

Expression of Interest (EOI)
for
Solar Grid –Tied Inverter, Technology Transfer



EOI Ref No: KSEDC/KEC/PUR/SOLAR/SGTITT/EOI

KELTRON Equipment Complex, Karakulam, Thiruvananthapuram 695564

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The Information provided by the bidders in response to this Expression of Interest (EOI) will be the property of KSEDC and will not be returned. KSEDC reserves the right to amend, cancel or reissue this EOI and all amendments will be advised to the bidders and such amendments shall be binding upon them.

KSEDC reserves its right to accept or reject any of or all responses to this EOI without assigning any reason whatsoever

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Expression of Interest (EOI)

For Solar Grid –Tied Inverter, Technology Transfer

KSEDC Invites applications for empanelment EOI for Solar Grid –Tied Inverter, Technology Transfer. The details of eligibility criteria and empanelment procedure are available in www.etenders.kerala.gov.in. Interested parties who are able to comply the requirements may submit the application duly filled in and supplemented with all relevant documents to online for further processing as per laid Procedures. Applications not completed in any respect are liable to be rejected summarily.

CALENDAR OF EVENTS

Tender Number	KSEDC/KEC/PUR/EOI-GRID/2020-21
Details of work	Expression of Interest (EOI) For Solar Grid – Tied Inverter, Technology Transfer
Tender Fee	500+GST (590.00 RS)
Date & Time of publishing bid documents	24.07.2020 18:00 Hrs
Date and Time of Pre-bid meeting	No pre-bid meeting
Last Date & Time of online Submission of Bid document	03.08.2020 18:00 Hrs
Deadline for submission of Hardcopies of Attachments to the Office of the tendering authority	Two part
Number of cover(s)	Two
Date & Time of Opening of Technical Bids (cover 1)	06.08.2020
If there is any clarification Please contact	Purchase : 04722888999/2888072 Ext - 111

Venue and Deadline for submission of Application

1. ELIGIBILITY CRITERIA

A bidder submitting the response in response to this EOI shall hereinafter be referred to as applicant. Only those applicants who fulfill the following credentials should respond to this invitation:

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2. MINIMUM ELIGIBILITY CRITERIA

The bidder/applicant should submit the following documents as a minimum eligibility criterion documents. The bids will not be considered for evaluation if any of the documents pertaining to minimum eligibility criteria are not submitted along with bid.

The Bidder(s) should meet the following Eligibility Criteria to participate in the Tender and should submit documentary proof for fulfilling the Eligibility in the Technical Bid.

- a. Bidder should be a registered Company / Firm in India.
- b. Bids containing products from black-listed companies are not eligible to participate in the tendering process.
- c. The bidder should have 2 years of experience in Transformer less Solar Grid-Tied Inverter Technology.
- d. Experience in Solar Grid-Tied Inverter Technology Transfer is also preferred.
- e. Bidder have experience in latest Technology is preferable.
- d. The Bidder should have valid GST Registration certificate.
- e. The bidder should be a profit making company for last three years and should have annual turnover of min 10 lakhs in for last 3 year (2016-17), (2017-18) and (2018-19). Audited balance sheet for the above period shall be submitted.

NOTE: Copy of all required documents mentioned in application is mandatory to enclose. Applicants who fulfill the eligibility criteria shall qualify for further evaluations.

3.INDICATIVE SCOPE OF TECHNOLOGY TRANSFER

3.1. Transfer of state-of-the-art technology to design, engineer, integrate, manufacture, assemble, Prototype Homologation, Performance test/field trials, repair, service, troubleshooting of Transformer less 50 kW Grid-Tied Solar inverter.

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The scope shall include but not limited to know-how and know-why for design & manufacturing of chassis and body building, transfer of knowledge for sizing and selection of various components/subsystems.

3.2. Design the Grid-Tied Solar inverter and/or carry out necessary modifications in its existing designs to suit the requirements of Indian conditions and standards as per the specifications shared by IEC.

3.3. Training of KELTRON engineers at collaborator's design office and manufacturing/assembly facilities to help them imbibe and assimilate the technology for 50 kW Grid-Tied Solar inverter.

3.4. Assist KELTRON during prototype integration, manufacturing, assembly, testing at KELTRON works and homologation process at test facilities of certifying agency (ies) by way of deputing technical experts.

3.5. Assistance to KELTRON in setting up the manufacturing/assembly/testing facility for 50 kW transformer less Grid-Tied Solar inverter. The Technology partner should provide list and technical specification for the necessary plants and machinery, testing area etc. required for setting up the facility.

