

TECHNICAL BID

Annexure I

A. TECHNICAL SPECIFICATIONS 50 KW SOLAR POWER SUPPLY SYSTEM

Ser	Characteristic	Description
Photovoltaic (PV) Modules (Qty – 120)		
1.	General	Mono Crystalline modules with tempered front glass of appropriate thickness, anti-reflecting coating, high transmission and low iron.
2.	Protection Class	<ul style="list-style-type: none"> • Class II • Fire Type -Class C
3.	Standard Test Conditions (STC) Specifications	<ul style="list-style-type: none"> • Maximum Power ≥ 600 Watts • Maximum Voltage ≥ 46.15 Volt • Maximum Power Current ≥ 13 Amp • Open Circuit Voltage ≥ 50 Volt • Short Circuit Current ≥ 13.50 Amp • Efficiency $\geq 20\%$
4.	Nominal Operating Cell Temperature Specifications	<ul style="list-style-type: none"> • Maximum Power ≥ 450 Watts • Maximum Voltage ≥ 45 Volt • Maximum Power Current ≥ 10 Amp • Open Circuit Voltage ≥ 50 Volt • Short Circuit Current ≥ 11 Amp
Solar Inverter (Qty – 01)		
5.	Input (DC)	<ul style="list-style-type: none"> • Max PV Input Power ≥ 80 KW • Max Input Voltage ≥ 1000 Volt • Max Input Current ≥ 40 Amps • Max Short Circuit Current ≥ 60 A
6.	Output (AC)	<ul style="list-style-type: none"> • Rated Power ≥ 50 KW • Rated Voltage ≥ 400 Volt • Rated Current ≥ 50 Amps • Power Factor = 0.8 (leading/lagging)
7.	Protection	<ul style="list-style-type: none"> • Overcurrent protection • Short-circuit protection • DC reverse polarity protection • Surge protection
8.	Display and Communication	LCD/LED Display as status indicator and control device. Ethernet, Wi-Fi and LAN enabled.
Batteries (Qty – 01 Set)		
9.	Type	High Voltage Lithium Ion Batteries
10.	Nominal Voltage	≥ 500 V DC
11.	Nominal Capacity	≥ 50 KWh
12.	Usable Capacity	$\geq 90\%$ Depth of Discharge
13.	Maximum Charging Current	≥ 50 Amp
14.	Protection Rating	IP20 or equivalent
15.	Cooling Type	Natural
16.	Life	≥ 6000 Cycles or 15 Years
17.	Display and Communication	LCD/LED Display as status indicator and control device. Ethernet, Wi-Fi and LAN enabled.
Accessories (01 Set)		
18.	PV Mounting	Frame Material - Aluminum
19.	PV cables	6mm ² cross-section of customized length

Ser	Characteristic	Description
20.	AC cables	25mm ² cross-section of customized length
21.	DC cables	25mm ² cross-section of customized length
22.	PV Earthing System	Appropriate Rating
23.	Cable Accessories	MC4/ Cable Lugs or as required for installation
24.	AC Distribution Panel	IP 68 Rated
25.	DC Panel	IP 68 Rated
Services		
26.	Installation	As per design
27.	Testing and Commissioning	As per design parameters
28.	Training	For two set of personnel on upkeep, maintenance and operation of the system
29.	Warranty	Five Years for complete system or OEM warranty whichever is longer

