

INVITATION FOR TENDER FOR SUPPLY OF EQUIPMENT

Sealed tender offers are invited from eligible manufacturers or their direct Indian agents for the supply of the following equipment.

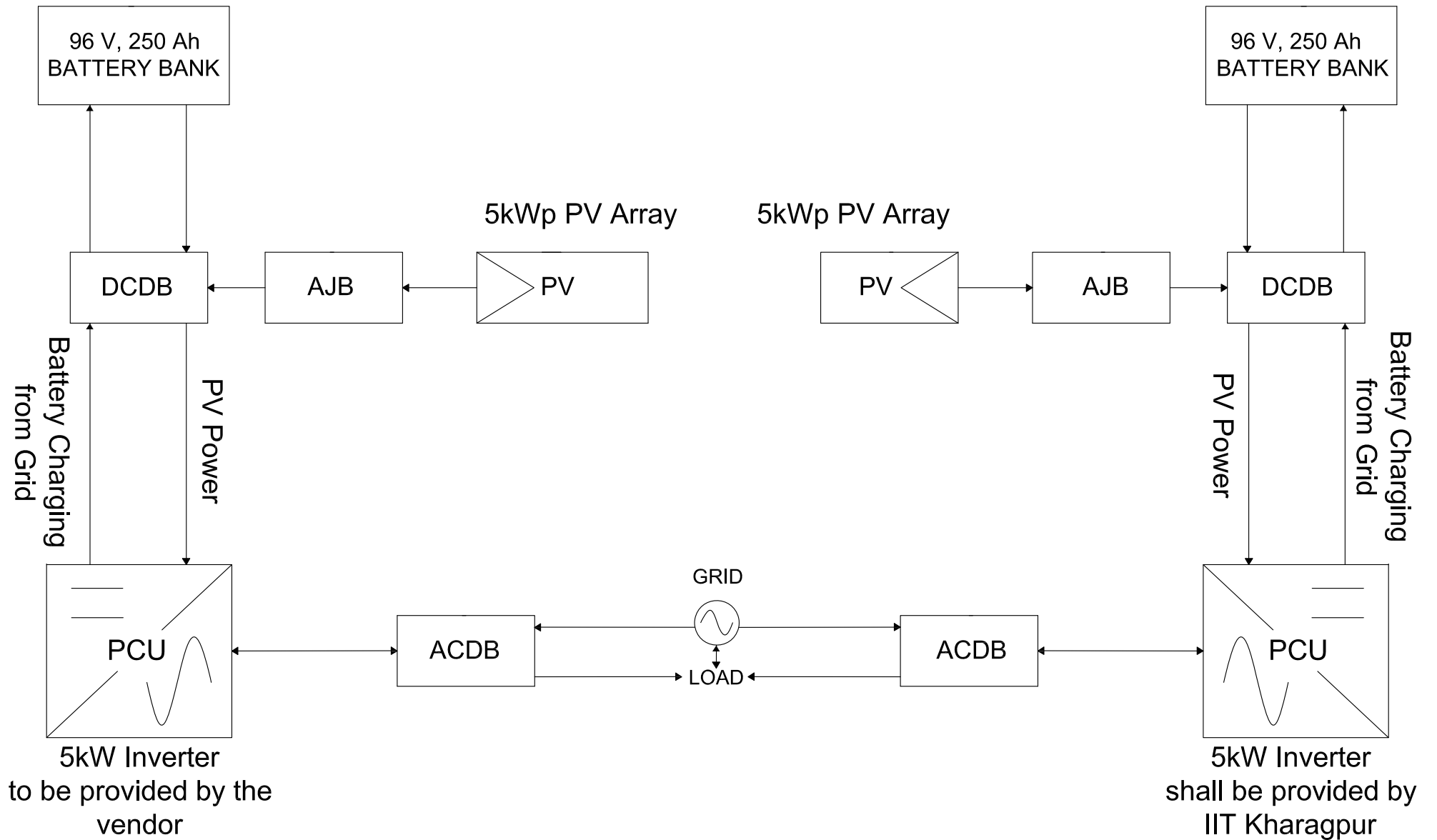
Design, Suppy, Installation and Commissioning of 10 kW Solar PV System with battery bank at Bidisha Ashram, Kharagpur