3.6. Transfer of improvements/modifications/developments/upgradations to meet market requirements and environmental norms / statutory requirements etc. during the period of collaboration.

3.7. Transfer of knowledge/information to assist KELTRON in identifying suppliers/sub-vendors to source/procure bought out components, subcomponents and systems/sub systems for Solar inverter. Sharing information about his established vendor chain and assist KELTRON in having a tie-up with them at suitable costs, if required.

3.8. Transfer of necessary computer programs related to Inverter electrical, mechanical calculations and sizing, selection of the equipment/ components for Inverter.

3.9. Deputation of collaborator's experts either at KELTRON's works to assist in design, engineering, manufacturing, assembly, quality control, homologation for inverter etc. Collaborators services may also be required at customer premises to assist KELTRON Engineer.

3.10 Transfer of maintenance and troubleshooting information. Sharing of methodology, to resolve such issues.

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3.11 Provide detailed write-up on control philosophy, operation and maintenance for inverter including service instructions for all equipment's etc., detailed manual for trouble shooting and problem solving methods.

3.12. Proposed technology of the inverter can't be used by others and transferred technology shouldn't be sold to any other firms completely or partially for any purpose. Once transferred, KELTRON will be the sole ownership of this.

4. TECHNICAL REQUIREMENTS OF 50 KW TRANSFORMER LESS GRID-TIED SOLAR INVERTER

A. Input (DC)	
Max. Input power	≥ 52000W
Max. DC power for single MPPT	26000W(500V-850V)
Number of independent MPPT	2
Number of DC inputs pairs	5 for each MPPT
Max. input voltage	1000V
Start-up input voltage	≥ 250V
Rated input voltage	600V
MPPT voltage range	200V-1000V
Full load DC voltage range	370V-850V
Max. input current per MPPT	50 A
Max. input current per string	12A
B. Output (AC)	
Rated Power (@230V, 50Hz)	50000 W
Max. AC Power	50000VA
Max. output current	80A
Nominal Grid Voltage	3P, 4/5W, PE, 400 V
Grid Voltage Range	400 V ± 20 % (320~480)
Nominal Frequency	50Hz
Grid Frequency Range	47~53Hz (According to local standard)
Active power adjustable range	0~100%
THD	<3%
Power factor	1 (adjustable +/-0.8)

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C. Performance	
Max. efficiency	≥ 98 %
Weighted eff. (EU/CEC)	≥ 97 %
Self-consumption at night	<1W
Feed-in start power	45W
MPPT efficiency	≥99%
D. Protection	
DC Reverse Polarity Protection	Yes
DC Switch	Yes
Protection class/overvoltage	I/III
Input / output SPD (II)	Optional
Safety protection	Anti islanding, RCMU, Ground fault monitoring
ARPC	Anti Reverse Power Controller (optional)
E. Communication	
Power management unit	According to certification and request
Standard Communication Mode	RS485, WiFi GPRS (optional), Multi-function relay

5. TRANSFORMER LESS GRID-TIED SOLAR INVERTER TECHNOLOGY FEATURES

- a. Input – Side Disconnection, Device Ground Fault Monitoring, Grid monitoring
- b. Web based Remote monitoring
- c. User-friendly & easy access via Internet
- d. Real Time Data-logging and historical data storage for analysis
- e. Data available with various graph and format options for easy understanding and analysis
- f. Automatic alarms for any malfunctions via Email or SMS

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6.GENERAL TERMS AND CONDITIONS

1.Empanelment would be for a period of 3 years from the date of issuance of empanelment letter/agreement subject to satisfactory services and yearly review. If services provided by the vendor is found to be unsatisfactory or at any time it is found that the information provided for empanelment or any tender is false or irregular while applying for the tenders , KSEDC shall reserve the right to remove such vendors from the empanelled list without giving any notice to the vendors in advance.

2.The response should be submitted in a structured format as per the checklist appended with number on every page. Each page of the application should be signed by person(s) on behalf of the organization having necessary Authorization / Power of Attorney to do so, duly affixing the company seal. Applications containing false or inadequate information are liable for rejection. (Authorization Letter from the company should be furnished along with the application)

3.The evaluation of the applications for empanelment shall be carried out by the committee constituted for the purpose.

4.Any un-authenticated, alterations, erasures, overwriting, blanking out or discrepancies may render the EOI submission invalid. The evaluation of the response will only be based on the documents submitted and evaluation committee reserved the right to relax the evaluation criteria.

5.During empanelment period, KSEDC reserves the right to de-panel, if the service provided by the vendor is found to be unsatisfactory or if, at any time, it is found that the information provided for empanelment is false, the KSEDC reserves the right to remove such vendors from the empanelled list without giving any notice to the vendor in advance. KSEDC's decision will be final in this regard.

