



**Indian Institute of Technology Kanpur**  
**Department of Electrical Engineering**



**Department of Electrical Engineering**  
**Indian Institute of Technology, Kanpur**  
**Kalyanpur, Kanpur – Uttar Pradesh**  
**208016**

**Invites**

## **Expression of Interest (EOI)**

**EOI Reference Number: IITK/EE/UIASSIST/SCS/2019/02**

**From**

**Sole Proprietorships / Partnerships / Limited Liability Partnerships /  
Consortium / Companies / Technology Providers**

**For**

**Design, supply, installation, testing and commissioning of Renewable sources (Solar PV, Biomass) and Storage (Li-Ion and Flow batteries) integrated Smart Grid field pilots (3 nos.) under the UI-ASSIST project**



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**EXPRESSION OF INTEREST (EOI) DOCUMENT**

Online expression of interest (EOI) from eligible bidder(s) which are valid for a period of 90 days from the date of EOI opening (i.e. 30.08.2019) are invited for “**Design, supply, installation, testing and commissioning of Renewable sources (Solar PV, Biomass) and Storage (Li-Ion and Flow batteries) integrated Smart Grid field pilots (3 nos.) under the UI-ASSIST project ‘UI-ASSIST’ lead in India by IIT Kanpur**”

Name of Work	Design, supply, installation, testing and commissioning of Renewable sources (Solar PV, Biomass) and Storage (Li-Ion and Flow batteries) integrated Smart Grid field pilots (3 nos.) under the UI-ASSIST project
Estimated Cost	Rs. 8 Crore/-
<b>Date of Publishing</b>	09.08.19, 5:30 PM
Clarification Start Date and Time	10.08.19, 10:00 AM
Clarification End Date and Time	20.08.19, 5:30 PM
Pre submission Meeting Date and Time	21.08.19, 3:30 PM
Queries (if any)	No queries will be entertained after clarification end date and time
<b>EOI Submission Start Date</b>	10.08.19, 3:30 PM
Last Date and time of uploading of EOI	30.08.19, 3:30 PM
Last Date and time of <b>submitting</b> , EMD and other documents at IIT Kanpur (if any)	NA
Date and time of opening of EOI	02.09.19, 3:30 PM
Date and time of opening of Financial Bids	NA

Interested parties may view and download the EOI document containing the detailed terms & conditions from the website <http://eprocure.gov.in/eprocure/app>

(The bids have to be submitted online in electronic form on [www.eprocure.gov.in](http://www.eprocure.gov.in) only. No physical bids will be accepted.)



## **INSTRUCTION FOR ONLINE EXPRESSION OF INTEREST (EOI) SUBMISSION**

The bidders are required to submit soft copies of their Expression of Interest (EOI) electronically on the Central Public Procurement (CPP) Portal i.e. <http://eprocure.gov.in/eprocure/app>, using valid Digital Signature Certificates. The instructions given below are meant to assist the bidders in registering on the CPP Portal, prepare their bids in accordance with the requirements and submitting their bids online on the CPP Portal.

### **REGISTRATION**

- (i) Bidders are required to enroll on the e-Procurement module of the Central Public Procurement Portal (URL:<https://eprocure.gov.in/eprocure/app>) by clicking on the link “Online Bidder Enrolment” option available on the home page. **Enrolment on the CPP Portal is free of charge.**
- (ii) During enrolment/ registration, the bidders should provide the correct/ true information including valid email-id & mobile no. All the correspondence shall be made directly with the contractors/ bidders through email-id provided.
- (iii) As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.
- (iv) For e-tendering possession of valid Digital Signature Certificate (Class II or Class III Certificates with signing key usage) is mandatory which can be obtained from SIFY /nCode/eMudra or any Certifying Authority recognized by CCA India on eToken/ SmartCard.
- (v) Upon enrolment on CPP Portal for e-tendering, the bidders shall register their valid Digital Signature Certificate with their profile.
- (vi) Only one valid DSC should be registered by a bidder. Bidders are responsible to ensure that they do not lend their DSCs to others which may lead to misuse and should ensure safety of the same.
- (vii) Bidders can then log into the site through the secured login by entering their userID/ password and the password of the DSC/ eToken.

### **SEARCHING FOR EXPRESSION OF INTEREST (EOI) DOCUMENTS**

- (i) There are various search options built in the CPP Portal to facilitate bidders to search active tenders by several parameters. These parameters could include Expression of Interest (EOI) ID, organization name, location, date, value, etc. There is also an option of advanced search for EOI, wherein the bidders may combine a number of search parameters such as organization name, form of contract, location, date, other keywords, etc., to search for a tender published on the CPP Portal.
- (ii) Once the bidders have selected the EOI they are interested in, they may download the required documents / EOI schedules. These EOI can be moved to the respective ‘My EOI’ folder. This would enable the CPP Portal to intimate the bidders through SMS / e-mail in case there is any corrigendum issued to the tender document.
- (iii) The bidder should make a note of the unique EOI ID assigned to each tender, in case they want to obtain any clarification / help from the Helpdesk.



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#### PREPARATION OF BIDS:

- (i) For preparation of bid Bidders shall search the EOI from published EOI list available on site and download the complete EOI document and should take into account corrigendum if any published before submitting their bids.  
After selecting the EOI document same shall be moved to the 'My favourite' folder of bidders account from where bidder can view all the details of the EOI document.
- (ii) Bidder shall go through the EOI document carefully to understand the documents required to be submitted as part of the bid. Bidders shall note the number of covers in which the bid documents have to be submitted, the number of documents – including the names and content of each of the document that need to be submitted. Any deviations from these may lead to rejection of the bid.
- (iii) Any pre-bid clarifications if required, then same may be obtained online through the tender site, or through the contact details given in the tender document.
- (iv) Bidders should get ready in advance the bid documents in the required format (PDF/xls/rar/dwf/jpg formats) to be submitted as indicated in the tender document/schedule. **Bid documents may be scanned with 100 dpi with black and white option which helps in reducing size of the scanned document.**
- (v) Bidders can update well in advance, the documents such as experience certificates, annual report, PAN, EPF & other details etc., under "My Space/ Other Important Document" option, which can be submitted as per EOI requirements. This will facilitate the bid submission process faster by reducing upload time of bids.

#### SUBMISSION OF BIDS:

- (i) Bidder should log into the site well in advance for bid submission so that he/she upload the bid in time i.e. on or before the bid submission time. Bidder will be responsible for any delay.
- (ii) Bidder should prepare the EMD as per the instructions specified in the EOI document. The details of the DD/BC/BG/ others physically sent, should tally with the details available in the scanned copy and the data entered during bid submission time. Otherwise the uploaded bid will be rejected.
- (iii) While submitting the bids online, the bidder shall read the terms & conditions (of CPP portal) and accepts the same in order to proceed further to submit their bid.
- (iv) Bidders shall select the payment option as offline to pay the EMD and enter details of the DD/BC/BG/others.
- (v) Bidder shall digitally sign and upload the required bid documents one by one as indicated in the EOI document.
- (vi) Bidders shall note that the very act of using DSC for downloading the EOI document and uploading their offers is deemed to be a confirmation that they have read all sections and pages of the EOI document without any exception and have understood the complete EOI document and are clear about the requirements of the EOI document.
- (vii) Bid documents may be scanned with 100 dpi with black and white option which helps in reducing size of the scanned document. For the file size of less than 1 MB, the transaction uploading time will be



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very fast.

