SHORT TENDER CA LL NOTICE NO.

40/JM/ ELECT /OSPHWC/2019-20

BID DOCUMENT
FOR

DESIGN, SUPPLY, INSTALLATION, TESTING & COMMISSIONING OF 08 KW. OFF-GRID SOLAR PV SYSTEM (ROOF TOP) 7.2 Vah/Wp WITH 6 HR. POWER BACK UP AND COMPREHENSIVE MAINTENANCE CONTRACT FOR A PERIOD OF 05 (FIVE) YEARS.

NAME OF THE WORK

DESIGN, SUPPLY, INSTALLATION, TESTING & COMMISSIONING OF 08 KW. OFF-GRID SOLAR PV SYSTEM (ROOF TOP) 7.2 Vah/Wp WITH 6 HR. POWER BACK UP AND COMPREHENSIVE MAINTENANCE CONTRACT FOR A PERIOD OF 05 (FIVE) YEARS AT DIVISION OFFICE, OSPH&WC, BHAWANIPATNA.

JOINT MANAGER

[ELECTRICAL DIVISION]

The Odisha State Police Housing & Welfare Corporation Ltd., Janpath,

Bhoi Nagar, Bhubaneswar - 22.

THE ODISHA STATE POLICE HOUSING & WELFARE CORPORATION LTD.
JANAPATH, BHOINAGAR, BHUBANESWAR – 22.
[Electrical Division]
Ph: 0674-2541545, 2542921, Fax: 0674-2541543
E-mail: jmelectricalophwc@gmail.com, Website: www.ophwc.nic.in

SHORT TENDER CALL NOTICE

BID REFERENCE NO: - 40 /JM / ELECT / OPHWC/ 2019-20

INVITATION FOR BIDS (IFB)

1.	The **Joint Manager, Electrical Division** (OSPH&WC), Odisha, Bhubaneswar invites **Item wise rate** bids in **single cover** system for works as detailed below:-		
2.	Nature of work	**:**	**Design, Supply, Installation, Testing & Commissioning of Off-Grid Solar PV System(Roof Top) 7.2 Vah/Wp with 6 hour power back up and Maintenance for a period of 05 (five) years at Division office, OSPH&WC, Bhawanipatna.**
3.	No. of Work	**:**	**01 Nos.**
4.	Value of Tender	**:**	**Rs. 10,80,000.00**
5.	EMD & Bid Cost	**:**	(As per column 4 & 5of the IFB)
6.	**Eligibility Criteria: -**	**:**	**Firms enlisted under OSPH&WC for Installation of Off-Grid Solar System (Group-A)** **.**
7.	Availability of Bid Documents in the Website **www.ophwc.nic.in**	**:**	**Dt. 07/03/2020 to Dt 16/03/2020 up to 5:00 P.M.**
8.	Last date /time of Receipt of Bids	**:**	**Dt. 18/03/2020 up to 12:30 P.M**
9.	Date of Opening Bid	**:**	**Dt. 18/03/2020 at 03:30 P.M.**
10.	Further details can be seen from the website: **www.ophwc.nic.in** Any addendum/corrigendum/cancellation of tender can also be seen in the said website.		

Sd/-
Joint Manager (Elect)
OSPH&WC, Bhubaneswar.

BID DOCUMENTS

THE ODISHA STATE POLICE HOUSING & WELFARE CORPORATION LTD.
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[Electrical Division]
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SHORT TENDER CALL NOTICE
BID REFERENCE NO: - 40 /JM/ ELECT /OPHWC/2019-20
INVITATION FOR BIDS (IFB)

1. The Joint Manager, Electrical Division, The Odisha State Police Housing & Welfare Corporation Ltd., Bhubaneswar invites **Item wise rate bids** in **single cover** system for **Design, Supply, Installation, Testing & Commissioning of 08 KW. Off-Grid Solar PV System (Roof Top)7.2 Vah/ Wp with 6 hr. power back up and comprehensive maintenance contract for a period of 05(five) years** as detailed in the table from the firms enlisted under OSPH&WC for installation of Off-Grid Solar system (Group-A). Every bidder is expected to inspect the site of proposed work before quoting their rates.

2.The bidders may submit bids for the following works separately for each project.

Sl. No	Name of the work	Approximate Estimated Cost (Rs.)	EMD/Bid Security (Rs.)	Cost of Bid document Inclusive of 18% towards GST (Rs.)	Period of completion	Eligibility Group
1	2	3	4	5	6	7
Single Cover (NOTICE NO :- 40 / JM/ ELECT / OPHWC/ 2019-20)						
1.	Design, Supply, Installation, Testing & Commissioning of 08 KW. Off-Grid Solar PV System (Roof Top) 7.2 Vah/Wp with 6 hr. power back up and comprehensive maintenance contract for a period of 05(five) years at Division Office, OSPH&WC, Bhawanipatna.	10,80,000.00	10,800.00	7,08 0.00	90 days	Group-A

N.B. - The quoted rate should be all inclusive and including G.S.T. as applicable.

Requirements under Goods & Service Tax Act.

The supplier of goods or service or both shall submit the tax invoice for release of payment and the tax invoice should include all the particulars and contents as required under section-31 of the CGST/SGST/IGST/UTST Act, 2017 read with rules made there under, including the followings:

a. **Correct Name, Address & GST No. of both the Supplier and recipient.**
b. **"Tax Invoice" should be clearly mentioned on the invoice copy.**
c. **GST should be clearly mentioned separately.**
d. **Correct classification of supply of goods, services or both should be made.**

e. **Nature of supply whether it is interstate or intra state should be mentioned.**
f. **Place of supply should be mentioned.**
g. **Prevailing rate of tax should be clearly mentioned.**
h. **Levy of Tax whether as forward charge or reverse charge should be mentioned.**
i. **The supplier shall submit a original copy of Tax Invoice to the Corporation (OSPH&WC).**

A. **The supplier shall declare that the tax so collected from the Corporation will be duly discharged either by using input tax credit or paid as per provisions under GST Act.**

B. **The supplier shall declare that the supply date as mentioned in the invoice will be disclosed correctly in the relevant monthly return (such as GSTR-1, GSTR-2, GSTR-3, GSTR-3B and other relevant forms).**

C. **The supplier shall also agree that he will compensate for input tax credit if not allowed to Corporation due to non-disclosure or improper disclosure in the aforesaid returns as required under GST Act.**

D. **If the supplier is unregistered under GST Act., in that case the supplier should submit an undertaking that his turnover is within the threshold limit.**

E. **<u>Anti-profiteering clause</u>. : The supplier should declare that the benefit on account of change of rate of GST and input tax credit will be passed on to Corporation by way of reducing the contact prices and there shall not be any double taxation.**

F. **As and when GST Law requires deduction of withholding tax i.e., TDS under section 51 of GST Law, Corporation shall deduct such tax as per prevailed provisions.**

G. **Supplier of goods shall issue way bill as and when required as per provisions of GST law for supply of goods.**

3. Bid documents consisting of specifications, the schedule of quantities and the set of terms and conditions of contract and other necessary documents can be seen in the website: **<u>www.ophwc.nic.in</u>**

4.The authority will not be held responsible for any technical snag or network failure during downloading the tender documents.

