

GOVERNMENT OF KHYBER PAKHTUNKHWA PUBLIC HEALTH ENGINEEING DEPARTMENT

SOLARIZATION OF WATER SUPPLY SCHEMES

BIDDING DOCUMENTS (TECHNICAL PROPOSAL)

PACKAGE []
DISTRICT [DISTRICT NAME]

2015

OFFICE OF THE DEPUTY SECRETARY (TECHNICAL)
PUBLIC HELATH ENGINEEING DEPARTMENT 1-POLICE ROAD CIVIL
SECRETRIAT PESHAWAR

Appendix A to

Instructions to Bidders

EVIDENCE OF BIDDER'S CAPABILITY

	SUMMARY OF SYSTEM DESIGN FOR AUTO SUN-TRACKING BASED SOLAR POWER PUMPING SETS, PACKAGE 1, DISTRICT PESHAWAR															
		(IGPH)	ab a		Power s)	PV Generator Peak Power (Watts)			PV De-rating Factor for							
Sr. #	Name of Work	Discharge (IGPH)	Total Head (Feet)	Pump Setting (Feet)	Water Horse Power (KW)	Pump Efficiency	Motor Efficiency	Motor BHP (HP)	Motor II Power (V	Shatt Po (Watt	Total PV Power (Watts)	No of Strings in Parallel	No of Module/String in Series	Module Size	Total PV Generation	Solar Panels As per specifications attached
1	WSS [SCHEME NAME]															
2	WSS [SCHEME NAME]															
3	WSS [SCHEME NAME]															
4	WSS [SCHEME NAME]															
5	WSS [SCHEME NAME]															

FOR SOLAR BASED PUMPING UNIT WITH AUTO SUN TRACKING PACKAGE # [], DISTRICT [SCHEME NAME]

Name	of Work: WSS [SCHEME NAME]		
S No.	Description of Work		
	mersible Pump (ISO – 9906 Certified) d-able, Water Cool capable of giving Feet and pump Setting Feet alonguto Sun Tracker, Controller /Inverter, Valves, Reflux Valve, Bend, Suspension tubber Gaskets etc.) & steel frame and dry specification		
A.	Water Horse Power (HP/Watt)		
	Pump Efficiency %:		
İ	Motor Efficiency %:		
	Motor BHP (HP):		
	Motor Input Power (Watt):		
	Total PV Power (Wp):		
	(Engineer Incharge)		(Contractor/Firms)

FOR SOLAR BASED PUMPING UNIT WITH AUTO SUN TRACKING PACKAGE # [], DISTRICT [SCHEME NAME]

Name	of Work: WSS [SCHEME NAME]		
S No.	Description of Work		
	mersible Pump (ISO – 9906 Certified) d-able, Water Cool capable of giving Feet and pump Setting Feet alonguto Sun Tracker, Controller /Inverter, Valves, Reflux Valve, Bend, Suspension tubber Gaskets etc.) & steel frame and dry specification		
A.	Water Horse Power (HP/Watt)		
	Pump Efficiency %:		
	Motor Efficiency %:		
	Motor BHP (HP):		
	Motor Input Power (Watt):		
	Total PV Power (Wp):		
	(Engineer Incharge)		(Contractor/Firms)

FOR SOLAR BASED PUMPING UNIT WITH AUTO SUN TRACKING PACKAGE # [], DISTRICT [SCHEME NAME]

Name	of Work: WSS [SCHEME NAME]		
S No.	Description of Work		I
	Coupled with submersible Electric Discharge IGPH at Total dynamith Solar Panel (A-Grade Mono Submersible Flat Cable, Riser Pipe, 7	Motor Rewin mic Headcrystalline), A Fop Set (Sluice s, Nut Bolts & R	mersible Pump (ISO – 9906 Certified) d-able, Water Cool capable of giving Feet and pump Setting Feet alongate Sun Tracker, Controller /Inverter, Valves, Reflux Valve, Bend, Suspension Rubber Gaskets etc.) & steel frame and dry specification
A.	Water Horse Power (HP/Watt)		
	Pump Efficiency %:		
	Motor Efficiency %:		
	Motor BHP (HP):		
	Motor Input Power (Watt):		
	Total PV Power (Wp):		

(Contractor/Firms)

(Engineer Incharge)

FOR SOLAR BASED PUMPING UNIT WITH AUTO SUN TRACKING PACKAGE # [], DISTRICT [SCHEME NAME]

