

Tender: No: GNLU/Turnkey/Solar Rooftop/PC-04/2018

GUJARAT NATIONAL LAW UNIVERSITY

(Established Under Gujarat Act No.: 09 of 2003)

Tender Notice No: PC-04/2018



Tender For Appointment of Implementing Agency/Contractor Firm

**For Supply, Installation, Commissioning and
Comprehensive maintenance for five years during
guarantee period of Solar Roof Top system**

At GNLU Campus on Turnkey Basis

Gujarat National Law University

Attalika Avenue, Knowledge Corridor, Koba

Gandhinagar – 382 426 (Gujarat), INDIA.

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1. TENDER NOTICE

Notice Inviting Tender for Appointment of Implementing Agency/Contractor Firm for development of Solar Roof Top system at various places within the campus of the GNLU on Turnkey Basis.

Gujarat National Law University (GNLU), Gandhinagar, invites **“On line Tenders (e-tendering) For Appointment of Implementing Agency/Contractor Firm for development of Solar Roof Top system at various places within the campus of the GNLU on Turnkey Basis from Bidders who meet the eligibility criteria mentioned in the tender document.**

TENDER DOCUMENTS WILL NOT BE ISSUED IN PHYSICAL FORM FROM THIS OFFICE. Tender Papers & Specifications may be downloaded from Web site **www.nprocure.com** (For view, down load and on line submission) and GNLU web sites **<http://www.gnlu.ac.in/tender.php>** (For view & down load only). Tender fee may be paid along with submission of tender in EMD cover, “All the relevant documents of tenders to be submitted physically will be received only by registered Post A.D. or Speed Post addressed to **The Registrar, Gujarat National Law University, Attalika Avenue, Knowledge Corridor, Koba, Gandhinagar 382 426, Gujarat, India.**

“NO COURIER SERVICE OR HAND DELIVERY” will be allowed.

No tender shall be accepted /opened in any case received after due date and time of receipt of tender irrespective of delay due to postal services or any other reasons and that the GNLU shall not assume any responsibility for late receipt of the tender.

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Sr. No.	EVENT DESCRIPTION	Estimated-Amount, Date & Time
Appointment of Implementing Agency/Contractor Firm for Solar Roof Top system for various places/building in GNLU Campus		
1	Estimated Value of Project Cost for the proposed work on Turnkey Basis.	Rs. 152.77 Lakh
2	GNLU Quantity for Solar Roof Top Panels	300 KW
2	Earnest Money Deposit in Rs.	Rs. 1,527700/-
4	Tender Fee in Rs. (non-refundable)	Rs. 12000.00
5	Last Date & Time for receipt of query / clarification on the tender if any for pre bid meeting. Query / clarification to be sent by e-mail only	March 16,2018
6	Date, time & venue for Pre Bid meeting , only two persons per bidder are allowed in Pre Bid meeting. The bidders who wants to remain present in pre bid meeting is requested to intimate on or before date: invariably through e-mail – registrar@gnlu.ac.in .	March 17,2018 (Changes, if any will be notified on GNLU Website)
7	On line (e-tendering) tender /offer submission last date up to 16.00 hours only	March 21, 2018
8	Physical submission of all the relevant documents, last date up to 16.00 hours by RPAD or SPEED POST only	March 23, 2018
9	Date of opening of Tender fee, EMD cover and technical bid (if possible) physical as well as on – line opening at 11.00 Hours.	March 26,2018
10	Tentative Date of on – line opening of Price bid, (if possible), at 11.00 Hours.	March 30,2018

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AS PER THE NOTICE OF THE INVITATION OF TENDER (NEWS PAPER ADVERTISEMENT), THE TENDER IS INVITED ON E-TENDERING (ON – LINE) SYSTEM, FOR WHICH FOLLOWING CONDITIONS ARE MANDATORY AND ANY DEVIATION WILL BE FOUND IN THE OFFER, THE TENDERS / OFFERES WILL BE OUTRIGHTLY REJECTED AND NO ANY FURTHER COMMUNICATION IN THE MATTER WILL BE ENTERTAINED.

[A] All the relevant documents as per requirement of the Tender are also to be submitted physically along with the Tender Fee, EMD in sealed cover on OR before due date and time. All such documents should be submitted by RPAD/speed post only. Otherwise the offer will not be considered and no any further communication in the matter will be entertained. All the relevant documents as per Schedule-A of tender are required to be submitted physically in "EMD Cover Document" only, on OR before due date and time.

[B] If any deviation is found in Data/Documents/Details or submission made in physical and On Line mode, the Data/Documents/Details of online mode will be considered as final.

[C] It is mandatory for all the bidders to submit their tender documents by both forms viz. on – line (e – tendering) and physically in schedule time. If tender documents submitted in only any one form, say either by on line or physically, in that case the same tender will not be considered.

[D] Bidders are requested to submit price – bid (PRICE BID SCHEDULE – B) in on-line (e-tendering form) only and not to submit the price bid in physical form. This is mandatory. If price bid is submitted in physical form, same will not be opened and only on-line submitted price bid will be considered for evaluation.

[E] Documents mentioned as per tender terms and condition shall be submitted / uploaded in Annexure - 11 of the technical bid in online mode. In case of non-attachment of mandatory document or attachment of wrong document, bid will be rejected outrightly at GNLU discretion.

Any technical questions, information and clarifications that may be required pertaining to this enquiry should be referred to **The Registrar, Gujarat National Law University, Atfalika Avenue, Knowledge Corridor, Koba, Gandhinagar 382 426, Gujarat, India**

GNLU reserves the right to reject any OR all tenders without assigning any reasons thereof.

GNLU reserves the right to cancel the tender at any stage without giving any reasons thereof. Tender Fee is not refundable.

Yours Sincerely,

**The Registrar,
Gujarat National Law University**

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NOTE:

In case bidder needs any clarification or if training required for participating in online tender, they can contact the following office:

(n) Procure Cell

(n) code solutions-A division of GNFC Ltd., 403, GNFC Info tower, S.G. Road, Bodakdev Ahmedabad – 380054 (Gujarat)

Toll Free: 1-800-233-1010 (Ext. 501, 512, 516,517,525)

Phone No. 079-26857315 / 316 / 317

Fax: 079-26857321 / 40007533

Email: nproucre@gnfc.net

Other terms & conditions are as per tender

2. GENERAL INSTRUCTIONS

1.0 General

- 1.1 **The Registrar, GNLU** for and on behalf of "Gujarat National Law University.", having address Attalika Avenue, Knowledge Corridor, Koba, Gandhinagar 382 426, Gujarat, India. Hereafter called the "GNLU" intends to INVITE tender for turnkey based project for Appointment of Implementing Agency for Solar Roof Top system on various buildings/places under the GNLU Campus.
- 1.2 The turnkey based works means supply of all required material, erection and testing and commissioning for Solar Systems at all locations prescribed in Tender.
- 1.3 Bids submitted after the time and date fixed for receipt of bids as set out in the INVITATION to Bid shall be rejected.
- 1.4 The works referred herein shall cover the entire scope of the Tender which include supply of all material covered in tender as per describe in scope of work and successful completion of performance and tests which the GNLU desires to get executed.
- 1.5 The issuance of bid document would not mean that the bidder has qualified for the bidding. Hence bidders should ensure themselves of their credentials before submitting their offer.
- 1.6 **Documents towards payment of tender fee and earnest money deposit (EMD) should be kept in the EMD cover only. First the EMD cover will be opened and if the documents towards payment of tender fee and EMD are found in order then only cover containing technical bid will be opened first. All those who are found technically competent to carry out the job will be considered as qualified bidders and only their financial bid will be opened.**
- 1.7 GNLU reserves the right to spread the order if required.
- 1.8 GNLU Does not anticipate change in the ownership during the proposed period of work.
(If such a change is anticipated, the scope and effect thereof shall be defined)
- 1.9 GNLU Does not anticipate change in the ownership during the proposed period of work.
- 1.10 Any subcontracting documents shall not be considered for technical evaluation.
- 1.11 The qualifying requirements stated in Section No. 9 (Eligibility) of this tender accompanying technical specifications for the works shall also apply.
- 1.12 **The qualifying requirements narrated in Section No. 9 (Eligibility) are a minimum and** the GNLU reserves the right to request for any additional requirement and also reserves the right to reject the proposal of any bidder, if in the opinion of the GNLU, the qualification data is incomplete or the bidder is found not qualified to satisfactorily perform the works.
- 1.13 **Joint venture is NOT allowed.**

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1.15 Average annual turnovers for each registered firm/company/ proprietorship entity shall be as per Tender Clause No.9.