5.The tender document may be obtained on payment of the tender paper cost as mentioned in the **Column - 5** of the above table [Non refundable] for each project between **10.00 A.M. to 05.00 P.M** on each working day from the office of the undersigned at the address given above of O.S.P.H.&WC at Bhubaneswar on or before **Dt. 16/03/2020** tender document can also be obtained through speed post by sending a self addressed envelope of size 35 cm x 25 cm along with a Demand Draft / Pay Order of the tender paper cost as mentioned in the **Column - 5** of the above table and **Rs. 200.00** (Rupees two hundred only) extra for postal charges [Non refundable] for each project on any Scheduled Bank, payable at Bhubaneswar, drawn in favour of the **"The Odisha State Police Housing &Welfare Corporation Ltd, Bhubaneswar.".** However, such request must be received by the undersigned on or before the last date for issue of tender document. The O.S.P.H.&W.C. authorities shall not be responsible

for postal or other delays. The tender document will also be available from the web site ***www.ophwc.nic.in*** and the same can be downloaded to be used for tender offer. However in case of downloaded tender documents an amount of the tender paper cost as mentioned in the **Column – 5** of the above table [Non refundable] for each project in shape of Demand Draft / Pay Order drawn on any Scheduled Bank, is payable at Bhubaneswar in, favour of the **"The Odisha State Police Housing &Welfare Corporation Ltd, Bhubaneswar."** Should submit along with the tender, failing which tender shall be liable for rejection. The tenders/bids can be sent by post or courier or dropped in the **tender Box at the office of the undersigned as well**. However, authorities shall not be responsible for postal delays in receipt of bids.

6. The bidders are requested to submit the purchase receipt of showing cost of the tender paper/D.D (Original) in case of down loaded tender document, attested copies of valid **H.T./M.V** electrical license **issued** by State Electrical Licensing Board, Odisha **(ELBO)** / JV with firms possessing such license, Income tax return copy, PAN, GST Registration certificate, EPF Registration certificate, ESI Registration certificate along with bid documents otherwise the bid shall be liable for rejection. The latest authenticated documentary proof shall be submitted. The proof submitted earlier in some other contest shall not be treated as valid and sufficient.

7. EMD - The tender document shall be accompanied with EMD as mentioned in the Column- **4** of the above table in shape of D.D. / Pay order drawn on any Scheduled Bank in favor of the **"The Odisha State Police Housing &Welfare corporation Ltd, Bhubaneswar."** payable at Bhubaneswar failing which the tender shall be rejected. The **EMD** of the successful tenderer will be refunded after completion of the **guarantee** period and will not carry any interest. The **EMD** of the unsuccessful tenderer will be refunded after completion of the tender process.

8. (Ammendment to Para 3.5.5(v)Note-ii of OPWD Code Vol-I by modification)

Note-(II) Additional performance Security shall be obtained from the bidder when the bid amount is less than the estimated cost put to tender .In such an event, the bidders who have quoted less bid price/rates than the estimated cost put to tender shall have to furnish the exact amount of differential cost i.e. estimated cost put to tender minus the work order amount as Additional performance Security in shape of Demand Draft / Term Deposit Receipt pledged in favour of **"The Odisha State Police Housing &Welfare corporation Ltd, Bhubaneswar." Payable at Bhubaneswar is to be submitted** by the successful bidder who shall deposit the same within seven (7) days of opening of bid failing which the bid of the successful bidder would be cancelled and the security deposit would be forfeited. If permissible in law further proceedings for black listing would be initiated.

9. Other details can be seen in the tender documents.

10. Bids submitted otherwise than in the manner prescribed in the tender document shall be rejected.

11. The bidding document should be super scribed **"Design, Supply, Installation, Testing & Commissioning of Off-Grid Solar PV System, Work serial No. as per IFB, Tender No. & Name of the Project".**

12. The tender document is available from**: Dt. 07.03.2020**

13. Last date for issue of tender document is up to**: 05.00 PM of Dt. 16.03.2020**

14. Last date for receipt of tender document is up to**: 12.30 PM of Dt. 18.03.2020**

15. Date of opening of bid at**: 03.30 PM of Dt. 18.03.2020**

16. The authority reserves the right to reject any or all the bids without assigning any reason thereof.

17. An affidavit is to be furnished by the bidder at the time of submitting bid document that he is not blacklisted / defaulter contractor or Firm etc. in support of the tender otherwise the bid shall be liable for rejection. The authority reserves the right to reject any or all the bids without assigning any reason thereof and can impose any conditions as deemed proper before finalization of tender.

18. All the information as called for in the tender document should be submitted truly, clearly, legible, transparently, unambiguously and without the use of abbreviations. It shall be submitted in English only.

19. All the crucial figures, like rates and amount should be written in figures followed by words in a bracket.

20. There shall be no over writing in the tender document and other papers submitted. All additions, alternations, deletions and cutting should be initialed with rubber-stamp (or seal) by the same person, who signs the tender document, failing which so, the tender may be rejected.

21. The original documents of the successful lowest bidders will be verified at the office of the undersigned within five (5) working days of opening of the bid failing which his tender is liable for rejection.

22. All the rates and amounts shall be quoted in Indian Rupee and shall be presumed to be in Indian Rupee only unless specifically permitted to be quoted otherwise in this tender document.

23. Each page of this tender document should be signed by the bidder with seal in token of having read, understood and accepted the terms and conditions of this contract.

24. Use separate piece of paper where the space provided in the formats in this tender document for submission of information is not sufficient.

25. All information submitted or supplied in the formats of this tender document shall be presumed to be true to the best of knowledge of bidder.

26. If the last date for receipt of the tender/bid turns out to be a holiday, it will automatically be extended to next working day.

27.A bid submitted cannot be withdrawn. The bidder or his authorized representative (one person only) will be allowed to be present at the time of opening of tenders. They will not participate in the discussions. Clarification sought, if any may be provided by them.

28. All or any of the tenders /bids submitted can be rejected without assigning any reason thereof. No claim, whatsoever, shall be admissible for the alleged loss/damages suffered by bidders on account of such rejections.

29. If the bidder has a relative employed as an Officer in the rank of Deputy Manager & above in OSPHWC, Bhubaneswar, he shall inform the same in the bid mentioning the exact details in a covering letter along with the tender, failing which his bid will not be considered. Also if the fact of relationship subsequently comes to light, his contract will be rescinded. The bid security or the performance security will be forfeited and he shall be liable to make good any loss or damage resulting from such cancellation. In case the bidder has no relationship with any of the officers mentioned above he shall have to furnish with his bid a certificate (ANNEX-3).

30. Advance payment /part payment will not be entertained before completion and handing over the work to the user authority.