Name	of Work: WSS [SCHEME NAME]		
S No.	Description of Work		
	Coupled with submersible Electric Discharge IGPH at Total dynamith Solar Panel (A-Grade Mono Submersible Flat Cable, Riser Pipe, 7	Motor Rewin mic Headcrystalline), A Fop Set (Sluice s, Nut Bolts & R	mersible Pump (ISO – 9906 Certified) d-able, Water Cool capable of giving Feet and pump Setting Feet alongate Sun Tracker, Controller /Inverter, Valves, Reflux Valve, Bend, Suspension Rubber Gaskets etc.) & steel frame and dry specification
A.	Water Horse Power (HP/Watt)		
	Pump Efficiency %:		
	Motor Efficiency %:		
	Motor BHP (HP):		
	Motor Input Power (Watt):		
	Total PV Power (Wp):		

(Contractor/Firms)

(Engineer Incharge)

FOR SOLAR BASED PUMPING UNIT WITH AUTO SUN TRACKING PACKAGE # [], DISTRICT [SCHEME NAME]

Name	of Work: WSS [SCHEME NAME]		
S No.	Description of Work		
	Coupled with submersible Electric Discharge IGPH at Total dynamith Solar Panel (A-Grade Mono Submersible Flat Cable, Riser Pipe,	Motor Rewin mic Headcrystalline), A Fop Set (Sluice s, Nut Bolts & R	mersible Pump (ISO – 9906 Certified) d-able, Water Cool capable of giving Feet and pump Setting Feet alongate Sun Tracker, Controller /Inverter, Valves, Reflux Valve, Bend, Suspension Aubber Gaskets etc.) & steel frame and dry specification
A.	Water Horse Power (HP/Watt)		
	Pump Efficiency %:		
	Motor Efficiency %:		
	Motor BHP (HP):		
İ	Motor Input Power (Watt):		
	Total PV Power (Wp):		
	(Engineer Incharge)		(Contractor/Firms)

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General Information

All individual firms and each partner of a joint venture applying for qualification are requested to complete the information in this form. Nationality information is also to be provided for foreign owners or applicants who are forming part of the Joint Ventures as required under the PEC Bye-Laws as a Partnership/Joint Venture.

Where the Applicant proposes to use named subcontractors for critical components of the works or for work contents in excess of 10 percent of the value of the whole works, the following information should also be supplied for the specialist subcontractor(s).

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

NATIONALITY OF OWNERS				
NAME NATIONALITY				
1.				
2.				
3.				
4.				
5.				

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General Experience Record

Name of Applicant or partner of a joint venture	

All individual firms and all partners of a joint venture are requested to complete the information in this form. The information supplied should be the annual turnover of the Applicant (or each member of a joint venture), in terms of the amounts billed to clients for each year for work in progress or completed over the past five years.

Use a separate sheet for each partner of a joint venture.

Annual Turnover					
Year	Turnover (in actual currency)	Equivalent Rupees in Millions			
1.					
2.					
3.					
4.					
5.					

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Joint Venture Summary

Nam	Names of all Partners of a Joint Venture		
1.	Lead Partner		
2.	Partner		
3.	Partner		

Total value of annual turnover, in terms of work billed to clients,

Annual Turnover Data (Equivalent in Pak Rupees, Millions)						
Partner	Form A-2 Page No.	Year 1	Year 2	Year 3	Year 4	Year 5
1. Lead Partner						
2. Partner						
3. Partner						
	Total:					

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Particular Experience Record

Name of Applicant or partner of a joint venture

On a separate page, using the format of Application Form A-5, each applicant or partner of a Joint Venture is required to list all contracts of a value equivalent to Pak **Rupees Five million (Rs.3.5 million)** and above of a similar nature and complexity to the contract for which the Applicant wishes to qualify, undertaken during the last five years. The information is to be summarized, using Application Form A-5, for each contract completed or under execution by the Applicant or by each partner of a Joint Venture.

Where the Applicant proposes to use named subcontractor(s) for critical components of the works or for work contents in excess of 10 percent of the value of the whole works, the information in the afore-mentioned forms should also be supplied for each specialist subcontractor.