2.0 Subsidy

The Solar Roof Top Panels and related equipment, structures, inverters, wiring, etc, on GNLU Campus Office Buildings/places shall be the property of the GNLU **and GNLU will claim Subsidy from the state Government Subsidy and MNRE Subsidy.**

3.0 Codes, Standard & Regulation

The design, manufacture, erection and testing of the equipment and material to be supplied shall comply with latest revisions of relevant Indian Standards or equivalent IEC standards, latest MNRE's specification, standards, requirements. In addition, the Indian Electricity Rules, Electricity Act 2003, Statutory requirements of Central Govt., GERC and State Government of Gujarat(applicable codes), shall also be complied with. Any complications arising out of it will be set right by the bidder without any implication to GNLU. The bidder shall submit his offer as per information given in submission of tender.

4.0 Drawings, Data and Documents

The bidder shall furnish following documents/ information along with offer in spiral bound volumes. General description of equipment offered specifying the important features, make, technical parameters, materials of construction etc. To enable GNLU to have proper understanding of the material offered and its operation.

The drawings and documents shall be furnished to GNLU by the successful bidder for approval of GNLU, within the period stipulated in the draft contract/mutually agreed terms at the time of placement of order, the bidder shall submit a list of all such drawings and documents he proposes to submit. The list will be approved by GNLU and may be modified, if necessary. Each drawing /document in the list shall be identified with a serial number, description and scheduled date of submission. This should be submitted in a spiral bound volumes.

On completion of installation, testing and commissioning, the bidder shall in corporate visions/ modification if any, in the reproducible and submit 'as built' drawing for GNLU's record in spiral bound volumes and soft copy. The drawings shall be in AutoCAD DXF format.

Reference:

- OEM's Complete and comprehensive instruction manuals with drawings for operation and maintenance of the equipment supplied by the bidder.
- Preventive maintenance schedule for each equipment.
- Safety procedures for safe operation of equipment and complete system.
- Test procedure for site tests.

5.0 TEST AND INSPECTION FOR INDIVIDUAL ITEM

Routine test/ Acceptance tests shall be carried out as per relevant IS/IEC at manufacture's works, and remaining material the testing shall be carried out on the quantity as per relevant IS/IEC criteria. The bidder shall make reasonable facilities, at his cost for inspection and testing of the equipment/material by GNLU's Officials/Representatives. No equipment/item shall be dispatched to site without provisional certificates of acceptance issued by GNLU. Inspection and test shall be carried out at the place of manufacture as well as on receipt of the equipment at site if required. Inspection and tests do not relieve the bidder of his contractual obligations regarding performance of the equipment at site/in actual use.

The bidder shall submit the brief summary of all type test certificates for similar equipment supplied by him elsewhere and the actual type test certificates as and when asked. In case type test certificates for similar equipment is not available, the same shall be conducted in the presence of GNLU's Authorized representative if GNLU so desires, without any financial implications to the GNLU. The type test report shall not be older than 5 year from the date of tender opening (Technical bid opening). The supplier of the equipment shall ensure that the equipment available at his works for routine test/type test/acceptance test are duly calibrated and necessary certificate shall be made available to the inspecting officer/representative of GNLU.

As far as possible, the supplier of equipment shall give a minimum of 15 day notice of readiness of material and give the inspection call accordingly. If on arrival of inspecting officer at the works, the material is not found to be ready, the concerned supplier of equipment shall be liable for additional expenditure GNLU may incur on account of retention or re-deputation of the inspecting officer.

The officer deputed for inspecting for particular lot of material according to intimation from you may also like to check Quality Control Plan and for that purpose he may demand the Test Reports of raw material being procured.

6.0 Information of Equipment

Identification labels shall be provided on all equipment as per client's approval. All labels shall be engraved on plastic (white letters with black background) and all text shall be in English language.

Any exclusion /deviation from specification shall be clearly spelt out and listed at one place only and bidder shall substantiate the same with appropriate reasons. In the absence of clearly spelt out and mutually agreed deviation, it shall be considered that the bidder has undertaken to comply with the technical specification totally, in letter and spirit.

It will be responsibility of the successful bidder to obtain necessary approval of statutory authority as per rules of Govt. of Gujarat before energizing/ charging

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the equipment/system. However bidder shall be extended all assistance by the GNLU in regard to application for the same.

For installation work at site, the bidder shall be fully responsible for arranging the supply of required tools and tackles, welding sets, cable crimping tools, labours, scaffolding, ladders, etc.

On completion of the installation but before energizing the system, all installation shall be physically checked and properly tested. These checks and tests shall be conducted by the bidder under the supervision of Engineer/GNLU Nominee In-charge and bidder shall furnish the final status and test results shall be made good by the bidder free of cost within contract completion period.

All clamps, brackets, bolts, nuts, screws, markers, ferrules, lugs and glands and other hardware necessary for erection work, shall include in the scope of work and shall be arranged by the bidder.

7.0 INSPECTION AND TESTING OF EQUIPMENT

Manufacturing Progress reviews, inspection & testing of all equipment and material involved in covered under the technical specification shall be carried out by the GNLU's Authorized Representative OR any person appointed by the GNLU, at the manufacturer's works/premises prior to dispatch, to ensure that their quality & workmanship are in conformity with the contract specifications and approved drawings.

7.1 RESPONSIBILITY FOR INSPECTION

Any inspection by the GNLU's Authorized Representative / person does not relieve the Bidder from his responsibility of quality assurance and quality control functions.

As such, any approval which the Inspecting Engineer/GNLU Nominee of the GNLU may have given in respect of equipment and other particulars and the work or workmanship involved in the contract (whether with or without test carried out) shall not bind the GNLU to accept the plant & equipment, should it on further tests at site be found not comply, with the requirements of the contract. If required, audit wing of GNLU Inspection Department shall also be entrusted with inspection of particular item/equipment received at site.

The bidder is to meet the inspection & testing requirements for the equipment coming under the statutory regulations e.g. weights & measures, safety, IE rules, etc. and submit calibration certificates and documents from appropriate authority to the GNLU Inspecting Engineer/GNLU Nominee for the same, on demand.

7.2 METHOD OF GIVING INSPECTION CALLS

Inspection calls shall be given by the Bidder to The Registrar, GNLU Gandhinagar in accordance with mutually agreed program with 15 days' clear time for all

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equipment. Four sets of relevant test certificates and inspection report of the Bidder/ Sub-bidder after satisfactory completion of internal inspection and test shall be submitted along with acceptance/routine test certificate of the tests witnessed by GNLU Inspector.

The GNLU reserves the right to visit at any stage of manufacture at plant and ask for additional inspection & tests if it is found necessary after completion of detailed design & Engineer/GNLU Nominee and approval of drawings. The GNLU or his duly authorized representative shall on giving written instructions to the bidder, setting out any grounds of objection which he may have in respect of the work, be at liberty to reject all or any part of plant/equipment or workmanship which are not in conformity with the contract provisions.

7.3 BIDDER'S RESPONSIBILITY

The Bidder shall provide all reasonable facilities to the Inspecting Engineer/GNLU Nominee of the GNLU to the Bidder's or their sub-bidder's premises at any time during contract period, to facilitate him to carryout inspection & testing of equipment during manufacture of equipment.

