E												29°47'16"N	73°06'13"E	29°46'34"N	73°06'27"E					
26	Nanak Chand				29°55'34.47"N	73°04'13.71"E														29°52'56"N	73°03'31"E	29°52'49"N	73°04'09"E	29°52'40"N	73°04'37"E			
27	Manohar Garth																											
28	Mural Kharal				29°56'53"N	73°07'00"E														29°51'46"N	73°07'43"E							
29	Labha Pura				29°53'47"N	73°18'47"E														29°55'18"N	73°17'14"E							
30	Ganga Singh				29°55'56"N	73°04'56"E														29°53'23.25"N	73°06'06.07"E	29°53'08"N	73°05'57"E					
31	Roda Singh																			29°39'41"N	73°13'39"E	29°39'44"N	73°14'04"E	29°39'37"N	73°14'33"E	29°39'23"N	73°14'21"E	
32	Labh Singh																			29°39'20"N	73°13'45"E	29°38'28"N	73°14'05"E	29°38'31"N	73°13'22"E			
33	Sanatka				29°59'07"N	73°10'45"E														30°02'29"N	73°07'58"E	30°03'10"N	73°05'32"E					
34	Khai Bodla																											
35	Sothan	Amar Singh			30.287049	73.284424	30.278982	73.308247												30.286927	73.286869	30.276006	73.305121					
36	Dhaku Chishti	Kot Dewan			30.31531	73.345245	30.298071	73.345939												30.310587	73.343544	30.295945	73.343535					
37	Arifabad				30.317028	73.317956														30.314866	73.316006							
38	47/SP - Boayl Gunj				30.466823	73.570205														30.463905	73.565806							
39	22/SP				30.429769	73.462354														30.431154	73.466252							
40	17/SP				30.451109	73.302289																						
41	66-D	Acha-Dikki			30.486886	73.351885																						
42	Sardool Singh																											
43	32/SP	S-Maral Scheme & Co						30.370506	73.29603																			
44	86-D				30.523732	73.18597														30.373474	73.308061	30.375863	73.287953					
45	34/SP	Darbad / Rehmat Gill			30.373051	73.273038														30.35104	73.197095							
46	Killi	Lakhma Wali Abadi			30.377381	73.369495														30.385352	73.277507	30.373284	73.283321					
47	Karampur Bhattian				30.325438	73.453675														30.377733	73.369255							
48	Deedar Singh				30.358252	73.594611														30.338951	73.457909							
49	Jeewana Mehtam				30.353637	73.579895														30.357625	73.599866							
50	Kalywal				30.451928	73.451928														30.351219	73.582005							
51	Faridpur Dogran	Sardar-pur			30.398219	73.371056														30.452643	73.549883							
52	Ameer Sohara				30.301108	73.477191														30.395799	73.368405	30.388208	73.371452					
53	15/SP				30.367823	73.465376														30.300328	73.479179							
54	16/SP				30.365032	73.417485														30.362056	73.466241							
55	23/SP	Seal Village			30.453674	73.472863	30.455499	73.493691												30.365481	73.421467							
56	93-D				30.491051	73.248228														30.449006	73.470996	30.454674	73.492724					
57	2-KB				30.305393	73.328425														30.492713	73.247307							
58	Basti Jamal Hussain Shah				N28°25'24.29"	E70°11'19.43"														30.304352	73.326252							
59	Basti Ghareebabad																											

Annex-E
Revised Technical Specifications
(Section VII – Schedule of Requirements)



**PUNJAB RURAL MUNICIPAL SERVICES COMPANY
(PRMSC)**

A COMPANY SET UP UNDER SECTION 42 OF THE COMPANIES ACT, 2017



**Supply, Installation, Commissioning, Testing, Training & Net-Metering of
Solarization of Water Supply and Sewerage Schemes under PRSWSSP**