Please send offers, in two separate envelopes for technical and commercial along with descriptive catalog/brochure. The validity of the bid should be at least four months (120 days) or more from the date of the opening of this tender. Please ensure that your quotation reaches not later than 04.02.2019 at 15:00 hours at the following address:

**Dr. Suman Maiti,
Department of Electrical Engineering
Indian Institute of Technology Kharagpur
Kharagpur 721 302, India**

Earnest money of **Rs. 5000/-** is to be deposited in the form of Account payee Demand Draft in favour of IIT Kharagpur, payable at Kharagpur, India. Any bid which is not accompanied with an EMD shall be summarily rejected. Earnest money deposited will be forfeited if the tenderer withdraws or amends its tender or impairs or derogates from the tender in any respect within the period of validity of its tender. No interest will be paid on the earnest money of the unsuccessful bidders.

Tender reference	IIT/SRIC/EE/RER/SM/2017-18/EQ-2 Dated-10.01.2019
Price of the tender document	Nil
Last date and time for submitting the tender document	04.02.2019 at 15:00 hours
Time and date of opening of bids	04.02.2019 at 16:00 hours
Place of opening tender offers	Department of Electrical Engineering Indian Institute of Technology Kharagpur Kharagpur 721 302, India
Address of communication	As stated above
Contact telephone numbers	+91-3222-283090
Email	suman.maiti@ee.iitkgp.ac.in



ACDB- AC Distribution Box
 DCDB- DC Distribution Box
 AJB- Array Junction Box
 PCU- Power Conditioning Unit

PV SYSTEM- 1(with Inverter)
TECHNICAL SPECIFICATION 5kWp Solar Array

PV Rated Capacity	5 kWp
Solar module type	Monocrystalline PERC
Capacity of each module	More than 335 Wp
Cell Type	>72 monocrystalline solar cells
PV System Mounting Structure type	as per requirement given bellow
Cables and earthing systems	as per requirement
Mode of Implementation	By EPC (Engineering, Procurement and Construction)

TECHNICAL SPECIFICATION of BATTERY BANK

Battery Capacity	250 Ah, 2 V each
Battery Bank Voltage	96 V
Number of batteries	48 NOS.
Type	Tubular Gel VRLA batteries
Properties	C/10 Hr. rate of discharge at 1.75 v.p.c at 27°C.
Cables and earthing systems	as per requirement

TECHNICAL SPECIFICATION of 5 kW Inverter/ Power Conditioning Unit (PCU) -

Inverter –

- Output Power – 4.6 to 5 kW,
- Input PV Power – 5 kW or greater,
- Controller – DSP,
- Switching Element- IGBT,
- Nominal Battery Voltage – 96 V,
- No of Phase- 1,
- Nominal Output Voltage- 230V AC $\pm 2\%$,
- Output Frequency- 50Hz $\pm 0.5\%$,
- Voltage Regulation (Stand Alone) $\pm 2\%$,
- THD- less than 4%,
- Output Waveform- Pure Sine Wave,
- Galvanic Isolation- In built Isolation Transformer at Inverter Output,
- Output Power Factor - 0.8 (lead/lag)
- Battery Bank Charging Provision should be there directly from grid
- Compatible IEC standards IEC -61683:1999- As per MNRE Requirement
- Inverter of reputed manufacturers like Schneider, SMA, Enertech or Equivalent will be accepted.