The Bidder shall delegate a representative/coordinator to deal with GNLU on all inspection matters. The Bidder shall comply with instructions of the GNLU's Inspecting Engineer/GNLU Nominee fully. The Bidder shall ensure that the equipment and materials once rejected by the Inspecting Engineer/GNLU Nominee are not reused in the manufacturing of the equipment and materials. Where parts rejected by the Inspecting Engineer/GNLU Nominee have been rectified as per agreed procedures laid down in advance, such parts shall be segregated for separate inspection and approval, before being used in the work.

7.4 INSPECTION WAIVER

For certain standard bought-out items and the products of reputed firms where the GNLU has earlier experience on the quality of their products, the GNLU may consider allowing of inspection waiver for such items. The Registrar GNLU, Gandhinagar shall issue approval of inspection waiver certificate after scrutiny of bidder's internal inspection report, test certificates and other documents. However, it is not binding upon GNLU to give waiver on bidder's request. GNLU may weigh the important issues like quantity of material, cost of material, importance of material, distance of travel & time of travel required to inspect before deciding the waiver of the inspection.

8.0 GENERAL - ERECTION CONDITIONS

The Contractor upon signing of the Contract shall, nominate a responsible officer as his representative at Site suitably designated for the purpose of overall responsibility and coordination of the works to be performed at Site. Such person

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shall function from the Site office of the Contractor during the pendency of Contract.

9.0 REGULATION OF LOCAL AUTHORITIES AND STATUTES

- 9.1 The Contractor shall comply with all the rules and regulations of local authorities during the performance of his field activities. He shall also comply with the Minimum Wages Act, 1948 and the Payment of Wages Act (both of the Government of India as well as the State Government) and the rules made there under in respect of any employee or workman employed or engaged by him or his Sub-Contractor. He shall abide by labour laws.
- 9.2 All initial registration and statutory inspection fees, if any, in respect of his work pursuant to this Contract shall be borne by the contractor.

10. OWNER'S LIEN ON EQUIPMENT

The Owner shall have lien on all equipment brought to the Site for the purpose of erection, testing and commissioning of the equipment to be supplied & erected under the Contract. The Owner shall continue to hold the lien on all such equipment throughout the period of Contract. No material brought to the Site shall be removed from the Site by the Contractor and/or his Sub-Contractors without the prior written approval of the GNLU/Engineer/GNLU Nominee. All expense for this shall be borne by the contractor.

11.0 ACCESS TO SITE AND WORKS ON SITE

- 11.1 Suitable access to and possession of the Site shall be afforded to the Contractor by the Owner in reasonable time.
- 11.2 The works so far as it is carried out on the Owner's premises, shall be carried out at such time as the Owner may approve and the Owner shall give the Contractor reasonable facilities for carrying out the works.
- 11.3 In the execution of the works, no person other than the Contractor or his duly appointed representative, Sub- Contractor and workmen, shall be allowed to do work on the Site, except by the special permission, in writing of the Engineer/GNLU Nominee or his representative.

12.0 CONTRACTOR'S SITE ESTABLISHMENT

The Contractor shall at all times keep posted an authorized representative for the purpose of the Contract. Any written order or instruction of the Engineer/GNLU Nominee or his duly authorized representative shall be communicated to the said authorized resident representative of the Contractor and the representative shall be available at a stated address for this purpose.

13.0 CO-OPERATION WITH OTHER CONTRACTORS

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The Contractor shall co-operate with all other Contractors or tradesmen of the Owner, who may be performing other works on behalf of the Owner and the workmen who may be employed by the Owner and doing work in the vicinity of the Works under the Contract. The Contractor shall also so arrange to perform his work as to minimize, to the maximum extent possible, interference with the work of other Contractors and their workmen. Any injury or damage that may be sustained by the employees of the other Contractors and the Owner, due to the Contractor's work shall promptly be made good at the Contractor's own expense.

14.0 DISCIPLINE OF WORKMEN

The Contractor shall adhere to the disciplinary procedure set by the Engineer/GNLU Nominee in respect of his employees and workmen at Site. The Engineer/GNLU Nominee shall be at liberty to object to the presence of any representative or employee of the Contractor at the Site, if in the opinion of the Engineer/GNLU Nominee such employee has misconduct himself or is incompetent or negligent or otherwise undesirable and then the Contractor shall remove such a person objected to and provide in his place a competent replacement.

15.0 CONTRACTOR'S FIELD OPERATION

- 15.1 The Contractor shall keep the Engineer/GNLU Nominee informed in advance regarding his field activity plans and schedules for carrying-out each part of the works. Any review of such plan or schedule or method of work by the Engineer/GNLU Nominee shall not relieve the Contractor of any of his responsibilities towards the field activities. Such reviews shall also not be considered as an assumption of any risk or liability by the Engineer/GNLU Nominee or the Owner or any of his representatives and no claim of the Contractor will be entertained because of the failure or inefficiency of any such plan or schedule or method of work reviewed. The Contractor shall be solely responsible for the safety, adequacy and efficiency of plant and equipment and his erection methods.
- 15.2 The Contractor shall have the complete responsibility for the conditions of the Work-site including the safety of all persons employed by him or his Sub-Contractor and all the properties under his custody during the performance of the work. This requirement shall apply continuously till the completion of the Contract and shall not be limited to normal working hours.

16.0 PROGRESS REPORT

- 16.1 The Contractor shall furnish three (3) copies each to the Engineer/GNLU Nominee of progress including if any, photographs of the work done at Site.
- 16.2 The Fortnightly progress report detailing-out the progress achieved on all erection activities shall highlight comparison to the schedules. The report shall

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also indicate the reasons for the variance between the scheduled and actual progress and the action proposed for corrective measures, wherever necessary.

17.0 EMPLOYMENT OF LABOUR

- 17.1 The Contractor will be expected to employ on the work only his regular skilled employees with experience of his particular work. No person below the age of eighteen years shall be employed.
- 17.2 In case the Owner becomes liable to pay any wages or dues to Labour or any Government agency under any of the provisions of the Minimum Wages Act, Workmen Compensation Act, Contract Labour Regulation Abolition Act or any other law due to act of omission of the Contractor, the Owner may make such payment and shall recover the same from the Contractor's bills.

18.0 FACILITIES TO BE PROVIDED BY THE CONTRACTOR

- 18.1 Tools, tackles and scaffoldings: The Contractor shall provide all the construction equipment tools, tackles and scaffoldings required for pre-assembly, erection, testing and commissioning of the equipment covered under the Contract. He shall submit a list of all such materials to the Engineer/GNLU Nominee before the commencement of work at Site. These tools and tackles shall not be removed from the Site without the written permission of the Engineer/GNLU Nominee
- 18.2 First-aid: The Contractor shall provide necessary first-aid facilities for all his employees, representatives and workmen working at the Site. Enough number of Contractor's personals shall be trained in administering first-aid.
- 18.3 Cleanliness: The Contractor shall be responsible for keeping the entire area clean and free from rubbish, debris etc. during the period of Contract. The Contractor shall employ enough number of personnel to keep the work area clean. Materials and stores shall be so arranged to permit easy cleaning of the area. In areas where equipment might drip oil and cause damage to the floor surface, a suitable protective cover of a flame resistant, oil proof sheet shall be provided to protect the floor from such damage.

19.0 LINES AND GRADES

All the works shall be performed to the lines, grades and elevations indicated on the drawings. The Contractor shall be responsible to locate and lay-out the works. Basic horizontal and vertical control points will be established and marked by the Engineer/GNLU Nominee at site at suitable points. These points shall be used as datum for the works under the Contract. The Contractor shall inform the Engineer/GNLU Nominee well in advance of the times and places at which he wishes to do work in the area allotted to him so that suitable datum points may be established and checked by the Engineer/GNLU Nominee to enable the Contractor to proceed with his works. Any work done without being properly

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located may be removed and/or dismantled by the Engineer/GNLU Nominee at Contractor's expense.

20.0 FIRE PROTECTION

The work procedures that are to be used during the erection shall be those, which minimize fire hazards to the extent practicable. Combustible materials, combustible waste and rubbish shall be collected and removed from the Site at least once each day. Fuels, oils and volatile or inflammable materials shall be stored away from the construction and equipment and materials storage areas. All the Contractor's supervisory personnel and select number of workers shall be trained for firefighting. Enough of such trained personnel must be available at the Site during the entire period of the Contract.

