REQUEST FOR PROPOSAL (RFP)

FOR

Design, Supply, Installation, Testing and Commissioning On-Grid Roof Top Solar Power Plant at 6 No of Banks' Residential Quarters.

NOTE: This document contains 85 pages including this cover page

RFP for Design, Supply, Installation, Testing and Commissioning On-Grid Roof Top Solar Power Plant at 6 No of Banks' Residential Quarters.

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SUPPORT SERVICES DEPT., CENTRAL OFFICE, 239, VIDHAN BHAVAN MARG, UNION BANK BHAVAN, NARIMAN POINT, MUMBAI 400021

1. DISCLAIMER

The information contained in this Request for Proposal (RFP) is provided to the Bidder(s) on the terms and conditions set out in this RFP document. The RFP document contains statements derived from information that is believed to be true and reliable at the date obtained but does not purport to provide all of the information that may be necessary or desirable to enable an intending contracting party to determine whether or not to enter into a contract or arrangement with Bank in relation to the provision of services.

The RFP document is not a recommendation, offer or invitation to enter into a contract, agreement or any other arrangement, in respect of the product and services. The provision of the product and services is subject to observance of selection process and appropriate documentation being agreed between the Bank and any successful Bidder as identified by the Bank, after completion of the selection process as detailed in this document. No contractual obligation whatsoever shall arise from the RFP process unless and until a formal contract is signed and executed by duly authorized officers of Union Bank of India with the Bidder. The purpose of this RFP is to provide the Bidder(s) with information to assist the formulation of their proposals. This RFP does not claim to contain all the information each Bidder may require. Each Bidder should conduct their own investigations and analysis and should check the accuracy, reliability and completeness of the information in this RFP and where necessary obtain independent advice. Union Bank of India makes no representation or warranty and shall incur no liability under any law, statute, rules or regulations as to the accuracy, reliability or completeness of this RFP. Union Bank of India may in its absolute discretion, but without being under any obligation to do so, update, amend or supplement the information in this RFP.

UNIONBANK OF INDIA
Support Services Division
Central Office, 239, Vidhan Bhavan Marg, Union Bank Bhavan, Nariman Point, Mumbai 400021

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2. SCHEDULE OF EVENTS

Union Bank of India, invites application for selection of vendor for design, supply, installation, testing and commissioning of On-grid Roof Top Solar Power Plant at 6 No of Banks' Residential Quarters.
Please visit Bank's website www.unionbankofindia.co.in or Government portal www.eprocure.gov.in for details. Proposal under RFP forms can be downloaded from GOI's website or Bank's web site.

Cost of RFP (non-refundable)	Nil
Start Date & Time of issue of RFP/ Document Download	14.04.2023, 10:00 AM
Last date of submission of any query	19.04.2023
Last date and time for submission Of Bidding Document	06.05.2023, 3:00 PM
Date, Time and Venue of Pre-bid meeting	21.04.2023, 3:00 PM at Central Office, 239, Vidhan Bhavan Marg, Union Bank Bhavan, Nariman Point, Mumbai 400021
Date, Time and Venue of Technical Bid Opening.	06.05.2023, 3:30 PM, Central Office, 239, Vidhan Bhavan Marg, Union Bank Bhavan, Nariman Point, Mumbai 400021
Contact Person for Queries / Clarifications	Mr. Sudhanshu Mishra, Chief Manager, Mob: 9972756500, e-mail: sudhanshu2@unionbankofindia.bank

NOTES:

a) The above dates are tentative and subject to change without any prior notice or intimation. Bidders should check Bank's website www.unionbankofindia.co.in regularly for any changes / addendums to the above dates and/or any other changes to this RFP. Bidders to confirm with Bank the time & venue 1 day prior to any of the above scheduled event.
b) No queries will be entertained after last date of submission of any query as mentioned in this schedule.
c) All queries related to this RFP should be submitted in writing to above referred email address as per the schedule to enable the Bank to reply.
d) If a holiday is declared on the dates mentioned above, the bids shall be received / opened on the immediate next working day at the same time specified above and at the same venue unless communicated otherwise.

e) The Bank reserves the right to reject any or all applications without assigning any reasons whatsoever.
f) Bids once submitted will be treated as final and no further correspondence will be entertained on this. No bid will be modified after submission of bids. No bidder shall be allowed to withdraw the bid.
g) At any time prior to the last date for bid-submission, the Bank may, for any reason, whether at its own initiative or in response to clarification(s) requested by a prospective bidder, modify the RFP contents by amendment. Amendment will be published on Bank's website, and will be binding on bidders. The Bank shall not be liable for any communication gap. In order to provide prospective bidders, reasonable time to take the amendment into account for preparation of their bid, the Bank may, at its discretion, extend the last date for bid-submission. Further, the Bank reserves the right to scrap the RFP or drop the tendering process at any stage without assigning any reason.