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Details of Contracts of Similar Nature & Complexity

Name of Applicant or partner of a joint venture

Use a separ	ate sheet for each contract.
1.	Name of Contract
	Country
2.	Name of Employer
3.	Employer Address
4.	Nature of works and special features relevant to the contract for which the Applicant wishes to pre-qualify
5.	Contract Role (Tick One)
	(a) Sole Contractor (b) Sub- Contractor (c) Partner in a Joint Venture
6.	Value of the total contract (in specified currencies) at completion, or at date of award for current contract
	Currency Currency Currency
7.	Equivalent in Pak/Rs.
8.	Date of Award
9.	Date of Completion
10.	Contract Duration (Years and Months)
	YearsMonths
11.	Specified Requirements ¹

1

Insert any specific criteria required for particular operations, such as annual volume of earthmoving, underground excavation, or placing concrete etc.

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Summary Sheet: Current Contract Commitments/Works in Progress

Name of Applicant or partner of a	igint contura
Name of Applicant or partner of a	Joint venture

Applicants and each partner to an application should provide information on their current commitments on all contracts that have been awarded, or for which a letter of intent or acceptance has been received, or for contracts approaching completion, but for which substantial Completion Certificate has yet to be issued.

Name of Contract	Value of Outstanding work (Equivalent Pak Rs. Millions)	Estimated Completion Date
1.		
2.		
3.		
4.		
5.		
6.		

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Personnel Capabilities

Name of Applicant		

For specific positions essential to contract implementation, Applicants should provide the names of at least two candidates qualified to meet the specified requirements stated for each position. The data on their experience should be supplied on separate sheets using one Form for each candidate (Application Form A-8).

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

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Candidate Summary

Name of Applic	cant	
	Position	Candidate [Tick appropriate one]
Candidate	1. Name of Candidate	☐ Prime ☐ Alternate 2. Date of Birth
information	3. Professional Qualification	4. PEC Registration No.
Present	5. Name of employer	
employment	Address of employer	
	Telephone	Contact (manager/personnel officer)
	Fax	
	Job title of candidate	Years with present employer

Summarize professional experience over the last 10 years, in reverse chronological order. Indicate particular technical and managerial experience relevant to the Project.

Month/ Dates/Years		Company/Project/Position/Relevant management experience	technical	and
From	То			

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Application Form A - 9 Equipment Capabilities

Name of Applicant		

The Applicant shall provide adequate information to demonstrate clearly that he has the capability to meet the requirements for each and all items of equipment listed in the Evaluation Criteria 1.2 (v). A separate Form shall be prepared for each item of equipment listed or for alternative equipment proposed by the Applicant.

Item of Equ	ipmer	nt			
Equipment	1.	Name of manufacturer	2.	Model and power rating	
information	3.	Capacity	4.	Year of manufacture	
Current	5.	Current location			
status	6.	Details of current commitments			
Source	7.	Indicate source of the equip	ment		
		□ Owned □ Rented	□ Lea	ased	

Omit the following information if it is owned by the Applicant or partner.

Owner	8. Name of owner	
	9. Address of owner	
	Telephone	Contact name and title
	Fax	
Agreement	Details of rental/lease specific to the	ne Project

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Application Form A - 10 Financial Capability

Name of Applicant or Partner of a Joint Venture

Applicants, including each partner of a joint venture, should provide financial information to demonstrate that they meet the minimum requirements that the lead partner shall meet not less than 40 percent of all qualifying criteria and each of the partners shall meet not less than 25 percent of all the qualifying criteria given in Evaluation Criteria. All the above figures will be added together to arrive at JV's total capacity. Each applicant or partner of a joint venture must fill-in this form. If necessary, use separate sheets to provide complete banker information. A copy of the audited balance sheets should be attached.

Banker	Name of banker	
	Address of banker	
	Telephone	Contact name and title
	Fax	

Summarize actual assets and liabilities in Pak Rupees (Equivalent at the current rate of exchange at the end of each year) for the previous three years, based upon known commitments, projected assets and liabilities in pak Rupees equivalent for the next two years.

Financial information in Pak Rs. or equivalent			Actual: previous five year				Projected next two years	
		1	2	3	4	5	6	7
1.	Total assets							
2.	Current assets							
3.	Total liabilities							
4.	Current liabilities							
5.	Profits before taxes							
6.	Profits after taxes							

Specific proposed sources of financing to meet the cash flow of the Project, net of current commitments

Source of financing	Amount (Pak Rs. or equivalent)
1.	
2.	
3.	
4.	

Attach audited financial statements for the last three years (for individual applicant or each partner of joint venture). Firms owned by individuals, and partnerships, may submit their balance sheets certified by a registered accountant, and supported by copies of tax returns, if audits are not required by the laws of their countries of origin in case of foreign firms.