21.0 SECURITY

The Contractor shall have total responsibility for all equipment and materials in his custody/stores, loose, semi-assembled and/or erected by him at Site. The Contractor shall make suitable security arrangements ensure the protection of all materials, equipment and works from theft, fire, pilferage and any other damages and loss.

22. PRE-COMMISSIONING TRIALS AND INITIAL OPERATIONS

The pre-commissioning trials and initial operations of the equipment furnished and erected by the Contractor shall be the responsibility of the Contractor as detailed in relevant clauses of Technical Specifications. The Contractor shall provide, in addition, test instruments, calibrating devices, etc and labour required for successful performance of these trials. If it is anticipated that the above test may prolong for a long time, the Contractor's workmen required for the above test shall always be present at Site during such trials.

23.0 MATERIALS HANDLING AND STORAGE

- 23.1 All the equipment furnished under the Contract and arriving at Site shall be promptly received, unloaded, transported and stored in the storage spaces by the Contractor.
- 23.2 Contractor shall be responsible for examining all the shipment and notify the Engineer/GNLU Nominee immediately of any damages, storage, discrepancy etc. for the purpose of Engineer/GNLU Nominee's information only. The Contractor shall submit to the Engineer/GNLU Nominee every week a report detailing all the receipts during the week. However, the Contractor shall be solely responsible for any shortages or damages in transit, handling and / or in storage and erection of the equipment at Site. Any demurrage, wharf age and other such charges claimed by the transporters, railways etc. shall be to the account of the Contractor.

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- 23.3 The Contractor shall maintain an accurate and exhaustive record detailing out the list of all equipment materials received by him for the purpose of erection and keep such record open for the inspection of the Engineer/GNLU Nominee in-charge.
- 23.4 All equipment shall be handled very carefully to prevent any damage or loss. The equipment stored shall be properly protected to prevent damage either to the equipment or to the floor where they are stored. The equipment from the store shall be moved to the actual location at the appropriate time so as to avoid damage of such equipment at Site.
- 23.5 The consumable and other supplies likely to deteriorate due to storage must be thoroughly protected and stored in a suitable manner to prevent damage or deterioration in quality by storage.
- 23.6 All the materials stored in the open or dusty location must be covered with suitable weatherproof and flame proof covering material wherever applicable.

24.0 PROTECTION OF PROPERTY AND CONTRACTOR'S LIABILITY

The Contractor shall be responsible for any damage resulting from his operations. He shall also be responsible for protection of all persons including members of public and employees of the Owner and the employees of other Contractors and Sub-Contractors and all public and private property.

25.0 INSURANCE

In addition to the conditions covered under the Clause entitled 'Insurance' in General Terms and Conditions of Contract, the following provisions will also apply to the portion of works to be done beyond the Contractor's own or his Sub-Contractor's manufacturing Works.

26.0 Workmen's Compensation Insurance

This insurance shall protect the Contractor against all claims applicable under the Workmen's Compensation Act, 1948 (Government of India). This policy shall also cover the Contractor against claims for injury, disability, disease or death of his or his Sub-Contractor's employee, which for any reason are not covered under the Workmen's Compensation Act, 1948. The liabilities shall not be less than:

Workmen's- Compensation : As per statutory Provisions

Employee's liability : As per statutory Provisions

27.0 Comprehensive General Liability Insurance

The insurance shall protect the Contractor against all claims arising from injuries, disabilities, disease or death of members of public or damage to property of others, due to any act of omission on the part of the Contractor, his agents, his employees, his representatives and Sub-Contractors or from riots, strikes and civil

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commotion. The hazards to be covered will pertain to all the works and areas where the Contractor, his Sub-Contractors, his agents and his employees have to perform work pursuant to the Contract. The above are only illustrative list of insurance covers normally required and it will be the responsibility of the Contractors to maintain all necessary insurance coverage to the extent both in time and amount to take care of all his liabilities either direct or indirect, in pursuance of the Contract.

28.0 UNFAVOURABLE WORKING CONDITIONS

The Contractor shall confine all his field operations to those works, which can be performed without subjecting the equipment and materials to adverse effects during inclement weather conditions, like monsoon, storms etc. and during other unfavorable construction conditions. No field activities shall be performed by the Contractor under conditions, which might adversely affect the quality and efficiency thereof, unless special precautions or measures are taken by the Contractor in a proper and satisfactory manner in the performance of such Works and with the concurrence of the Engineer/GNLU Nominee. Such unfavorable construction conditions will in no way relieve the Contractor of his responsibility to perform the Works as per the schedule.

29.0 WORK & SAFETY REGULATIONS

- I. The Contractor shall ensure proper safety of all the workmen, materials, plant and equipment belonging to him or to GNLU or to others, working at the Site. The Contractor shall also be responsible for provision of all safety notices and safety equipment required both by the relevant legislations and the Engineer/GNLU Nominee, as he may deem necessary.
- II. All equipment used in construction and erection by Contractor shall meet Indian/International Standards and where such standards do not exist, the Contractor shall ensure these to be absolutely safe. All equipment shall be strictly operated and maintained by the Contractor in accordance with manufacturer's Operation Manual and safety instructions and as per Guidelines/rules of GNLU in this regard.
- III. Periodical examinations and all tests for all lifting/hoisting equipment & tackles shall be carried-out in accordance with the relevant provisions of Factories Act 1948, Indian Electricity Act 1910 and associated Laws/Rules in force from time to time. A register of such examinations and tests shall be properly maintained by the Contractor and will be promptly produced as and when desired by the Engineer/GNLU Nominee or by the person authorized by him.
- IV. The Contractor shall provide suitable safety equipment of prescribed standard to all employees and workmen according to the need.
- V. The Contractor shall provide safe working conditions to all workmen and employees at the Site including safe means of access, railings, stairs, ladders, scaffoldings etc. The scaffoldings shall be erected under the control and

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supervision of an experienced and competent person. For erection, good and standard quality of material only shall be used by the Contractor.

- VI. The Contractor shall not interfere or disturb electric fuses, wiring and other electrical equipment belonging to the Owner or other Contractors under any circumstances, whatsoever, unless expressly permitted in writing by GNLU to handle such fuses, wiring or electrical equipment
- VII. Before the Contractor connects any electrical appliances to any plug or socket belonging to the other Contractor or Owner, he shall:
 - a. Satisfy the Engineer/GNLU Nominee that the appliance is in good working condition;
 - b. Inform the Engineer/GNLU Nominee of the maximum current rating, voltage and phases of the appliances;
 - c. Obtain permission of the Engineer/GNLU Nominee detailing the sockets to which the appliances may be connected.
- VIII. The Engineer/GNLU Nominee will not grant permission to connect until he is satisfied that:
 - a. The appliance is in good condition and is fitted with suitable plug;
 - b. The appliance is fitted with a suitable cable having two earth conductors, one of which shall be an earthed metal sheath surrounding the cores.
- IX. No electric cable in use by the Contractor/Owner will be disturbed without prior permission. No weight of any description will be imposed on any cable and no ladder or similar equipment will rest against or attached to it.
- X. No repair work shall be carried out on any live equipment. The equipment must be declared safe by the Engineer/GNLU Nominee and a permit to work shall be issued by the Engineer/GNLU Nominee before any repair work is carried out by the Contractor. While working on electric lines/equipment, whether live or dead, suitable type and sufficient quantity of tools will have to be provided by the Contractor to electricians/workmen/officers.
- XI. In case any accident occurs during the construction/ erection or other associated activities undertaken by the Contractor thereby causing any minor or major or fatal injury to his employees due to any reason, whatsoever, it shall be the responsibility of the Contractor to promptly inform the same to the Engineer/GNLU Nominee in prescribed form and also to all the authorities envisaged under the applicable laws.
- XII. The Engineer/GNLU Nominee shall have the right at his sole discretion to stop the work, if in his opinion the work is being carried out in such a way that it may cause accidents and endanger the safety of the persons and/or property, and/or equipment. In such cases, the Contractor shall be informed in writing about the nature of hazards and possible injury/accident and he shall comply to remove shortcomings promptly. The Contractor after stopping the specific work can, if felt necessary, appeal against the order of stoppage of work to the Engineer/GNLU Nominee within 3 days of such stoppage of work and decision of the Engineer/GNLU Nominee in this respect shall be conclusive and binding on the Contractor.