- (viii) **If price quotes are required in XLS format, utmost care shall be taken for uploading Schedule of quantities & Prices and any change/ modification of the price schedule shall render it unfit for bidding.**

**Bidders shall download the Schedule of Quantities & Prices i.e. Schedule-A, in XLS format and save it without changing the name of the file. Bidder shall quote their rate in figures in the appropriate cells, thereafter save and upload the file in financial bid cover (Price bid) only.**

**If the template of Schedule of Quantities & Prices file is found to be modified/corrupted in the eventuality by the bidder, the bid will be rejected and further dealt as per provision of clause no 23.0 of ITB including forfeiture of EMD.**

**The bidders are cautioned that uploading of financial bid elsewhere i.e. other than in cover 2 will result in rejection of the tender.**

- (ix) Bidders shall submit their bids through online e-tendering system to the EOI Inviting Authority well before the bid submission end date & time (as per Server System Clock). **The EOI Inviting Authority will not be held responsible for any sort of delay or the difficulties faced during the submission of bids online by the bidders at the eleventh hour.**
- (x) After the bid submission (i.e. after Clicking “Freeze Bid Submission” in the portal), the bidders shall **take print out of system generated acknowledgement** number and keep it as a record of evidence for online submission of bid, which will also act as an entry pass to participate in the bid opening.
- (xi) Bidders should follow the server time being displayed on bidder’s dashboard at the top of the EOI site, which shall be considered valid for all actions of requesting, bid submission, bid opening etc., in the e-EOI system.
- (xii) All the documents being submitted by the bidders would be encrypted using PKI (Public Key Infrastructure) encryption techniques to ensure the secrecy of the data. The data entered cannot be viewed by unauthorized persons until the time of bid opening. The confidentiality of the bids is maintained using the secured Socket Layer 128 bit encryption technology.

**ASSISTANCE TO BIDDERS:**

- (i) Any queries relating to the tender document and the terms and conditions contained therein should be addressed to the EOI Inviting Authority for a EOI or the relevant contract person indicated in the EOI. The contact number for the helpdesk is 0512-259-7059, 5420, 7625, 2012 ([uiassist@iitk.ac.in](mailto:uiassist@iitk.ac.in)) between 10:30 hrs to 17:00 hrs.
- (ii) Any queries relating to the process of online bid submission or queries relating to CPP Portal in general may be directed to the 24X7 CPP Portal Helpdesk. The 24 x 7 Help Desk Number 0120-4200462, 0120-4001002 and 0120-4001005. The helpdesk email id is [support-eproc@nic.in](mailto:support-eproc@nic.in)



## **INSTRUCTION TO BIDDERS**

### **1. PREPARATION AND SUBMISSION OF BIDS:**

- a. The detailed EOI documents may be downloaded from <http://eprocure.gov.in/eprocure/app> till the last date of submission of EOI. The EOI may be submitted online through CPP Portal <http://eprocure.gov.in/eprocure/app>

### **2. SUBMISSION OF THE BID :**

All interested eligible bidders are requested to submit their bids online on CPP Portal: <http://eprocure.gov.in/eprocure/app> as per the criteria given in this document:

- a. Technical Bid should be uploaded online.

### **3. TECHNICAL BID/EOI:**

Signed and Scanned copies of the Technical bid documents as under must be submitted online on CPP Portal: <http://eprocure.gov.in/eprocure/app>.

- a) **List of Documents to be scanned and uploaded within the period of bid submission:-**
  - i) Scanned copy of incorporation and bank details (Bank details of principal supplier in case of Import shipments)
  - ii) Scanned certificate of GST, ESI & EPF
  - iii) Solvency certificate recently issued by any Nationalised Bank for a Sum of Rs 2.2 Crores.
  - iv) Scanned copy of certified annual report including balance sheet and profit and loss Account statement with turnover not less than Rs 8 Crores for the past three consecutive years.
  - v) Scanned copy of similar nature of work experience (**given in criterion of eligibility section**)
  - vi) Scanned copy of EOI acceptance letter, and annexure(s) and other documents as given in EOI.
  - vii) Scanned copy of documents asked in technical evaluation (**given in criterion of eligibility section**).
- b) **For Import Shipments – Shipping Terms Ex-Works/FOB are preferred.**

**NOTE - no indication of the rates/amounts should be made in any of the documents submitted with the Technical - BID.**

### **4. LAST DATE FOR SUBMISSION OF EOI:**

- a) Online bids complete in all respects, must be submitted on or before the last date and time specified in the schedule of events.
- b) The IIT, Kanpur may, at its own discretion, alter/extend the last date for submission of EOI.

### **5. EOI VALIDITY:**

- a) EOI should be valid for a period of 90 days from the date of opening.
- b) EOI submitted online valid for a shorter period shall be declared as non-responsive.

### **6. MODIFICATION / SUBSTITUTION/ WITHDRAWAL OF BIDS:**

- a) No Bid shall be modified, substituted or withdrawn by the Bidder after the Bid's due Date.



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- b) Any alteration/ modification in the Bid or additional information supplied subsequent to the Bid's due Date, unless the same has been expressly sought for by the Authority, shall be disregarded.

### **7. REJECTION OF THE BID:**

The bid submitted shall become invalid and EOI fee shall not be refunded if:-

- a) The bidder is found ineligible.
  - b) The bidder does not upload all the documents as stipulated in the bid document.
8. Bidder(s) should go through Section-I and Section-II thoroughly before filling and submitting the application.



## **DOCUMENTS OF EXPRESSION OF INTEREST (EOI)**

This EOI document comprises of the following sections:

- i)** Section-I: Invitation for Expression of Interest
- ii)** Section-II: Scope of Work
- iii)** Section-III: Application Form and Annexures





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**SECTION-I:**  
**INVITATION FOR EXPRESSION OF INTEREST (EOI)**



## **DETAILED NOTICE INVITING EXPRESSION OF INTEREST (EOI)**

**EOI Reference No.:** IITK/EE/UIASSIST/SCS/2019/02

**EOI Submission Start Date:** August 09, 2019, 5:30 PM

**EOI Submission Closing Date:** August 30, 2019, 3:30 PM

Expression of interest (EOI) is invited from the bidders for **“Design, supply, installation, testing and commissioning of Renewable sources (Solar PV, Biomass) and Storage (Li-Ion and Flow batteries) integrated Smart Grid field pilots (3 nos.) under the UI-ASSIST project”**.

### **1. General statement of objectives and brief description of the project:**

IIT Kanpur proposes to engage reputed professional Contractors/Smart Grid System Integrators for Design, Supply, Installation, testing and commissioning of three Smart Grid field pilots under its UI-ASSIST project, as described under scope of contract.

The prospective contractors shall be well experienced in the state of the art developments in Smart Distribution and Microgrid areas and are expected to provide the details of the technical specifications for the proposed pilots in their response to the EOI, based on the brief outline of scope given in this call.

