



# **BIDDING DOCUMENT**

## **REQUEST FOR PROPOSAL FOR PROCUREMENT OF ENERGY AUDIT EQUIPMENT**

Single Stage Single Envelope

Issued on

**February 07, 2020**



## **TERMS AND CONDITIONS (INSTRUCTIONS TO BIDDERS)**

### **OVERVIEW**

Government of Punjab has established Punjab Energy Efficiency and Conservation Agency (PEECA) in the Energy Department to carry out the “Punjab Energy Efficiency and Conservation Program”. Through this program, Government of Punjab intends to purchase energy audit equipment to carry out the energy audits of public buildings for future energy audits. The supplier will be responsible for delivery, installation (if required), wherever required in the above mentioned office address:

### **Proposal instructions (for BOQs in FOR)**

- Single Stage Single Envelope bidding procedure shall be applied in response to the RFP (Request for proposal). Each bid shall comprise one single envelope containing, two separately sealed envelopes, financial proposal and technical proposal (if any) plus “legible documents”. The financials of bids found technically non responsive shall be returned unopened to the respective bidders.
- Responding companies/firms shall deliver two sealed copies “one original and one photo copy” of the “TECHNICAL PROPOSAL & One Original FINANCIAL PROPOSAL” till **24-02-2020** till **11:00 AM** and the proposals will be opened on the same day at 11:30 AM each copy sealed and labeled. Proposals will not be accepted after the due time & date. Proposal must be delivered at the address given below before time.

**Chief Energy Economist**  
**PEECA, Energy Department, Punjab**  
**Office: 48-A, Block CII, Ghalib Road, Gulberg III, Lahore.**  
**(Off: Tel: 042-99268362-3)**  
**Email: [peeca.qu@energy.punjab.gov.pk](mailto:peeca.qu@energy.punjab.gov.pk)**

- Proposals received after the submission deadline will not be entertained under any circumstances and will be returned unopened to the submitting vendor. It is the sole responsibility of the participating vendor to ensure that the proposals are delivered before the deadline.
- All BOQs submitted by the bidder must be inline with the specifications mentioned in this Request for Proposal.
- The original documents and Request for Proposal document must be duly signed and officially sealed by the bidder and to be submitted in whole with the proposal. Any conditional, ambiguous, incomplete, supplementary or revised offer after the opening of Bidding shall not be entertained.
- Any overwriting/crossing, etc. appearing in the offer may be properly signed by the person signing the Bidding. All pages of the Bidding must be properly signed. Offer



with any overwriting and discrepancy shall not be accepted in any circumstances.

- Warranty for all equipment, as approved by the manufacturers/suppliers should be for the period of One (01) year.
- 2% Bid Security of the estimated bid price should be accompanied with the proposal drawn in favor of **Managing Director, PEECA, Energy Department Punjab, Lahore**. The Bidding document shall not be considered without Bid Security. The Bid Security will be released after the letter of award (work order).
- The Successful Bidder will deposit a total of 10% of contract/work order amount as **Performance Security** in the form of **CDR/Pay Order or in any form acceptable to the procuring agency**. The Performance Security will be released after successful delivery of equipment's to PEECA office.
- Bidders are not allowed to submit Bids in partial.
- Procurement Committee reserves the right to accept or reject all proposals by assigning any reason thereof.
- The quantity of an order may vary depending on the quoted prices and the allocated funds.
- The decision of the committee will be binding on all concerned and will in no case be challenged on any forum.
- Procurement Committee reserves the right to modify the conditions / specifications of the Bidding Document with written intimation to all the participants those who have purchased the Bidding Documents.
- Delivery period will be (45) days from the date of issuance of purchase order/work order.
- Delivery and Installation (if required) will be at PEECA office.
- Training (if required) for PEECA officials / employees for any equipment must be provided by the service provider.
- In case the Bidders fails to provide the equipment as per the technical specifications mentioned below, the Performance Security shall be forfeited.
- The equipment will be inspected at the **PEECA Office, Energy Department Punjab, Lahore**, and will be rejected if the equipment is not found according to the stated specifications.
- Procurement Committee reserves the right to claim compensation for the losses caused by delay in the delivery of equipment (0.1% of the total amount of the work order per day not exceeding 5% of the total amount).
- It is the sole responsibility of the vendor / service provider to comply with local, national and international laws.
- Successful bidders may be asked to bring their supplies for demonstration and specification test at **PEECA Office, Energy Department Punjab, Lahore** at their own expenses and risk.
- Where reference is made to any specific national or international standards, equal or



higher quality will also be acceptable. In case, your offer conforms to standards other than quoted in the Bidding inquiry you are required to submit the followings along with your bid.

- One copy of those standards in English
- Evidence that the standards used is recognized and authoritative to ensure equal or higher quality.

In case the bidder does not submit the required evidence and a copy of each of the standards, The Bid will be considered non responsive (if required).

- In case any supplies/material is found not in conformity with the specifications provided in the Bidding Document, either on account of inferior quality, defective workmanship, faulty design, faulty packing or is short supplied, or wrongly supplied, the supplier will replace the same free of charges or pay the full cost of replacement.
- The all proposals submitted will become the property of the **PEECA, Energy Department Punjab, Lahore.**
- The bidder shall provide Authorized Dealership Certificate if applicable.
- Calibration Certificates (where applicable) for the equipment's mentioned must be provided by the service provider.

### **Evaluation Criteria**

All bids shall be evaluated on technical and financial responsiveness. Technical evaluation process may include, but not limited to the consideration of the following with respect to the functional requirements given ahead:

- Technical specifications of proposed equipment as per the mentioned specifications.
- Warranty of the equipment (not less than 01 year).

Financial Evaluation process may include, but not limited to the consideration of the following:

- Quoted price.
- CDR/Bid Security (2% of Estimated Price).

### **Required Information for Technical Evaluation**

Bidders are required to include the following documents/information in their technical proposals (all documents should be duly signed and stamped)

- The Name and Address of the company/ firm.
- Profile of company/ firm (Including Financial Profile for last 02 years)
- List of Pervious/Current customer of related equipment, with contact person and telephone/fax No.
- Detailed equipment information/brochures
- Detailed equipment warranty/guarantee information/Technical Manuals/ Operating Manuals/Maintenance Manuals
- Attested copy of National Tax Registration Certificate



- Attested copy of Sales Tax Registration Certificate
- Bank letter of financial standing
- An Affidavit on Rs.100/- Stamp paper that currently they are not black listed or debarred by any Government/Semi Government department to participate in bidding and to supply equipment. Failure to submit such affidavit may lead to disqualification.
- Authorized Dealership Certificate.
- Any additional information the bidder may like to furnish e.g. repair/maintenance workshop owned by supplier and other concerned facility.

In addition to the above, the proposal must include the following in the order given below:

- i. Detailed equipment specifications, proposed quantities mentioned in the request for proposal document duly filled and signed.
- ii. Schedule which includes the delivery of equipment as per delivery time mentioned in the RFP.
- iii. Terms and Conditions mentioned below
- iv. Equipment prices (FOR) duly entered on the form in the attached BOQ
- v. Validity period of the Bid i.e. 90 days

#### **Terms and Conditions (FOR Basis)**

- All prices should be in PAK rupees Inclusive of all applicable Taxes.
- All prices should be valid for not less than 90 days. Withdrawal or any modification of the original offer within the validity period shall entitle the **PEECA, Energy Department Punjab, Lahore** to forfeit the Performance Security in favour of the **PEECA, Energy Department Punjab, Lahore** and/or putting a ban on the future inquires or taking any other suitable action against the bidder.
- Delivery of the items will be free of charge as all the expenses will be the responsibility of the service provider at the office of **Managing Director, PEECA, Energy Department Punjab, Lahore** during the office hours with a copy of delivery challan.
- Items being ordered should be brand new and according to order specification from the current production and covered under normal warranty/guarantee etc. as mentioned in the proposal. Brochures mentioned and product details must be attached.

**Name of Vendor.....**

**Authorized person.....**

**Authorized Signature.....**

**Stamp.....**

**Office address.....**

**Tel No.....**

**DETAILED TECHNICAL SPECIFICATIONS**

Sr. No	Description	Quantity
1.	<p><b><u>Clamp Meter</u></b></p> <p><b>Description:</b> Clamp Meter for safe, convenient, and efficient way to measure current without having to use test leads.</p> <ul style="list-style-type: none"> <li>• Ultra-portable tools for advance electricians, true rms response for ac current</li> <li>• Max 100A AC and DC current measurement with 1mA resolution, V.F.C function for measuring signal at variable time.</li> <li>• 600V ac and dc voltage measurement, resistance, diode, continuity and capacitance functions</li> <li>• Non-contact voltage detection with led indication, display backlight</li> <li>• Data hold, max, min, max-min, and zero mode</li> </ul> <p><b>Specification:</b> Display Count: 2000 Auto Range: Yes Jaw Capacity: 17mm True RMS: Yes Diode: Around 3.0V V.F.C.: Yes NCV: Yes Data Hold: Yes Zero Mode: Yes LCD Backlight: Yes Auto Power Of: Around 15 Minutes Continuity Buzzer: Yes Low Battery Indication: 2.5V Input Protection: Yes Input Impedance for DCV: 10M AC Current (A) 2A/20A/100A (<math>\pm 2.5\%+5</math>) DC Current (A) 2A/20A/100A (<math>\pm 2\%+3</math>) AC Voltage (V) 2V/20V200V/600V (<math>1.0\%+3</math>) DC Voltage (V) 200mV/2V/20V200V/600V (<math>\pm 0.7\%+3</math>) Resistance (<math>\Omega</math>) 200<math>\Omega</math>/2K<math>\Omega</math>/20K<math>\Omega</math>/200K<math>\Omega</math>/2M<math>\Omega</math>/20M<math>\Omega</math> (<math>\pm 1.0\%+2</math>) Capacitance (F) 2nF/20nF/200nF/2<math>\mu</math>F/20<math>\mu</math>F/200<math>\mu</math>F/2mF/20mF(<math>\pm 4\%+5</math>) General Characteristic Product Net Weight: 170g Product Size: 175mm * 60mm * 33.5mm Power: AAA 1.5V x 2 (Included) LCD Size: 39.3mm * 21.5 mm Package Size: 18.6 * 7.2 * 5.9cm / 7.3 * 2.8 * 2.3in Package Weight: 311g / 11oz Package List: 1 * UNI-T UT210E Mini Clamp Meters (Batteries not Included) 1 * Test Lead 1 * English Manual</p>	03
2.	<p><b><u>Digital Power Clamp Meter</u></b></p> <p><b>Description:</b> 3 phase power clamp meter, which combines with digital current meter and power meter. It is equipped with powerful measurement and data processing software, which can help complete measurements, calculations and displays of voltage, current, active power, power factor, phase angle, apparent power, reactive power, power, frequency, temperature and other parameters</p> <p><b>Specification</b> AC Current (A) 40A/100A/400A/1000A <math>\pm(2\%+5)</math> AC Voltage (V) 15V/100V/300V/600V <math>\pm(1.2\%+5)</math></p>	03



	<p>Frequency (Hz) 20Hz~500Hz Active Power (W) 0.01KW-600KW  <math>\pm(3\%+5)</math> Apparent Power (VA) 0.01KVA~600KVA <math>\pm(4\%+5)</math> Reactive Power (VAr) 0.01KVA~600KVA <math>\pm(4\%+5)</math> Power Factor  0.3~1 <math>\pm(0.02\%+2)</math> Phase Angle (<math>^{\circ}</math>) <math>0^{\circ} \sim 360^{\circ} \pm 1^{\circ}</math> Active Energy (Wh) 1~9999KWh <math>\pm(3\%+2)</math> Display Count 10000 Jaw Capacity 50mm True RMS AC Voltage/AC Current Data Logging 99 Phase Sequence Test Positive Phase,Reverse Phase,Phase Deficiency Input Impedance for DCV Around 10M<math>\Omega</math> Power 1.5V Batteries(LR6) <math>\times 4</math> LCD Size 46mm x 42mm Product Colour Red and Grey  Product Net Weight 601g Product Size 303mm X 112mm X39mm Standard Accessories Battery, Test Lead, Alligator Clip,USB Interface Cable,PC Software CD,Tool Box Standard Quantity Per Carton 5 PCs Standard Carton Measurement 480mm X 372mm X 315mm (0.056 CBM Per Standard Carton) Standard Carton Gross Weight 12Kg</p>	
3.	<p><b><u>AC Line Splitter</u></b></p> <p><b>Description:</b>  Allows clamp meter to measure AC current on a 2-wire or 3-wire power cord  Provides easy and safe measurements of current without the need to cut off the plug and separate the conductors  Plugging the power connector into the line splitter separates the hot/live conductor from the neutral (and ground)  Also features voltage check function. Easily opens 220 Volt AC electrical lines.</p>	03
4.	<p><b><u>Rechargeable AA Batteries with Battery Charger</u></b></p> <p><b>Description:</b></p> <ul style="list-style-type: none"> <li>• 20-pack of Recharge Power Plus 2300 mAh NiMH AA rechargeable batteries, pre-charged and ready to use</li> <li>• Delivers long-lasting power to frequently used devices, like digital cameras, gaming controllers, and toys</li> <li>• Retains its charge in storage for up to 12 months so reliable, rechargeable power is always on hand</li> <li>• Charges up to 500 times for an economical and responsible way to keep your battery-powered devices working</li> </ul>	Pack of 20



	<p><b><u>Battery Charger</u></b></p> <p><b>Specification:</b> Should have State-of-the-art Charge Status Indicator system visually and audibly alerts on your batteries' charge levels</p> <ul style="list-style-type: none"> <li>• Get a full charge in 4 hours with the rapid charging power of Recharge Pro (times may vary by NiMH battery)</li> <li>• Auto safety shut-off and overcharge protection features prevent damage from overcharging, helping to maximize battery life.</li> <li>• Built-in, fold-out plug design allows you to easily store the Pro Charger Battery Charger when not in use</li> </ul>	
5.	<p><b><u>Lux meter</u></b></p> <p><b>Specification</b></p> <ul style="list-style-type: none"> <li>• Illuminance measurement</li> </ul> <p><b>Measuring range</b></p> <ul style="list-style-type: none"> <li>• 20 Lux <math>\pm(3.0\%+20)</math></li> <li>• 200 Lux <math>\pm(3.0\%+8)</math></li> <li>• 2000 Lux <math>\pm(3.0\%+8)</math></li> <li>• 20000 Lux <math>\pm(3.0\%+8)</math></li> </ul>	03
6.	<p><b><u>Extech PQ3110 R, Y, B 100A Clamp Probes</u></b></p> <p><b><u>Specifications</u></b></p> <ul style="list-style-type: none"> <li>• 100A Clamp Probes</li> <li>• 1.2" (30mm) jaw size</li> <li>• For use with PQ3350 Power Quality Analyzer</li> </ul>	3 Sets
7.	<p><b><u>Three-Phase Power Quality and Energy Analyzers</u></b></p> <p><b><u>Description</u></b> Power Quality and Energy Analyzer helps locate, predict, prevent, and trouble- shoot power quality problems in three-phase and single-phase power distribution systems. Additionally, energy loss algorithm, Unified Power Measurement, measures and quantifies energy losses due to harmonics and unbalance issues, allowing the user to pinpoint the origin of energy waste within a system.</p> <p><b><u>Specification</u></b></p> <ul style="list-style-type: none"> <li>• Analysis for 3 phase multi-power system, 1P/2W, 1P/3W, 3P/3W, 3P/4W</li> <li>• Voltage &amp; Current are the True RMS value</li> <li>• True Power (KW,MW,GW) measurement</li> <li>• Apparent Power ( KVA,MVA,GVA ) measurement.</li> </ul>	01





	<ul style="list-style-type: none"> <li>Reactive Power ( KVAR MVAR、GVAR) measurement</li> <li>Watt-Hour ( WH,SH,QH,PFH )</li> <li>Power Factor( PF )、 Phase Angle( <math>\Phi</math> ).</li> <li>Voltage measurement range : 10 to 600 ACV</li> <li>Current probe input signal voltage (ACV):200 mV/300 mV/500 mV/1 V/2 V/3 V;</li> <li>Current probe input current range (ACA):20 A/200 A/2000 A ( 1200 A)/30 A/300A /3000 A.</li> <li>Meter can cooperate the universal current probe</li> <li>Programmable CT ratio (1 to 600) and PT ratio (1 to 1000)</li> <li>ACV input impedance is 10 Mega ohms</li> <li>Safety Standard:IEC 1010,CAT III 600V</li> </ul> <p>Built-in clock and Calendar, real time data record with SD memory card, sampling time set from 2 to 7200 seconds. Just slot in the SD card into the computer,it can down load the all the measured value with the time information ( year/month/data/hour/mimute/second ) to the Excel directly,then user can make the further data analysis by themselves.</p> <p>Measurement:</p> <ul style="list-style-type: none"> <li>*ACV</li> <li>*ACA</li> <li>*AC WATT ( True Power )</li> <li>AC WATT( Apparent Power )</li> <li>AC WATT( Reactive Power )</li> <li>*Power factor</li> <li>*Phase angle</li> <li>*Frequency</li> </ul>	
8.	<p><b><u>Infrared Thermometer</u></b></p> <p><b>Specification:</b>  Highest Measuring Accuracy: <math>\pm 2^{\circ}\text{C}</math> or 2% (environment is <math>23^{\circ}\text{C} \pm 2^{\circ}\text{C}</math>)  Temperature Range: <math>-32^{\circ}\text{C} \sim 400^{\circ}\text{C}</math>  Repeat Accuracy: <math>&lt; \pm 0.5^{\circ}\text{C}</math> or <math>&lt; \pm 0.5\%</math>  Resolution: 0.1 , Response Time: 500ms</p>	03
9.	<p><b><u>Laser Distance Meter</u></b></p> <p><b>Description:</b></p> <ul style="list-style-type: none"> <li>Supports unit selection of meter, inch and feet, Indirect measurement by Pythagorean Theorem</li> <li>Handheld Laser Distance Meter 0.05 to 40m (0.16 to 131ft)</li> <li>High accuracy Measurement for distance, area, Volume Wide</li> </ul>	03



	<p>measuring range</p> <ul style="list-style-type: none"> <li>• Supports data hold and data clear function, Supports data store/recall function of up to 30 measure</li> <li>• Large LCD with backlight and multi-line display, Function of self-calibration</li> </ul> <p><b>Specification:</b></p> <ul style="list-style-type: none"> <li>• Measuring Distance (m) <b>40M (131Ft)</b></li> <li>• Unit : M/in/ft</li> <li>• Laser class :class: II,&lt; 1mW</li> <li>• Accuracy (m): ±2mm</li> </ul>	
10.	<p><b><u>Electrical Insulation Gloves</u></b></p> <p><b>Description:</b></p> <ul style="list-style-type: none"> <li>• ARC flash class 0 insulating glove for lineman work, electrical contractor and field service work, high-voltage machine operations, and other industrial applications</li> <li>• Black dielectric natural rubber latex is non-conductive and provides better elasticity than nitrile, chloroprene, or vinyl, and better puncture resistance than vinyl</li> <li>• Class 0 low voltage protection up to 1,000V AC/1,500V DC</li> <li>• Glove is 11" long and has a straight cuff with a rolled edge</li> <li>• Manufactured to comply with ASTM D120-09 standard specification for rubber insulating gloves, OSHA 29C FR 1910.269 standards for electric power generation, transmission and distribution, and NFPA 70E standard for electrical safety in the workplace</li> </ul>	04
11.	<p><b><u>Digital-Multimeter</u></b></p> <p><b>Description:</b> Digital multi-meter having Auto Range. Totally over-load protection and unique structural design make it new type of multi-meter with high performance/ price ratio and a best choice for electricians used in electrical maintenance and repairing.</p> <p><b>Specification:</b> True RMS for the whole series; Measure signals with varied frequency (VFC); Measure large capacitance up to 100mF; Optional AC/DC 60A current clamps in different models to measure current up to 60A(1mv=1A);</p>	03



	<p>NCV designed for the whole series, a necessity for electricians;  AA1.5V*2(5) battery, easy for users to purchase and replace;  Soft rubber holster is easy to stand 2m drop;  Optional magnetic hanging strap offered to facilitate tests in special location;  Fast to replace fuse, just by opening battery cover;  Reliable with use of internal 2PCS fuses with high-breaking capacity;  Protection against 600V input/1 minute from misconnection;  Safety Rating: CAT III 600V.  DC Voltage (V): 60mV/600mV/6V/60V/600V <math>\pm(0.5\%+2)</math>  AC Voltage (V): 60mV/600mV/6V/60V/600V <math>\pm(0.8\%+3)</math>  DC Current (A): 600uA/6000uA/60mA/600mA/6A/10A <math>\pm(0.7\%+2)</math>  AC Current (A): 600uA/6000uA/60mA/600mA/6A/10A <math>\pm(1\%+3)</math>  Resistance (Ohm): 600/6k/60k/600k/6M/60M Ohm <math>\pm(0.8\%+2)</math>  Capacitance (F):  9.999nF/99.99nF/999.9nF/9.999<math>\mu</math>F/99.99<math>\mu</math>F/999.9<math>\mu</math>F/9.999mF/99.99mF <math>\pm(4.0\%+5)</math>  Frequency (Hz): 10Hz-10MHz <math>\pm(0.1\%+4)</math>  Temperature (°C): -40 °C~1000°C <math>\pm(1.0\%+3)</math>  Temperature (°F): -40°F~1832°F <math>\pm(1.5\%+5)</math></p>	
12.	<p><b><u>Tool set</u></b></p> <p>Tool Set should Include:</p> <ul style="list-style-type: none"> <li>• 1 Pcs 12V Cordless Drill with extra battery pack</li> <li>• 1 Pcs charger</li> <li>• 1 Pcs 650W Impact Drill 220-240V/50Hz.13mm key chuck</li> <li>• 1 Pcs SL5.5'100 Screwdriver;</li> <li>• 1 Pcs PH1'100 Screwdriver</li> <li>• 1 Pcs charger</li> <li>• 1 Pcs 650W Impact Drill 220-240V/50Hz.13mm key chuck</li> <li>• 1 Pcs SL5.5'100 Screwdriver;</li> <li>• 1 Pcs PH1'100 Screwdriver</li> <li>• 1 Pcs 3M Steel measuring tape;</li> <li>• 1 Pcs 7" Combination pliers</li> <li>• 1 Pcs 6" Diagonal cutting pliers</li> <li>• 1 Pcs 8" Adjustable wrench</li> <li>• 1 Pcs 3m x16mm steel measuring tape</li> <li>• 8 Pcs Hex key 2.5mm 3mm 4mm 5mm 6mm 7mm 8mm</li> <li>• Adjustable wrench</li> <li>• Different sized bits</li> <li>• 1x Claw Hammer 8oH</li> <li>• 2x Long Nose Pliers 6"</li> <li>• 1x Combination Pliers 6"</li> <li>• 1x Drive Flexible Socket Extension Flexible Shaft Connecting Link For Electronic Drill 10"</li> <li>• 2x Cutter Knife 18mm</li> <li>• 9 Pcs Sockets 6, 7, 8, 9, 10, 11, 12, 13, 3/16 mm</li> </ul>	02



	<ul style="list-style-type: none"> <li>• 10 Pcs Screwdriver Bits and Rod</li> <li>• 1 Pcs Digital Pencil Tester</li> <li>• 1 Pcs spirit level 9"</li> <li>• 1 Pcs Screwdriver Magnetic Shank 7:</li> <li>• 36 Pcs Mics Screws and Screw-wall cover</li> <li>• Wire Cutter/Splitter 16 mm</li> </ul> <p>1 Pcs Steel/ Metallic Case with Lock</p>	
13.	<p><b><u>Helioscope - Solar PV Design Software</u></b></p> <p><b>Description:</b></p> <p>Online computer PV System design software Helioscope that simplifies the task of evaluating design options for both off-grid and grid-connected power systems for remote, stand-alone, and distributed generation (DG) applications.</p> <p><b><u>Specifications</u></b></p> <p>3D Design. Rapid Proposals. Bankable Simulations. Unlimited Designs. Live Support. Single Line Diagrams. Automatic CAD Export. One-Click Sharing. Up to 5MW Systems. 45,000 Component Library. Global Weather Coverage. PAN File Support. Shade Reports.</p>	01 (License must be validated for three (03) years)
14.	<p><b><u>PVSyst Solar PV Design Software</u></b></p> <p><b>Description:</b></p> <p>Online computer PV System design software PVSyst that simplifies the task of evaluating design options for both off-grid and grid-connected power systems for remote, stand-alone, and distributed generation (DG) applications.</p> <p><b><u>Specifications</u></b></p> <p>The software should design the system with quick and simple procedure which consist of:</p> <ul style="list-style-type: none"> <li>• Specifying the desired power or available area</li> <li>• Choosing the PV module from the internal database</li> <li>• Choosing the inverter from the internal database</li> </ul> <p>Proposing an array/system configuration, that allows you to conduct a preliminary simulation.</p>	01
15.	<p><b><u>Tachometer Specification</u></b></p> <p>Measuring range (2.5 rpm-99,999 rpm)</p> <p>Deposited temperature (-10°C to 55°C)&lt;70% R.H</p>	02
16.	<b><u>Digital Anemometer</u></b>	02



	<p><b><u>Specification</u></b>  Wind speed measurement: Minimum- 2m/s~10m/s; 10m/s~30m/s  Wind count measurement (CMM): 0.001~9999 x 100  Wind count measurement (CFM): 0.001~9999 x 100  Temperature measurement: 0°C~40°C (32°F~104°F)</p> <p><b><u>Description</u></b></p> <ul style="list-style-type: none"> <li>• Data hold, LCD backlight</li> <li>• °C/°F selectable</li> <li>• Auto power off (cancelable)</li> <li>• 2044 sets data storage</li> <li>• Auto record function with 0.5~255s interval</li> <li>• Wear proof fan shaft for improved accuracy and reliability</li> <li>• Wind speed modes: MAX, MIN, Real-time</li> <li>• Wind count modes: MAX, 2/3 MAX, MIN, AVG, real-time</li> <li>• 7 selectable units: m/s, km/h, ft/min, MPH, KNOTS, CFM, CMM</li> </ul>	
17.	<p><b><u>Irradiance Meter</u></b>  <b>Measuring range</b> (1 W/m<sup>2</sup> to 3999 W/m<sup>2</sup>)  <b>Basic Accuracy</b> (±10 W/m<sup>2</sup>)</p>	02
18.	<p><b><u>Helmet</u></b>  Shell constructed from High Density Polyethylene. Rain trough on sides and back of helmet channel moisture away. Soft brow pad is replaceable and washable. Low profile design. Universal accessory slots fit cap mounted ear muffs and chin straps. Snap Lock suspension features tuck away adjustments for all day, hassle free wear.  Color White and Blue</p>	08 (4 for each Colour)
19.	<p><b><u>Waist Tool Bag</u></b></p> <ul style="list-style-type: none"> <li>• Multiple Pockets-Two spacious main pockets for bigger tools and parts. Two small pockets and two side slots for small hand tools, nails and hammers.</li> <li>• Easy Access-All pockets have enough width and depth for easy and convenient access.</li> <li>• Reinforced Stitching-Each and every joint part is double or triple stitched for maximum durability to last for years to come.</li> <li>• Adjustable Waist Belt-Each bag comes with a high tenacity 1.5-inch nylon belt with adjustable buckle, fits all waist sizes from 28" to 48".</li> </ul>	02
20.	<p><b><u>Safety Harness Heavy Duty Belt with Pole Strap</u></b>  Materials: Polyester Nylon, Heat treated steel alloy  Chest adjustable belt  4 points adjustable mating buckles  Removable waist strap  4 points adjustable mating buckles  Extra-large size that can be customized</p>	02