Inverter Display Parameters -

- Load Status- Load on Battery, Grid Charging, Grid Sharing
- INVERTER- Voltage, Current
- O/P- Voltage, Current, Frequency
- Solar- PV Voltage, Current, PV Power, PV Energy
- Battery- Voltage, Status, Charging Current, Discharging Current,
- General- Input KW Output KW Solar KW
- INPUT- Voltage, Current, Frequency
- Faults

Protections-

- PV Reverse Polarity Indication, Surge Protection
- Battery Over/ Under Voltage, Over Charge, Reverse Polarity, Over Temperature
- Grid Over/ under Voltage, Over/ Under Frequency, Surge Protection
- Load Overloads, Short circuit
- Circuit Breakers Grid Input MCB, Battery Input MCB, PV Input MCB
- Temperature- Inverter Over Temperature
- Alarm Audible For Fault And Warning

Miscellaneous -

- Cooling- Forced Fan Cooling
- Noise <50dB
- Compatible IEC standards- IEC- 60068-2-1, IEC-60068-2-2, IEC-60068-2-14, IEC-60068-2-30, As per MNRE Requirement

Remote Monitoring System-

- RMU must monitor multiple parameters of AC, DC, kWh, Voltage, Current with graphical display for:- Battery, Load, Utility, Inverter, Solar Real-time information at 15-min or less interval on renewable energy production, facility consumption, battery status, etc.
- Web-based data storage with access to data from any web browser, anywhere, any time.
- Customizable Alerts and Alarms and detailed data reporting capabilities help reduce O&M costs and maximizes the performance of your renewable energy system.

PV SYSTEM- 2(Without Inverter)

TECHNICAL SPECIFICATION 5kWp Solar Array

PV Rated Capacity	5 kWp
Solar module type	Monocrystalline PERC
Capacity of each module	More than 335 Wp
Cell Type	>72 monocrystalline solar cells
PV System Mounting Structure type	as per requirement given bellow
Cables and earthing systems	as per requirement
Mode of Implementation	By EPC (Engineering, Procurement and Construction)

TECHNICAL SPECIFICATION of BATTERY BANK

Battery Capacity	250 Ah, 2 V each
Battery Bank Voltage	96 V
Number of batteries	48 NOS.
Type	Tubular Gel VRLA batteries
Properties	C/10 Hr. rate of discharge at 1.75 v.p.c at 27°C.
Cables and earthing systems	as per requirement

Note: For PV System-2, Inverter / PCU is not in the scope. However, all other electrical arrangement will be made for inverter connection.

All provision should be there for installing one separate single-phase off-grid/ hybrid inverter (220-230 volts, 50 Hz, 5 kW).

Battery Bank Other Specs-

- DC power supply Distribution panel/board should be supplied along with the Battery Bank as per relevant IS standards.
- Good quality battery rack is to be provided for the battery bank.
- Cable of proper size is to be used. Calculation to be submitted.
- Proper protection devices / DC breakers are to be used as per requirement.
- DC Battery Bank theoretical design, calculations and explanations along with drawing shall be provided and approved by IIT Kharagpur.
- The battery bank shall be provided with epoxy paint coated exhaust fan for removal of gasses released from the batteries.
- The data sheet for the battery shall be submitted along with the Bid for evaluation.
- Must comply with the latest IS 1651 and other relevant IS codes.

Earthing-

1. PV array, DC equipment, AC equipment and distribution wiring shall be earthed as required.
2. Equipment grounding (Earthing) shall connect all non-current carrying metal receptacles, electrical boxes, appliance frames, chassis and PV panel mounting structures in one long run. The grounding wire should not be switched, fused or interrupted.

3. The complete earthing system shall be electrically connected to provide return to earth from all equipment independent of mechanical connection.
4. The equipment grounding wire shall be connected to PV power plant.
5. A separate grounding electrode shall be installed using earth pit per power plant.
6. Earthing system design should be as per the standard practices.