It may be noted that this is an invitation for EOI and should not be construed as the Tender/ Request for Proposal (RFP) in any form and would not be binding on the Institute in any manner whatsoever. Expression of Interest prepared in accordance with the procedure enumerated in this document should be uploaded online on CPP portal. The application should be accompanied with the following information:

### **2. Prequalification of the bidders:**

Shortlisting based on bidders expressing the interest will be done, who either singly or in association with others (Service providers and bidders), are capable of rendering high degree of professional services in the field of work mentioned below in the document as per the eligibility criteria defined in the EOI document and such short listed agencies may be invited for technical presentation for technical evaluation as per technical evaluation criteria as laid in the EOI document. Based on the marks obtained in the technical evaluation, bidders shall be shortlisted for submission of the financial proposals through Limited Tender Enquiry (LTE) floated by IIT Kanpur. The IIT Kanpur is not bounded to go only for LTE, but may also invite fresh Global Tender Enquiry in case of less no. of suitable agencies as per the IIT Kanpur committee.

For the purpose of technical evaluation, bidders shall be invited to IIT Kanpur at a specified date to give a presentation on their proposed approach for carrying out the work. The marks/grades will be awarded for technical evaluation purpose as per the Technical Evaluation grading criteria as mentioned at Table 1.

Their presentation will be followed by technical discussions with the IIT Kanpur team, and a site visit, if



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necessary. Subsequently IIT Kanpur reserves the rights to accept/reject any application at the prequalification stage without assigning any reason whatsoever.

**Table 1.** (Technical Evaluation Criteria of EOI)

Criteria	Sub-criteria	Weightage	Break-up of Weightage
Similar nature of work	i) 3.2 – 5 Crores ii) 5 – 8 Crores iii) Above 8 crores	i) 6 Marks ii) 8 Marks iii) 10 Marks	20%
Financial strength of the bidder (based on Turnover figures of the last three years)	i) 8 – 16 crores ii) Above 16 crores	i) 8 Marks ii) 10 Marks	15%
Work in hand of similar nature		6 Marks	10%
Technical manpower in numbers	i) Upto 20 ii) 20-50 iii) Above 50	i) 6 Marks ii) 8 Marks iii) 10 Marks	10%
Solar installations	i) 100- 300 kW ii) 300kW – 600 kW iii) 300 kW – 1 MW	i) 6 Marks ii) 8 Marks iii) 10 Marks	20%
Battery installations	i) 100- 400 kWh ii) 400 – 800 kWh iii) 800 kWh and above	i) 6 Marks ii) 8 Marks iii) 10 Marks	20%
Biomass plant installation	i) Upto 30kW ii) 30kW – 60kW iii) 60 kW and above	i) 6 Marks ii) 8 Marks iii) 10 Marks	5%

**Note:** Each bidder should be assigned scores based on the sum of marks obtained for each parameter multiplied by the weightage assigned to that parameter. All the bidders who secured minimum required marks as decided by the technical evaluation committee shall be qualified for financial bid submission.

Among other things the bidder must broadly fulfil the following criteria:

- It should be a reputed and established company/organization.
- It should have been in existence in setting up/executing similar work for minimum of three years and undertaking the jobs in INDIAN Utilities with relevant proof & satisfactory certificate.
- Mere existence for three years without executing such work as outlined in the scope are not eligible to participate.
- The bidder should provide proof of execution of “Similar nature of works”. ‘Similar nature of works’ means one which involved Comprehensive Design, Supply, Installation, testing and commissioning of renewable sources (PV, Biomass) and Battery Storage integrated with smart grid.



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- Documentary evidence along with reference/contact person & address, telephone/ email details of clients should be submitted along with bidder's expression of interest for verification. The documentary evidence shall be in terms of Work Order/Purchase order indicating the Scope / nature of work, value of work order /purchase order, value of contract & period of execution etc. The completion certificate of the job issued by the respective client is a must. Without submission of above mentioned documents & the completion certificate, the offer will be liable to be rejected by IIT Kanpur at their discretion. The committee may visit your clients (if deemed fit) to ascertain the works executed as per the documents submitted by your company. Necessary arrangements have to be made by the bidder for such visit. No claim is admissible for the same.  
**NOTE:** Jobs executed outside India will not be considered. References of the Works executed in India only should be provided.
- Bidder should point out all the relevant critical issues that they will be addressing while implementing the said smart grid/microgrid pilots.
- Bidders should be capable of supplying, installing, commissioning, testing & maintaining all the services needed for the implementation of microgrid pilots. Bidders can also identify supporting service providers, in case of consortium, for services & utilities along with them as a team subject to the approval by IIT Kanpur.
- In case of Indian bidders, agents/sub-contractors are not eligible to participate in the BID. Only the registered companies fulfilling the criteria mentioned above are eligible & shall authorize their regular/permanent employees/executives to correspond & participate in the Bid.
- Foreign bidder(s) should have their establishment in India or at least have their branch office / representative office in India for execution, follow-up, and maintenance. This establishment/ branch office/ representative office shall be registered in India. These branch offices should have been registered branch office/representative in India at least three years earlier than the date of publishing of this EOI.

**In case of Foreign Bidders, the details of the branch in India/representative in India shall be produced. They shall produce documentary proof of MOU duly registered in INDIA at least three years earlier than the date of publishing of this EOI. If the relevant documents are not submitted, the offer is liable to be rejected by IIT Kanpur authorities.**

In case of Foreign Bidders, the IIT Kanpur committee may visit the Premises of the Bidders branch office in India/representative office in India & verify the documents for their existence as per the documents submitted by them. If found not satisfactory the respective bidder will not be allowed to participate in the proposed implementation of microgrid pilot project. Also, if found not existing the respective Bidder will be disqualified from participating in the proposed Utilities project & will be BLACK LISTED. This branch office/ representative of the Foreign Bidder in INDIA must have at least THREE years of experience in Comprehensive Design, Supply, Installation, testing and commissioning of similar smart grid projects.

- The documents/completion certificates etc. submitted by the bidder, if found manipulated/ forged/ corrected, the bidder will not be entertained to participate in the BID & will be disqualified & blacklisted at the discretion of IIT Kanpur.



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- The relevant documentary evidence shall be produced regarding the experience of their branch office/representative in INDIA.
- In case of Foreign bidders, the order will be placed on the foreign bidder only & not on their Branch office /agents in India or their representative in India.
- Foreign companies shall possess the qualified personnel in INDIA to take care the project during construction & their after annual maintenance, the offer is liable to be rejected at the discretion of Department of Electrical Engineering, IIT Kanpur authorities if the above criterion is not met by the Foreign bidder. The details of their qualified Branch office/Representative/ personnel in INDIA along with documentary evidence to prove their experience shall be provided otherwise the offer will be liable to be rejected.
- The bidder (s) who do not individually meet the criteria mentioned in the above clauses may form a consortium of companies to qualify the above criteria. In such case, it is necessary that majority of the partners of the consortium have comprehensively fulfilled all the qualifying criteria given in this document. Further, there should be one bidder (“lead bidder”) in the consortium who shall submit the intend and shall take responsibility of bidding, commissioning, validation and operation. The lead bidder shall be liable for the entire scope of work and risks involved thereof. The service provider to the Lead Bidder will not be considered as lead bidder. The lead bidder must have experience of executing Comprehensive Design, Supply, Installation, Testing, Commissioning of Solar PV Plants integrated with smart grid similar to work to be executed under 3 nos. pilots to be implemented in UI-ASSIST project.
- The bidder should meet the eligibility criteria mentioned in this document and should provide supporting documentary evidence
- IIT Kanpur, will evaluate the bidders based on the data furnished by them and may call the Eligible Bidders for a detailed presentation/discussion as part of prequalification of bidders for the below mentioned scope of work.
- The shortlisted bidders after technical evaluation shall be informed separately and a detailed tender/ request for proposal (RFP) shall be sent to them for submission of their bids at a later date.

