

Tender Ref. No.: PDUCB/IT/2024-25/01

# **TENDER DOCUMENT**

## **For Supply and Installation Of Solar Power Plant**



**Dr. Panjabrao Deshmukh Urban Co-operative Bank Ltd,  
Irwin Square, Amravati – 444 601**

TelNo.0721-2663701

Email: ho@pduc.b.in

**NOTICE INVITING TENDER**

Dr. Panjabrao Deshmukh Urban Co-operative Bank Ltd, Irwin Square, Amravati invites sealed tender from eligible and qualified suppliers for the Supply & Installation of Solar Power Plant.

The details are summarized below: -

a)	Tender number	Reference number for inviting bids through this tender is PDUCB/IT/2024-25/01
b)	Purchaser	Dr. Panjabrao Deshmukh Urban Co-operative Bank Ltd. which is a Urban Co-operative Bank.
c)	Usage of Solar	The purchaser would place the Solar Power Plant in their HO and branches shall be utilized for banking business.
d)	Scope of Tender	Supply & Installation of Solar Power Plant.
e)	Specification/ Details of Solar Power Plant	The detailed specifications of Solar Power Plant are specified in tender and placed at <b>Annexure-A</b>
f)	Locations of supplies	The Solar Power Plant are proposed to be supplied at HO and branches of bank in different districts of Maharashtra.  It may be noted that the Bank has full right to cancel supplies while placing the supply order to selected supplier. The reason for cancellation of supply to any of the locations or all locations would not be disclosed.
g)	Earnest Money Deposit (EMD) along with Tender	Nil
h)	Exemption from the payment of EMD and Tender fee	There will not be any exemption for the payment of tender fee in any case.

i)	Cost of Tender Documents	The tender document can be collected from the Head Office of the Bank, Irwin Square, Amravati in between the period from 22 <sup>nd</sup> , April 2024 to 29 <sup>th</sup> , April 2024 up to 13.00 hours against payment of fees of Rs. 1,000/- (Rupees One Thousand Only) (Non-refundable) by the way of Cash, demand draft in favor of Dr. Panjabrao Deshmukh Urban Co-operative Bank Ltd. Payable at Amravati.
j)	Last date of submission of tender	Tender must be submitted to the address below on or before 29 <sup>th</sup> , April 2024 up to 14.00 hours. Late bids will be rejected. The Managing Director, Dr. Panjabrao Deshmukh Urban Co-operative Bank Ltd., Head Office, Irwin Square, Amravati-444601.
k)	Opening of Technical and Commercial Bid	The bids for the tender shall be opened after last date of submission of tender. On 29 <sup>th</sup> , April 2024 at 16.00 hours at bank's Head Office Amravati. Interested bidders may remain present.

Managing Director  
Dr. Panjabrao Deshmukh Urban Co-operative  
Bank Ltd., Amravati.

**INSTRUCTIONS TO THE TENDERERS (Annexure-A)**

The Tender shall be submitted in accordance with these instructions, as under.

**Location of supplies:**

- a) The details of locations where the Solar Power Plant supplied through this tender is as under:

#	Location	Address for supplies
1	Amravati (Head office)	Dr. Panjabrao Deshmukh Urban Co-operative Bank Ltd., Head Office, Amravati – 444601
2	Branches	Address will be provided to successful bidder.

- b) The bidder is free to inspect the location(s) in the premises before submitting the bid under this tender.
- c) It may be noted that the Managing Director, PDUCB, Amravati have full rights to cancel the location for supplies even after calling the offers from bidders but before the issue of supply order to execute the supply by the bidder. The reason for cancellation of supply to any of the locations or all locations would not be disclosed.

**Scope of Supplies:****1. Abbreviations**

°C:	Degree Celsius
AC:	Alternate Current
BOS:	Balance of System
c-Si:	Crystalline Silicon
DC:	Direct Current
IEC:	International Electrotechnical Commission
IEC:	61215 IEC Standard code for crystalline silicon PV Modules
IEC:	61730 IEC standard code for product safety
IEC:	62548 IEC standard: Design requirements for PV array
Imp:	Current at Maximum Power
Isc:	Short Circuit Current
Km:	Kilometre
kV:	Kilovolt
kVA:	Kilovolt Ampere
kWh:	Kilowatt Hour
kWp:	Kilo Watt peak
m:	Meter
m <sup>2</sup> :	Square meter
NASA:	National Aeronautics and Space Administration
NASA SSE:	NASA Surface meteorology and Solar Energy
O&M:	Operation and Maintenance
PV:	Solar Photovoltaic
PVSYST:	Software package for the study, sizing, simulation and data analysis for PV system
STC:	Standard Test Conditions of 1000 W/m <sup>2</sup> irradiance, Air mass 1.5, cell temperature 25 °C

V: Voltage  
Voc: Open Circuit Voltage  
Vmp: Voltage at Maximum Power  
Wp: Watt peak

## 2. Introduction

On-grid Solar PV System

A grid connected solar photovoltaic system uses solar modules as the power generation source. The Power produced is fed into an inverter, which changes the DC power output of the solar array to AC Power compatible with Indian standard power grid. Some designs for these systems allows for any onsite loads to be powered by a combination of power generated by the PV system and power drawn from the mains power grid.