31. Deduction towards Labour Cess @ 1% shall be made from the gross amount of the contractor's claim/bill.

32. No claim can be made due to some unforeseen delay for release of payment.

33. If the contractor fails to complete the work and clear the site on or before the contract or extended date of completion, he shall, without prejudice to any other right or remedy available under the law to the OSPH&WC on account of such breach, pay as agreed compensation @ 0.5% per day for delay of work, delay to be counted as per day basis. Provided that the total amount of compensation for delay to be paid under this condition shall not exceed 5 % of the work order Value.

34. Request for reschedule and extension of time, to be eligible for consideration, shall be made by the Contractor in writing well before of the happening of the event causing delay with specific reason in form No - 10 of the OAM (OSPH&WC). The Contractor may also, if practicable, indicate in such a request the period for which extension is desired.

35. In any such case a fair and reasonable extension of time for completion of work may be given. Such extension shall be communicated to the contractor by the tender calling authority in writing within due time.

36. All the transit risk shall be responsibility of the contractor.

37. Failure to complete the work in full within the stipulated period may lead to forfeiture of EMD and blacklisting of the contractor/firm.

38. The authorities are not bound to accept the lowest quoted rate.

39. Terms and conditions of this tender document cannot be negotiated for variations.

40. The authority reserves the right to reject any or all tender in whole or part without assigning any reason and can impose any other condition(s) as deemed proper before or in course of finalization of the tender.

41. The approved tender may be cancelled by the authority any time during validity without assigning any reason thereof and no claim can lie against OSPHW&C for such cancellation.

42. Before take up the work the A.P.M (Electrical) concerned shall verify/ certify the quality of materials.

Sd/-
Joint Manager (Elect)

TECHNICAL SPECIFICATION

The general scope under this contract includes to design, manufacture, testing, inspection, packing and forwarding, transportation up to project site, loading & unloading, storage in safe custody, erection, carrying out preliminary tests at site, commissioning, performance testing, operation and maintenance for 5 years &handing over to all the equipment of SPV Power plant on the respective sites / as per instruction from time to time. The illustrative Schedule of requirements is in accordance with the specifications contained in this document.

1. SOLAR PV MODULES:

The total solar PV array capacity should not be less than the required capacity and should comprise of Mono crystalline modules of minimum **370** Wp and above wattage **with 72 cells,** String Voltage should be within 400-1000 V DC.

All modules must comply with to IEC 61215, 61730 part 1 & 2 (Certificates from MNRE test centres in support of such compliance must be submitted along with the tender document. The other criteria are as follows:

- Crystalline Silicon Solar Cell Modules IEC 61215 Edition (II).
- PV modules must have quality to IEC 61730 Part I & II, for safety qualification testing and to be used in a highly corrosive atmosphere throughout their lifetime, they must qualify to 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.
- Each PV module used in solar power project under this tender must use a RF identification tag (RFID), which must contain the following information. The RFID should be laminated inside the module and but must be able to withstand harsh environmental conditions.

  Name of the manufacturer of PV Module.
  Name of the manufacturer of Solar cells.

  Month and year of the manufacture (separately for solar cells and module).
  Country of origin (separately for solar cells and module).

  I-V curve for the module.
  Peak Wattage, Im, Vm and FF for the module.
  Unique serial No and Model No of the module.

Date and year of obtaining IEC PV module qualification certificate.
Name of the test lab issuing IEC certificate.
Tier - 1Manufacturer
Should have Antireflective coating on the solar glass that can effectively transmit the incident light within the visible wave length ranging up to 95%.
IP 68 rating Junction box.

Frame thickness should be minimum 36 mm to show outstanding performance in the visual inspection maximum power determination, insulation test and wet leakage current test before and after dynamic mechanical load test performed in accordance with the IEC guidelines.

Out back sheets should come with an outer protective layer made of very weatherable flour film that promise excellent durability performance. Further more the back sheets feature very low WVTR and higher electrical insulation process.

Solar panel warranty – 25 years

2. MODULE MOUNTING STRUCTURE:

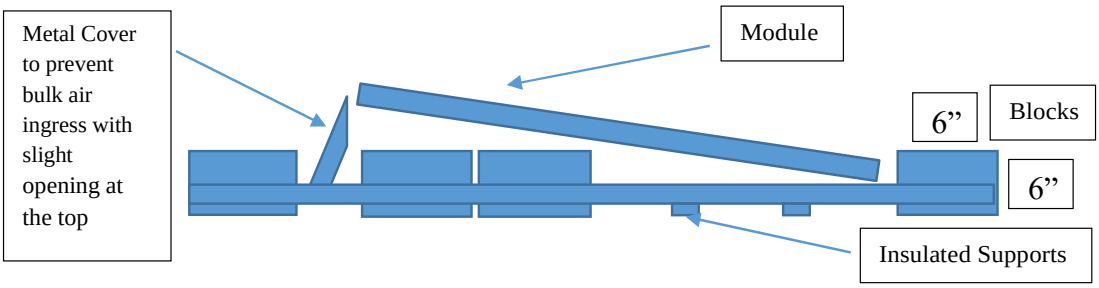
Hot dip galvanized Aluminum mounting structures shall be used for mounting the modules/ panels/arrays. Each structure will have angle of inclination as per the site conditions to take maximum insolation.

The Mounting structure must be Non-invasive and any sort of penetration of roof to be avoided. The design details are as follows:

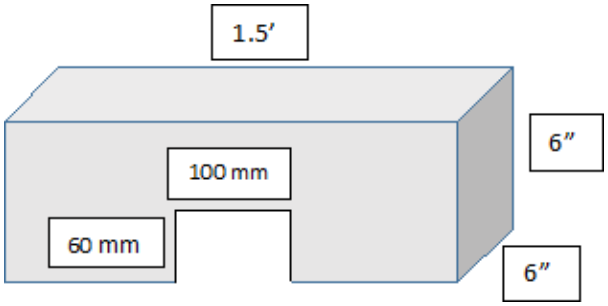
The inclination of module should not be more than 24 degrees.

Each module should be loaded with 8 Non-Invasive blocks with 4 on each side. (2 blocks below the module & 2 blocks at both ends)

The upper edge of the module must be covered with metal sheet so as to avoid bulk air ingress below the module. Slight clearance must be provided on both edges (upper & lower) to allow air for cooling.



Each block should be of 25 Kg weight & should be cubical shaped reinforced concrete with dimensions of 1.5 feet (length)*6 inch (breadth)*6 inch (height) with a cut-out of 100 mm*60 mm



across the breadth to encompass the 100 mm base channels.

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

The fasteners 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.

The total load of the structure (when installed with PV modules) on the terrace should be less than 60 kg/m^2. The load shall be well distributed so that point loads are well within the limits.

The minimum clearance of the structure from the roof level should be 200 mm.

The structures should be laid on the rooftop on weather resistant FRP mountings which should be non-penetrating type and proper drainage of rain water over terrace through the installation area should be maintained.

The structures should be suitably loaded with reinforced concrete blocks of appropriate weight made out of M25 concrete mixture.

Special care should be taken while designing all structures for modules to cater to heavy rainfall.