### **3. Criteria of eligibility for Bidder(s) (Scanned copy of documents to be uploaded)**

- (i) Evidence of incorporation and bank details.
- (ii) Having GST, ESI & EPF registration No. of government authorities.
- (iii) Solvency Certificate recently issued by any Nationalised Bank for a Sum of Rs 320 Lakhs.
- (iv) Certified Annual report including balance sheet and profit and loss Account statement for the past three consecutive years. It should have an average annual turnover not less than Rs. 8 Crores in any one of the last 3 consecutive financial years.
- (v) For similar nature of work document with following information is to be uploaded:
  - a) The bidders should have completed satisfactorily at least \*3 similar works each of value 40% of the estimated cost or \*2 similar works of 50% of the estimated cost or \*1 similar work of 80% of estimated cost during the last 7 (seven) years. (at least one work of them should be in Central Govt. /Central Autonomous bodies/ Central PSU/State PSU / State Govt.).
  - b) ‘Similar nature of works’ means one which involved Comprehensive Design, Supply, Installation, testing and commissioning of renewable sources (PV, Biomass) and Battery Storage integrated with smart grid.



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- c) Bidder should also have done the minimum of 100 kWp solar installation.
- d) List of works completed of the requisite magnitude along with the attested copies of certificates of satisfactory completion.
- e) In support of experience in non-government bodies-companies, TDS certificates shall also be enclosed in addition to work order and satisfactory completion certificates.

#### (vi) Technical Evaluation

- a) Company / Organisation profile giving details of current activities and Management structure.
- b) A capability statement (Not more than two pages)
- c) A write-up on the understanding of the scope of contract (Not more than two Pages)
- d) Bill of Quantity and Proposed make of equipments (Should be reputed make)
- e) Number, Qualification & Experience of key technical and management personnel that are proposed to be deployed on this contract, if awarded.
- f) Information on litigations if any in which the bidder is involved.
- g) The bidder should submit the signed Technical specifications (details) of items, which should meet the desired requirements as per specified parameter in the tender document.
- h) Details of jobs/projects in hand of similar nature.

**Note:** In pre-bid conference/meeting, the doubts of the indenting bidders should be clarified. Discussion on any additional technical/suggestion proposed by the bidders are also welcomed, which may be included by the committee in the tender.



## **SECTION-II: SCOPE OF WORK**



### **Scope of work:**

The prospective parties/bidders shall comply with the requirements given in the various sections of this EOI document and as per specifications required IIT Kanpur.

The below mentioned three microgrids/pilots will be fully monitored and controlled from the Smart Grid Control Centre located inside the IIT Kanpur campus which has SCADA (Supplied by Synergy Systems and Solutions) as well as Advanced Metering Infrastructure (AMI) (supplied by Mindteck) system integrated. All the meters, converters to be installed should have proper communication interface and capability based on open protocol. Necessary communication infrastructure, with the SCADA/AMI interface will be in the scope of the present work. The scope also includes complete engineering/designing, based on specifications provided by IIT Kanpur and jointly reviewed with the Bidders/Contractors, installation, testing and commissioning of equipment.

Broad scope of the work is mentioned below:

#### **1. Pilot-3 (Rural- in Two Village Hamlets in Kanpur)**

One AC Microgrid Rural pilot by IIT Kanpur and UPPCL covering two village hamlets in Kanpur, namely Bargadiya Purwa and Chhaba Niwada under Harnoo Village Panchayat, about 45 km north of IIT Kanpur campus, having provision of total 100 kWp Solar PV, 200kWh Battery Storage (Li-Ion) and Biomass Power Plant approximately 30 kW. Each hamlet will have a separate microgrid, One will have 30 kWp Solar PV, 50 kW & 100 kWh Li-Ion battery and 30 kW biomass power plant to be integrated with one another and connected to main grid supply, and the second hamlet will have 70 kWp Solar PV, 50 kW & 100 kWh Li-Ion battery system to be integrated with each other and connected to the main grid supply.

A direct interconnection between the two microgrids (or through AC-DC-AC converter) will be also built between two microgrids to exchange power (total length of cable 750 m, 3 ½ core 120 mm<sup>2</sup> Al conductor armoured XLPE cable).

In addition, about 6 solar pumps of 5 Hp each are also, to be installed, which will operate in off grid mode.

The distribution box to connect solar PV, storage and biomass should have at least 6 spare TPN feeders provided with MCCBs and 3-phase smart meters for feeding to local agro-plants in future.

Grid supply consumption monitoring will be done on LV side of Dakshinanchal Vidyut Vitran Nigam Limited (DVVNL, local DISCOM under UPPCL) transformer, in both the hamlets through bidirectional 3-phase smart meters with net metering.

Civil work required for construction of control room in both the hamlet of the village is also in the scope of contract.

#### **Different Components to be used in Rural Microgrid Pilot Project**

<b>Sr. No.</b>	<b>Component to be used</b>	<b>Type of Technology</b>	<b>Remark</b>
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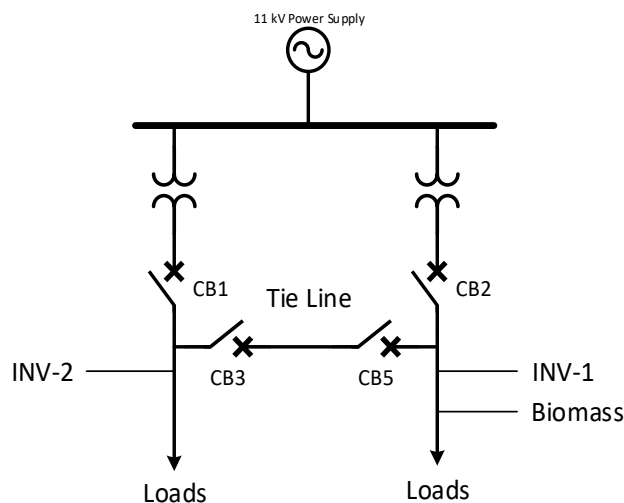




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1.	(70+30) kWp Solar PV	Monocrystalline PV module	
2.	(70+50) kW Inverter	3 Phase, Hybrid Smart Inverter	
3.	Single Phase Smart Meters for each of the household connection in two villages (over and above existing meter by DVVNL)- about 170 in number	RF/GPRS/WiFi	Control functions for optimum feed-in of reactive power and effective power for stable grid operation
4.	Three Phase LTCT Smart Meters- one in each incoming and outgoing of the Distribution box	RF/GPRS/WiFi	
5.	(50+50) kW Battery Storage	Li-Ion	2 hour backup on full load, provided with battery management system and housed in enclosure suitable for outdoor installation with at least min IP-54 protection
6.	30 kW Biomass power plant	Cattle dung based	
7.	Solar Water Pump 6*5 HP, with Solar Panels	DC or AC category	
8.	Cable for connecting two hamlets at transformer level		
9.	Levelling and filling of land near both hamlets		Wherever required
10.	Construction of Control Room Building	One in each hamlet	
11.	Three Phase TPN DB with MCCBs- one in each hamlet	Having IP-54 protected panel for outdoor mounting.	





