

**B.O.Q FOR SUPPLY, INSTALLATION, TESTING & COMMISSIONING OF TOP GRID TIED SOLAR PHOTO VOLTAIC (SPV) POWER PLANT OF CAPACITY 30 KWP UNDER NET METERING SYSTEM AT UCO BANK ZONAL OFFICE BUILDING , BHUBANESWAR.**

S.No	Description	Make	Quantity	Units	Rate in Rs.	Amount in Rs.
1	a) Supply, Installation, Testing & Commissioning of poly crystalline SPV panels / Modules of rating 550 Wp or above per panel connected in series through in house junction box and parallel to produce 30 Kwp power in total.	Tata/ Vikram/ Premier Solar/ Adani/ Waaree/ Renewsys	55	Nos ./ as per requirement .		
2	b) Supply and Installation of GI structure for mounting above SOLAR PANELS for RCC flat Roof withstanding with pressure of 200k.m/hr as per requirement including all hardware,labour and materials <b>Structure:-</b> Leg:- 500 -600 mm ( front ) & 900-1000 mm ( back ) with 75mm X 75mm GI square pipe of 2mm thick . Slop :- 15 to 21 degree. Rafters :-75mm X 75mm GI square pipe of 2mm thick . Purline :- 40 mm X 40 mm G.I Square pipe of 2mm thick. Foundation :- P.C.C of base size 400mm X 400mm X 400mm of grade ( 1:3:6)		1	Job .		
3	SITC of Array Junction box with all accessories for outdoor usage with weather proof enclosure. Each junction boxes shall be provided with suitable metal oxide varistors ( Mov's) / surge arresters, one fuse, one SPD & one DC breaker per string.	Legrand/ L&T / Havells	2	Set		
4	SITC of string inverters / PCU of continuous power rating shall be above 100 % of the total array capacity ( <b>30 kVA On-Grid String Solar Inverter (3 Phase) 30 kW As per IEC Standard &amp; Certified</b> ) . The inverter box should be having enclosure of dust & weather proof confirm to IP65 protection. The maximum power point tracker (MPPT) is also integrated in the inverter box to maximise energy drawn from the array. The MPPT should be micro processor based to minimise power losses. The specification in detail for inverter & MPPT to be incorporated in total.	Goodwe/ POWERONE/ SUN GROW / K SOLAR / Grow watt	1	Nos		
5	SITC of A.C distribution panel board (DPB) to control the A.C power from inverter and should have necessary surge arresters. Inter connection provision for A.C DB to the Bank's existing L.T panel should be provided with 1 IN 1 OUT with MCB & SPD with All protection ( 2 MCB in Input & 1 MCB In Output ) , all complete. The A.C distribution panel to have a MT division of Electricity board tested 3 Phase Electricity meter with CT's etc. to record power production of solar power plant in total.	Legrand/ L&T / Havells	1	Nos		
6	Supply and installation of Multi strand Annealed high conductivity copper conductor, FRLS PVC insulated 1100 V rating flexible wires for D.C side in the existing PVC conduit with end terminators.					
	(a) 4 sqmm multistrand copper wire	Havells / POLYCAB / KEI	500	Mts		
7	Supply and installation of 30 sqmm, 4 core PVC armoured Aluminium conductor cable with necessary clamping at regular intervals and termination at both ends.	Gloster / POLYCAB / Havells	200	Mts		
8	Supply and installation of UPVC pipes clamped at regular intervals of 1 mtrs for drawing wires with bends, junction box, L – bow , Tee etc all complete.					
9	(a) 20 mm dia pipes (from panel to panel)	FINOLEX / Supreme	60	Mts		
10	(b) 25 mm dia pipes (from Array J.B to DC box)	FINOLEX / Supreme	50	Mts		
11	(c)40 mm dia pipes	FINOLEX / Supreme	50	Mts		
12	Supply and installation of lighting protection system covering a radius of 104 mtrs under level 3, Mast of 4 mtrs with base plate.	SABO /Gmax/ True Power	1	Set		
13	SITC of pvc sheet insulated Earthing strips of size 3 mm thick 25 mm wide to be run all along the periphery of the building with insulated spacers for avoiding connectivity between building & conductors and also properly fixed to the insulators at regular intervals of 600 mm even down conductors also to be insulated from the wall and connected to the ground earth pits and lighting arrestors		400	Mts		
14	SITC of 8 gauge GI earth conductors connected solar panels.		300	Mts		

15	SITC of earthing strip of aluminium conductor 25 * 3 mm, drawn from earth pit to the building roof top all along the length & breadth of the building.		50	Mts		
16	Supply and installation of GI pipe 50mm X 2mtr + 50KG BFC Compound ( copper bonded ) earthing confirming to IS standard with earth chamber, GI pipe earth electrode of 2.5 mts with funnel etc., all complete.		4	Nos.		
17	SITC of Reverse power flow cut off system for DG power supply line with all accessories		1	Set		
18	Supply & Installation of Wi-Fi Modem and connecting cable for Remote monitoring of the Solar Power Plant System .		1	Set		
19	Supply and installation of H.T 3 phase Bi directional meter cubicle housing CT's, PT's as approved by concern Authority. The existing meter to be used as check meter.		1	Nos.		
20	Module Cleaning System With Sprinkler & pump As Required for Successfully Operation of Sprinkler Sprinkler to be used 1 nos, with Clamps for each module & CPVC Pipe To be used for Plumbing	for 30Kw	1	Job .		
	Lugs, MC4 Connector, Cable tie, PVC Tape, PVC Ferrules, Name Plate, Danger Board, PVC Conduit, Etc	1 set				
	Cable Tray - FRP Cable Tray of 50X50X3mm With Cover	as per requirement				
	Cable Tray - FRP Cable Tray of 100X50X3mm With Cover	as per requirement				
	Safety Life Line With Complete Accessories	as per requirement				
21	Professional charges for preparing Electrical single line diagram for total SPV power plant and as built drawing for the solar installation plant to the scale ( 3 sets) liasioning with the local Electricity board permission for solar power plant installation, CEIG approval for safety of SPV plant Electrical installation, approval of Electricity board / Approved Authority for net – metering system etc.,		1	Job .		
			<b>TOTAL</b>			

	Note	
1	Solar panel performance warranty	25 years
2	Solar panel manufacturer warranty	10 years
3	Inverters warrenty	5 years
4	Remote Monitoring & BOS	2 years

The above rate is exclusive of GST

Signature Stamp Of Vender