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The Sundargarh District Central Co-operative Bank Ltd.,
Main Road, Regent Market, Sundargarh – 770001
Regd. No. 90/SG Dt.01.06.1955 **GSTIN-21AAAAT8303L1ZM**

Ref No: SDCCB/FAD/ 5169 Date: 20/03/2026

TENDER CALL NOTICE

Design, Supply, Installation, Testing & Commissioning of 50 kW On-Grid Solar PV System

1. Notice Inviting Tender (NIT)

Name of Work: Design, Supply, Installation, Testing and Commissioning (DSITC) of 50 kW Grid-Connected Rooftop Solar PV System
Location:
Completion Period:
Bid Type: Open / Limited Tender

2. Scope of Work

Design, supply, installation, testing and commissioning of complete solar PV system including net metering and training.

3. Technical Specifications

Solar Modules: Mono PERC/TOPCon, ≥19% efficiency, IEC compliant
Inverter: String inverter, ≥97% efficiency, IP65
Structure: Galvanized steel/aluminum, wind resistant
BoS: Cables, earthing, lightning arrestor, ACDB/DCDB

4. Performance Requirements

CUF: 15–18%
Annual Generation: ~70,000–75,000 units
Performance Ratio: ≥75%

5. Eligibility Criteria

Minimum 100 kW installed capacity experience
Valid GST, PAN

6. Commercial Terms

Payment:
70% Advance on supply of items
20% on completion of installation
10% on final charging and handover

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7. Timeline

Supply: 30 days
Installation: 30 days
Commissioning: 10 days

8. Operation & Maintenance

5 years O&M including cleaning and maintenance

Technical Specifications

As per the solar photovoltaic systems, devices, and Component Goods (Requirement for Compulsory Registration) order 2017 of MNRE, the PV module and inverter must also conform to the specified Bureau of Indian Standards.

Definition

A Grid Tied Solar Photo Voltaic (SPV) power plant consists of an SPV array, Module Mounting Structure, Power Conditioning Unit (PCU) consisting of Maximum Power Point Tracker (MPPT), Inverter, and Controls & Protections, interconnect cables and switches. PV Array is mounted on a suitable structure. 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.

A solar PV system shall consist of the following equipment/components.

- Solar PV modules consist of solar cells (mono or poly crystalline) integrated with appropriate back sheet, glasses and EVC components.
- Grid interactive Power Conditioning Unit with Remote Monitoring System
- Mounting structures
- String Monitoring Units / Junction Boxes
- AC Distribution box
- Earthing and lightning protection.
- IR/UV protected PVC Cables, pipes, and accessories
- Net-Metering

The corresponding section illustrates the standards and specifications of various components used in the solar PV roof top system.

PV Module

- The PV modules must conform to the policy under Approved List of Module Manufacturers (ALMM) by Ministry of New and Renewable Energy (MNRE), GoI
- Modules should have an RF identification tag. The following information must be mentioned in the RFID used on each module (This can be inside or outside the

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laminate but must be able to withstand harsh environmental conditions).

i. Name of the manufacturer of the PV module
ii. Name of the manufacturer of Solar Cells.
iii. Month & year of the manufacture (separate for solar cells and modules)
iv. Country of origin (separately for solar cells and module)
v. I-V curve for the module Wattage, Im, Vm and FF for the module
vi. Unique Serial No and Model No of the module
vii. Date and year of obtaining the IEC PV module qualification certificate.
viii. Name of the test lab issuing IEC certificate.
ix. Other relevant information on traceability of solar cells and module as per ISO 9001 and ISO 14001.

Description	Standard
Crystalline silicon terrestrial photovoltaic modules- Design qualification and type approval.	IS14286/IEC61215
Photovoltaic module safety qualification-Requirement for construction/ Testing	IS/IEC: 61730 –part II
Photovoltaic module safety qualification-Requirement for testing	IS/ IEC: 61730 –part II
Salt mist corrosion test of the module	IS/IEC 61701

PV modules used in solar power plants must be warranted for output wattage, which should not be less than 90% at the end of 10 years and 80% at the end of 25 years.