**1.1 Solar Panel Specifications:**

- i) Silicon monocrystalline solar cell modules, preferably 250-380 Wp ratings, with conversion efficiency not less than 19.5% at Standard Test Condition. All modules must be provided with their Flash sheets giving test reports of all the important parameters. Requisite certification of conversion efficiency after statistical sample testing by an MNRE approved certifying agency must be provided.
- ii) Junction boxes with appropriate bypass diodes for each panel and cable entry should be IP65 compatible.
- iii) DC cable joints shall be capable of retaining contact pressure under ambient temperature variations between -5°C to 55°C.
- iv) The PV modules must conform to IEC62109 Part 1 and 2 for testing, for safety qualification or equivalent.
- v) Warranty of solar PV modules for 90% performance at 10 years, 80% at 20 years and 20 years for structures.

**1.2 Smart Inverter Minimum Specifications:**

Inverter-1

3-ph, Solar PV: 30 kWp; Battery: 50kW, 100 kWh; O/P AC Power: 50kW, 62.5kVA

Inverter-2

3-ph, Solar PV: 70kWp; Battery: 50kW, 100 kWh; O/P AC Power: 70kW, 87.5kVA

Common Features
<ol style="list-style-type: none"><li>1. MPPT</li><li>2. Power Flow Capability: - PV to Battery, PV to O/P (AC) Battery to O/P (AC), O/P (AC) to Battery</li><li>3. Inverter should be capable of operating in grid feeding mode and capable of creating islanded microgrid, depending on the availability of grid</li><li>4. Leakage current in system should be within limits specified in VDE 0126-1-1 or other equivalent standard.</li><li>5. IP 65 for inverter, Operation temperature range 0 to 55degC, Battery &amp; PV should have reverse voltage protection, lightning protection, display, communication and monitoring.</li><li>6. AC nominal voltage 400V (operating range 320V-470V)</li><li>7. Rated frequency: 50Hz (operating range in case of grid feeding 47-53Hz)</li><li>8. Switch over from islanded to grid feed and vice-versa should be seamless without interruption to loads.</li><li>9. Monitoring of parameters such as battery SoC, battery power, solar PV power, ac power, mode of operation, PV voltage, current, battery voltage, battery current, grid voltage, current, frequency, power factor, battery temperature etc. through SCADA and common APIs, which can be analysed and used to send command for inverters reactive power control / battery power etc. from the Smart Grid Control Centre.</li><li>10. Inverter should include its isolation transformer to ensure -ve or +ve terminal of the solar PV array is grounded.</li></ol>



Features: In Grid Feeding Mode
<ol style="list-style-type: none"><li>1. Power flow from battery to grid and vice-versa, should be controllable by two options:<ol style="list-style-type: none"><li>(i) charging / discharging of battery based on inverter logic / controller,</li><li>(ii) settable battery power command using which energy can be supplied / absorbed to / from the grid through, common APIs and SCADA for implementing user defined algorithms.</li></ol></li><li>2. Reactive power should be controllable by three options:<ol style="list-style-type: none"><li>(i) maintaining unity power factor of complete system (Inverter + Loads)</li><li>(ii) Voltage regulation of AC system and</li><li>(iii) Settable reactive power through common APIs and SCADA, for user defined algorithms.</li></ol></li><li>3. Inverter should be able to filter up to 50<sup>th</sup> harmonics drawn by the loads. The current drawn / supplied from / to the grid by system (inverter + load), should meet IEEE 519 and 1547 standards.</li><li>4. Peak efficiency and European efficiency in grid feeding mode from PV to grid should be greater than or equal to 98%.</li><li>5. Peak efficiency in grid feeding mode from Battery to grid and grid to battery should be greater than or equal to 97%.</li><li>6. Peak efficiency of solar PV feeding to battery should be greater than or equal to 98%.</li><li>7. In case one of the 11kV transformer is on and other is off, both inverters should work in grid feeding mode using the interconnecting line.</li></ol>

Features: In Islanded Mode
<ol style="list-style-type: none"><li>1. Active power should be shared by two inverters in proportion to their available SoC of battery.</li><li>2. Biomass generator should produce maximum power; only remaining power should be drawn from inverters.</li><li>3. Should be able to operate together with biomass generator.</li><li>4. Should work in both cases where interconnecting line is connected or disconnected.</li><li>5. In case of fault in one micro grid, other micro grid should continue to function without interruption/flicker to loads.</li><li>6. In case of fault in interconnecting cable, each micro grid should function independently without interruption/flickers in load.</li></ol>

These along with house distribution network (each household to be provided with 1- phase smart meters- total households in both hamlets about 170) will form microgrid capable of operating in grid connected as well as offgrid mode.

### 1.3 Single Phase Smart Meter Specifications

Minimum specifications and functionality of single phase smart meters are given below.

- i) Should support 4 quadrant measurement of power(Import/Export), with open protocols like DLMS, COSEM, IS16444
- ii) Should support two way communications along with remote connect/disconnect of power supply.
- iii) Should support internal communication interface for Data Concentrator Unit (DCU) / Headend System (HES) and HAN device.



- iv) Should avail port for local communication
- v) Should be capable of storing 45 days of 15 minutes consumption data
- vi) Should record billing, load survey, event & tampers, instantaneous and demand parameters
- vii) Should provide feature for firmware upgrade, tariff configuration, load limit setting, tamper reset, MD (Maximum Demand) reset and time set transaction. These features should also be possible to realize remotely.
- viii) Should have load limiting provision with audible alarm
- ix) Should have capability to communicate over either GPRS/RF/WiFi in addition to TCP/IP.
- x) These single phase smart meters may communicate directly to the HES and DCU and can be used to collect data from multiple meters which can be sent to the HES.

## 1.4 Three Phase Smart Meter Specifications

### Technical requirements:

- **Type**- 3 phase 4 wire LTCT operated smart energy meter
- **Accuracy class**- 0.5s
- **Energy parameter**- import & export energy
- **Operating voltage**- 3x 240V single phase, +/- 10%
- **Operating current**- 5A
- **Frequency**- 50Hz +/- 5%
- **Communication Protocol**- DLMS compliance as per IS 15959, IS16444, IPv6
- **Communication Options**- Optical Port/ RS485/ RS232/ Ethernet/ Wi-Fi/ GSM, compatibility for SCADA and AMI integration
- **Internal battery**- yes: for power fail mode display operation
- **Standards**- As per IS 16444, IEC 62052-11, IEC 62053-22, 62053-24, 62052-31, IEC 60060-1
- **Power consumption, accuracy limit, impulse voltage, construction requirements, resistance to heat & fire, climatic influence, electromagnetic compatibility (EMC)**- As per above mentioned Standards
- **Security Policy**- data access: as per DLMS/ COSEM server

### Features:

- Energy import and export
- Net Metering
- DLMS compliance
- Maximum demand
- TOD registers
- Load survey
- Inter-operability
- Real time notifications
- Tamper proof
- Time synchronization
- Two way communication
- Remotely accessible for collecting data/ event.