## 3. Estimation of Capacity

Design will be on roof top area assuming the roof is flat, RCC with waterproofed.

Consumer No: 366470116344, 366470080307

Roof: Building

No. of modules: As per requirement

Capacity of each module: **550 Wp**

Capacity of solar power plant: **14+6 and 10 kWp**

Height of Structure: As per requirement

## 4. Bill of Materials should be:

1. Solar Module :- (Make: Top Brand), Mono-crystalline, Efficiency – 20.23%, 25 years of limited power output warranty, IEC 61215 Ed2, IEC 61730, IEC 61701, IEC 62716 standards.
2. Solar Grid Tied Inverter :- (Make: Top Brand), 14, 6 and 10 KW 3ph True three phase bridge topology for DC/AC output converter; IP 65; Transformer less, topology; efficiency rating of up to 98.2%.
3. Mounting Structure:- (Make: Top Brand), Tin shade mounting structure pre GI strut (As pr site)
4. Cables:
  - a. A. Cables DC:- (Make: Havells), 4 sq.mm Single core DC cable, UV stabilized, multi-strand XLPE PVC insulated.
  - b. Cable AC:- (Make: Polycab), 16/4 core solid Al conductor, XLPE insulated, armored with Cu steel strip, PVC inner sheathed, 650/1100V, armored cable as per IS 7098 (As per site)
5. Array Junction Box:- Polycarbonate IP 65 (Protection DC fuses, DC Isolator and DC SPD)
6. Connectors:- MC4 IP 65
7. ACDB / DCDB:- (Make: Havells), Polycarbonate IP 65 (Protection AC Isolator along with phase indicators)
8. Earthing:- Chemical type 3 mtr ISI Mark along with Earthing Chambers as per

IS 3043

9. Earthing Rod: - Cu
10. Lighting Arrestor: - Std (Copper Type)
11. Conduits: - ISI Mark
12. Concreting: - As per site requirement.
13. Lord Solution For Fixing the strut channel As per site
14. Net Meter 3Ph, Generation Meter 3Ph (L&T, HPL)
15. Meter Box / Plywood as per Site
16. PVC pipe for DC cabling as per Site
17. Documentation for sanction and net meter all Mahadiscom work (Vender Scope)
18. With transportation of material
19. Installation & Commissioning

#### **5. Supplier's Scope of work**

Detail Engineering, Site analysis, possible layouts, shadow analysis, yield analysis, Pre- Sizing, Design, Supply, Erection, Testing, Installation & Commissioning of Grid- Tie Solar PV Plant.

#### **6. Detailed scope is listed below:**

- a. Site Survey/ Site Selection
  - Roof Testing & Topography Layout
  - Site & resources assessment
  - Energy yield assessment
- b. Simulation of Generation of Electricity/ Feasibility study
  - Estimation of Power Generation
- c. Detail design for construction
  - Civil & Structure Engineering
  - Electrical layout
  - Bill of material
- d. Supply of Materials/ Equipment
  - Supply of all equipment
  - Unloading of material at site
- e. Electrical work/ Mechanical work
  - Module mounting to be done on RCC Roof
  - Elevated Structures shall cost extra
  - Cable Laying
- f. Testing & Commissioning
  - Testing of all equipment
  - Setup of Remote Monitoring system

#### **7. Bank's Scope**

1. Provision of permission to work on site for I&C
2. Clear shadow free rooftop area for the installation of PV panels

3. Space for the installation and commissioning of electrical panels
4. Accessibility of stairs/ lifts to carry the material and manpower during the construction of project
5. Space for storing the materials during the construction of project
6. Facilities to be arranged:
  - a) Electricity - Power arrangement at the time of Project Installation
  - b) Water - Water arrangement at the time of Project Installation

## **8. Terms and Conditions**

### **A. Time Schedule**

The handover of successfully commissioned plant would be in 4 weeks from the date of release of PO.

### **B. Payment Terms**

The terms of payments for the Contract shall be as detailed hereunder.

**A. 20%- Advance at the Time of Contract signing.**

**B. 80%- After Installation and commissioning.**

### **C. Effective Date of Contract**

The effective date of Contract shall be the date of **release of Advance**. The Contract shall be in force till successful handover of Solar On-grid.

### **D. Defect Liability Period**

5 years of Operation and Maintenance will be in the scope of Supplier.

**E. Price includes MSEDCL Work, transportation and GST.**

**F. Warranties coverage of Solar Panel and Inverter.**

Managing Director  
Dr. Panjabrao Deshmukh Urban Co-operative  
Bank Ltd., Amravati.