Balance of Systems (BoS)-

1. String/Array combiner boxes shall incorporate DC string circuit breakers, DC array disconnect switch, lightning and over voltage protectors, any other protection equipment, screw type terminal strips and strain-relief cable glands.
2. All DC Solar Grade (UV Protected) cables shall be terminated using suitable crimped cable lugs/sockets and screw type terminal strips. No soldered cable termination shall be accepted.
3. Only terminal cable joints shall be accepted. No cable joint to join two cable ends shall be accepted.
4. Suitable Ground Fault Detector Interrupter (GFDI) shall be incorporated either with the array combiner box.
5. String/Array combiner boxes shall be secured onto walls or metal structures erected separately on the terrace.
6. Conduits/concealed cable trays shall be provided for all DC cabling on the Roof top. Conduits/concealed cable trays shall be adequately secured onto the roof top/wall.
7. The DC and AC cable type shall be PVC/XLPE insulated, suitably armored, 1500V grade multi-stranded aluminium conductor. Appropriate colour coding shall be used.
8. The DC cables of adequate electrical voltage and current ratings shall be also rated for 'in conduit wet and outdoor use'.
9. The total DC cable losses shall be maximum of 2% of the plant rated DC capacity over the specified ambient temperature range.
10. The DC cable size shall be selected to maintain losses within specified limits over the entire lengths of the cables.
11. DC cables from array combiner box on the rooftop to DC distribution box in the control room shall be laid inside cable duct where available or secured with conduits/concealed cable trays where duct is not available.
12. The DC and AC distribution boxes shall be wall mounted inside control room/open space.
13. DC distribution box shall incorporate DC disconnect switch, lightning surge protectors, any other protection equipment, screw type terminal strips and strain-relief cable glands.
14. AC distribution box shall incorporate AC circuit breaker, surge voltage protectors, any other protection equipment, screw type terminal strips and

strain-relief cable glands.

15. DC and AC cabling between inverter and distribution boxes shall be secured with conduits/concealed cable trays.
16. The total AC cable losses shall be maximum of 1% of the plant AC output over the specified ambient temperature range.
17. All cable conduits shall be GI/HDPE type.
18. All cable trays shall be powder coated steel or GI or equivalent.
19. ESE Lightning Arrestor covering the whole plant region shall be installed. Protection radius must cover the whole plant area, calculation to be submitted.
20. Cable Calculations, fuse, breaker rating calculations are to be submitted before the commencement of the installation.
21. Shadow analysis report, DPR to be submitted.
22. Earthing strips should be laid on insulators.
23. Separate wiring for the distribution network, loads, etc. need to be done by the contractor as per requirement.

Civil-

1. Existing roof top space of **Girls Hostel at Bidisha Ashram** building be used to install Solar PV array.
2. PV array shall be installed in the space free from any obstruction and / or shadow.
3. Drainage and roof treatment should not be affected by the installation.
4. PV array shall be installed utilizing maximum space to minimize effects of shadows due to adjacent PV panel rows.
5. 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. There is at least 1m clear spacing all around the panel assembly (panel edge to panel edge between assemblies, and panel edge to parapet wall/ room on sides)..
6. The height of the module mounting structure should be as per cumulative effect of load bearing capacity, wind load calculation (as per IS).
7. Nut-bolts shall be of SS304 for PV module mounting. Bimetallic washers shall be used wherever required.
8. Proper torque wrench to be required for tightening all nut-bolt as per defined torque level.
9. Structural analysis needs to be done on STAAD and raw file for the same be submitted during tender submission for validation.
10. Foundation shall be of pre-cast/pre-fabricated type. No puncturing of roof is allowed. Calculation for Pre- cast slab size shall be submitted for validation before installation.
11. J-Bolts need to be used for base plate type foundation.
12. Ample clearance shall be provided in the layout DC distribution boxes for adequate cooling and ease of maintenance.
13. The Supplier will supply and install required size of Water Tank, pump, pipe

etc., for cleaning the PV modules.

14. Water proofing of the roof is to be done by the contractor.
15. The supplier shall specify installation details of the PV Panel assembly with appropriate diagrams and drawings. Such details shall include, but not limited to, the following;
 - a) Determination of true south at the site;
 - b) Array tilt angle to the horizontal, with permitted tolerance;
 - c) Details with drawings for fixing the modules;
 - d) Details with drawings of fixing the junction/terminal boxes;
 - e) Interconnection details inside the junction/terminal boxes;
 - f) Structure installation details and drawings;
 - g) Electrical grounding (earthing);
 - h) Inter-panel/Inter-row distances with allowed tolerances; and
 - i) Safety precautions to be taken.

