

Ordnance Factory Dum Dum, Jessore Road , Kolkata -700028

Detailed Technical Specification for Supply, Erection , Commissioning and testing of 'Grid Connected Roof top Solar PV power Plant of Cap 100 KWp' at OFDC

Sl. No	ITEM	DESCRIPTION	FIRM'S COMPLIANCE : YES / NO
1.0	Outline of the scheme of the project		
2.0		The Array capacity of the PV Power plant shall be cumulative 100 KWp.	
3.0		The PV array shall be installed at the available space earmarked at project site. Tentative sites list is given below.	
4.0	FTI	1800 Sq Feet , Cap. 20 Kwp	
5.0	Main IB	4000 Sq Feet, Cap. 40 Kwp	
6.0	Industrial Canteen	3000 Sq Feet, Cap. 30 Kwp	
7.0	IB Annex	1000 Sq Feet, Cap. 10 Kwp	
8.0		FS and AQAW section roof shall be available alternatively to complete cumulative 100 KWp solar plant .	
9.0		Proposed building roof layout will be provided to the bidder if required.	
10.0		The power from PV array shall be feed into grid through grid connecter string inverters each of capacity ranging from 10 KVA to 50 kVA, 3 Phase , 415 V 50Hz AC	
11.0		Outputs of the each grid tie string inverters shall be terminated to an Inverter LT panel(s)/ Inverter combiner LT Panel (s) to be located closer to the inverters.	
12.0		The output of the Inverter Panel(s)/Inverter Combiner LT Panel(s) shall be connected with supply mains through a Grid Interfacing Panel.	
13.0		An Export Import Energy Meter to be installed in the Grid interfacing Panel before connected to the mains.	
14.0		The SPV power plant to be installed should be Robust, Economic, Efficient and Time tested.	
15.0	Eligibility and Qualification Criteria for bidder :-		
16.0	The bidder shall meet the following requirements:		

Ordnance Factory Dum Dum, Jessore Road , Kolkata -700028

Detailed Technical Specification for Supply, Erection , Commissioning and testing of 'Grid Connected Roof top Solar PV power Plant of Cap 100 KWp' at OFDC

17.0		The bidder must be a reputed manufacturer/supplier of solar photovoltaic based system and who have designed , manufacturers / supplied at least five or more major sub -system (Viz. PV modules or battery or electronics) used in solar photovoltaic power plant. All the solar panel units shall be manufactured in India.	
18.0		Should have adequate facilities for testing of Solar Photovoltaic Power Plant and its allied accessories.	
19.0		Manufacturer/supplier must possess adequate facilities and dealer/ service network in Kolkata for providing after sales services. Firm must indicate their address of sales/service centre in Kolkata or nearby Kolkata.	
20.0		Firm may submit latest turnover / Bank Statement in support of their claim duly signed by their banker in case of the return for the year is not filed/audited. Firm must not go into insolvency during last 5 years.	
21.0		The bidder should have supplied and successfully installed and commissioned a complete Solar Photovoltaic Power Plant of capacity to any State Nodal Agency/Govt. Organization in the last 5 years having capacity of single project of not less than 80% of Estimated capacity or two projects of 60% capacity or three projects of 40% capacity. Such project should have been commissioned as on date of issue of NIT.	
22.0		To meet the requirement above the bidder shall furnish registration certificate clearly indicating that they are manufacture/suppliers of PV Modules applicable. Bidder shall also submit list of testing facilities along with their photographs and attested photocopy of the certificate issued by the concerned Nodal Agency/Govt. organization indicating successful installation and commissioning of Solar Photovoltaic Power Plant as mentioned above.	
23.0		Bidder must have EPF registration for the employees on their duty.	

Ordnance Factory Dum Dum, Jessore Road , Kolkata -700028

Detailed Technical Specification for Supply, Erection , Commissioning and testing of 'Grid Connected Roof top Solar PV power Plant of Cap 100 KWp' at OFDC