The array shall be located sufficiently inside the boundary wall of the terrace (parapet wall) and should not be projecting out. PV array shall be installed in the terrace space free from any obstruction and/or shadow. PV array shall be installed utilizing optimum terrace space to minimize effects of shadows due to adjacent PV panel rows.

Adequate spacing shall be provided between two panel frames and rows of panels to facilitate personnel protection ease of installation, replacement, cleaning of panels and electrical maintenance.

Additional waterproofing shall be provided in the areas where RCC blocks are placed on the terrace.

The minimum clearance between lower edge of PV panel and terrace ground level shall be 150 mm to allow ventilation for cooling, also ease of cleaning and maintenance of panels as well as cleaning of terrace.

The PV array structure design shall be appropriate with a factor of safety of min. 1.5. Each PV panel structure

shall incorporate one bird repellent spike at a level higher than the panel upper edge. The location of the spike should be selected for minimum shadow effect.

The support structure shall be free from corrosion when installed.

PV modules shall be secured to support structure using screw fasteners and/or metal clamps. Screw fasteners shall use existing mounting holes provided by module manufacturer. No additional holes shall be drilled on module frames. Module fasteners/clamps shall be adequately treated to resist corrosion.

Adequate spacing shall be provided between any two modules secured on PV array for improved wind resistance.

The structure shall be designed to withstand operating environmental conditions for a period of minimum 25 years.

The structure should be appropriately designed to withstand high wind velocities up to 180-200 km per hour. (The bidder is required to submit a certificate from an authorized chartered engineer with regards to the strength and durability of the structure)

3. ARRAY/ JUNCTION BOXES (JBS):

The junction boxes shall be dust and waterproof and made of thermo-plastic. The terminals will be connected to copper lugs or bus bar of proper sizes. The junction boxes will have suitable cable entry points fitted with cables glands. Suitable markings shall be provided on the legs or bus bar for easy identification and cable ferrules will be fitted the cable termination points for identification. Each main junction box shall be fitted with appropriate rating blocking diode. The junction boxes shall be of reputed make.

iii. Array Junction Box should be IP 65 as per IEC 529 and should provided with reverse blocking diodes, fuses and Isolators of suitable ratings.

iv. DC Distribution board should comply with IP 65 as per IEC 529. It should be equipped with suitable rating of DC isolators for solar input from array junction box and fuse of suitable rating between PCU and battery.

v. AC distribution board should comply with comply with IP 65 as per IEC 529 and should be equipped with suitable rating of MCB between PCU and load.

vi. All switch, circuit breakers and connectors should comply with IEC 60947 (part –i, ii, iii) / is 60947 (Part-i, ii , iii).

2 BATTERY BANK:

There will be one battery bank comprising of appropriate capacity for respective SPV Power Plant (Off-Grid). The batteries should be of tubular plate VRLA Gel Type and shall have long service life. The cells should confirm IEC 61427 / IS 1651 / IS 133369 and as per specification given below shall be provided.

Battery Bank Capacity	Maintenance free Battery suitable for 8 KW having back-up for 6 hrs for the connected load (8 KW) (7.2 Vah/Wp)
Container	Polypropylene Co-polymer/hard rubbers with carrying handle.
Terminals	Made of lead alloy suitable for bolted connection. The

	Terminals should be greased with petroleum gel.
Self Discharge	Less than 3% per month at 30 degree C
Life expectancy	1500 cycle duty at 27degree C at 80% depth of discharge 3000 cycle duty at 50% discharge.
Battery Voltage	02 Volt, c 10 Tubular Gel Batteries (VRLA type)
Service Life	Manufacturer warranty minimum 05 years.

6. POWER CONDITIONING UNIT (PCU):

As SPV array produce direct current electricity, it is necessary to convert this direct current into alternating current and adjust the voltage levels before powering equipment designed for nominal mains AC supply. Conversion shall be achieved using an electronic Inverter and the associated control and protection devices. All these components of the system are termed the "Power Conditioning Unit" OR simply PCU to maximize Solar PV array energy input into the System. PCU should conform IEC 61683, IEC 60068 as per specifications.

PCU refers to combination of charge controller, inverter and AC charger and shall be supplied as integrated unit or separate units.

Inverter:

The inverter will be highly efficient. The inverter should confirm IEC 61683 /IS 61683, IS 16169/IEC 62116, IEC 60068 and should be based on MPPT design. Inverters would display its own parameters and the parameters of battery bank connected to the inverter. Beyond the maximum load the inverters will trip. The inverters should be designed to be completely compatible with the charge controllers and distribution panels and are of integrated design. Salient features of the Inverters shall be as follows:

- The PCU should be designed to be completely compatible with the SPV array voltage.
- The combined KVA rating of all PCUs shall not be less than corresponding KVA at standard temperature. (8 KW/10 KVA)

- Optimum numbers of central inverter with MPPT shall be used with the power plant for maximum efficiency and shall be efficient based on PWM MPPT with IGBT/ reliable power based design.
- The sine wave output of the inverter shall be 415V, 3 phase, 4 wire 50 HZ AC
- The peak inverter efficiency inclusive of built in isolation transformer shall exceed 90% at full load.
- Inverter shall provide display of PV array DC voltage & current, Battery Voltage & Current, Inverter Voltage & Current, Grid voltage & Current, Battery charging status and required parameters when fault occurs. Remote monitoring of inverter parameters should be possible.
- Operating temperature Range shall be 0 to 55 deg C.
- The charge controller/ MPPT units should qualify to IEC standards.
- Online microprocessor based Data Acquisition Systems and Remote Monitoring facility for 365 days with data Recovery from remote location should equip.
- Firm should have sufficient enclosure on report preparation and should provide energy generation report on demand of officials.
- All PCUs must be provided with remote monitoring and data acquisition systems.
- PCU should work at low voltage range from 110 v to 230 v.
- There should be provision to charge the battery using Grid power as long as Grid voltage is between 170V- 265V. In case the Grid voltage falls below 170V up to 130V, Grid charging shall stop but load shall continue to run using Grid supply not by Solar. In case of three phase system, phase to neutral voltage shall be in this range for all three phase.
- There should be provision to export excess PV power to Grid in case the load consumption is less than actual generation only for the plants having capacity equal to and more than 05 KW. This is futuristic feature and provision should be there to enable or disable this export feature.

Inverter Capacity	3 Phase 8 KW/10KVA
Nominal Battery Bank Voltage	
Output frequency	50 Hz +/- 0.5 Hz
Overload Capacity	200% for 5 Second.
Efficiency	80% at 50% of load and More than 90% at full load 0.8 PF
Short Circuit Protection	Circuit Breaker and Electronics

	Protection against sustained fault.
Low Battery Voltage	Automatic Shut Down
Total Harmonic Distortion	Less than 3%
Over Voltage	Automatic Shut Down
AC over Current/Load	Automatic Shut Down
Protection	Over Voltage both at Input & Output Over Current both at Input & Output Over Frequency Surge voltage inducted at output due to external Source.
DG Synchronization	Yes
Protection Degree	IP20/IP21
Instrumentation & Indication	Input & Output voltage, Input & Output Current, Frequency, Power output, different status of inverter, kind of fault by audio signal.