The array structure shall support SPV modules at a given orientation and absorb and transfer the mechanical loads to the roof top columns properly. All nuts and bolts shall be of very good quality stainless steel. Complete Installation work will be under supervision of Engineer of Civil Construction and Maintenance, IIT Kharagpur. The panel support and panel-to-support connection both must be designed by vendor to withstand adequately high wind forces. Civil Works permission does not guarantee safety against flying/falling panels in the event of a storm or any other accident.

Mechanical-

1. Each panel assembly 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.
2. Support structure of panel assembly shall be fabricated using corrosion resistant GI or anodized aluminum or equivalent metal sections.
3. Array support structure welded joints and fasteners shall be adequately treated to resist corrosion.
4. The support structure shall be free from corrosion when installed.
5. 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.
6. The support structure shall withstand wind loading of up to 150 km/hr.
7. Adequate spacing shall be provided between any two modules secured on panel assembly for improved wind resistance.
8. The structure shall be designed to withstand operating environmental conditions for a period of minimum 25 years.
9. The panel assembly structure should be installed in a manner to leave sufficient space for repair and maintenance aspects of the roof tops,

particularly for leakages.

10. Installation of panel assembly should not tamper with the water proofing of roofs.

Testing, Certification and Approval Schedule-

All components, sub-assemblies and system test parameters shall be verified on site to ensure they meet the specifications.

Name of the manufacturer of PV module; name and manufacturer of the solar cell; month and year of manufacture; I-V curve, wattage, I_m , V_m , FF for the module; unique serial no & model no; date & year of obtaining IEC PV module qualification certificate are required to be furnished. Each PV module must have RF identification tag (RFID) compatible with MNRE requirements. (Traceability requirement)

Operation and Maintenance (O&M)-

1. Visual Inspection of the plant: Quarterly.
2. Functional Checks of Protection Components and Switchgear: Quarterly.
3. Spring Clean PV Array and Installation Area: Quarterly.
4. Power evacuation checks: Half Yearly.
5. Support structure and terrace water-proofing checks: Yearly.
6. O & M log sheet shall be provided and maintained.
7. The repair/replacement work shall be completed within 48 hours from the time of reporting the fault.
8. A half yearly performance report of the plant inclusive of energy generation data shall be provided as per approved format.

Warranties and Guarantees-

1. Inverter, Battery: Workmanship/product replacement for 5 years.
2. Solar Module Product Warranty: 10 years
3. Solar Module Performance Warranty: 30 year Linear Power Warranty, with power degradation $< 0.50\%$ / year
4. Power Evacuation and Metering Equipment: Workmanship/product replacement for 5years.
5. BoS : Parts and Workmanship for 5 years, service for 5 years
6. Power Plant Installation : Workmanship for 5 years, service for 5 years
7. PV Array Installation: Structural for 5 years

Standards and Compliance-

1. IEC 60364-7-712 : Electrical Installations of Buildings : Requirements for Solar PV power supply systems.
2. IEC 61727 or similar : Utility Interface Standard for PV power plants > 10 kW.
3. String/array junction boxes : IP65, Protection Class II, IEC 60439-1, 3.
4. Surge Protection Devices : Type 2, DC 1000V rated.
5. PV module/string/string combiner box interconnects: MC4 compatible. DC 1000V rated.
6. The DC distribution boxes shall be rated IP54.
7. The data acquisition systems shall be rated for IP54.
8. All DC cables, conduits, cable trays, hardware: relevant IS.
9. Earthing System: relevant IS.
10. PV array support structure: relevant

Project Delivery Time-

The time frame for project completion is 45days from the date of release of PO.