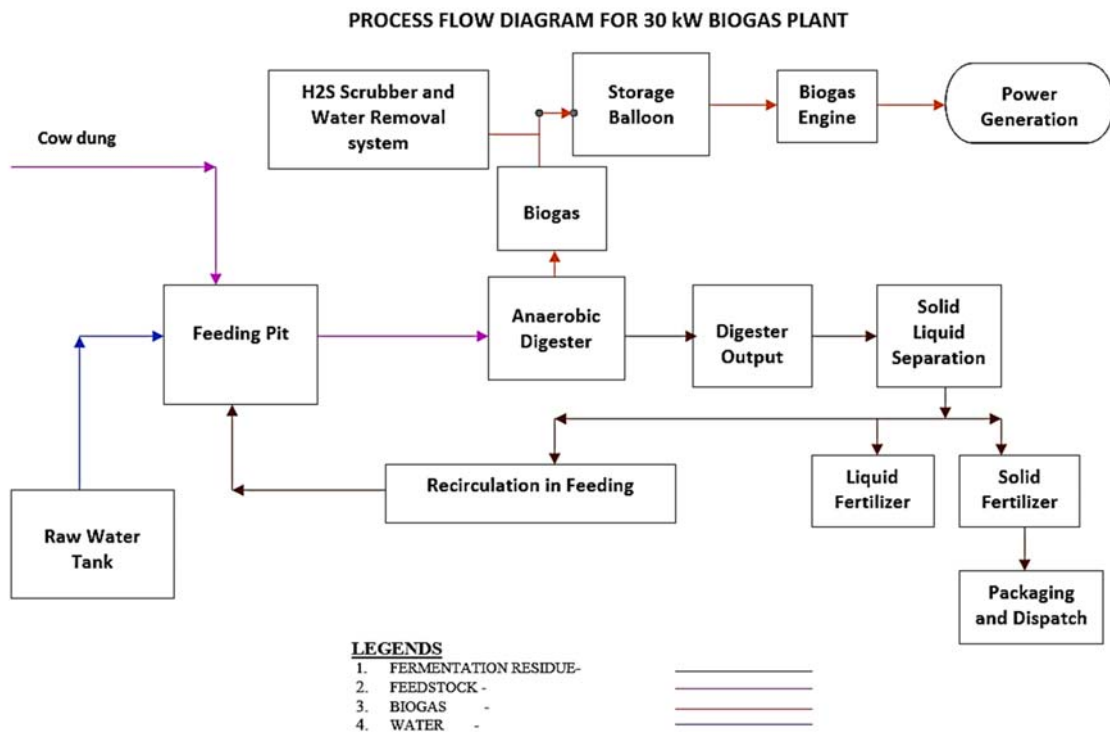
- Robust meter security
- Remote connect/ disconnect

### 1.5 Data Concentrator Unit (DCU)

- i) In built memory (SD card)
- ii) Device connectivity: RF/RS485
- iii) Connectivity with HES: Ethernet/GPRS
- iv) Should support multiple smart meters over RS485 and RF network both
- v) Push/Pull mode of operation, remote firmware upgrade and configuration of device
- vi) Support group data collection by single command
- vii) Auto RTC sync with HES time
- viii) IP 54 insulating encased meter and protective Class II
- ix) Password protection for optical communication; authenticated, password-protected transactions and encryption for RF mesh (Sub-GHz 865-867 ISM Band), GPRS and RS-485 communication.

### 1.6 Biomass Power Plant (30kW)

Biomass power plant of 30kW is to be installed in Bargadiyapurwa Hamlet of the Harnoo village in Kanpur Nagar. The power from Biomass power plant has to be synchronized with the main grid, 30 kW solar installation and 50 kWh battery storage system. The power supply from all the above sources should be able to supply power to the village residents in grid connected as well as off-grid mode.





## 1.7 Solar Water Pumps

A solar pump uses power derived from sunlight that is converted into electrical power by Solar Photo Voltaic (SPV) modules. 5HP BLDC motors as standard, with suitably rated solar panels.

### Solar Pump Controller:

- I. Maximum efficiency should not be less than 97%
- II. Protection: IP54 for panels and IP65 for pumps and motors

It should have GSM based remote monitoring module through which user can monitor and control the system remotely from Control Centre.

## 1.8 Cable

An interconnection (optionally through AC-DC-AC converter) will also be built between two microgrids to exchange power (total length of cable 750m, 3 ½ core and 120 mm<sup>2</sup> Al conductor armoured XLPE cable). All other cables will also be suitably sized Al/Cu conductor armoured XLPE insulated.

## 2. Pilot-1 (Semi-Urban inside IIT Kanpur Campus)

A Semi-urban Pilot by IIT Kanpur inside its campus covers single storey houses in two lanes having provision of 200kWp SPV, 200 kWh Battery Storage and two EV DC+AC Charging stations. On about 30 houses in the lane, 5 kWp solar SPV will be mounted on roof top and has to be integrated to the main grid supply.

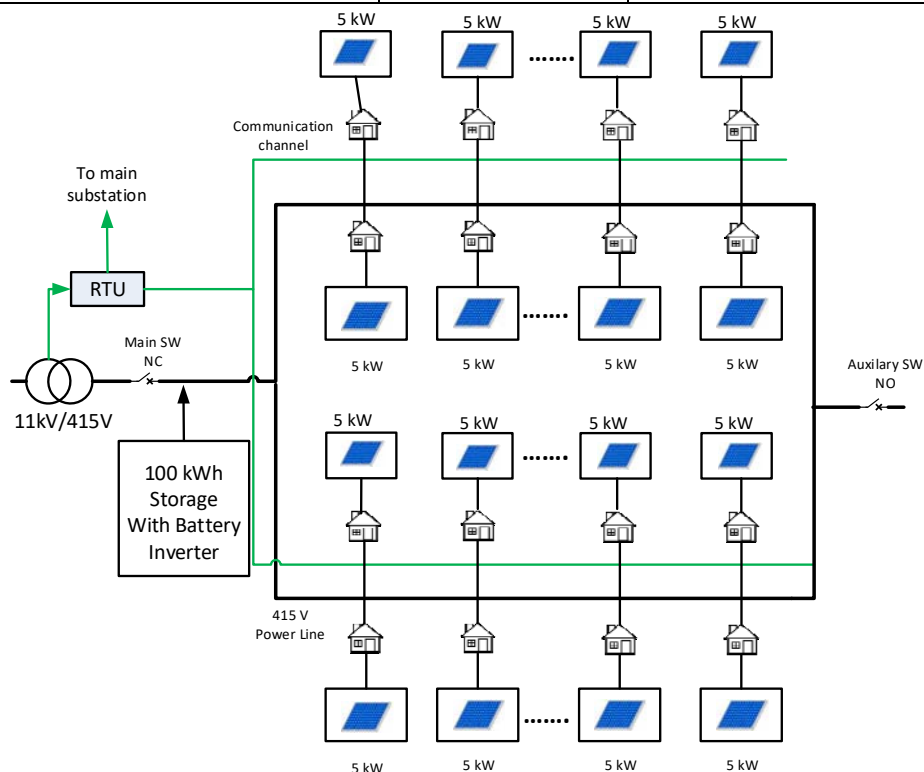
Battery Storage of about 120 kWh capacity (one Li-Ion (70kWh) and another Redox Flow (50kWh) battery system) will be placed ground mounted outdoor at two places in these lanes.