E.1.2 Module Mounting Structure

a) Hot-dip galvanized MS/Aluminum mounting structures shall be used for mounting the modules/ panels/arrays. Each structure must have an angle of inclination as per the site conditions to receive maximum solar insolation and generate maximum power output.

a) The Mounting structure must be non-invasive Ballast type and any sort of penetration of the roof to be avoided.

b) The design details are as follows Photovoltaic arrays must be mounted on a stable, durable structure that can support the array and withstand wind, rain, and other adverse conditions.

c) The module mounting structures shall have adequate strength and appropriate design suitable to the locations, which can withstand the wind velocities up to 160kmph.

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Description	Standard
Structure material	Galvanized Iron
Bolts, Nuts, fasteners, panel mounting clamps	Stainless Steel
Access for panel cleaning and maintenance	Panel top and bottom shall be accessible for cleaning and from the bottom for access to the module junction box
Module Tilt angle	The fixed tilt angle of 10-15 degrees (depending on location) facing true South. However, these may be changed as per the site requirement.
Description	Standard
Safety of PCU	IS 16221-Part2
Utility-Interconnected of PCU – Islanding Prevention Measures	IS 16169/ IEC 62116
Protection against unintentional islanding	IEC 16169
Measuring efficiency	IS/IEC 61683
Environmental testing (Cold)	IEC 60068-2-1
Environmental testing – (Dry Heat)	IEC 60068-2-2
Environmental testing – Part 2-78: Tests – Test Cab: Damp heat, steady state	IEC 60068-2-78
Limits for harmonic current emissions (equipment input current ≤16 A per phase)	IEC 61000-3-2
Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤16 A per phase and not subject to conditional connection	IEC 61000-3-3
Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems – Equipment with rated current ≤75 A and subject to conditional Connection	IEC 61000-3-11
Limits for harmonic currents produced by equipment connected to public low-voltage systems with input current >16 A and ≤75 as per Phase	IEC 61000-3-12
Voltage fluctuations and flicker in low-voltage for equipment with rated current greater than 75 A	IEC 61000-3-5
inverters connecting to the utility system at Medium Voltage	IEC 61000-3-7

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Junction Boxes (JBs):

The junction boxes are to be provided in the PV array for the termination of connecting cables. The Junction Boxes (JBs) shall be made of GRP/FRP/with full dust, water & vermin-proof arrangement. All wires/cables must be terminated through cable lugs. The JBs shall be such that input & output termination can be made through suitable cable glands.

Solar Inverter

The inverter must be highly efficient. The inverter should be based on MPPT design. Inverters would display its own parameters. Beyond the maximum load, the inverters must have provision of auto-trip. The inverter should follow the following standards.

E.1.5 Distribution Board (DB)

AC DISTRIBUTION PANELBOARD:

i. AC Distribution Panel Board (DPB) shall control the AC power from PCU/ inverter and should have necessary over current & surge protection.
ii. All switches and the circuit breakers, connectors should conform to IEC 60947, part I, II and III/ IS60947 part I, II and III.
iii. All the Panels should be metal clad, totally enclosed, rigid, wall/floor mounted, air-insulated, cubical type suitable for operation on three-phase / single phase, 415 or 230 volts, 50 Hz.

E.1.6 Cables

All cables of appropriate size to be used in the system shall have the following characteristic:

- Shall conform to IEC 60227 / IS 694 & IEC 60502 / IS 1554 standards.
- Excellent resistance to heat, cold, water, oil, abrasion, UV radiation
- Cable sizes should be as per the current and voltage ratings
- All cables should run in suitable conduits. No wires should be exposed to sunlight.