Charge Controller Unit:

The Charge Controller shall be dual input type, where under normal condition the input is fed from a SPV panel and in the absence of SPV power or low SPV power conditions an external single phase AC source can be used for battery charging. A selector switch shall be provided for choosing between those modes. When the batteries are charged from external AC sources, the charging current should be set manually depending on the capacity of the source and the charging requirement of the batteries. The charge controller shall be of MPPT type employing IGBT switching elements.

Charge controller should confirm IEC 62093 / IEC 60068 as per specification.

The charging sequence from SPV array or external AC source shall be as follows:

From SPV Array:

The battery shall be charged at the maximum rate depending on the solar radiation until the battery terminal voltage reaches 2.25 volts per cell. The battery charging should be automatically terminated when the rate of increase of battery voltage is steady (dv / dispensing). The charger shall switch on the, trickle charge after this.

7. AC DISTRIBUTION PANEL BOARD:

The AC Distribution Board shall consist of the components as per designed PCU.

8. CABLES & WIRINGS:

All cables shall be supplied conforming to IEC 60227/ IS 694 & IEC 60502/IS 1554. Voltage rating: 1,100V AC, 1,500V DC. For the DC cabling, XLPE or XLPO insulated and sheathed, UV stabilized single core flexible copper cables shall be used. Multi-core cables shall not be used. For the AC cabling, PVC or XLPE insulated and PVC sheathed single or multi-core flexible copper cables shall be used. Outdoor AC cables shall have a UV-stabilized outer sheath. The total voltage drop on the cable segments of entire system should not exceed 2.0%. The DC cables from the SPV module array shall run through a UV stabilized PVC conduit pipe of adequate diameter with a minimum wall thickness of 1.5mm. Cables and wires used for the interconnection of solar PV modules shall be provided with solar PV connectors (MC4) and couplers. All cables and conduit pipes shall be clamped to the rooftop, walls and ceilings with thermo-plastic clamps at intervals not exceeding 50 cm. The minimum DC cable size shall be 4.0 mm2 copper. The minimum AC cable size shall be 4.0 mm2 copper.

9. DANGER PLATES:

The bidder have to provide at least 8 Danger Notice Plates of 200 mm X 150 mm made of mild steel sheet, minimum 2 mm thick and vitreous enameled white on both sides and with inscription in signal red colour on front side as required. The inscription shall be in English and local language. Out of eight, four danger notice shall have to be provided at PV Yard & Four-danger notice at Control Room & Battery room.

10. LIGHTENING & OVER VOLTAGE PROTECTION SYSTEM:

- The SPV power plant should be provided with Lightning and over voltage protection, connected with proper earth pits. The main aim of over voltage protection is to reduce the over voltage to a tolerable level before it reaches the PV or other sub-system components. The source of over voltage can be lightning or other atmospheric disturbance.

- The lightning Conductors shall be made of 25 mm diameter 4000 mm long GI spike as per provisions of IS 2309-1969. Necessary concrete foundation for holding the lightning conductor in position to be made after giving due consideration to maximum wind speed and maintenance requirement at site in future. The lightning conductor shall be earthed through 20 mm X 3 mm thick GI flat earth pits/earth bus made with 25 mm X 5 mm GI flats.
- Most areas of the state being prone to lighting, type-II SPDs shall be included as a mandatory requirement similarly type I+II SPD should also be provided on the grid side in ACBB or PCU to protect the PCU from the damage.

11. EARTHING SYSTEMS:

Chemical Earthing (Maintenance Free) system including Lightning & Surge Protection arrangement to be provided with copper bonded steel electrode. Earthing system design should be as per the standard practices and should conform to the latest edition of IS 3043.

No of earthing points to be made

1. One earthing for all structural conducting part.
2. One earthing for inverter with ACDB, Array J.B and main J.B.
3. One earthing for lighting arrester. Connecting conductor should be (25x5) mm G.I strip / 25x5 mm tinned copper for inverter and all equipments.

12. DISPLAY BOARD:

You shall provide the display board of size 3 ft x 3 ft that gives detailed circuit diagram of the system with its description.

13. COMPREHENSIVE MAINTENANCE CONTRACT (CMC):

The PV module (s), battery bank, Inverter and other sub - components will be warranted as per the given clause. The manufacturers can also provide additional information about the system and conditions of warranty as necessary.

.

Scope of Operation & Maintenance of SPV Power Plant for a period of 5 years from date of commissioning.

Regular maintenance of the SPV Power Plant for a period of 5 years after commissioning along with supply of consumable items.

The breakdown maintenance of the entire system including supply of necessary spare parts if any shall be for a period of 5 years from the date of commissioning of power plant.

- 5 years maintenance period shall begin on the date actual commissioning and hand over to the user authority of the power plant.
- Normal and preventive maintenance of the power plant, tightening of all electrical connections, changing of tilt angle of module mounting structure, cleaning & greasing of battery terminals, etc. Shall be covered under CMC and performed once in three months. The report should be counter signed by the user authority and submitted to OSPHWC for record.
- During maintenance period of the power plant, if there is any loss or damage of any component of the power plant due to miss management/miss handling or due to any other reasons pertaining to the vender's deputed personnel, what-so-ever, the vender shall be responsible for immediate replacement/rectification. The damaged component may be repaired or replaced by new component. It is understood after examination the performance of the component or the system shall not degrade. Upon intimation of any breakdown/fault, the vendor shall take steps to rectified the same within a maximum period of 48 hrs.

14. DRAWINGS & MANUALS:

02 copies of Engineering, electrical drawings and Installation and O&M manuals are to be supplied by the bidder. Bidders shall provide complete technical data sheets for each equipment giving details of the specifications along with make/makes in their bid along with basic design of the power plant and power evacuation, synchronization and distribution for street lighting system along with protection equipment. Approved ISI and reputed makes for equipment be used. For complete electro-mechanical works, bidders shall supply complete design, details and drawings for approval to OPHWC before progressing with the installation work.

15. TOOL KITS:

Necessary tools kit is to be provided along with the each Power Plant for any routine maintenance or immediate repair by the bidder.

16. ACCEPTANCE/REJECTION:-

OPHWC reserve the right to accept/reject any or all tenders without assigning any reason thereof and alter the quality of materials mentioned in the tender documents at the time of placing work order Tender. Tender will be summarily rejected if.

I. EMD at the rate of 1% of the estimated value is not deposited in shape of Bank Draft in favour of OPHWC payable at Bhubaneswar.
II. Tender is received after the last date for what-so-ever reasons.

17. COMMERCIAL TERMS AND CONDITIONS:-

The offer should indicate the unit cost, installation and commissioning charges and taxes (GST) separately. The unit cost must inclusive of packing, forwarding, loading, unloading charges, cost of insurance and transportation for destination where the system will be installed as per work order. All taxes and duties as prescribed by GST norms shall be applicable.