Two EV station charging stations along with about 25 kWp SPV and 40 kWh Li-ion battery storage each will be installed at two places inside the campus locally connected to the grid as well. Each house and EV charging stations will have smart meters (single phase smart meters in houses and 3-phase smart meters at EV charging stations) these are to be provided by bidder. Specifications of all the equipment will be as given under pilot-3 above.

Sr. No.	Component to be used	Type of Technology	Remark
1	30x5 kWp Solar PV	Monocrystalline	
2	(70+50) kWh Battery Storage	Li-Ion+Flow	
3	2x25 kWp Solar PV		For charging station
4	2x40 kWh Battery Storage		For charging station
5	Fast AC+DC EV Chargers (2 nos)		ChaDeMo + CCS
6	Single Phase Smart Inverter		Control functions for optimum feed-in of reactive power and effective



			power for stable grid operation
7	Three Phase Smart Inverter or Smart Charger for Battery Storage		
8	Cable	XLPE insulated	Required size/length



Battery Inverter-1 (quantity-1)

3-ph, Battery: 70kWh, 140 kWh; O/P AC Power: 100kW, 125kVA

Battery Inverter-2 (quantity-1)

3-ph, Battery: 50kWh, 100 kWh; O/P AC Power: 75kW, 94KVa

**Common Features of Battery Inverter**

1. Power Flow Capability: -  
Battery to O/P (AC), O/P (AC) to Battery
2. Inverter should be capable of operating in grid feeding mode and capable of creating islanded microgrid, depending on the availability of grid
3. Leakage current in system should be within limits specified in VDE 0126-1-1 or other equivalent standard.
4. IP 65 for inverter, Operation temperature range 0 to 55degC, Battery & Solar PV should have reverse voltage protection, lightning protection, display, communication and monitoring.
5. AC nominal voltage 400V (operating range 320V-470V)
6. Rated frequency: 50Hz (operating range in case of grid feeding 47-53Hz)



7. Switch over from islanded to grid feed and vice-versa should be seamless without interruption to loads.
8. Monitoring of parameter such as battery SoC, battery power, ac power, mode of operation, battery voltage, battery current, grid voltage, current, frequency, power factor, battery temperature etc. through SCADA and common APIs, which can be analysed and used to set command for inverters reactive power control / battery power etc.
9. Inverter should include its isolation transformer to ensure -ve or +ve terminal of the battery is grounded.

**Features: In grid available mode for battery inverter**

1. Power flow from battery to grid and vice-versa, should be controllable by two options:
  - (i) charging / discharging of battery based on inverter logic / controller,
  - (ii) settable battery power command using which energy can be supplied / absorbed to / from the grid through, common APIs and SCADA for implementing user defined algorithms.
2. Reactive power should be controllable by three options:
  - (i) maintaining unity power factor of complete system (Inverter + Loads)
  - (ii) Voltage regulation of AC system and
  - (iii) Settable reactive power through common APIs and SCADA, for user defined algorithms.
3. Inverter should be able to filter up to 50<sup>th</sup> harmonics drawn by the loads. The current drawn / supplied from / to the grid by system (inverter + load), should meet IEEE 519 and 1547 standard.
4. Peak efficiency in grid feeding mode from Battery to grid and grid to battery should be greater than or equal to 97%.

**Features: In Islanded Mode for Battery Inverter**

1. Battery inverter should supply only additional power after utilizing the power from solar PV inverters connected in the system.

Solar PV Inverters (quantity – 30)

1-ph, Solar PV: 5kWp, O/P AC Power: 5kVA

**Common Features of Solar PV Inverter**

1. MPPT
2. Power Flow Capability: -  
PV to O/P (AC)
3. Inverter should be capable of operating in grid feeding mode
4. Leakage current in system should be within limits specified in VDE 0126-1-1 or other equivalent standard.
5. IP 65 for inverter, Operation temperature range 0 to 55degC, Battery & PV should have reverse voltage protection, lightning protection, display, communication and monitoring.
6. AC nominal voltage 230V (operating range 185V-270V)
7. Rated frequency: 50Hz (operating range in case of grid feeding 47-53Hz)
8. Monitoring of parameter such as, solar PV power, ac power, PV voltage, current, grid voltage, current, frequency, power factor, etc. through SCADA and common APIs, which can be analysed and used to set command for inverters reactive power control etc.





9. Reactive power should be controllable by three options: (i) maintaining unity power factor of complete system (Inverter + Loads) (ii) Voltage regulation of AC system and (iii) Settable reactive power through common APIs and SCADA, for user defined algorithms.
10. Inverter should meet IEEE 519 and 1547 standard.
11. Peak efficiency and European efficiency in grid feeding mode from PV to grid should be greater than or equal to 98%.

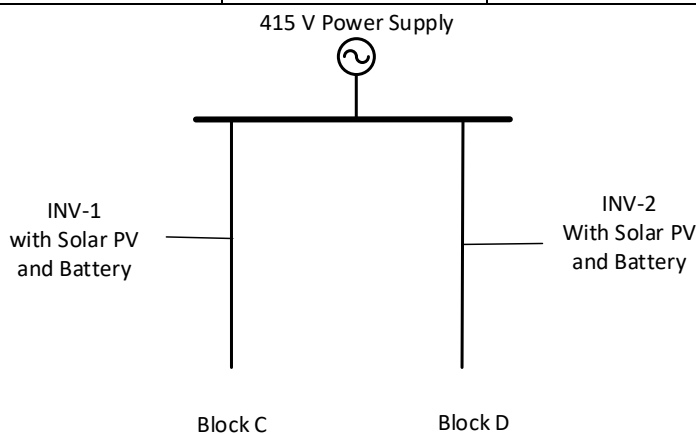
### 3. Pilot-2 (Urban inside IIT Kanpur Campus)

An Urban pilot inside IITK campus covers two housing apartments in the campus (25 kWp SPV, 100 KW hybrid inverter & 50 kWh Li-Ion battery storage system in each tower).

SPV and Battery storage system will be on the rooftop (7 storey building) whereas the grid supply feed where it need to be integrated is on the ground floor, requiring cable connection.

Specifications of all the equipment will be as given under pilot-3.