3. INTRODUCTION

Union Bank of India is one of the leading Public Sector Banks in India, having its Central Office at 239, Vidhan Bhavan Marg, Union Bank Bhavan, Nariman Point, Mumbai – 400021.

The Request for Proposal (RFP) is floated by the Bank for selection of vendor for Design, Supply, Installation, Testing and Commissioning On-grid Roof Top Solar Power Plant at 6 No of Banks Residential Apartment, as mentioned in the below table, subject to the bidder satisfying the eligibility criteria set out in this RFP document.

Sr No	Name of The Building	Location/ Address	Proposed Capacity of Solar Plant (KWp)
1	Raj Amol, Borivili	Shivaji Nagar, Nawagaon, Boriwali West, Mumbai.	25
2	Raj Manor, Malad	Nr. Liberty Garden, Mamledarwadi Road Extension, Malad West, Mumbai 400064.	20
3	Oshiwara Flats, Oshiwara	MHADA Complex, Shantivan, New Linking Road, Oshiwara, Jogeshwari West, Mumbai.	10 + 10 = 20
4	Nirman Palace Flats, Anderi	Pump House, Andheri East	08
5	Powai Quarters, Powai	7-MHADA Delux, Rambaug, Powai-400072	15
6	Sarod Lokpuram Flats, Thane	Pokhran, Road No 02, Thane, (W), Mumbai	08

4. PURPOSE

On grid Rooftop Solar Power Pant is an important source of distributed renewable energy generation and enjoy several benefits including utilization of available vacant roof space, low gestation period, significant reduction in transmission and distribution losses, estimated savings towards electricity consumption and reduction in carbon dioxide emission, which will contribute to climate change mitigation by utilizing renewable energy for electricity production.

5. INVITATION OF TENDER BIDS

This RFP is an invitation for bidder's responses. No contractual obligation on behalf of the Bank whatsoever shall arise from the RFP process unless and until a formal contract is signed & executed by duly authorized officers of the Bank and the successful bidder. However, until a formal contract is prepared and executed, this offer together with Bank's written acceptance & notification of award shall constitute a binding contract with the successful bidder.

Bidders are expected to examine all instructions, forms, terms, specifications, and other information in the RFP document. Failure to furnish any information required by the RFP document or to submit a bid not substantially responsive to the RFP document in every respect will be at the Bidder's risk and shall result in the rejection of its bid. The procedure and terms & conditions for submission of bid are enumerated in this RFP.

All offers of the bidders shall be unconditional and once accepted whether with or without modifications by the Bank shall be binding between the Bank and such Bidder.

The RFP Document can be downloaded from Bank's Website www.unionbankofindia.co.in or from Government portal www. eprocure.gov.in.

6. SCOPE OF WORK

The successful bidder/vendor shall perform the Design, Supply, Installation, Liasoning, Testing, Commissioning of 25 KWp Solar Power on-Grid PV Technology System at the terrace area of the said building.

The lists of major equipments which will be required are as under:

- Solar Modules (more than 500Wp)
- Grid Connected invertors of suitable capacity
- Necessary designing and construction of elevated Structure should be done.
- Lighting Arrestor
- DC Distribution Board
- AC Distribution Board
- Earthing kits
- DC Cables.
- DC connectors.

- AC cables.
- Earthing electrodes.
- Energy meter & net meter.
- Liasoning with Local Power supply agency (DISCOM) for net meter installation, load extension and/or permanent disconnection of energy meter if required, the payment for which shall be made separately as per actuals.
- Cost of labor and material like cable, lugs, wire, bus bar etc., for shifting the load to be incorporated in the quoted price.
- Periodic cleaning of the panels and during defect liability period.

7. DETAILED TECHNICAL SPECIFICATION:

1. SYSTEM COMPONENTS:

A Grid Tied Solar Rooftop Photo Voltaic (SPV) power plant consists of SPV array, Module Mounting Structure, Power Conditioning Unit (PCU) consisting of Maximum Power Point Tracker (MPPT), Inverter, and Controls & Protections, interconnect cables, Junction boxes, Distribution boxes and switches. PV Array is mounted on a suitable structure. Grid tied SPV system is without battery and should be designed with necessary features to supplement the grid power during day time. Components and parts used in the SPV power plants including the PV modules, metallic structures, cables, junction box, switches, PCUs etc., should conform to the BIS or IEC or international specifications, wherever such specifications are available and applicable. Solar PV system shall consist of following equipment's/components.

- Solar PV modules consisting of required number of Monocrystalline PV cells.
- Grid interactive Power Conditioning Unit with Remote Monitoring System
- Mounting structures
- Junction Boxes.
- Earthing and lightening protections.
- IR/UV protected PVC Cables, pipes and accessories.