GENERAL TERMS & CONDITIONS

PLEASE SPECIFICALLY INDICATE THE FOLLOWING POINTS IN YOUR QUOTATIONS AND COMPLY THE TERMS AS MENTIONED HEREUNDER:-

1. TENDERS ARE INVITED COMPLYING THE REQUIREMENT FOR TENDER AS DETAILED IN THE TENDER SPECIFICATION TO BE SUBMITTED IN THE COMPANY'S / FIRM'S LETTERHEAD NEATLY PRINTED / TYPED DULY SIGNED BY AUTHORIZED PERSON WITH THE SEAL OF THE BIDDERS. ALL ENVELOPS CONTAINING THE TENDER SHOULD BE PROPERLY SEALED. SEPARATE ENVELOPS SHOULD BE USED FOR TECHNICAL AND PRICE BID AND INDICATION TO THEIR EFFECT MAY PLEASE BE SUPERSCRIBED ON THE ENVELOP.
2. TECHNICAL CATALOGUE/LEAFLET SHOULD BE ENCLOSED WITHOUT FAIL. PROVIDE COMPLIANCE STATEMENT WITH RESPECT TO THE TECHNICAL SPECIFICATIONS MENTIONED ABOVE.
3. PLEASE CONFIRM WHETHER YOU ARE AUTHORISED TO QUOTE ON BEHALF OF YOUR PRINCIPALS AND IF SO, PLEASE ENCLOSE A COPY OF SUCH AUTHORISATION WITH YOUR QUOTATION.
4. **PERIOD OF VALIDITY:** BIDS SHALL REMAIN VALID FOR ACCEPTANCE FOR A PERIOD OF 120 DAYS FROM THE DATE OF OPENING.
5. **SCOPE OF SUPPLY:** SHOULD INCLUDE INSTALLATION AND COMMISSIONING
6. PAYMENT TERMS:
 - a) RUNNING BILLS PROPORTIONATE TO THE PROGRESS OF WORK WILL BE PAID CULMINATING TO A MAXIMUM OF 75% OF THE JOB VALUE.
 - b) 90% OF THE PAYMENT WILL BE MADE FOR ALL ITEMS AFTER COMPLETION OF THE WORK.
 - c) 10% OF THE WORK ORDER VALUE WILL BE RELEASED AFTER 6 MONTHS FROM THE DATE OF COMPLETION OF THE WORK.
 - d) THE BANK GUARANTEE (5% OF THE WORK ORDER VALUE) AS PER FORMAT ENCLOSED WOULD SERVE AS A PERFORMANCE GUARANTEE UPTO 5 YEARS AFTER COMPLETION OF THE WORK.
 - e) YEARLY MAINTENANCE AND OPERATION CHARGES TO BE CLAIMED EVERY YEAR AFTER COMPLETION OF YEARLY MAINTENANCE.
 - f) NO MOBILIZATION ADVANCE.
7. ARRANGEMENT FOR SAFETY PROVISIONS:

IN RESPECT OF ALL LABOUR DIRECTLY OR INDIRECTLY EMPLOYED IN THE WORK FOR THE PERFORMANCE OF THE CONTRACTOR'S PART OF THIS CONTRACT, THE CONTRACTOR SHALL AT HIS OWN EXPENSE ARRANGE FOR THE SAFETY PROVISIONS AS PER SAFETY CODE FRAMED FROM TIME TO TIME AND SHALL AT HIS OWN EXPENSE PROVIDE FOR ALL FACILITIES IN CONNECTION THEREWITH. IN CASE THE CONTRACTOR FAILS TO MAKE

ARRANGEMENT AND PROVIDE NECESSARY FACILITIES AS AFORESAID, HE SHALL BE LIABLE TO PAY A PENALTY OF RS.500/- FOR EACH DEFAULT AND IN ADDITION THE EMPLOYER SHALL BE AT LIBERTY TO MAKE ARRANGEMENT AND PROVIDE FACILITIES AS AFORESAID AND RECOVER THE COST INCURRED IN THE BEHALF FROM THE CONTRACTOR.

