

Mob 92163 36642

SEHYOG ARCHITECTS & INTERIOR DESIGNERS

MCB Z – 3 / 02087

SARASWATI STREET

AMRIK SINGH ROAD

BHATINDA. 151 001.

---

REF. NO. SAID/2024/133 - A

DATE 19 October 2024.

**Technical Specifications and other details for Solar Power Plant of capacity 80 kw to be installed at DAV PUBLIC SCHOOL, Kotkapura.**

**The executing firm must be registered with CREST/PEDA/MNRE and approved.**

1. The scope of work for the executing firm includes study of the rooftop of buildings, complete design, engineering, manufacture, supply, storage, civil work, erection, testing & commissioning of the grid connected rooftop solar PV project as per the norms of the CEA and local DISCOM.
2. Validity of quotation:45 days
3. Wind Capacity: Maximum wind bearing capacity of the structure should not be less than 170Km/hr

## Design and Technical Specifications

Description	Value
Site	<b>DAV PUBLIC SCHOOL, KOTKAPURA</b>
Latitude	30.5916°N
Longitude	74.81918°E
Average radiation	1904KWh/Sqm/year
Module operation	Fixed
Module tilt	(20-23)°
Tracking	No /Optional cost to be quoted separately
Mounting	Rooftop
Cell technology	MONO crystalline Halfcut (500 W ++ )
Shadow free rooftop area required	100 Sq feet per KW
Units generated estimation per year	Minimum 1440 units per KW
No : of modules	As per space available and total capacity to be installed
Type of installation	Grid Connected
Capacity	80 kWp
Net metering	Agreement with DISCOM: excess power will be exported to the grid for which credit can be taken
Project Scope	Design, engineering, supply & installation of plant with Net metering including the panel cleaning system and weather monitoring sensors
Battery	
Module degradation	As per MNRE norms
Module CUF factor	>20.5%
Warranty Inverter	As per MNRE norms
Generation Warranty-Modules	As per MNRE norms

Details of Bill of Material			
Sr.No . Item	Specifications	Make	
<b>MAJOR EQUIPMENT</b>			
1	Solar Panels	Mono Crystalline Half cut Silicon PV Modules with Efficiency >20.5% with approval as per IEC 61215 and IEC61730. Warranty:25years(power warranty).to be considered from top 5 panel manufactures (500-530)watt	Adani/ Renewsys/ Waaree/ Tata/Satwik
2	Inverter	Inverter, Three-phase string inverters ideal for rooftop systems complying with all requirements for IP65 protection - their housing to provide reliable protection from dust and water, including high pressure washing. With Fast MPP tracking and a wide input voltage range to ensure the high levels of efficiency even at low irradiation, to achieve an efficiency of up to 98.5%. With integrated data-logger to send all important operating data through Internet portal.	Havells/Soafr/Delta/ Schneider
<b>MOUNTING STRUCTURE</b>			
3	Module Structure	G.I Structure Legs and Rafter dimension (40 x 80x 40 mm), Purleen40 x 40 x 40 mm	Reputed
<b>AC and DC CABLES</b>			
4	DC Cable	1C X 4 SQMM Copper Cable,1.1KVGrade	Polycab
5	AC Cable	3.5C X 95 SQMM XLPE AL.UNARM., 1.1KVGrade	Polycab
<b>DATA LOGGER &amp; ACCESSORIES</b>			
6	Data online monitoring ACDB and DCDB Panel	Inputs from Inverter RMS.	Sofar Delta/Schneider
7	AC Combiner box	1 IN 1 OUT(4P MCCB 150A,25kA) Outdoor with IP-65, Cable entry and out from bottom. 2 NOS	Polycarbonate/ MS panel ( Schneider /L&T Electric Breaker)
8	DCDB	4 IN 4 OUT (2 BOXES Outdoor with IP-65), Cable entry and out from bottom	Polycarbonate (Sigma/ Elmax Electric Breaker)
9	L.T PANEL	2 IN 1 OUT WITH MCCB 320 A with ACSPD Type-2, Outdoor with IP-65, Cable entry and out from bottom	Polycarbonate/MS panel (L&T Electric Breaker)
<b>ACCESSORIES</b>			
10	MC4Connector	MC4Pair1000VDC,15Amp(F or4sqmmcable)	Leoni

11	Nut-Bolt (to be spring fitted)	S.S	ISMARKED
12	Earthing Nut bolt	S.S	ISMARKED
13	Electrical Tape	RYB, green & Black	STEELGRIP
14	Sign Board	AC & DC Side Danger sign Board (Water Proof& Suitable for Night Vision, Radium)	Reputed
15	Stickers	Inverter No Stickers	Reputed
16	Cable Tag	AC cable Tag for Inverter Number marking & ACCB	Reputed
17	Glands for Cables	3.5CX120sqmm Al Ar Cable for ACCB, Termination Panel	If required
18	Cable Tray	40 x 40 x 1.6 mm PVC Cable Tray with complete Accessories for DC & AC Cable	Reputed
19	Cable Tray Supporter	GI Supporter with all accessories	Reputed
20	Cable Ties	Cable ties with 150 mm length (UV Protected) and SS Cable Tie-300 mm Length	Reputed
21	Sealant	Silicon sealant with Working temp range (-) 40°C to 149°C, Joint Movement $\pm$ 50%, Coverage 13 linear meter for 5 mm width x m depth joint	Fissure
<b>CONDUIT &amp; ACCESSORIES</b>			
22	uPVC conduit Pipe	18-25mm For DCCable	Diplast/REX
23	L-Bend uPVC	18-25mm For DCCable	Diplast/REX
24	Junction for uPVC	18-25mm For DCCable	Diplast/REX
25	Saddle	18-25mm For DCCable	Reputed
26	Rivet for Saddle with washer if required	As Required	Reputed
27	Flexible GI Conduit for DC/AC Cables Finishing	Size as per required	Reputed
<b>HING SYSTEM &amp; ACCESSORIES</b>			
28	Lightning Arrester	*Lightening Arrester (ESE Type) *Should be at least 5 mtr above panel height *5 Mtr Mast Height *Radius of Protection 63Mtr	GSI/LYRA
29	Earthing Kit	Earthing Pits with chemical earthing separate for AC, DC and LA. DC, Earthing (Structure)-3Nos L. A earthing-2 Nos AC Earthing (Inverter and ACCB) - 3Nod *Copper bonded Earthing Rods *Pit Dimension (1x1) Ft and 3m deep *Earthing pit cover *Difference between each Earthing is approx. 1-2 meters	Trust power

30	Earth Strip	25 X 3 mm AI strip	JMV or Equivalent
31	Screw	As Required	Reputed
32	Gitti	As Required	Reputed
33	Insulation Sleevs for Earth Strip	For 25X3mmAIstripforinsulation	Reputed
34	Insulator Block (T <sup>T</sup> yp <sup>e</sup> )	For mounting earthing strip to walls	Reputed
<b>Bi-directional meter</b>			
35	Bi-directional meter	3phaseLTCTMETER,HT dash5	Secure/LnT (Approved)
<b>INSTALLATION</b>			
36	Complete Installation and Commissioning. including all drawings showing string arrangements and connections	80kWp solar power plant	

**Last date to submit sealed quotation is ----- by 00:00 pm  
at the following postal address:**

**To  
The Principal**

**DAV Public School,  
Sikhaan Wala Road  
Kotkapura**