Sr. No.	Component to be used	Type of Technology	Remark
1	2x25 kWp Solar PV	Monocrystalline	One on each housing tower rooftop
2	2x50 kWh Battery Storage	Li-Ion	Battery storage system and converter panels will be installed on ground floor.
3	Three Phase Smart Inverter 2x100 kW	Hybrid	
4	DC and AC Cable of required length and size		



**Inverter-1**

3-ph, Solar PV: 50kWp; Battery: 50kWh; O/P AC Power: 100kW, 125kVA

**Inverter-2**

3-ph, Solar PV: 50kWp; Battery: 50kWh; O/P AC Power: 100kW, 125kVA



#### Common Features

1. MPPT
2. Power Flow Capability: -  
PV to Battery, PV to O/P (AC)  
Battery to O/P (AC), O/P (AC) to Battery
3. Inverter should be capable of operating in grid feeding mode and capable of creating islanded microgrid, depending on the availability of grid
4. Leakage current in system should be within limits specified in VDE 0126-1-1 or other equivalent standard.
5. IP 65 for inverter, Operation temperature range 0 to 55degC, Battery & PV should have reverse voltage protection, lightning protection, display, communication and monitoring.
6. AC nominal voltage 400V (operating range 320V-470V)
7. Rated frequency: 50Hz (operating range in case of grid feeding 47-53Hz)
8. Switch over from islanded to grid feed and vice-versa should be seamless without interruption to loads.
9. Monitoring of parameter such as battery SoC, battery power, solar PV power, ac power, mode of operation, PV voltage, current, battery voltage, battery current, grid voltage, current, frequency, power factor, battery temperature etc. through SCADA and common APIs, which can be analysed and used to set command for inverters reactive power control / battery power etc.
10. Inverter should include its isolation transformer to ensure -ve or +ve terminal of the solar PV array grounded

#### Features: In Grid Feeding Mode

1. Power flow from battery to grid and vice-versa, should be controllable by two options: (i) charging / discharging of battery based on inverter logic / controller, (ii) settable battery power command using which energy can be supplied / absorbed to / from the grid through, common APIs and SCADA for implementing user defined algorithms.
2. Reactive power should be controllable by three options: (i) maintaining unity power factor of complete system (Inverter + Loads) (ii) Voltage regulation of AC system and (iii) Settable reactive power through common APIs and SCADA, for user defined algorithms.
3. Inverter should be able to filter up to 50<sup>th</sup> harmonics drawn by the loads. The current drawn / supplied from / to the grid by system (inverter + load), should meet IEEE 519 and 1547 standard.
4. Peak efficiency and European efficiency in grid feeding mode from PV to grid should be greater than or equal to 98%.
5. Peak efficiency in grid feeding mode from Battery to grid and grid to battery should be greater than or equal to 97%.
6. Peak efficiency of solar PV to battery should be greater than or equal to 98%.



**SECTION-III:**  
**ACCEPTANCE LETTER AND ANNEXURES**



## Indian Institute of Technology Kanpur

### Department of Electrical Engineering

#### 1. Special terms & conditions

1. For expression of interest, Acceptance letter and Annexures given in Section-III shall be duly filled and uploaded to <https://eprocure.gov.in/epublish/app> by the BIDDER(s) in soft copy.
2. Bidder should note that this is Expression of Interest (EOI) to enlist interested parties and prepare them for future tendering process. Bidder should be sure that it is not the tender/request for proposal invitation.
3. All the pages of the Documents submitted by bidder shall be signed by the permanent Employee/executives/Directors/managers etc., with name, Designation & seal of the Bidder Company on each page.
4. The intending bidder must read the EOI and conditions carefully.
5. Bidders should only submit his expression of interest, if they consider themselves eligible in possession of all the documents required in EOI.
6. Successful contractor must provide future maintenance and services & support with annual maintenance for a period of minimum 5 years. Bidder should point out all the relevant critical issues that they will be addressing while establishing this facility.
7. A scoring system for selected parameters will be used for comparative technical evaluation. The bidders will have to achieve a minimum score determined by IIT Kanpur.



**Indian Institute of Technology Kanpur**  
**Department of Electrical Engineering**

**EOI ACCEPTANCE LETTER**

*(To be submitted on APPLICANT's Letter Head but letter head is not required if applying as individual.)*

**EOI No.**

**Date:**

To,  
Prof. S. C. Srivastava  
ACES-104, Department of Electrical Engineering,  
Indian Institute of Technology Kanpur,  
Kanpur – 208016, Uttar Pradesh, India

Dear Sir,

**Sub:** Expression of Interest (EOI) is invited from the parties to design, supply, installation, testing and commissioning of Renewable sources (Solar PV, Biomass) and Storage (Li-Ion and Flow batteries) integrated 3 no. Smart Grid field pilots under an Indo-US project 'UI-ASSIST' lead in India by IIT Kanpur.

We, the undersigned, express our interest for the subject EOI and declare the following:

- (a) We are duly authorized to represent and act on behalf of \_\_\_\_\_ (name of the firm).
- (b) We have examined and have no reservations to the EOI document including Amendment No(s) & Clarification No(s) \_\_\_\_\_ (if any).
- (c) With reference to your invitation for EOI dated \_\_\_\_\_ required details as per the prescribed Annexures.
- (d) We hereby express our willingness to participate in RFP/ forth coming tender as and when IIT Kanpur invite the same.
- (e) IIT Kanpur and /or its authorized representatives are hereby authorized to conduct any inquiries or investigations to verify the statements, documents and information submitted in connection with this application and to seek clarifications from our bankers and clients.
- (f) This application will also serve as authorization to seek/request information as deemed necessary from any individual or authorized representative of any institution referred in the supporting document provided by Bidder.
- (g) IIT Kanpur and /or its authorized representatives may contact the following nodal persons for further information on any aspects of the application.

Name and designation of contact Person	Address for Communication	Telephone No	Email ID



**Indian Institute of Technology Kanpur**  
**Department of Electrical Engineering**

- (h) This application is made in the full understanding that:
1. Through this EOI, IIT Kanpur intends to identify interested and capable parties to **design, supply, installation, testing and commissioning of Renewable sources (Solar PV, Biomass) and Storage (Li-ion and Flow batteries) integrated 3 no. Smart Grid field pilots under an Indo-US project 'UI-ASSIST'**. This EOI is not intended for empanelment of BIDDER or pre-qualification of BIDDER.
  2. EOI process will be subject to verification of all information submitted at the discretion of IIT Kanpur.
  3. IIT Kanpur reserves the right to reject or accept any or all applications, cancel/withdraw the EOI process without assigning any reason whatsoever and in such case, BIDDER shall not have any claim arising out of such action and security deposit shall be refunded.
- (i) We declare that we have read and abide by the provisions of Fraud Prevention Policy of IIT Kanpur and submit the form of Acceptance of Fraud Prevention Policy duly filled as per IIT Kanpur's format.
- (j) The undersigned declare that the statements made and the information provided in the duly completed application are complete, true and correct in every detail.

SIGNATURE (AUTHORISED SIGNATORY)

(OFFICE STAMP)



**Indian Institute of Technology Kanpur**  
**Department of Electrical Engineering**

**ANNEXURE-1**

(FORM FOR ACCEPTANCE OF FRAUD PREVENTION POLICY)

We have read the contents of Fraud Prevention Policy of IIT Kanpur displayed in Section I for the expression of interest (EOI) published on website <https://eprocure.gov.in/epublish> and undertake that we shall strictly abide by the provisions of Fraud Prevention Policy of Indian Institute of Technology Kanpur.

SIGNATURE (AUTHORISED  
SIGNATORY)

(OFFICE STAMP)

DATE: \_\_\_\_\_ NAME: \_\_\_\_\_ DESIGNATION: \_\_\_\_\_

PLACE \_\_\_\_\_



**Indian Institute of Technology Kanpur**  
**Department of Electrical Engineering**

**ANNEXURE-2**

(ANY OTHER INFORMATION)

If BIDDER desires to share any other additional Information relevant to the work / assignment like brochure, future plan or any suggestion, it may be given in this Annexure.