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Litigation History

Name of Applicant or Partner of a Joint Venture	,
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Applicants, including each of the partners of a joint venture, should provide information on any history of litigation or arbitration resulting from contracts executed in the last five years or currently under execution. A separate sheet should be used for each partner of joint venture.

Year	Award FOR or AGAINST Applicant	Name of client, cause of litigation, and matter in dispute	Disputed amount (current value Pak Rs. or equivalent)

Check List

Yes	No	Check list	
		Valid PEC Certificate(s) in required category	
		Copy of valid dealer ship certificate	
		System Design	
		Application form (A-1), General Information	
		Application form (A-2), General Experience Record	
		Application form (A-3), Joint Venture Summary	
		Application form (A-4), Particular Experience (Record List of Solar based pumping machinery projects of similar nature and complexity completed in last three years and complexity in-hand.)	
		Application form (A-5), Detail of Contracts of Similar Nature and Complexity	
		Application form (A-6) Current Contract Commitments/Works in Progress	
		Application form (A-7), Personnel Capabilities	
		Application form (A-8) Candidate Summary (List of B.Sc. Electrical/Mechanical Engineers having relevant experience with their CVs and PEC Reg. No.& List of Associates Engineers (DAE) Electrical/Mechanical/Civil with their CVs having relevant experience)	
		Application form (A-9), Equipment capabilities	
		Application form (A-10), Financial Capability	
		Application form (A-11), Litigation History	
		Undertaking that all equipment listed in this document for qualification will be made available for the subject Project	
		Audited balance sheets for at least last three years and Bank statements	
		Undertaking that the Applicant has not been declared bankrupt	
		Original affidavit that the firm has not been black listed	
		Applicants legal status	
		Principal place of Business	
		Place of incorporation or registration	
		NTN Number and certificate of registration with Income Tax Department	
		Enlistment record with Government organizations and other agencies	
		Location of workshop facility, if any	
		Equipments sole agencies represented by the Contractor	
		Written description of internal quality control program for specified works	

EVALUATION CRITERIA

1.1 Eligibility for Qualification

Keeping in view the complexity of the Project, eligibility of Applicants for qualification evaluation is as mentioned below:

Sr. No.	Description	Yes/No
1.	Registration with Pakistan Engineering Council (PEC) in relevant category with field of specialization EE-11 (specified for solar technology).	If "YES" the applicant will be Eligible for further Evaluation for qualification (copy of valid PEC certificate shall be attached).
2.	Blacklisting from any Government/Semi-Government Agency/Department.	If "YES" the applicant will not be Eligible for further Evaluation for qualification. (Original Affidavit on Judicial Stamp Paper that the firm has not been black listed from any Government/ Semi Government Agency/ Department till date shall be provided).
3.	System Design	System Design must be submitted in technical bid otherwise applicant will not be Eligible for further Evaluation. If system design violates the attached specifications to Instruction to Bidders, The technical bid will be straight away rejected without any further negotiation.
4.	 i. Firm must have ISO 9001-2008 certificate quality management system ii. Firm must have pre-qualified pumping machinery according to ISO 9906 Roto dynamic acceptance test. iii. Warranty period for solar panel will be 20 years and remaining components 2 - years iv. Goods declaration (bill of entry) must be provided certificate of origin of goods v. Performance curves at STC for both solar panel and pumping machinery 	Attach Valid documents

	should be provided for each work separately along with bidding documents	
vi.	Solar Auto Tracker slow speed DC Motors driven	

1.2 Evaluation Criteria

Keeping in view the complexity of the Project works, criteria for qualification has been evolved as mentioned below:

Sr. No.	Category	Weightage/Marks
i.	General Capabilities	12
ii.	Financial Soundness	20
iii.	Experience Record	30
iv.	Personnel Capabilities	20
٧.	Equipment Capabilities	18
	Total:	100

Qualification will be carried out on the point scoring basis. Any applicant securing overall minimum score of 60 % as total will be considered as qualified.

Applicants having score of less than 60% in any three categories shall not be considered for further evaluation.

