



**DSR & AOR (E&M) ITEM FOR
Solar Photovoltaic Power Plant
CENTRAL PUBLIC WORKS DEPARTMENT
Ministry of Housing and Urban Affairs**

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DELHI SCHEDULE OF RATES			
Solar Photovoltaic Power Plant			
S.No.	Description	Unit	Rate ₹
1	<p>Supply, Installation, Testing and Commissioning of ongrid Solar Photovoltaic Power Plant conforming to MNRE specifications as amended, consisting of Mono/Poly Crystalline silicon solar cells, net metering facility, necessary protections, earthing, mounted on Aluminium/GI structure of suitable strength with following components complete as required:-</p> <p>a) Solar Photovoltaic Module of capacity 330 Wp or above, manufactured in India, conforming to IS 14286/IEC 61215, IS/IEC 61730-Part-1, IS/IEC 61730-Part-2. Solar Photovoltaic Module conversion efficiency shall not be less than 16.5%. PV modules used in solar power plants/ systems must be warranted for their output peak watt capacity, which should not be less than 90% at the end of 10 years and 80% at the end of 25 years.</p> <p>b) Power Conditioning Unit (PCU) of 350-800 V DC Input voltage range and 400 V AC, three phase, 4 wire, 50Hz +/- 2.5 Hz, output voltage suitable to generate AC Power with efficiency not less than 97%, total harmonic distortion less than 3% and suitable for ambient temperature from 0 to 50 degree C. The PCU shall adjust the voltage and frequency level to suit the Grid Voltage Frequency.</p> <p>c) Data Monitoring System complete with accessories.</p> <p>d) Fixing of Array junction box & Main junction box with IP 65 protection and termination arrangement for incoming and outgoing cable along with glands, lugs and other accessories etc. as required.</p> <p>e) Lightning and surge voltage protection.</p> <p>f) Connections & Interconnections by supplying & fixing required size XLPE insulated copper conductor 1.1 kV grade armoured power and control cables between solar modules, main power cable to grid supply PCU unit along with supplying & fixing of necessary channel/conduit lugs and other accessories etc. as required.</p>	kWp	61060.00

ANALYSIS OF RATES

1	<p>Supply, Installation, Testing and Commissioning of ongrid Solar Photovoltaic Power Plant conforming to MNRE specifications as amended, consisting of Mono/Poly Crystalline silicon solar cells, net metering facility, necessary protections, earthing, mounted on Aluminium/GI structure of suitable strength with following components complete as required:-</p> <p>a) Solar Photovoltaic Module of capacity 330 Wp or above, manufactured in India, conforming to IS 14286/IEC 61215, IS/IEC 61730-Part-1, IS/IEC 61730-Part-2. Solar Photovoltaic Module conversion efficiency shall not be less than 16.5%. PV modules used in solar power plants/systems must be warranted for their output peak watt capacity, which should not be less than 90% at the end of 10 years and 80% at the end of 25 years.</p> <p>b) Power Conditioning Unit (PCU) of 350-800 V DC Input voltage range and 400 V AC, three phase, 4 wire, 50Hz +/- 2.5 Hz, output voltage suitable to generate AC Power with efficiency not less than 97%, total harmonic distortion less than 3% and suitable for ambient temperature from 0 to 50 degree C. The PCU shall adjust the voltage and frequency level to suit the Grid Voltage Frequency.</p> <p>c) Data Monitoring System complete with accessories.</p> <p>d) Fixing of Array junction box & Main junction box with IP 65 protection and termination arrangement for incoming and outgoing cable along with glands, lugs and other accessories etc. as required.</p> <p>e) Lightning and surge voltage protection.</p> <p>f) Connections & Interconnections by supplying & fixing required size XLPE insulated copper conductor 1.1 kV grade armoured power and control cables between solar modules, main power cable to grid supply PCU unit along with supplying & fixing of necessary channel/conduit lugs and other accessories etc. as required.</p>
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Cost FOR 50 kWp					
	Description	Unit	Qty	Rate	Amount
A	MATERIALS				
	A(1) 330 Wp Solar PV Panels	Nos.	152.00	9168.50	1393612.00
	Structure, Earthing, Wiring, and other accessories @ 40% of A1				557444.80
	A(2) Sub-total				1951056.80
	A(3) Power Conditioning Unit(PCU) 50 kWp	Each	1.00	265000.00	265000.00
	A(4) Total (A2+A3)				2216056.80
	Cartage @ 1% of A4				22160.57
	Total of A				2238217.37
B	Installation charges @ 4% of A				89528.69
	Total (A+B)				2327746.06
C	GST @ 12% (Multiplying Factor 14.05%) of (A+B)				327048.32
	Total A+B+C				2654794.38
D	Overhead and Profit @ 15% of (A+B+C)				398219.16
	Total A+B+C+D				3053013.54
	TOTAL				3053013.54
	Cost/kWp				61060.27
	Say				61060.00