18. SECURITY DEPOSIT/PERFORMANCE GUARANTEE FEES:-

The successful bidder must deposit five nos of Bank Guarantee (BG) each of value equal to 2% of ordered value towards security cum performance guarantee fees with OPHWC, Bhubaneswar along with bills, challans and all other document as per payment clause before processing payment. Bank Guarantee will remain valid for 1, 2, 3, 4, and 5 years respectively from the date of installation of the system.

19. FORFEITURE OF SECURITY DEPOSIT/PERFORMANCE BANK GUARANTEE:-

The said deposit would be forfeited in the following cases.

- If the system are not installed and commissioned as per given schedule.
- If the system are not properly maintained and the performance of the system do not meet the standard mentioned in the work order.

20. WORK EXECUTION SCHEDULE:-

- All ordered system must be installed and commissioned in all respects within 90 days of receipt of firm work order.

- Under exceptional circumstances the period of execution can be extended reasonably only upon writer request by the vender.

- Upon intimation about commissioning of the system by the executing agency a joint inspection will be carried out by the representatives of executing firm and officers of OPHWC.

21. VALIDITY OF OFFER:-

The offer must be kept valid for a period of one year from the date of opening of tender. No escalation clause except the admissible tax component under the period of consideration would be accepted.

22. WARRANTY:-

- The complete system should be warranted against any manufacturing defect or bad workmanship at least 5 years from date of commissioning of the system.

- Battery Bank should be maintenance free and warranted for a period of 5 years.

- Warrantee certificate to this effect must be furnished along with the commissioning reports. Any defects noticed during warranty period should be rectified / replaced by the supplier free of cost upon intimation by authority.

- The supplier will furnish warranty certificate from the manufacturer positively for solar panel, inverter, AC & DC junction box besides other balance of equipment.

23. INSPECTION:-

- All testes and inspections shall be made at the place of delivery. Offers authorized by OPHWC shall be entitled at all reasonable time to inspect and supervise and test during erection and commissioning. Such inspection will not relieve the executing firm of their obligation in the contract.
- OPHWC shall have the right to have the tests carried out at its own cost by an independent agency at any point of time.

24. PAYMENT:-

- 90% of the cost of system and installation charge along with all applicable tax shall be released upon commissioning of the systems at the location specified in the purchase order upon due verification by authorized officers and submission of following documents.

  Performance report signed by the User
  Authority. JCC.
  Warranty.
  GPS based photograph.
  Web enabled generation report
  I-V Curves.
  Operation manual.
  Dos & Don'ts in the form of a booklet.
  Conducting training programme.

- Balance 10% of cost of the supplied materials, installation & commissioning charges will be released after 3 months successful performance of the systems and submission of performance reports thereon.

25. EXECUTION:-

Execution of work shall be carried out in an approved manner as outlined in the technical specification or where not outlined, in accordance with relevant Indian Standard Specification, to the reasonable satisfaction of the Authorized OPHWC officer.

26. COMPREHENSIVE MAINTAINANCE CONTRACT (CMC):-

- The bidder must enter into a Comprehensive Maintenance Contract for the specified period at the time of execution of the order. Offer without such CMC shall not be considered. (Sample format of CMC enclosed Annex-I).

27. LIMITAION OF LIABILITY:-

OPHWC, will, in no case be responsible for any accident fatal or non-fatal, caused to any worker or outsider in course of transport of work. All the expenditure including treatment or compensation will be entirely borne by the Executants. The Executants shall also be responsible for any claims of the workers including PF, Gratuity, ESI & other legal obligations. The bidder must ensure that the workmen deployed in the project are adequately qualified and cover under required insurance.

28. DISPUTE:-

For adjudication of any dispute between OPHWC and the bidders arising in this case, reference can be made to any Law courts under the jurisdiction of Odisha High Court only. OPHWC reserves the right to accept or reject any or all bids without assigning any reason thereof.

Sd/-	**Sd/-**	**Sd/-**	**Sd/-**
A.P.M (Elect.)	**A.P.M (Elect.) Hqtr.**	**Consultant (Elect.)**	**Joint Manager (Elect.)**

THE ODISHA STATE POLICE HOUSING & WELFARE CORPORATION LTD.
JANAPATH, BHOINAGAR, BHUBANESWAR – 22.
[Electrical Division]
Ph: 0674-2541545, 2542921, Fax: 0674-254154
E-mail: jmelectricalophwc@gmail.com, Website: www.ophwc.nic.in

BID REFERENCE NO: - 40 /JM / ELECT / OPHWC/ 2019-20

Name of the Bidder:-

PRICE BID
FOR
DESIGN, SUPPLY, INSTALLATION, TESTING & COMMISSIONING OF 08 KW. OFF-GRID SOLAR PV SYSTEM (ROOF-TOP) 7.2 Vah/Wp WITH 6 HR. POWER BACK UP AND COMPREHENSIVE MAINTENANCE CONTRACT FOR A PERIOD OF 05 (FIVE) YEARS AT DIVISION OFFICE, OSPH&WC, BHAWANIPATNA.

SCHEDULE OF WORK FOR LOCATION

SL.NO	ITEMS	MAKE	SPECIFICATION	QUANTITY	QUOTED AMOUNT EXCLUSIVE OF GST FOR 01. NO. LOCATION
1	SOLAR PV PANEL	VIKRAM / WARREE / JAKSON/ MNRE APPROVED MAKE	370 Wp (72 CELL)	AS PER REQUIREMENT	
2	SOLAR PCU	STATCON / CONSULE NEOWAT / STUDDER / OUTBACK / SWLECT / MNRE APPROVED MAKE	(8KW/ 10 KVA) 3PH. WITH REMOTE MONITORING	01 NO.	
3	SOLAR BATTERY	EXIDE/NED ENERGY/AMARA RAJA. BATTERIES SHALL HAVE TO BE APPROVED BY ERTL/CPRI/OTHER	7.2 Vah/Wp, 2V, C10 BATTERY BANK WITH VRLA GEL TYPE TUBULAR MAINTENANCE FREE BATTERY	AS PER DESIGN	