B MATRIX FOR TECHNICAL SPECIFICATIONS

Ser.	Product Description	Whether the Company would be able to provide the given Specifications and Quantity (Yes/ No)	If not, the nearest Specification s that the Company can provide	Remarks
(1)	(2)	(3)	(4)	(5)
Photovoltaic (PV) Modules (Qty – 120)				
1.	General	Mono Crystalline modules with tempered front glass of appropriate thickness, anti-reflecting coating, high transmission and low iron.		
2.	Protection Class	<ul style="list-style-type: none"> • Class II • Fire Type -Class C 		
3.	Standard Test Conditions (STC) Specifications	<ul style="list-style-type: none"> • Maximum Power ≥ 600 Watts • Maximum Voltage ≥ 46.15 Volt • Maximum Power Current ≥ 13 Amp • Open Circuit Voltage ≥ 50 Volt • Short Circuit Current ≥ 13.50 Amp • Efficiency $\geq 20\%$ 		
4.	Nominal Operating Cell Temperature Specifications	<ul style="list-style-type: none"> • Maximum Power ≥ 450 Watts • Maximum Voltage ≥ 45 Volt • Maximum Power Current ≥ 10 Amp • Open Circuit Voltage ≥ 50 Volt • Short Circuit Current ≥ 11 Amp 		
Solar Inverter (Qty – 01)				
5.	Input (DC)	<ul style="list-style-type: none"> • Max PV Input Power ≥ 80 KW • Max Input Voltage ≥ 1000 Volt • Max Input Current ≥ 40 Amps • Max Short Circuit Current ≥ 60 A 		
6.	Output (AC)	<ul style="list-style-type: none"> • Rated Power ≥ 50 KW • Rated Voltage ≥ 400 Volt • Rated Current ≥ 50 Amps • Power Factor = 0.8 (leading/lagging) 		
7.	Protection	<ul style="list-style-type: none"> • Overcurrent protection • Short-circuit protection • DC reverse polarity protection • Surge protection 		
8.	Display and Communication	<ul style="list-style-type: none"> • LCD/LED Display as status indicator and control device. • Ethernet, Wi-Fi and LAN enabled. 		
Batteries (Qty – 01 Set)				
9.	Type	High Voltage Lithium Ion Batteries		
10.	Nominal Voltage	≥ 500 V DC		

11.	Nominal Capacity	≥50 KWh			
12.	Usable Capacity	≥90% Depth of Discharge			
13.	Maximum Charging Current	≥50 Amp			
14.	Protection Rating	IP20 or equivalent			
15.	Cooling Type	Natural			
16.	Life	≥6000 Cycles or 15 Years			
17.	Display and Communication	LCD/LED Display as status indicator and control device. Ethernet, Wi-Fi and LAN enabled.			

Accessories (01 Set)

18.	PV Mounting	Frame Material - Aluminum			
19.	PV cables	6mm ² cross-section of customized length			
20.	AC cables	25mm ² cross-section of customized length			
21.	DC cables	25mm ² cross-section of customized length			
22.	PV Earthing System	Appropriate Rating			
23.	Cable Accessories	MC4/ Cable Lugs or as required for installation			
24.	AC Distribution Panel	IP 68 Rated			
25.	DC Panel	IP 68 Rated			

Services

26.	Installation	As per design			
27.	Testing and Commissioning	As per design parameters			
28.	Training	For two set of personnel on upkeep, maintenance and operation of the system			
29.	Warranty	Five Years for complete system or OEM warranty whichever is longer			

"UNDERTAKING"

It is hereby certified that M/s..... (Name of the Company) is capable of providing and undertakes to provide above "Specifications and Quantity" at the time of supply and installation of 50 KW Solar Power Supply System.

**(Seal & Signature of the authorised Company
Representative)
Name & Address:**

C GENERAL INFORMATION

1	Name and Address of the Bidder	
2	Contacts	
3	Telephones	
4	Mobile no.	
5	Fax	
6	E-mail	
7	Category of the Bidder (Whether company, partnership firm or Proprietary concern)	
8	Name of Chief Executive Officer and Telephone no.	
9	Year of Establishment	
10	Name and address of the Banker	
11	List of major Clients and the size of orders executed	

Note: Separate sheets may be attached wherever necessary.

**(Seal & Signature of the authorised
Company Representative)
Name & Address**

FINANCIAL BID**Annexure II****A. MATRIX FOR FINANCIAL BID**

Ser	Product Description	Unit	Qty	Rate per Unit (USD)	Total (Rate x Qty) (USD)	Remarks (if any)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.	PV Modules	Nos	120			
2.	Solar Inverter	Set	01			
3.	Battery Set	Set	01			
4.	Accessories	Set	01			
5.	Services	Set	01			
6.	Any other item/ service					
Total (in figure)						
Total (in Words)						

Note:

1. The Financial Bid shall not include any conditions attached to it and any such conditional financial proposal shall be rejected summarily.
2. The total quoted price should include all travel cost, shipping charges and other administrative cost, if any, that may be incurred by the vendor as part of this project.
3. The total cost for each item should be clearly mentioned. Price quoted only on rate per unit basis will not be accepted.
4. Separate sheets may be attached wherever necessary.

(Seal & Signature of the authorised Company
Representative)
Name & Address: