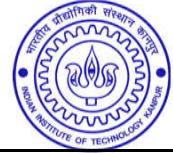




To, **Ref No: IIT/ EE/SMART CITY/INVERTER AND BATTERY SET/2016/04**

INVITATION FOR QUOTATIONS FOR SUPPLY OF THE FOLLOWING ITEMS REQUIRED FOR SMART CITY PILOT PROJECT AT IIT KANPUR

S.No.	Brief Description of the Goods	Specifications	Qty.	Delivery Period	Place of Delivery	Installation Requirement if any
1.	Inverter 5kVA	Mentioned below	20	4 months	Department of Electrical Engineering IIT Kanpur-208016	Installation & integration with DB will be in scope of bidder
2.	Battery Set (200AH, 12V)	Mentioned below	20			



1. INVERTER AND BATTERY SET (DETAILED SPECIFICATIONS OF INVERTER AND BATTERY SET)

The basic Technical Specification is tabulated below:

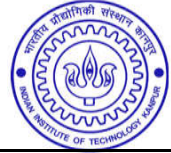
Table: 1

Inverter rating	5000 VA / 5 kW
Inverter type	Sine wave inverter
Input	Voltage range : 110V -280V AC Frequency Range : 50Hz \pm 5Hz
Output	Inversion voltage : 220V \pm 3% Inversion frequency : 50Hz \pm 2% Overload: 105% for 1 minute + 125% for 5 seconds
DC voltage	96V nominal voltage
THD	\leq 3% output voltage (linear load)
Transfer time	\leq 12ms Automatic transfer
Bypass (direct grid to load)	Should be rated for continuous current of 63A with same breaking capability
Battery Charging Current	C 10 for the inquired battery mentioned in the tender.
Charging circuit	Sine Wave UPF charging circuit complied with IEEE 519. Charger should be inbuilt in the inverter circuit and should not be provided externally.
Inverter efficiency (Battery to load)	\geq 92%
Protections	Protection against short-circuit, overload, no-battery etc
Operating Ambient temperature	up to 45° C
Communication ports	LAN (Ethernet) or WiFi
INDICATORS	<ul style="list-style-type: none"> • Battery Charging : Yes • Overload : Yes • Low Battery Cut out
Load Power Factor	Should be able to supply any power factor load up to unity



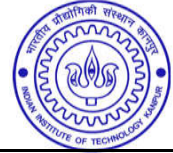
No Load Consumption	Should be <40watt
Standby Consumption	Should be <15watt
Battery management system	Current controlled battery charging for long battery life
Compatibility battery type	Lead acid / SMF
Technology	MICRO processor / DSP based PWM technology using IGBT / MOSFET
Communication Data from Inverter (via communication port)	Online monitoring of load power, battery charging/discharging current, battery voltage (or battery state of charge), mode of operation of inverter
Communication data to inverter (via communication port)	Reference power supplied by battery to the grid (details provided below)
Air Conditioner Operation	Inverter should be able to start and continuously supply Air Conditioner of 2 ton
Warranty	Inverter must have replacement warranty for a minimum period of 3 years. Warranty should include labor, component, transport and other charges.

Total Backup time on full load	2 hours at-least
Battery AH and voltage	200AH, 12V nom
No. of batteries required for each inverter	8 nos.
Battery type	Sealed Maintenance Free (SMF) Battery
Preferred battery make	Exide, Quanta, Panasonic, Amaron, Amara Raja



Mechanical Structure	Metal Stand/Rack required to house batteries is within the scope of bidder
Warranty	Batteries must have replacement warranty for a minimum period of 4 years. Warranty should include labor, component, transport and other charges.

Note: Installation and commissioning of Battery Inverter at different node points is within the scope of bidder and must be included in quotation.



2. General Terms & Condition

1. The scope includes:

- a) Supply of Inverter and Battery Set for smart home system under smart city pilot project at IIT Kanpur.
- b) Open source code availability for future modification for R&D and installation support services.

2. Bid Price

- a) The contract shall be for the full quantity as described above. Corrections, if any, shall be made by crossing out, initialing, dating and re writing.
- b) All duties, taxes (including sales tax) and other levies payable on the raw materials and components shall be included in the total price, **Except Central Excise Duty & CDEC** (custom duty), as IIT Kanpur is exempted from these duty.
- c) The rates quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.
- d) The Prices shall be quoted in Indian Rupees only.
- e) The service tax has not to be included into rate. It will be reimbursed by the institute as per reverse mechanism.

3. Each bidder shall submit only one quotation.

4. Criteria of Eligibility

- a) The supplier has turnover of 100% of the value for last 3 financial years.
- b) **Authorization from manufacturer:** In the case of a bidder offering to supply goods under the contract which the bidder did not manufacture or otherwise produce, the bidder has been duly authorized by the goods manufacturer or producer to supply the goods in India.
- c) Details of the experience of supplying similar equipments during the last 2 years.

5. Validity of Quotation

Quotation shall remain valid for a period not less than **90 days** after the deadline date specified for submission.



6. Evaluation of Quotations

Note: The bidder has to submit their quotation/offers in two envelopes. One envelope will contain technical particular/technical bid (please see table 1). The second envelope will contain the quoted offers/financial bid (please see table 2).

Quotations of only following bidders will be evaluated.

- (1) are properly signed
- (2) Conform to the terms and conditions, and specification.
But mere claim compliance will not be considered for technical evaluation. Detailed technical datasheet/ product brochure must accompany each bid to be considered for technical evaluation.
- (3) The filled Technical particular/technical bid will be evaluated as per the specification and quotations of only vendor meeting the technical specifications will be shortlisted for opening of their quoted offers/financial bid.

7. Award of contract

The Purchaser will award the contract to the bidder whose quotation has been determined to be substantially responsive (includes technically suitable) and who has offered the lowest evaluated quotation price.

- 1.1 Notwithstanding the above, **the Purchaser reserves the right to accept or reject any quotations and to cancel the bidding process and reject all quotations at any time prior to the award of contract.**
- 1.2 The bidder whose bid is accepted will be notified of the award of contract by the Purchaser prior to expiration of the quotation validity period. The terms of the accepted offer shall be incorporated in the purchase order.
2. Payment shall be **75%** against the delivery, 15% against the installation and **10%** after final completion.
3. Delivery period should not be more than 4 months and delivery should be at IIT Kanpur. The Penalty @1% per week or part there of subject to max 10% of the delivery price will be deducted from the balance payment, if supply is not completed within stipulated period.



4. You are requested to provide your offer latest by **3:00PM on 17.05.16**
5. Technical bid clarification date is scheduled on **11.05.16 at 3:00 PM** in Dept. of Electrical Engineering meeting room, IIT Kanpur.
6. Technical bid will be opened on **20.05.2016 at 11.00 AM** in Dept. of Electrical Engineering meeting room, IIT Kanpur.
7. Financial bid opening is scheduled on **24.05.2016 at 03.00 PM** in Dept. of Electrical Engineering meeting room, IIT Kanpur.
8. We look forward to receiving your quotations/tender and thank you for your interest in this project.

Table : 2
FORMAT OF QUOTATION/TENDER

Sl. No.	Description Goods	Specifications	Qty.	Unit	Quoted Unit Rate in Rs.	Total Amount (in Rs.)	
						In Figures	In Words
1.	Inverter (5kVA)	As per table 1	20	No.			
2.	Battery Set (200AH, 12V)		20	No.			
TOTAL (in Rs.)							

Gross Total Cost: Rs.....

We agree to supply the above goods in accordance with the technical specifications for a total contract price of Rs..... (amount in figures) (Rs. amount in words) within the period specified in the Invitation for Quotations.

We also confirm that the normal commercial warrantee/guarantee of **48 months** shall apply to the offered goods.

Signature of Supplier



Certified that all the information/parameters indicated above exist in the meter offered by us and shall stand all the tests specified above within the variation of current/voltage frequency and climatic conditions specified therein.

SIGNATURE OF BIDDER

NAME

DESIGNATION



SPECIAL CONDITION

1) Authorization from Manufacturer

In the case of a Bidder offering to supply goods under the contract which the Bidder did not manufacture or otherwise produce, the Bidder has been duly authorized by the goods' Manufacturer or producer to supply the goods in India.

2) Proof of Manufacturing and past performance.

Details of experience and past performance of the bidder on equipment offered and on those of similar nature within the past one years and details of current contracts in hand and other commitments.

3) Details of last 3 years turn over of the bidder.

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