2. SPECIFICATION OF SOLAR PV MODULES:

The PV modules used must qualify to the latest edition of IEC PV module qualification test or equivalent BIS standards Crystalline Silicon Solar Cell Modules IEC 61215/IS14286. In addition, the modules must conform to IEC 61730 Part-1 - requirements for construction & Part 2 - requirements for testing, for safety qualification or equivalent IS.

a) For the PV modules to be used in a highly corrosive atmosphere throughout their lifetime, they must qualify to IEC 61701.
b) The total solar PV array capacity should not be less than allocated capacity (KWp) and should comprise of solar Monocrystalline modules of minimum 545 Wp and above wattage. Module capacity less than minimum 545 watts shall not be accepted.
c) Protective devices against surges at the PV module shall be provided. Low voltage drop bypass diodes shall be provided.
d) PV modules must be tested and approved by one of the IEC authorized test centers.
e) The module frame shall be made of corrosion resistant materials, preferably

having anodized aluminum.

f) The bidder shall carefully design & accommodate requisite numbers of the modules to achieve the rated power in his bid. UBI shall allow only minor changes at the time of execution.

g) Other general requirement for the PV modules and subsystems shall be the following:

i) The rated output power of any supplied module shall have tolerance within+/- 3%.

ii. The peak-power point voltage and the peak-power point current of any supplied module and/or any module string (series connected modules) shall not vary by more than 2 (two) per cent from the respective arithmetic means for all modules and/or for all module strings, as the case may be.

iii. The module shall be provided with a junction box with either provision of external screw terminal connection or sealed type and with arrangement for provision of by-pass diode. The box shall have hinged, weather proof lid with captive screws and cable gland entry points or may be of sealed type and IP-65 rated.

iv. I-V curves at STC should be provided by bidder.

3. SOLAR PV MODULES

Modules deployed must use a RF identification tag. The following information must be mentioned in the RFID used on each module. This should be inside the laminate only.

a) Name of the manufacturer of the PV module
b) Name of the manufacturer of Solar Cells.
c) Month & year of the manufacture (separate for solar cells and modules)
d) Country of origin (separately for solar cells and module)
e) I-V curve for the module Wattage, Im, Vm and FF for the module
f) Unique Serial No and Model No of the module
g) Date and year of obtaining IEC PV module qualification certificate.
h) Name of the test lab issuing IEC certificate.
i) Other relevant information on traceability of solar cells and module as per ISO 9001 and ISO 14001.

4. WARRANTIES:

a) Material Warranty:

i. 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 twelve (12) years from the date of commissioning.

ii. Defects and/or failures due to manufacturing.

iii. Defects and/or failures due to quality of materials.

iv. 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), at the Owners sole option.

b) Performance Warranty:

The predicted electrical degradation of power generated output of Solar Module(s) should be at least 90% of its rated power at the end of 10 years and 80% of its rated power at the end of 25 years.

5. MODULE MOUNTING STRUCTURE:

a) Hot dip galvanized MS /Aluminum mounting structures may be used for mounting the modules/ panels/arrays. Each structure should have angle of inclination as per the site conditions to take maximum insolation. However, to accommodate more capacity the angle inclination may be reduced until the plant meets the specified performance ratio requirements. Minimum thickness of galvanization should be at least 80 microns.

b) The Mounting structure shall be so designed to withstand the speed for the wind zone of the location where a PV system is proposed to be installed (like wind speed of 150 kM/ hour). It may be ensured that the design has been certified by a recognized Lab/ Institution in this regard and submit wind loading calculation sheet to UBI. Suitable fastening arrangement such as grouting, and calmping should be provided to secure the installation against the specific wind speed. The contractor to ensure that the terrace is not directly punctured, instead it is to be mounted on a dummy structure as per the standards.

c) The mounting structure steel shall be as per latest IS 2062: 1992 and galvanization of the mounting structure shall be in compliance of latest IS 4759.

d) Structural material shall be corrosion resistant and electrolytically compatible with the materials used in the module frame, its fasteners, nuts and bolts. Aluminium structures also can be used which can withstand the wind speed of respective wind zone. Protection towards rusting need to be provided either by coating or anodization.

e) The fasteners used should be made up of stainless steel. The structures shall be designed to allow easy replacement of any module. The array structure shall be so designed that it will occupy minimum space without sacrificing the output from the SPV panels

f) Regarding civil structures the bidder need to take care of the load bearing capacity of the roof and need to arrange suitable structures based on the quality of roof.

6. CABLE: -

Cables of appropriate size to be used in the system shall have the following characteristics:

a. Shall meet IEC 60227/IS 694, IEC 60502/IS1554 standards
b. Temp. Range: -10°C to +80°C.
c. Voltage rating 660/I000V
d. Excellent resistance to heat, cold, water, oil, abrasion, UV radiation
e. Flexible
f. Sizes of cables between array interconnections, array to junction boxes, junction boxes to Inverter etc. shall be so selected to keep the voltage drop