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- XIII. The Contractor shall not be entitled for any damages/compensation for stoppage of work due to safety reasons and the period of such stoppage of work will not be taken as an extension of time for completion of work and will not be the ground for waiver of levy of liquidated damages.
- XIV. It is mandatory for the Contractor to observe during the execution of the works, requirements of Safety Rules which would generally include but not limited to following
- a) Each employee shall be provided with initial indoctrination regarding safety by the Contractor, so as to enable him to conduct his work in a safe manner.
 - b) No employee shall be given a new assignment of work unfamiliar to him without proper introduction as to the hazards incident thereto, both to himself and his fellow employees.
 - c) Employees must not leave naked fires unattended. Smoking shall not be permitted around fire prone areas and adequate firefighting equipment shall be provided at crucial location.
 - d) There shall be a suitable arrangement at every work site for rendering prompt and sufficient first aid to the injured.
 - j) Requirements of ventilation in underwater working to licensed and experienced divers, use of gum boots for working in slushy or in inundated conditions are essential requirements to be fulfilled.
- XV The Contractor shall follow and comply with all GNLU Safety Rules, relevant provisions of applicable laws pertaining to the safety of workmen, employees, plant and equipment as may be prescribed from time to time without any demur, protest or contest or reservations. In case of any discrepancy between statutory requirement and GNLU Safety Rules referred above, the latter shall be binding on the Contractor.

In case the Owner is made to pay such compensation then the Contractor is liable to reimburse the Owner.

31.0 CODE REQUIREMENTS

The erection requirements and procedures to be followed during the installation of the equipment shall be in accordance with the relevant Codes and accepted good Engineering practice, the Engineer/GNLU Nominee's drawings and other applicable Indian recognized codes and laws and regulation of the Government of India.

3. DEFINITIONS

- **“Bidder”** shall mean Bidding Company/Firm submitting the Bid.
- **“Bidding Company/Firm”** shall refer to such single company/Firm that has submitted the Bid in accordance with the provisions of this RFP.
- **“Company/Firm”** shall mean a body incorporated in India under the Companies Act, 1956/2013, or any other relevant Act.
- **“Contract”** shall mean the agreement to be entered into by the GNLU with the contractor and shall include the General and commercial terms & condition and also technical conditions, schedules, appendixes, drawings and any other conditions specifically agreed between the parties forming a part of the contract.
- **“Contractor”** Successful Bidder shall mean the Bidders, whose tender has been accepted by the GNLU for award of the contract and shall include his authorized representatives.
- **“Date of completion of Project”** shall mean that date, the project handed over and accepted by the Engineer/GNLU Nominee in all respect.
- **“Effective Date”** shall mean the date on which contract agreement is signed.
- **“EMD”** shall mean Earnest Money Deposit.
- **“Engineer/GNLU Nominee”** shall mean the authorized officer of the GNLU to act as Engineer/GNLU Nominee to supervise the work for the purpose of the contract.
- **“EPC”** shall mean Engineering Procurement & Construction.
- **“Guarantee Period”** shall mean the period during which the Contractor shall remain liable for replacement / repair and maintenance of any defective parts / work performed by the Contractor under the contract.
- **“kWh”** shall mean Kilo-Watt-hour;
- **“kWp”** shall mean Kilo-Watt Peak;
- **“GNLU”** shall mean Gujarat National Law University (GNLU)
- **“MNRE”** shall mean Ministry of New and Renewable Energy, Government of India.
- **“O&M”** shall mean Operation & Maintenance of Rooftop Solar PV system;
- **“Notice of Award of Contract/Letter of Award/Letter of Acceptance”** shall mean the official notice issued by the GNLU notifying the contractor that his bid has been accepted.
- **“Order”** shall mean the official letter issued by the GNLU informing the bidder that his tender has been accepted.
- **“RFP”** shall mean the Request for Proposal along with all formats and RFP Documents attached
- **“RFP Documents”** shall mean the documents and agreements to be entered into by the parties to the respective agreements in connection with the project.
- **“Solar Company/Firm/Bidder/Implementing Agency”** shall mean with respect to the Project, the Bidder selected by the GNLU pursuant to the RFP for

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implementing the project as per the terms of the RFP Documents, and to whom a Letter of Intent has been issued.

- **"Specification"** shall mean the tender forming a part of the contract along with Performa, schedules, appendixes and all annexure.
- **"System"** means Solar photovoltaic Photo-Voltaic (PV) System consists of PV array, electronics, interconnected cables, earthing, On-Off switch and all other ancillary required for satisfactory operation of installation.
- **"Week"** shall means the continuous period of seven days.
- **"Work"** shall mean activities to Supply, Installation, testing & commissioning of Solar Photo-Voltaic (PV) System at Various Locations within the campus of GNLU.

4. INSTRUCTIONS TO THE BIDDER

4.1. Earnest Money Deposit (EMD) is to be paid as under:

- 4.1.1. Tenderer has to pay E.M.D. as mentioned in tender notice. The EMD is payable by demand draft in favour of "**Gujarat National Law University**" Drawn on any Scheduled Bank / Nationalized Bank **payable at Ahmedabad**. It can be paid by DD in favor of GNLU, Gandhinagar OR by Bank Guarantee (BG) from any Scheduled / Nationalized Banks in a standard format prescribed by GNLU (Format given in this tender document Appendix - 5). The validity of Bank Guarantee shall be 04 months from the schedule date of opening of tender or to be extended as required by GNLU. The BG shall be any of the banks as notified vide finance department of Govt. of Gujarat GR no.: EMD.10/2013/655/DMO dated 31.03.2014 and further amendments if any. Cheques are not acceptable. CORPORATE BANK GUARANTEES NOT ALLOWED.
- 4.1.2. Tenders submitted without Earnest Money Deposit by the firms will be rejected without entering in to further correspondence in this regard and no reference will also be made.
- 4.1.2. **All the relevant documents as per cl no 3 of Schedule-A of tender are required to be submitted physically in sealed Main cover containing separate covers for "EMD & Tender fee Documents cover" and "Technical Bid documents cover" as per 3, separately. (This cover shall be super scribe "Tender No.PC-04/2018: GNLU/Turnkey/Solar Rooftop/No.& due date of opening) only, on OR before due date and time. All such documents should be strictly submitted by RPAD/Speed post only, otherwise the offer will not be considered and no any further communication in the matter will be entertained.**

**The Registrar,"
Gujarat National Law University
Attalika Avenue
Knowledge Corridor, Koba
Gandhinagar 382 426
Gujarat, India.**

"NO COURIER SERVICE OR HAND DELIVERY" will be allowed. The tender documents in physical form (i.e. "EMD Cover Documents") should reach to this office on or before date and time mentioned in tender notice. No tender shall be accepted / opened in any case received after due date and time of receipt of tender irrespective of delay due to postal services or any other reasons and that GNLU shall not assume any responsibility for late receipt of the tender.

- 4.1.3. Demand Draft for payment of tender fee & EMD must be placed in the Cover super scribing "EMD Cover Documents" along with requisite documents as mentioned in the Schedule –A of tender. First the "E.M.D Cover Documents" (Physical documents) will be opened and simultaneously the preliminary stage of online mode will also be opened & if the documents towards payment of Tender

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Fee, E.M.D and E.M.D. cover documents are found OK then only Technical Bid will be opened.