E.1.7 Lightning Protection and Earthing System

a) The SPV power plant should be provided with lightning and over-voltage protection.
b) The entire space-occupying SPV array shall be suitably protected against lightning by deploying the required number of lightning arresters. Lightning protection should be provided as per IEC 62305.
c) The protection against induced high voltages shall be provided by the use of surge protection devices (SPDs) and the earthing terminal of the

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d) SPD shall be connected to the earth through the earthing system.
e) Earthing System shall connect all non–current carrying metal receptacles, electrical boxes, appliance frames, chassis and PV module mounting structures in one long run.

E.1.8 Net meters and Generation meters

Three Phase Meter:

- Three Phase Four wire, 3x240VAC, 20-100Amps ISI marked Direct current operated bidirectional Energy Meter, DLMS Cat B having calibration LED, Battery backup, AMR compliance & front sealing facility to be used as NET meter for less than 20KW LT consumer with Accuracy: 1.0.
- Three Phase Four wire, 3 x 240VAC, 20-100Amps ISI marked Direct current operated Energy Meter, DLMS Cat C having calibration LED, Battery backup, AMR compliance & front sealing facility to be used as generation meter up to 20KW with Accuracy : 1.0.
- The net-meter and energy meter must be tested in the Standard testing Laboratory as per the state net-metering policies.
- GPRS/GSM Modem with connecting cable & antenna for running smoothly up to 5 year for AMR facility.

E.1.8 Inverters and Battery for power back up system

A. Inverter:
   - The inverter must be a make of reputed brand with all the necessary BIS and ISO certifications.
   - All the necessary loads must be segregated to the inverter.

B. Battery
   - The battery must be a make of a reputed brand with all the necessary BIS and ISO certifications
   - The Battery should not be manufactured six months earlier than the date of supply.
   - Lead acid type battery to be used.

E.2.0 Warranties

A. PV Module

a. Material Warranty:

i. The manufacturer should warrant the Solar Modules to be free from the defects and/or failures specified below for a period not less than ten (10) years from the date of sale.
ii. Defects and/or failures due to manufacturing.
iii. Non conformity to specifications due to faulty manufacturing and/or inspection processes.

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b. *Performance Warranty:*

i. PV modules used in grid power plants must be warranted for output wattage, which should not be less than 90% at the end of 10 years and 80% at the end of 25 years.

B. Solar Inverter

The manufacturer should warrant a minimum of 5 years for the solar inverter.

C. The supplier should provide a 5 year warranty for the system and components or parts of the system.

Sr.	Description of Supply Items	50KWp
1	Solar PV module:580Wp -610 Wp (**BI-FACIAL)/ Topcon:** No of modules	82
2	ARRAY COMBINER BOX WITH FUSE and SPD	1
3	AC DB with SPD Class 2, with CB	1
4	Solar Grid Tied Inverter with Data Logger	50KW
5	1Cx4SQ.MM SOLAR DC CABLE	100
6	AC CABLE 4CX10SQMM	***
	AC CABLE 4CX 32SQMM	150
7	EARTHING KIT, 1.5m 14mm cu bonded rod	5
8	Lightning Arrestor 2M Conventional type	3
9	Earthing cable AL	90
10	Structure	As per site conditions

General Terms & Conditions

01. The last date for submission of bidding document is 26.03.2026 (04.00 PM).
02. Tender papers received after the stipulated date and time as mentioned above shall not be accepted.
03. Incomplete tender submission related to its documentation shall be cancelled and not entertained.
04. Bidder can visit the site/Head Office on or before 26.03.2026 (04.00 PM) with due permission of the undersigned.
05. Bidding documents shall have to be addressed to "Chief Executive Officer, Sundargarh District Central Co-operative Bank Ltd., Regent Market, Sundargarh" and submitted through speed post/ courier service / by hand only.
06. The Bank has reserved the rights to cancel/modify or reject the tender without any reason assigning thereof.

Chief Executive Officer
20/3/2026