		MNRE APPROVED TEST CENTRE			
4	ARRAY JUNCTION BOX DCDB-DCDB	MCB-LEGRAND / REPUTED IP-65 WITH DCSPD	AS PER DESIGN	01 NO.	
5	THREE PHASE ACDB WITH LOAD LIMITER UP TO 8 KW	MCB-LEGRAND / REPUTED IP-65 ACSPD	AS PER DESIGN	01 NO.	
6	HRC FUSE WITH BOX	125 A, 400 A [L&T/REPUTED MAKE] IP-65	125 A, 400 A IP-65	01 JOB	
7	DC CABLE (PANEL TO INVERTER)	POLYCAB / HAVELLS/FINOLEX/SIECHEM	06 SQ. MM. DC SOLAR CABLE-UV-FRS AS PER COLOUR CODE	AS PER REQUIREMENT.	
8	AC CABLE (INVERTER TO BATTERY)	POLYCAB /FINOLEX / HAVELLS	25 SQ. MM. 1C COPPER FLEXIBLE CABLE AS PER COLOUR CODE	AS PER REQUIREMENT	
9	AC CABLE (BATTERY)	POLYCAB/FINOLEX / HAVELLS	25 SQ. MM. 1C COPPER FLEXIBLE CABLE AS PER COLOUR CODE	AS PER REQUIREMENT	
10	AC CABLE	POLYCAB/FINOLEX / HAVELLS	10 SQ.MM. 1C FRS-UV COPPER FLEXIBLE CABLE AS PER COLOUR CODE	AS PER REQUIREMENT	
11	REQUIRED SIZE OF CABLE LUGS	REPUTED	06, 10, 16 & 25 SQ.MM.	AS PER DESIGN	
12	MC-4 CONNECTORS	REPUTED		AS PER REQUIREMENT	
13	STRUCTURE FOR	REPUTED	HOT DIP GALVANISE	01 SET (AS PER	

	SOLAR MODULES INCLUDING ASSORTED SIZE OF NUT BOLTS AND ANCHOR BOLTS.		ALUMINIUM MOUNTING STRUCTURE WILL HAVE ANGLE OF INCLINATION AS PER THE SITE CONDITION.	DESIGN)	
14	SCREW & WALL PLUG	REPUTED	SS-PLASTIC	AS PER REQUIREMENT	
15	EARTHING	REPUTED	CHEMICAL EAERTHING	AS PER REQUIREMENT	
16	LIGHTNING ARRESTER	REPUTED	CU- 1.3 M /13 MM	AS PER REQUIREMENT	
17	GI STRIP - TYPE 19 MM X 03 MM/ LA	REPUTED	19 MM X 03 MM	AS PER REQUIREMENT	
18	INSULATOR FOR GI STRIP	REPUTED	FLAT INSULATOR AND PLASTIC INSULATOR	AS PER REQUIREMENT	
19	CABLE TIE	REPUTED	300 MM BLACK	AS PER REQUIREMENT	
20	GI SADDLE AND C-CLAMP	REPUTED	25 SQ.MM.	AS PER REQUIREMENT	
21	FLEXIBLE PIPE	REPUTED	25 SQ.MM.	AS PER REQUIREMENT	
22	CABLE TRAY WITH COVER (PVC)	REPUTED	45 MM X 45MM	AS PER REQUIREMENT	
23	FIRE EXTINGUISHER (CO 2)	REPUTED	02 K.G.	AS PER REQUIREMENT	
24	DANGER SIGN BOARD	REPUTED	AS PER DESIGN	AS PER REQUIREMENT	
25	ALL ELECTRICAL WIRING REQUIRED FOR POWER	WIRE – POLYCAB/FINOLEX / HAVELLS MCB – LEGRAND /REPUTED SWITCH & SOCKET	AS PER DESIGN	01 JOB [AS PER DESIGN]	

	BACK UP TO THE CRITICAL LOADS OF THE DIFFERENT BUILDINGS .	- ANCHOR (ROMA)			
[I]	**QUOTED AMOUNT FOR D**ESIGN & SUPPLY OF 08 KW. OFF-GRID SOLAR PV SYSTEM (ROOF-TOP) 7.2 Vah/Wp WITH 6 HR. POWER BACK UP AND COMPREHENSIVE MAINTENANCE CONTRACT FOR A PERIOD OF 05 (FIVE) YEARS AT DIVISION OFFICE, OSPH&WC, BHAWANIPATNA. **Rs._____ x 01 = Rs.**				
[II]	**GST ON SL.NO – [I] Rs._____ x 01 = Rs.**				
[III]	**QUOTED AMOUNT FOR INSTALLATION, TESTING & COMMISSIONING OF** 08 KW. OFF-GRID SOLAR PV SYSTEM (ROOF-TOP) 7.2 Vah/Wp WITH 6 HR. POWER BACK UP AND COMPREHENSIVE MAINTENANCE CONTRACT FOR A PERIOD OF 05 (FIVE) YEARS AT DIVISION OFFICE, OSPH&WC, BHAWANIPATNA. **EXCLUSIVE OF GST.Rs._____ x 01 = Rs.**				
[IV]	**GST ON SL.NO – [III] Rs._____ x 01 = Rs.**				
[V]	**QUOTED AMOUNT FOR** COMPREHENSIVE MAINTENANCE OF 08 KW. OFF-GRID SOLAR PV SYSTEM (ROOF TOP) 7.2 Vah/Wp WITH 6 HR. POWER BACK UP) AND COMPREHENSIVE MAINTENANCE CONTRACT FOR A PERIOD OF 05 (FIVE) YEARS AT DIVISION OFFICE, OSPH&WC, BHAWANIPATNA. **Rs._____ x 01 = Rs.**				
[VI]	**GST ON SL.NO – [V] Rs._____ x 01 = Rs.**				

[VII]	**TOTAL QUOTED AMOUNT EXCLUSIVE OF GST = [I] + [III] + [V]** **Rs._____** **IN FIGURE:-**
[VIII]	**TOTAL QUOTED AMOUNT INCLUSIVE OF GST = [II] + [IV] + [VI]** **Rs._____** **IN FIGURE:-**
[IX]	**TOTAL QUOTED AMOUNT INCLUSIVE OF GST IS _____ % _____ (EXCESS / LESS) TO TOTAL ESTIMATED COST RS.** 10,80,000.00 **(INCLUSIVE OF ALL TAXES & GST).**

Signature with seal of the Bidder.

Sd/-	**Sd/-**	**Sd/-**	**Sd/-**
A.P.M (Elect.)	**A.P.M (Elect.) Hqtr.**	**Consultant (Elect.)**	**Joint Manager (Elect.)**

Model Bank Guarantee Format for Performance Security

Annexure-II of Finance Department Office Memorandum 4939 dtd 13.2.12, Govt. of Odisha
[Ref Para 22(i1]

To
WHEREAS---------- *(name* and address of the supplier)

(hereinafter called "the supplier") has undertaken. in pursuance of contract no----------

dated---------- to supply ----------(description of goods and services) (herein after called "the contract")' AND WHEREAS it has been -stipulated by you in the said contract that the supplier shall furnish you with a bank guarantee by a scheduled commercial bank recognized by you for the sum specified therein, as security for compliance with its obligations in accordance with the contract;

AND WHEREAS we have agreed to give the supplier such a bank guarantee; NOW THEREFORE we hereby affirm that we, are guarantors and responsible to you on behalf of the supplier. up to a total of ---------- .(Amount of the guarantee in words and figures).and we undertake to pay you. Upon your first written demand declaring the supplier to be in default under the contract and without cavil or argument, any sum or sums within the limits of (amount of guarantee)as aforesaid. without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

We hereby waive the necessity of your- demanding the said debt from the supplier before presenting us with the demand.