<b>Bill of Quantities (BOQ)</b>				
<b>Sr. No</b>	<b>Description</b>	<b>Quantity</b>	<b>Specifications Offered</b>	<b>Compliance Yes/No</b>
1.	<b>Clamp Meter</b>	03		
2.	<b>Digital Power Clamp Meter</b>	03		
3.	<b>AC Line Splitter</b>	03		
4.	<b>Rechargeable AA Batteries with Battery Charger</b>	Pack of 20		
5.	<b>Lux meter</b>	03		
6.	<b>Extech PQ3110 R, Y, B 100A Clamp Probes</b>	Set of 3		
7.	<b>Three-Phase Power Quality and Energy Analyzers</b>	01		
8.	<b>Infrared Thermometer</b>	03		
9.	<b>Laser Distance Meter</b>	03		
10.	<b>Electrical Insulation Gloves</b>	04		
11.	<b>Digital-Multimeter</b>	03		
12.	<b>Tool set</b>	02		
13.	<b>Helioscope Solar PV Design Software</b>	01		
14.	<b>PVSyst Solar PV Design Software</b>	01		
15.	<b>Tachometer</b>	02		
16.	<b>Digital Anemometer</b>	02		
17.	<b>Irradiance Meter</b>	02		
18.	<b>Helmet</b>	08		
19.	<b>Waist Tool Bag</b>	02		
20.	<b>Safety Harness Heavy Duty Belt with Pole Strap</b>	02		

*Note: The bidder/Service Provider should provide the technical compliance sheet of all the equipment offered as per the specifications mentioned in the document as well as the quantities mentioned.*

### **Budget**

The estimated cost is 1.950 Million.

### **Performance Security**

The successful bidder has to furnish 10% performance security, which will be released after the expiration of warranty period.



## Financial Proposal (Prices Including all Taxes)

Sr. No	Description	Quantity	Unit Price	Total Price
1.	Clamp Meter	03		
2.	Digital Power Clamp Meter	03		
3.	AC Line Splitter	03		
4.	Rechargeable AA Batteries with Battery Charger	Pack of 20		
5.	Lux meter	03		
6.	Extech PQ3110 R, Y, B 100A Clamp Probes	Set of 3		
7.	Three-Phase Power Quality and Energy Analyzers	01		
8.	Infrared Thermometer	03		
9.	Laser Distance Meter	03		
10.	Electrical Insulation Gloves	04		
11.	Digital-Multimeter	03		
12.	Tool set	02		
13.	Helioscope Solar PV Design Software	01		
14.	PVSyst Solar PV Design Software	01		
15.	Tachometer	02		
16.	Digital Anemometer	02		
17.	Irradiance Meter	02		
18.	Helmet	08		
19.	Waist Tool Bag	02		
20.	Safety Harness Heavy Duty Belt with Pole Strap	02		
Total Prices Inclusive of all applicable Taxes				
Total Prices Inclusive of all applicable taxes in Words _____				