8. SUBMISSION OF LABOUR RETURN:

THE CONTRACTOR SHALL SUBMIT A STATEMENT TO THE CONCERNED ENGINEER AS FOLLOWS:

1. THE NUMBER OF LABOURERS EMPLOYED BY HIM ON THE WORK
2. THEIR WORKING HOURS
3. THE WAGES PAID TO THEM

9. RULES, FRAMED BY GOVT. TO BE COMPLIED:

IN RESPECT OF ALL LABOUR DIRECTLY OR INDIRECTLY EMPLOYED IN THE WORKS FOR PERFORMANCE OF THE CONTRACTORS PART OF THIS CONTRACT, THE CONTRACTOR SHALL COMPLY WITH OR CAUSE TO BE COMPLIED WITH ALL THE RULES FRAMED BY GOVERNMENT FROM TIME TO TIME FOR THE PROTECTION OF HEALTH AND SANITARY ARRANGEMENTS FOR WORKERS EMPLOYED BY THE CONTRACTORS.

10. TIME AND EXTENSION FOR DELAY:

THE EXECUTION OF THE WORK SHALL COMMENCE FROM THE DATE OF HANDING OVER THE SITE. IN CASE, DELAY IN EXECUTION MUST BE COMMUNICATED TO THE ENGINEER (AUTHORITY) WELL IN ADVANCE WITH PROPER REASONS LIKE : ABNORMALLY BAD WEATHER, SERIOUS LOSS OR DAMAGE BY FIRE, CIVIL COMMOTION, LOCAL COMMOTION OF WORKMEN, STRIKE AFFECTING ANY OF THE TRADES EMPLOYED ON THE WORK.

11. L.D.CLAUSE: @ 0.5% OF THE CONTRACT VALUE PER WEEK OF DELAY SUBJECT TO MAXIMUM OF 10% OF CONTRACT VALUE.

12. COUNTRY OF ORIGIN OF THE GOODS IS TO BE MENTIONED.

13. THE INSTITUTE SHALL PROVIDE THE CONCESSIONAL CUSTOMS DUTY AND EXCISE DUTY EXEMPTION CERTIFICATE AS PER GOVT. NOTIFICATION NO. 51/96 CUSTOMS DATED: 23.07.1996 AND CENTRAL EXCISE DUTY EXCEMPTION IN TERMS OF GOVT. NOTOFICATION NO. 10/97 – CENTRAL EXCISE DATED: 01.03.1997 AS AMENDED FROM TIME TO TIME.

14. **LIQUIDATED DAMAGES:** THE STORES SHOULD BE DELIVERED / DISPATCHED TO DESTINATION AND READY FOR OPERATION NOT LATER THAN THE DELIVERY DATE SPECIFIED. IF THE SUPPLIER FAILS TO DELIVER ANY OR ALL THE STORES OR PERFORM THE SERVICE BY THE SPECIFIED DATE, LIQUIDATED DAMAGES AT 1% PER MONTH OR PART THEREOF IN RESPECT OF THE VALUE OF STORES WILL BE DEDUCTED FROM THE CONTRACT PRICE SUBJECT TO A MAXIMUM OF 5%. ALTERNATIVELY, THE ORDER WILL BE

CANCELLED AND THE UNDELIVERED STORES PURCHASED FROM ELSEWHERE AT THE RISK AND EXPENSE OF SUPPLIER.