24.0		Minimum Average turnover of the bidder for the last three financial years from shall be at least 30 % of estimated price If audited balance sheet is not prepared, provisional balance sheet duly signed by CA shall be submitted along with all the other documents relevant to this criteria to satisfy the eligibility for bidding and to be successful bidder.	
25.0		Net worth at the last financial year 2020-21 shall be positive.	
26.0	WARRANTEES AND GUARANTEES		
27.0		Bidder shall warrant that the goods supplied under this contract are new, unused, of the most recent or latest technology and incorporate all recent improvements in design and materials. The bidder shall provide system warrantee covering the rectification of any and all defects in the design of equipment, materials and workmanship including spare parts for a period of 5 years from the date of commissioning. The successful bidder has to transfer all the Guarantees / Warrantees of the different components to the Owner of the project. The responsibility of operation of Warrantee and Guarantee clauses and Claims/ Settlement of issues arising out of said clauses shall be joint responsibility of the Successful bidder and the owner of the project and OFDC will not be responsible in any way for any claims whatsoever on account of the above.	
28.0	Material Warranty:		
29.0		Material Warranty is defined as: The manufacturer should warrant the Solar Module(s) to be free from the defects and/or failures specified below for a period not less than five (05) years from the date of successful commissioning.	
30.0		Defects and/or failures due to manufacturing	
31.0		Defects and/or failures due to quality of materials	
32.0		Non conformity to specifications due to faulty manufacturing and/or inspection processes. If the solar Module(s) fails to conform to this warranty, the manufacturer will repair or replace the solar module(s) free of cost in the operation period of five	

Ordnance Factory Dum Dum, Jessore Road , Kolkata -700028

Detailed Technical Specification for Supply, Erection , Commissioning and testing of 'Grid Connected Roof top Solar PV power Plant of Cap 100 KWp' at OFDC

		(05) years.	
33.0	Performance Warranty	Performance warranty shall cover the requirement given in Clause Performance ratio (PR) and Capacity Utilization Factor (CUF) and its sub clauses along with the entire requirement given below and as applicable if any elsewhere given in this specification.	
34.0		PV Modules used in the solar power plant 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 from the date of successful completion and final acceptance of the plant.	
35.0	TYPE AND QUALITY OF MATERIALS AND WORKMANSHIP	The Design, engineering, manufacture, supply, installation, testing and performance of the equipment shall be in accordance with latest appropriate IEC / Indian Standards as detailed in Technical specifications of the bid document. Where appropriate Indian Standards and Codes are not available, other suitable standards and codes as approved by the MNRE shall be used.	
36.0		The specifications of the components should meet the technical specifications mentioned in TE.	
37.0		Any supplies which have not been specifically mentioned in this Contract but which are necessary for the design, engineering, manufacture, supply & performance or completeness of the project shall be provided by the Bidder without any extra cost and within the time schedule for efficient and smooth operation and maintenance of the SPV plant.	
38.0		The Mechanical structures and electrical works including power conditioners /inverters/ charge controller/ maximum power point tracker unit/distribution board/digital meters/switch gears and overall workman ship of solar photovoltaic power plant must be warranted against any manufacturing /design installation defects for minimum period of five (05) years.	

Ordnance Factory Dum Dum, Jessore Road , Kolkata -700028

Detailed Technical Specification for Supply, Erection , Commissioning and testing of 'Grid Connected Roof top Solar PV power Plant of Cap 100 KWp' at OFDC

39.0	OPERATION & MAINTENANCE (O&M)		
40.0		<p>Bidder shall be responsible for Operation and Maintenance of the Roof top Solar PV system of proposed capacity for a period of 5 years, during which Ordnance factory Dum Dum will monitor the project for effective performance in line with conditions specified elsewhere in the bid document and project should have warranty for 5 years only. During this period, the bidder shall be responsible for supply of all spare parts as required from time to time for scheduled and preventive maintenance, major overhauling of the plant, replacement of defective modules, inverters, PCU's etc and maintaining log sheets (Weekly report to be provided to OFDC by the bidder while in operation) for operation detail, deployment of staff for continuous operations and qualified engineer for supervision of O&M work, complaint logging & its attending.</p>	
41.0		<p>The contractor shall collect the Warranty Certificate for performance of the modules from the manufacturer and submit the same to OFDC prior to delivery of the products to the respective sites.</p>	
42.0		<p>If, Module(s) fail(s) to exhibit such power output in prescribed time span, the Contractor will be bound to either deliver additional PV Module(s) to replace the missing power output with no change in area of site used or replace the PV Module(s) with no extra cost claimed at Owner's sole option.</p>	
43.0	Solar PV Modules -		
43.0		<p>Supplier has to use solar cells and modules in the solar PV Power plant made in India as per specification and testing requirement fixed by MNRE. Each PV module used in this solar power project must use an RF identification tag. The information as per MNRE Guideline must be mentioned in the RFID used on each module. This should be inside, but must be able to withstand harsh environmental condition and shall last till the life time of the module. Manufacturer</p>	