4.1.4. Bidders shall submit Price Bid On-Line only and not in physical form.

4.2. TECHNICAL AND COMMERCIAL BID:

The technical bid is required to be submitted in online mode as well as physical Mode. The technical and commercial bid shall comprise all the technical details of solar Photovoltaic Photo-Voltaic (PV) System offered in accordance with GNLU specification and on the basis of MNRE published technical specification for Solar Photovoltaic System and its latest amendments.

Please note that the required documents should be invariably uploaded online / submitted in physically as mentioned in tender. Any tender without required documents is liable to be rejected and the tender may be rejected without entering in to any further correspondence in this regard and no further reference will be made.

4.3. INSTRUCTION FOR e- Tendering (Online Tendering to Bidders):

I	Downloading of tender Documents
A	Bid document will be available on web site up to date shown in the tender document.
B	Bidders willing to participate in tender will have to get themselves registered on website www.nprocure.com
ii	Digital Signature
A	Bidders should have valid digital certificate as per Information Technology Act 2000 using which they can sign their electronic bids. Bidders can also procure the same from (n) code solutions, a division of GNFC Ltd., who are licensed certifying authority by Govt. of India.
B	For details regarding digital certificate and related training the below mentioned address should be contacted M/s (n) Code Solution A division of GNFC 301, GNFC Info Tower, Bodakdev, Ahmedabad 380054. Tel: +91 26857316/17/18; Fax: +91 79 26857321 E-mail: nprocure@gnfc.net Mob.: 9327084190; 9898589652
C	Bidders who already possess valid Digital certificate need not procure a new digital certificate.
iii	On line Submission of Technical and Price Bid

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A	Bidders can prepare and edit their offers number of times before tender submission date and time. After tender submission date and time, bidder cannot edit their offer submitted in any case. No written or online request in this regard shall be granted.
B	Bidder shall submit their offer, i.e. Technical Bid as well as price bid in Electronic format on above mentioned website and date shown in tender details before digitally signing the same.
C	Offers submitted without digitally signed will not be accepted.
D	Offers only in physical form will not be open in any case.
iv	General Instructions
A	The Tender fees for on line tender document will not be refunded under any circumstances.
B	EMD in the form as specified in tender document will be accepted.
C	Tenders without Tender Fees, Earnest Money Deposit (EMD) and which do not fulfill all or any of the conditions or submitted incomplete in any respect will be rejected.
D	Conditional tender shall not be accepted.
E	GNLU reserves the right to reject any or all the tenders or split the work between more than one bidders without assigning any reasons thereof.

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5. SCHEDULE-- 'A'

Tender No.: GNLU/Turnkey/Solar Rooftop/pc-04/2018

Sr. No.	Description	Tender Tentative Qty. Nos.
1	Design, Manufacturing, Supply, Erection, Testing & Commissioning including trial Operation, Operation & maintenance for a period of 5 year including Power Evacuation System and Cost of replacement of all the parts, covered under Guarantee period for a period of 5 years from the date of commissioning of Roof top Solar PV System at various places/buildings within the campus of GNLU	300 KW

NOTE: IMPORTANT

1	Offers are invited from Bidders who meets the qualifying criteria of the tender
2	The quantity mentioned above is tentative. No Dispute for non-purchase or purchase of very less quantity shall be entertained and GNLU's decision in this regards, shall be binding to the Bidders. The GNLU reserve the right to reduce / enhance the tender quantity as per their requirement at the time of finalization of the tender.
3	<p><u>'EMD COVER DOCUMENTS' SHALL CONTAINS THE FOLLOWING DOCUMENTS:</u></p> <p><i>The following documents as stated hereunder are required to be submitted in physical form under Seal cover of "EMD cover Documents". (This cover shall be super scribe "Tender no.PC-04/2018 :GNLU/TURNKEY/SOLAR ROOF TOP)</i></p> <p>[1] Tender fee amount by way of demand draft only</p> <p>[2] Earnest Money Deposit (E.M.D) amount by way of demand draft and /or valid Bank Guarantee in original This is mandatory.</p> <p>Note: The bid will be rejected out rightly; if above mandatory documents are not submitted in physical form.</p> <p>[3] The following documents which are required for Technical Evaluation (Please refer clause no.:13TENDER EVALUATION CRITERIA of general and commercial terms</p>

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and conditions of tender for details) are required to be submitted in physical form (in seal cover of "EMD Cover Documents").

(a) Notarized copy of all documents towards satisfying criteria of Technical bid evaluation

(b) The notarized copy of balance sheet for last three years duly audited / certified by Chartered Accountant to be submitted in physical form in seal cover "EMD Cover Documents."

*(c) Satisfactory commissioning / functioning report of **1) 50% of tender quantity in single Project OR 2) 40% of tender quantity in two projects OR 3) 30 % tender quantity in three Projects** of solar photovoltaic systems supplied to any State Nodal Agencies / Government Departments / Private sectors during the last **SEVEN** financial years containing complete system details shall be submitted in physical form in seal cover "EMD Cover Documents."*

(d) The details of similar work done in last SEVEN years are to be given in Annexure - 3 of technical stage of online tender. However, the copies of the orders and certificates from the user agencies to be uploaded in technical stage of online tender.

*(e) The bidder should have at least **10 Nos.** of technically qualified and well-experienced manpower for Installation and after sales service of the systems. The details of Technical staff available with the company for execution of work are to be given in Annexure - 4 of technical stage of online tender. The copies of resumes and appropriate certificates should be **uploaded in technical stage of online tender**. If necessary, separate sheet may be used to submit the information*

[4] List of Orders executed of last Seven (7) years including supplies made / status of supply of pending orders etc. to GUVNL DISCOMs and other Govt. dept., other SEB of India, Pvt. firms, for the tendered items, duly self-attested. These documents shall be submitted in physical form in seal cover "EMD Cover Documents."

[5] Notarized copy/ copies of agreements / MOU between manufacturer of SPV Panel and the bidder (in case of bidder is not manufacturer of SPV panel) is/are required to be submitted in the "EMD Cover Documents".

[6] It is mandatory for bidder to have valid test report of Modules and test certificate of respective solar panel with similar or larger capacity from Govt. approved laboratories. The copy of test reports shall be submitted by the bidders in EMD Cover Documents in physical form.

[7] The copy of ISO for quality management Certificate is preferable.

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	<p>[8] The bidder shall submit the drawing of their system offered, in EMD Cover Documents in physical form.</p> <p>The check list (Chapter No. 5- Checklist) shall be submitted in physical form in "EMD Cover Documents".</p>
4	The successful bidder/s has to (i) Pay the security deposit amount and (ii) Execute the agreement; within 15 days from the date of receipt of LOA.
5	<p><u>PERFORMANCE GUARANTEE TOWARDS GUARANTEE PERIOD:</u></p> <p>The successful Bidders will be required to pay an amount equivalent to 20% of order value. Please refer clause no.: 8.21 (e) of General and commercial terms and conditions of tender.</p>
6	<p><u>PERFORMANCE GUARANTEE TOWARDS EXECUTION PERIOD (SECURITY DEPOSIT):</u></p> <p>The Bidders will be required to pay an amount equivalent to 10% of the value of the order. Please refer clause no.: 8.21 of General and commercial terms and conditions of tender.</p>
7	In case GNLU finds that there is an attempt of cartel in the prices, GNLU reserves the right to consider or reject any or all the parties offer without assigning any reason thereof.
8	Bidders are requested to submit details of <i>Appendix - 3</i> in online in Technical bid stage and this is mandatory.
9	The bidders are requested to submit their bids by on line through our service provider M/s (n) Code Solutions before one day of the due date to avoid complication / dispute at later stage
10	Bidders are informed that their employee authorized in writing will only be allowed as their "Authorized Representative" for all purpose to deal with GNLU in respect of this Tender. Non-employee cannot deal/shall not be allowed to deal with the University.
11	It is proposed to have integrity pact, to have best business practices in an atmosphere of trust to provide goods & services for the ultimate benefit of the society and Nation. GNLU management desires to have an integrity pact attached herewith to be confirmed by bidder. However this document is voluntarily and does not have any legal binding.
12	Bidders will have to abide all the terms and conditions against Letter of Intent (LOI) / Letter of Acceptance (LOA) / Order placed by GNLU.
13	<p><u>REFUND OF EMD:</u></p> <p>Earnest Money Deposit (EMD) of all unsuccessful bidders shall be released on finalization of tender / placement of detailed order (A/T) by GNLU. EMD of successful bidders shall be released only on submission of security Deposit (S.D.) at GNLU against the Letter of Acceptance (LOA) placed on them.</p>
14	<p><u>DISPATCH OF MATERIAL:</u></p>