6.In order to allow prospective bidders reasonable time in which to take the amendment into account in preparing their response, KSEDC, at its discretion, may extend the deadline for the submission of response .

7.Once empanelled, no part supply is allowed against orders.

8. The payment term will be back to back basis

9.Any other documents other than mentioned in the Tender shall be submitted as and when required.

Contacting KSEDC

No Applicant shall contact KSEDC on any matter relating to its application, from the time of opening to the time the empanelment process is complete.

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7. EMPANELMENT PROCEDURE

The objective of evaluation methodology is to facilitate the empanelment of financially as well as technically superior vendors. The empanelment will be valid for three years.

The vendor will be empanelled as per the following process:

- 1.Vendors satisfying the eligibility criteria will be short listed and will be empanelled with KSEDc after due scrutiny of documents submitted by the bidder. KSEDc may, at its sole discretion, decide to seek more information from the Applicants. The clarification shall be given in writing immediately.
- 2.The Evaluation committee constituted for the purpose, may waive any informality or non- conformity or irregularity in an applications which does not constitute a material deviation, provided such waiver does not prejudice or affect the relative ranking of any applicant. Decision of the Evaluation Committee would be final and binding upon the Applicants,
- 3.KSEDc's decision in respect of evaluation methodology and short listing of Applicants will be final and no communications, whatsoever in this respect, shall be entertained.
- 4.KSEDc may add/remove any relevant criteria for evaluating the proposals received in response to this EOI at the sole discretion of KSEDc

8. DOCUMENTS TO BE UPLOADED

1. Annexure I - Format of Undertaking (on Company's Letter Head)
2. Annexure II - Company Details
3. Annexure III – Letter of authorizing representing executive(s)
4. Annexure IV - Self- Declaration: Not Blacklisted
5. Registration details of Company / Firm in India.
6. The bidder should be a profit making company for last three years and should have annual turnover of min 10 lakhs in for last 3 year (2016-17), (2017-18) and (2018-19). Audited balance sheet for the above period shall be submitted.
7. Manufacturers authorization certificate
8. brochure of the company with technical details
- 9.Proof for bidder should have 2 years of experience in Transformer less Solar Grid-Tied Inverter Technology.

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ANNEXURE – I FORMAT OF UNDERTAKING (ON COMPANY’S LETTER HEAD)

(The bidder shall submit together with CHECK LIST & other documentary evidences)

To,

Head purchase
KEC
Karakulam ,Trivandrum

Dear Sir/ Madam,

EOI Ref No : Sub: - Application for Empanelment of Vendors

Having examined the EOI document including all Annexures the receipt of which is hereby duly acknowledged, we, the undersigned, offer to empanel our company For Short Term Expression of Interest for Empanelment of Agencies/ EPC contractors for Installation of Grid Interactive Hybrid Solar Rooftop Plant as required by KSEDC for a period of 5 years. We submit our Bid Documents along with CHECK LIST. We understand that;

- 1.We undertake to respond to any Request for Proposal (RFP) or Request for Quote (RFQ) as and when called for by KSEDC under limited tendering process.
- 2.We further confirm that any offer in response to Request for Proposal (RFP) or Request for Quote (RFQ) will be in conformity with the terms and conditions as mentioned therein.
- 3.We understand that, KSEDC is not bound to accept the application and may reject all or any application without assigning any reason or giving any explanation whatsoever.
- 4.We understand that KSEDC reserves the right to withhold my application for empanelment, issue documents to any empanelled vendor, and also annul the empanelment process without assigning any reasons whatsoever.
- 5.We also understand that our empanelment and performance will be reviewed on yearly basis and, if found unsatisfactory, will be removed from the list of empanelled vendors
- 6.We also confirm that we have not been disqualified by any PSU / Government agencies/Banks for the related work.
- 7.We accept all the Instructions and Terms and Conditions of the subject ,Dated_ this _day of _2017

Yours faithfully, Authorised Signatory (Signature and Seal of the Company / Firm)

Name & Designation :

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Date:

ANNEXURE II COMPANY'S PROFILE (COMPANY'S LETTER HEAD)

Sl. No.	Particulars	Documentary Evidence
A	Profile	
1	Name of the Applicant / firm/Agency/ Vendor	
2	Status of Applicant (Company, Partnership, Prop., etc.)	
3	Year of Establishment & Details of Registration (attach Documentary Proof)	
4	Number of years' experience in Supply of Computer HW/Software Business	
5	Address	
6	Telephone number	
7	Fax number	
8	Email Address	
9	Website address of the Company, if any	
10	Key person (s) with contact details a) Head Office / registered Office	
11	Authorized Official with Name, Designation, Contact Phone No/Mobile No / FAX No. etc. for the EOI	
12	G ST No	
13	3 Years ITRs certificate from Chartered Account.	
14	Annual turnover for the last 3 financial years (certificate from Auditor)	

** Wherever applicable submit documentary evidence to facilitate verification.

We hereby declare that the information submitted above is true to the best of our knowledge. We understand that in case any discrepancy is found in the information submitted by us our tender is liable to be rejected.