Qualification Evaluation Criteria

i) General Capabilities

a)	Copy of Valid dealer ship(pumps & solar panels) certificate from Sub- Contractor/JV Partner	2	 No marks will be given if license is not attached and 2 points will be added in case of valid certificate.
c)	Litigation History in which Decision has been given against the firm(s)	6	 In case the firm is involved in any litigation, -5 will be given and 6 points will be added in case original affidavit of no litigation is attached.
d)	Description of Internal Quality Control assurance program for Construction/Maintenance	4	 4 Marks will be given if Description is provided.
Total Marks Allocated		12	

ii) Financial Soundness

Sr. No.	Description	Marks Assigned	Criteria for Marks Obtained
a)	Bank Certificate including Bank Credit Line (Evidence in Original from Guarantor Bank)	5	 Bank Certificate (2-Marks) 2 Marks are given if Original Bank Certificate is provided. Bank Credit Line (3-Marks) 2 Marks are given if the available bank credit line limit is equal to 30 Million. For limit less than 30 Million, use following weight-age: 2 x (A/30) For the limit more than 30 million but less than 50 million use following weight-age:

			2 . (4/50)
			2 + (A/50)
			A = Available Bank Credit Line Limit
			Full Marks are given in case of limit is 70 million or more.
b)	Audited Balance Sheets for at least last three years	5	No marks will be given if Audited Balance Sheets are not attached. Two (2) points will be given for one year audited balance sheets, four (4) points for two years and full points for three years.
c)	Working Capital in last 5 years	5	3 Marks are given if the available average working capital for last three years is equal to 30 Million.
			 For the capital less than 30 million use following weightage:
			3 x (A/30)
			For the capital more than 30 million but less than 50 million use following weightage.
			3+ (A/50)
			A = Average working capital in last three years.
			Full Marks are given in case of limit is 70 million or more.
d)	Registration with income tax & sale tax department	5	No marks will be given if NTN & GST Registration certificate is not attached and 5 points will be added in case of valid certificates.
	Total Marks Allocated	20	

iii) Experience Record

Sr. No.	Description	Marks Assigned	Explanation for Marks Obtained
a)	Projects of similar nature and complexity completed in last five years.	20	10 Marks are given if the applicant has completed at least 4 projects of similar nature in last five years.
			• For less than 4 projects completed use the following weight age.
			10 x (A/4)
			 For more than 4 projects but less than 8 projects completed use the following weight age. 10 + (A/4)x2
			 A = No of projects of similar nature completed in last five years Full Marks are given in case of 8 projects or more.
b)	Projects of similar nature and complexity in-hand.	5	 2.5 Marks are given if the applicant has 3 projects of similar nature in-hand. For more than 3 but less than 6 projects in-hand use the following weight-age. 2.5 + (A/3)
			A = No of projects of similar nature in-hand during last ten years.
			Full Marks are given in case of 8 projects or more.
d)	Enlistment record with Government Organizations & other agencies	5	1 Mark for each enlistment up to maximum of five enlistments.
	Total Marks Allocated	30	

iv) Personnel Capabilities

Sr. No.	Description	Marks Assigned	Explanation for Marks Obtained
i)	B.Sc. Electrical/Mechanical	12	Experience (6-Marks)
	Engineers registered with Pakistan Engineering Council (PEC)		6 Marks will be given if the individual relevant experience of at least 1 numbers of B.Sc. Engineers (professional) is equal to 10 years or above. For Experience Below 10 years use the following wtg.
			6 x (A/10) Strength of Engineers
			 4 Marks will be given if the total no. of Engineers registered with PEC is 2.
			6 Marks will be given if the total no. of engineers registered with PEC is 3 or above.
ii)	Associates Engineers (DAE)	6	Experience (4-Marks)
	Electrical/Mechanical/Civil		4 Marks will be given if the individual relevant experience of at least 1 number of Associates Engineers (DAE) is equal to 8 years or above. For Experience Below 8 years use the following wtg.
			4 x (A/8)
			Strength of Associate Engineers (2 Marks)
			2 Marks will be given if the total no. of Associate Engineers (DAE) are 3 or above.
	Total Marks Allocated	18	

v) Equipment Capabilities

Sr. No.	Description	Marks Assigned	Explanation for Marks Obtained
a)	Equipment 1. Test Bed for verification / testing of Solar pumps along with all accessories as per ISO-9906. (Firm must have Third Party Certification regarding Test Bed arrangements).	10	10 Marks for complete setup are given. (Attached Third Party Certificate)
b)	Workshop facilities. Attach layout sketch of workshop.	5	No marks will be given if Contractor has no workshop facilities.
c)	Equipment sole agencies represented by the Contractor	5	1 mark for each agency upto maximum 2 points
	Total Marks Allocated	20	

Appendix B to Instructions to Bidders

Specification/manufacturer details of the products i-e Solar panels, Auto tracker, Inverter etc

Appendix C to Instructions to Bidders

The origin, make and material of the motor should be clearly mentioned in the technical proposal. Pump Characteristics curve, brands etc