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The successful bidder will have to execute the tender item/s (i.e. Supply & Installation, testing Commissioning and comprehensive maintenance) at GNLU Campus on F.O.R. destination basis.
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6. CHECK LIST

(TO BE SUBMITTED IN PHYSICAL FORM IN SEAL COVER OF “EMD COVER DOCUMENTS”)

To ensure that your offer submitted to GNLU is complete in all respects, please go through the following checklist & tick mark for the enclosures submitted physically in seal cover of “EMD Cover Documents” / uploaded in technical stage of online with your offer:

Sr. No.	Description	Submitted /Uploaded (Yes/ No)
1.	Tender Fee by DD / Money Receipt is kept in “EMD Cover Documents”	
2	Earnest Money Deposit by DD in “EMD Cover Documents”	
3	Copy of Documents satisfying technical bid criteria are kept in “EMD Cover Documents”	
4	The notarized copy of balance sheet for last three years duly audited / certified by Chartered Accountant is kept in “EMD Cover Documents”.	
5	The copies of the orders and certificates of similar work done in last seven years (as per Annexure - 3) are uploaded in technical stage of online tender.	
6	The documents related to Annexure - 4 are uploaded in technical stage of online tender.	
7	List of Orders executed of last seven (7) years including supplies made / status of supply of pending orders etc. to GUVNL DISCOMs (or their and other Govt. dept., other SEB of India, Pvt. firms, for the tendered items, duly self-attested are kept in “EMD Cover Documents”.	
8	Notarized copy / copies agreements between manufacturer of SPV Panel and the bidder (in case of bidder is not manufacturer of SPV panel) is kept in “EMD Cover Documents”.	
9	The copy of valid test report of Modules and test certificate of respective solar panel with similar or larger capacity from Govt. approved laboratories are kept in EMD Cover Documents in physical form.	
10	<i>Sealed Cover “EMD Cover Documents” sent in physical form by RPAD/ Speed post</i>	

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11	The copies of registration with GST Number, Permanent Account Number (PAN), Service Tax No., EPF registration no. are uploaded in technical stage of online bid	
12	Name & address of dealers / distributors / service stations if any in Gujarat along with copy of agreements are uploaded in technical stage of online bid.	
13	All the Annexure of online, GTP, price bid are filled up properly and submitted in time	
14	The required details and documents (as per Annexure - 11) and other documents, brochures, technical details are uploaded in technical stage of online tender.	

7. INTEGRITY PACT OUR ENDEAVOUR

	GNLU's COMMITMENT		PARTY's COMMITMENT
•	To maintain the highest ethical standards in business and professional	•	Not to bring pressure recommendations from outside GNLU to influence its decision
•	Ensure maximum transparency to the satisfaction of stakeholders	•	Not to use intimidation, threat, inducement or pressure of any kind on GNLU or any of its employees under any circumstances
•	To ensure to fulfill the terms of agreement/contract and to consider objectively the viewpoint of parties	•	To be prompt and reasonable in fulfilling the contract, agreement, legal obligations
•	To ensure regular and timely release of payment on due dates for work done	•	To provide goods and/or services timely as per agreed quality and specification at minimum cost to GNLU
•	To ensure that no improper demand is made by employees or by anyone on our behalf	•	To abide by the general discipline to be maintained in our dealings
•	To give maximum possible assistance to all the vendors / Suppliers / Service Providers and other to enable them to complete the contract in time	•	To be true and honest in furnishing information
•	To provide all information to supplier/contractors relating to contract/job which facilitate him to complete the contract/job successfully in time	•	Not to divulge any information, business details available during the course of business relationship to others without written consent of GNLU
•	To ensure minimum hurdles to vendors /suppliers / contractors in completion of agreement /contract/work order	•	Not to enter into carter/syndicate/understanding whether formal/non formal so as to influence the price

8. COMMERCIAL TERMS & CONDITIONS

In this deed of agreement / Offer, unless the context otherwise requires, **GNLU shall mean The Registrar GNLU or his representative of Gujarat National Law University with Office, " Attalika Avenue, Knowledge Corridor, Koba, Gandhinagar 382 426, Gujarat, India and shall include his successors and assignees.**

The Bidder shall mean the Bidder / Associate whose offer is received by GNLU as per eligibility criteria and shall include such Bidders / Associate heirs, legal representatives, successors and assignees.

The Bidder shall be deemed to have carefully examined all the papers, drawings, etc. attached in the tender. If bidder has any doubt as to the meaning of any portion of any condition / specification, etc. he shall before submitting the bid seek clarification from GNLU so that such doubts are removed.

No deviation in specification shall be allowed and GNLU's decision shall be final. The technical scrutiny committee of GNLU shall evaluate the techno-commercial view of the tender. GNLU reserves the right to open or not to open the price bid of the bidders on the basis of their past performance.

1. Tender should be in two bids.
 - a) Techno – Commercial Bid (**Online**) except some documents as listed in Schedule-A of tender, to be submitted in "EMD Cover Documents" in physical form
and
 - b) Price Bid (**Online Only**)
2. Incomplete bids and amendments and additions to bids after opening of the bids will be rejected.
3. The price bid of those bidders who are techno-commercially qualified shall only be opened.
4. The Bidder shall have to comply with all rules, regulations, laws and bylaws enforced by local and Central/State Govt. and also the organization in whose premises the work has to be done.
5. The Bidder shall not, without consent in writing of GNLU, transfer, assign or sublet the work under this contract or any substantial part thereof to any other party.
6. If the Bidder neglects to execute the work with due diligence and expedition or refuses or neglect to comply with any reasonable orders within two days of notice given in writing to the Bidder and if he fails to comply with the notice, then in such a case GNLU shall be at liberty to get the work or any part of it,

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executed through any other agency / Bidder at the risk and cost of successful bidder and in the manner and on the terms it thinks proper. If the cost of executing the work as aforesaid shall exceed the balance due to the Bidder, and the Bidder fails to make good the deficiency, GNLU may recover it from the Bidder in any lawful manner.

7. GNLU shall have at all reasonable time access to the works being carried out by the Bidder under this contract. All the works shall be carried out by the Bidder to the satisfaction of GNLU.
8. Following standard **Arbitration** Clause shall become operative post award of contract to the successful bidder:
Any question, dispute or difference whatsoever arises between GNLU and Bidder, in connection with this agreement except as to matters, the decision for which has been specifically provided, either party may forthwith give to the other notice in writing of existence of such questions, dispute, difference and the same shall be referred to the sole arbitration of a person nominated by **the Director, GNLU**. This reference shall be governed by Indian Arbitration Act prevailing at the time of dispute and the rules made there under. The award in such arbitration shall be final and binding on all the parties. Work under the agreement shall continue during the arbitration proceedings unless the GNLU or the Arbitrator directs otherwise.
9. GNLU may at any time by notice in writing to the Bidder either stop the work altogether or reduce or cut it down. If the work is stopped altogether, the Bidder shall only be paid for work done and expenses legitimately incurred by him as on preparation of the execution of the work up to the date on which such notice is received by him. Such expenses shall be assessed by GNLU whose decision shall be final and binding on the Bidder. If the work is cut down the Bidder shall not be paid for the work as so cut down, but in neither case shall be paid any compensation what so ever for the loss or profit which he might have made if he had been allowed to complete all the work included in the contract.
10. The Bidder to offer Solar PV Panels for inspection at the OEM works to GNLU and inspection can also be offered at one place in Gujarat (main distributor's place), where requisite inspection facilities are available. GNLU reserves the right to inspect any number of SPV systems at OEM works at their discretion. Prior to dispatch, the materials may be inspected and tested by GNLU at the works of OEM (Original Equipment Manufacturer), where SPV (Solar Photovoltaic) panels are manufactured. Other components may be inspected at the works of the contractor where Solar Home Light system is assembled. Bidder shall inform GNLU for such inspection at least 07 (Seven) days in advance before the probable date of dispatch. Materials dispatched without GNLU's approval shall not be accepted and the GNLU shall have right to reject it and to recover the cost so incurred, from the Bidder.