We further agree that no change or addition to or other 'modification of the terms of the contract to be performed there under or of any of the contract documents --which may be made between you and the supplier shall in any way release us from any liability under this guarantee and we hereby waive notice of any such change. Addition or modification.

This guarantee shall be valid until the day of----------20------- Our branch at * (Name & Address of the ____ * branch) is liable to pay the guaranteed amount depending on the filing of claim and any part thereof under this Bank Guarantee only and only if you serve upon us at our---------- * branch a written claim or demand and received by us at our ____ * branch on or before Dt.--------- otherwise bank shall be discharged of all liabilities under this guarantee thereafter.

(Signature of the authorized officer of the Bank)
Name and designation of the officer
Seal.name& address of the Bank and address of the Branch

SAMPLE FORMAT FOR C.M.C (ANNEX-1)

(Subject to modification as per suitability of system and project requirement) Comprehensive Maintenance Contract (CMC) for maintenance of SPV power plant supplied and install by M/S……for five years.

This Comprehensive Maintenance Contract (CMC) is executed between the Orissa Police Housing & Welfare Corporation (OPHWC) Bhoi Nagar, Bhubaneswar-751022, represented by concerned Deputy Manager (EI) Electrical Division herein after called as Ist. party and M/S…….
Herein after called as 2nd party, for maintenance of …….. Sets of ……for a period of five years with effect from …….. AD, supplied, installed and commissioned vide purchase order No……. Dated …… in …….. Village …….. Blocks of ……. Districts.
The 2nd party will maintain these ……. Systems as per the terms and conditions mentioned here under.

1. It has been envisaged in the purchase order No ……../ OREDA dated …….. under clause No …… that these …… No/sets of ……. shall be warranted against any manufacturing defect and bad workmanship at least for a period of 5 years for the system and battery and 10 years for the PV modules from the date of commissioning . As these systems have been commissioned and handed over to the 1st party through its authorized
Deputy Manager (Elect.) ……. During …….. all these systems , as such are covered under warranty period up to ……, …….. and …… respectively. Hence, the 2nd party is fully responsible for their trouble free maintenance and the 2nd party is liable to rectify / remove any defect noticed within the aforesaid period free of cost.

2. The 2nd party will impart training to two nos. of youth from each completed village to be able to provide first aid repair service for the SPV systems installed in the village.

3. The 2nd party will ensure a formal training of such identified youth (2 from each village) at a cluster level of villages in consultation with the 1st party.

4. An amount of 10% of the ordered value shall be kept as fees towards Performance guarantee for a period of 10 years of warranty & maintenance. After expiry of the successful and satisfactory maintenance period of 10 years which remains valid up to ……. AD, the security deposit / PGF shall be returned to the 2nd party thereafter only.

5. The CMC includes repair/ replacement of all spares and consumable, including CF Lamp, battery & PV module during the maintenance period.

6. The 2nd party will setup a state level office at Bhubaneswar duly headed by a Service Engineer.

7. The 2nd party shall undertake the periodical maintenance work of these …… sets prescribed formats attached herewith (Format I) on the 10th of every succeeding quarter duly countersigned by the concerned Deputy Manager (Elect.)…….

8. The 2nd party should be in readiness to attend to the defects of any system (out of these ……. Sets), as and when required by the beneficiary/ 1st party and ensure rectification of defects and restore functionality within seven days of lodging the complaints. The 2nd party shall furnish the status report after the maintenance work are over, which shall invariably bear the signature of the beneficiaries as per the format annexed herewith (format- II).

9. The 2nd party shall appraise the 1st party about the requirements and supply of spares during warranty as well as CMC period.

10. The 2nd party will ensure to submit quarterly reports of visits made by their representatives to the completed villages every three months during the warranty and CMC period.

11. The 1st party in consultation and cost sharing with the 2nd party will maintain a central complaint cell at Bhubaneswar along with adequate stock of spare parts as a backup.

12. Separate bills/ invoices in triplicate enclosing the prescribed formats duly filled in (Format-I and II) are to be submitted by the 2nd party to 1st party for effecting payment after end of the each year from the date of maintenance of the systems.

13. Certificates in support of successful maintenance of the system(s) shall be obtained from the users which should be countersigned by the Authorised Officer of OPHWC ……

……. In token of verification of maintenance done.

14. It will be the liberties of the 1st party to cross check the systems maintained by the 2nd party. Random verification of the maintenance may be carried out by the 1st party wherever necessary.

15. The 2nd party may continue to maintain the gadgets after expiry of the maintenance period of 10 years, provided the beneficiaries/ 1st party desires.

16. For adjudication of any dispute between the two parties arising on execution of this CMC, the matter shall first be brought to the notice of CMD, OPHWC.

17. In case, there will be no amicable settlement of the issues, the matter can be referred to the court of law having jurisdiction at Bhubaneswar only. The Annual Maintenance contract is signed jointly between the two parties today i.e. on dated …… day of 2020 and shall come into force from the date of its signature(s).

For and on behalf of OPHWC, Bhubaneswar.

……..

For and on behalf of M/S
(1stParty) …….
(2ndparty) ……..with Seal

CERTIFICATE OF NO RELATIONSHIP
ANNEX-2

BID REFERENCE NO:- 40 / JM/ ELECT /OPHWC/2019-20

I/We hereby certify that I/We am/are **related/not related** to any officer of OSPH&WC of the rank of Deputy Manager & above . I/We am/are aware that, if the facts subsequently proved to be false, my/our contract will be rescinded with forfeiture of E.M.D and security deposit and I/We shall be liable to make good the loss or damage resulting from such cancellation.

I/We also note that, non-submission of this certificate will render my / our tender liable for rejection.

N:B :- Strike out which is not applicable.

Signature with seal of the Bidder

Date:-

RELATIONSHIP DECLARATION
ANNEX-3
BID REFERENCE NO:- 40 /JM / ELECT /OPHWC/2019-20

To,
The Tender Inviting Officer,
Subject: (Name of the Work)
Reference: (Bid reference number)

Sir,

Pursuant to clause 29 of the General Condition of the Contract, it is to inform that I have relative(s) employed as an officer of OSPH&WC of the rank of Deputy Manager & above .His /Her (Their) details are as follows.

Relationship**:**
Name**:**
Designation **:**
Office **:**
Address **:**

Pursuant to clause 29 of the General Condition of the Contract, I am to submit herewith the names of persons who are working under my firm having near relative (s) employed as an officer of OSPH&WC of the rank of Deputy Manager & above. His/her (Their) details are as follows.

Sl No.	**Name of the my employee and his designation in the firm**	**Presently working at**	**Details of his relatives working in the Department**
1.			Relationship Name: Designation Office Address

I am also duty bound to inform the relationship of any subsequent employee to any officer of OSPH&WC of the rank of Deputy Manager & above. I am aware that any breach of this condition would render my firm liable for penal action for suppression of facts.

Yours Sincerely

Signature with seal of the Bidder
Date:-

Total: - 32 (Thirty Two) pages only.

APPROVED

Sd/-
Joint Manager (Elect)

Signature with seal of the Bidder.