15. **PATENT RIGHTS:** THE SUPPLIER SHALL INDEMNIFY THE PURCHASE AGAINST ALL THIRD PARTY CLAIMS OF INFRINGEMENT OF PATENT, TRADEMARK OR INDUSTRIAL DESIGN RIGHTS ARISING FROM USE OF THE GOODS OR ANY PART THEREOF IN INDIA.
16. ONLY THOSE BIDDERS WHO'S BIDS HAVE BEEN TECHNICALLY FOUND ACCEPTABLE WILL ONLY BE INVITED FOR PARTICIPATION IN THE PRICE BID.
17. THOSE BIDDERS WHO DO NOT RECEIVE ANY COMMUNICATION FOR PARTICIPATION IN PRICE BID OPENING MEETING MAY PRESUME THAT THEIR BID HAS NOT BEEN ACCEPTED BY THE INSTITUTE.
18. CONDITIONAL OFFER WILL NOT BE ACCEPTED.
19. LATE TENDERS I.E. TENDER RECEIVED AFTER THE DUE DATE AND TIME OF SUBMISSION AS MENTIONED ABOVE SHALL NOT BE ACCEPTED.
20. BIDDERS TO ENCLOSE THE FOLLOWING DOCUMENTS:-
 - A) CURRENT INCOME TAX AND SALES TAX CLEARANCE CERTIFICATES AND PAN NO.
 - A) BANKER'S SOLVENCY CERTIFICATE
 - C) SUMMARY OF AUDITED STATEMENT OF ACCOUNTS FOR THE LAST THREE YEARS TO BE ENCLOSED AND FINANCIAL HIGHLIGHTS AND THE KEY PERFORMANCE DURING THE LAST THREE QUARTERS TO BE ENCLOSED AS PER FORMAT:-

COMPANY'S KEY PERFORMANCE

DESCRIPTION	JAN. TO MARCH	APRIL TO JUNE	JULY TO SEPT.
GROSS REVENUE			
PROFIT BEFORE TAX			
PROFIT AFTER TAX			
RETURN ON INVESTED CAPITAL (ROIC)			

- D) CUSTOMER SATISFACTION CERTIFICATE FROM ONE SUCH ORGANIZATION IS TO BE ATTACHED WITH THE TECHNICAL BID AND PRICE BID.
- E) NAME AND ADDRESS OF MINIMUM THREE CLIENTS TO WHOM SUCH EQUIPMENT HAVE BEEN SUPPLIED SHOULD BE MENTIONED.
21. **WARRANTY / GUARANTEE:** THIS COMPREHENSIVE WARRANTY / GUARANTEE SHALL REMAIN VALID FOR **60 MONTHS** AFTER THE GOODS (OR ANY PORTION THEREOF AS THE CASE MAY BE) HAVE BEEN DELIVERED AND COMMISSIONED TO THE FINAL DESTINATION.
22. THE INSTITUTE DOES NOT BIND ITSELF TO OFFER ANY EXPLANATION TO THOSE BIDDERS WHO'S TECHNICAL BID HAS NOT BEEN FOUND ACCEPTABLE BY THE EVALUATION COMMITTEE OF THE INSTITUTE.

ALL TENDERS (UNLESS OTHERWISE SPECIFIED) ARE TO BE SUBMITTED / HANDED OVER TO **DR. SUMAN MAITI , DEPARTMENT OF ELECTRICAL ENGINEERING, INDIAN INSTITUTE OF TECHNOLOGY, KHARAGPUR - 721 302** AND ACKNOWLEDGEMENT TO BE OBTAINED.

IMPORTANT

1. IIT Kharagpur authority may accept or reject any or all the bids in part or in full without assigning any reason and does not bind itself to accept the lowest bid. The Institute at its discretion may change the quantity / upgrade the criteria / drop any item or part thereof at any time before placing the Purchase Order.
2. Promptly make arrangements for repair and / or replacement of any damaged item (s) irrespective of settlement of claim.
3. In case of any dispute, the decision of the Institute authority shall be final and binding on the bidders.
4. For any query pertaining to this bid document correspondence may be addressed to **Dr. Suman Maiti** at the address mentioned above.

LAST DATE FOR SUBMISSION OF SEALED BIDS: 04.02.2019

- 1) Please Note that the Institute remains closed during Saturdays & Sundays and all specified government holidays.
 - 2) Fax, e-mail Tender will not be accepted.
 - 3) The General Terms and Conditions as stated above relate to supply of stores / equipment /assets etc. and for specific service other terms and conditions of the Institute will apply.
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