Section VII - Schedule of Requirements

Revised Technical Specifications

**Package-01, Tehsils: Liaqatpur, Rojhan, Alipur, Kahrur Pakka and Shujabad
PK-LG&CD-383317-GO-RFB**

**Package 02, Tehsils: Taunsa, Ahmedpur Sial, Bahawalnagar, Khairpur Tamawali and Pakpattan
PK-LG& CD-383320-GO-RFB**

**Package 03, Tehsils: Bhowana, Darya Khan, Isa Khel, Kot Momin, Noorpur Thal and Kalar Kahar
PK-LG& CD-383321-GO-RFB**

Sr. No.	Item	Description
1	Solar PV Modules	<ul style="list-style-type: none">• IEC 61215 Certified• Application/ Safety Class II• n-type• Tier 1 Manufacturer for Q3/Q4 of 2021• 500W to 600W with positive tolerance only (575W – 585W)• 20% to 25% module efficiency• Warranty as per manufacturer• Material and Workmanship Warranty as per manufacturer• Power Output after 25 Years \geq 85%• PID Resistant• Power Loss Coefficient of $-0.39\%/^{\circ}\text{C}$ or lesser• Barcode Identification• Efficiency at $200 \text{ W/m}^2 \geq 96\%$ of STC- IP 65 Rated Junction Boxes, dust and vermin proof with Copper Bus Bar Terminals, EPDM rubber gasket, MOVs and Reverse Blocking Diodes• Compliance with S.R.O 604
2	Mounting Structure, Civil Works and Foundations etc.	<ul style="list-style-type: none">- UV resistant, Galvanized Steel Frame of Gauge 12 with atleast 85 micron or thicker zinc coating- Tilt: 25° or As per site requirement- Anodized Aluminum Frames if proposed shall be preferred- Spacing between rows should be more than 1.5 times the height of mounting structure- Shall Withstand Wind speed of 150 km/h- Galvanic Isolation- Site Specific Design- Complete Civil Works
3	VFD and Associated Sensors	<ul style="list-style-type: none">- Power Options for Grid, Generator and Solar PV- Auto Start Stop with Any Input Power- Self Diagnostic and Self Protection<ul style="list-style-type: none">• Dry Run Protection• Digital Controls with Complete Protective Functions• IP65 (By default or with enclosure)• AC Short Circuit Protection• Under/Over Voltage and Over Current Protection• Reverse current Blocking• -10 to $+40$ Degree Celcius• AC and DC Rated Voltage matching with the motor• 5 Years warranty or manufacturer recommended warranty whichever is more
4	On Grid Inverter	<ul style="list-style-type: none">- Power Options for Grid, Generator and Solar PV- Auto Start Stop with Any Input Power- Self Diagnostic and Self Protection<ul style="list-style-type: none">• Dry Run Protection

		<ul style="list-style-type: none"> · Digital Controls with Complete Protective Functions · IP65 · Ground Fault Monitoring · AC Short Circuit Protection · Under/Over Voltage and Over Current Protection · Reverse current Blocking · -10 to +40 Degree Celsius · AC and DC Rated Voltage matching with the motor · 5 Years warranty or manufacturer recommended warranty whichever is more
5	DC Cables, AC Cables, Earthing Wires, Conduits, Connectors, Cable Ties etc.	DC and AC Cables: <ul style="list-style-type: none"> - 99.99% Copper Cables - Shall be sized such that 30% spare capacity remains at operating temperatures of 90 °C - UL 4703 compliant Low Smoke Halogen Free - BS 6004 and BS 7644 Compliant - Conduits shall have 30% to 35% spare capacity - Trenching and all Civil Works - Seamless Terminations - Perforated Cable Trays - Avoid Direct Sunlight and Direct Clamping of Cables - Should not be physically accessible for routine works - Earthing and Lightning Protection as per Electricity Act of Pakistan - Labeling of all strings/ equipment shall be mandatory - UPVC/Corrugated PVC Pipes and Cable Trays
6	Breakers, Surge Arrester, Combiner Boxes etc.	<ul style="list-style-type: none"> · Circuit Breakers - Protection Devices · Separate DC and AC earthing each with 3 Ohms or lesser resistance · Non-Isolated Lightning Arrestors · Protection against lightning currents - IP 65 Rated Cabinets
7	Transportation, Installation, Lab Testing and Commissioning Costs	<ul style="list-style-type: none"> · Delivery, Installation and Testing of all equipment delivered against the P.O · Complete Works in all respects
8	Installation of Green Meter alongwith all necessary test	Complete Job in all respect including all government approvals and processes for Generation License
Services:		
9	Operational & Maintenance	For the operations and maintenance of installed system, provision of two operators (for each site) for one year after successful completion of project.
10	After Sale Service	Two Years comprehensive free after sale service that during five (05) warranty period or manufacturer's standard warranty whichever is more. The Comprehensive aftersales services shall be covering all preventative and corrective actions, including all related costs, such as, but not limited to workmanship, spare parts, repair work, transportation, duties and taxes, clearance costs of spare parts etc., without any cost.
11	Insurance	The bidder shall furnish a one-year comprehensive insurance for complete system, encompassing coverage for damages, theft, and all associated risks.

1. All other terms and conditions will remain same.

Chief Executive Officer

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