Signature of the Authorized Signatory with date & seal

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ANNEXURE III

Letter authorizing representing executive(s)

(To be submitted on Vendor's letter head)

Ref: KSEDC Ref No.

<Name>, <Designation> is hereby authorized to attend meetings & submit pre-qualification, technical & commercial information as may be required by you in the course of processing the above said Bid.

For the purpose of validation, his/ her verified signatures are as under and on our behalf. We undertake to abide by any acceptance given by him under his signature.

Date: Signature of Authorized Signatory.....

Place: Name of the Authorized Signatory.....

Designation: Name of the Organization

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ANNEXURE IV

SELF-DECLARATION: NOT BLACKLISTED

(To be submitted on Vendor's letter head)

Ref: EOI No.

I/ We hereby declare that presently our Company/ firm is having unblemished record and is not declared ineligible for corrupt & fraudulent practices, blacklisted either indefinitely or for a particular period of time, or had work withdrawn, by any State/ Central government/ PSU.

If this declaration is found to be incorrect then without prejudice to any other action that may be taken, my/ our security may be forfeited in full and the tender if any to the extent accepted may be cancelled.

Thanking you,

Date: Signature of Authorized Signatory.....

Place: Name of the Authorized Signatory.....

Designation: Name of the Organization

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ANNEXURE – V

DECLARATION

I / We declare that the information given above is true to the best of my/our knowledge. I / we also understand that if at any stage it is found/noticed by the KSEDC that any information thus provided by me / us is untrue / incorrect partly or fully and in case of receipt of adverse

/unsatisfactory report from other clients/Bankers, the KSEDC may not consider my/ our application and/or may reject me/ us and /or may take any appropriate action against us.

I/We also understand that partly / wrongly filled application and / or applications not in prescribed proforma and / or applications not accompanying relevant documents / enclosures / annexed documents are liable to be summarily rejected by the KSEDC.

I / We also declare that I / we will not get myself / ourselves registered as vendor(s) in KSEDC in more than one name.

I/ We agree and authorize the KSEDC to obtain the confidential report from my / our clients, to obtain credit opinion from the KSEDC and to verify the work executed by us.

I/ We submit all the documents as mentioned in the Eligibility Criteria for Empanelment. I/we shall submit additional documents whenever asked for by KSEDC.

I/ We confirm that all the Rules prevailing in the concerned state, the Labour Laws, Risk Insurance obligations, State & Central Govt. statutory requirements etc are complied by me/ us.

I/We understand that this is merely an application and does not entitle me / us to be necessarily qualified by the KSEDC and the KSEDC reserves the right to reject all and / or any application without assigning any reason whatsoever.

Place :

Date : Signature of the applicant(s) with seal

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DOCUMENT ANNEXURE – INDEX

Interested applicant(s) conforming to the above requirements may respond by furnishing the documents in following order. Each document must be numbered properly. In case the documents are not attached in the relevant order the application is liable to be rejected.

Sl.no	Document Attached	Reference Page No ()
1	Bid Covering Letter as Per	Annexure I
2	Company Profile as Per	Annexure II
3	Letter authorizing representing executive(s)	Annexure III
4	Self-Declaration: Not Blacklisted as per	Annexure IV
5	Declaration	Annexure -V

Note: Pl ensure that all the documentary evidences are paginated and the details of the same are mentioned under Page No- Annexure reference column for ease of evaluation process. In case the documents are not indexed as per above, the application is liable to be rejected.

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DISCLAIMER

While the document has been prepared in good faith, no representation or warranty , express or implied, is or will be made, and no responsibility or liability will be accepted by KSEDC or any of its employees, in relation to the accuracy or completeness of this document and any liability thereof expressly disclaimed. The EOI is not an offer by KSEDC, but an invitation for bidder's responses. No contractual obligation on behalf of KSEDC, whatsoever, shall arise from the offer process unless and until a formal contract is signed and executed by duly authorized officials of KSEDC and the Bidder

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