Cost of inspection: To & Fro travelling charges of inspecting officer will be borne by GNLU while successful bidder will provide necessary inspection & testing facility at his cost.

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However, if the material is not kept ready for inspection after intimation of the offered quantity on the scheduled date for inspection then all consequences will be to suppliers account and GNLU will recover the actual expenses of To & Fro travelling fares plus Rs.1, 000/- per day per employee.

11. The Solar Photovoltaic Photo-Voltaic (PV) System supplied and installed shall be guaranteed by the Bidder for a minimum period of Five years from the date of last system commissioned, in regard to quality of material, workmanship, performance, efficiency, installation, etc. Defects developed in the system within guarantee period, shall be rectified by the Bidder at his own expense promptly. In case the defects are not rectified within 3 (three) days of the receipt of the complaint by the Bidder, GNLU shall have full liberty to rectify such defect or undertake such repairs as may be necessary to restore the system in working condition.
12. The expenditure so incurred by GNLU shall be deducted from Bidder's pending claims, security, etc. and if necessary may be recovered in other mode provided under the law. In the event of failure of the complete system, if necessary, the whole system shall be replaced by the Bidder promptly.
13. Notices, Statements and other communications sent by GNLU through registered post or e-mail or fax to the Bidder at his specified address shall be deemed to have been delivered to the Bidder.
14. The work shall be carried out by the Bidder with prior approval of GNLU, Work carried out without GNLU's approval shall not be accepted and the GNLU shall have right to reject it. No payment will be made for it.
15. All equipment / materials shall be suitably packed for transport / carriage at site and outdoor storage during transit. The Bidder shall be responsible for any damage to the equipment during transit and he shall replace such damaged equipment immediately to adhere to the project completion timelines.
16. The cases containing easily damageable material shall be very carefully packed and marked with appropriate caution symbols i.e. 'FRAGILE, HANDLE WITH CARE' etc. The contents of each package shall bear marking that can be readily identified from the package list and packing shall provide complete protection from moisture, termites and mechanical shocks during shipment / transportation to site. Adequate protection must be provided for outdoor storage at site in tropical humid climate, wherever necessary proper arrangement for attaching signs for lifting shall be provided and all packages clearly marked with gross weight, signs showing 'UP' and 'DOWN' sides of boxes, contents of each package, order no. and date, name of the plant/equipment to which the material in the package forms the part of, and any handling and unpacking instructions considered necessary. The Bidder without any extra cost shall supply any material found short inside intact packing case. The Bidder shall ascertain prior to shipment, from concerned authorities, the transport limitations like weight and maximum allowable package size for transportation. All packing cases and packing material shall become the property of the purchaser.

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17. The Bidder shall not display the photograph of the work and shall not take advantage through publicity of the work without written permission of GNLU.
18. The inspection as mentioned in earlier by GNLU's representative shall not relieve the Bidder from full responsibility of completing the work confirming to the requirement of this contract.
19. Conditional tender shall not be accepted.
20. Any other item not specifically mentioned in the specifications but which are required for Supply, Installation & Commissioning of Solar Photo-Voltaic (PV) System are deemed to be included in the scope of the specification as per relevant and latest IS, IEC, MNRE guidelines, standards of Rural Electrification Corporation (REC) and specified by GNLU unless specifically excluded.
21. Specification of all the items covered under this tender is given separately. However, if any item is left out, standard specification of relevant and latest IS, IEC, MNRE, Rural Electrification Corporation (REC) and specified by GNLU will be applicable for the same.
22. **Material / Equipment / Accessories / Device mentioned or not mentioned in this tender, but necessary to complete the work should be supplied by bidder without any cost implication / amendment in price.**
23. **Ensure proper selection procurement installation and functioning of Bi-Directional meter and Solar generation meter and other requisite interconnection component adhering the MNRE or state guideline as applicable to ensure success of net metering policy as per is in bidders scope.**

8.1. PRICE EVALUATION:

All tenders will be evaluated on firm price end cost basis of supply, installation and commissioning including GST. The parties however will have to give the detailed break-up of the end cost as per price bid. If more than one party is to be considered for placement of order, they will have to match their end cost with L-1 end cost, who is technically acceptable. GNLU may go to the price of L-2 depending upon the exigency. If GNLU feels that there is lack of serious competition or any other reasons, GNLU may negotiate with the L-1 party. GNLU's decision shall be final and binding to all the parties

8.2. QUANTITY DISTRIBUTION:

Supporting documents and Agreement between the bidder and the solar PV module manufacturer is required to be submitted with the tender documents in this regard.

Bidder has to offer 100% quantity of the total tender quantity for each of their offered items and will be considered for price evaluation. GNLU will not consider the technical bid of any party who quotes for lesser quantity. Bidders have to indicate their offered quantity in attached Annexure - 8.

8.3. AMENDMENT OF TENDER

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At any time prior to the deadline for submission of bids, GNLU may, at its own discretion modify /add/delete/change the bidding documents by amendments. The amendment will be notified on Website of GNLU "www.gnlu.ac.in/tender.php". GNLU will bear no responsibility or liability arising out of non-compliance of the same in time or otherwise.

In order to afford prospective bidders reasonable time to take the amendment into account in preparing their bids, GNLU may at its discretion, extend the deadline for the submission of bids.

Such amendments, clarification etc. shall be binding on the bidders and will be given due consideration by the bidders before they submit their bids and invariably enclose such documents as a part of the bid. All such amendments will be considered as part of tender.

8.4. REJECTION OF TENDER:

The Bidder is expected to examine all instructions, terms, conditions, schedules and other details called for in this specification and keep himself fully informed about all which may, in any way, affect the work, or cost thereof. Failure to furnish the required information or submission of tender not as per the specification will be at the Bidder's risk and may result in rejection.

The offer may be rejected in case the bidding schedules / annexure are not filled / partially filled and if particulars are not given in format prescribed in the tender documents.

Further, the offer may summarily be rejected if it contains conditions with regard to:

- a) Different rates for the same items i.e. Rates should be quoted in the single slab only.
- b) Deviation / Addition / Alternations / Omissions in bidding documents.
- c) Deviation and contradictions to the terms and conditions specified in this tender.
- d) Offer with any change suggested in price pattern will be outrightly rejected.
- e) Revision of prices or any commercial terms affecting the price after opening of technical bids shall not be considered and will be ignored.

8.5. GNLU RIGHTS:

8.5.1. The GNLU reserves the right to terminate the contract or part thereof at any time giving 01 (One) months' notice of Termination or the reasons thereof. Contractor/s will not be entitled for any compensation / damages / losses, whatsoever, on account of such termination of the Contract.

8.5.2. The GNLU will be entitled to deduct directly, from the bills to be paid to the contractor, any sum or sums payable by him and which sum/sums due to the

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- contractor or the GNLU is required to pay as a principal employer on account of contractor's default in respect of all liabilities referred to.
- 8.5.3. The Bidders shall specifically note that any overwriting or corrections or manuscript in the bid shall be ignored and will not be considered authentic unless same are signed and Bidder's Stamp / Seal is affixed.
- 8.5.4. GNLU reserves the right to split the contract into two or more bidders. In such cases, the term for completion period will be negotiated and reduced proportionate to the offered quantity / value.
- 8.5.5. In case of any doubt or interpretation of the terms and condition, the decision of **The Registrar, GNLU, Gandhinagar** will be final and binding upon the Bidders and no dispute in this regard will be entertained.
- 8.5.6. GNLU reserves the right to accept any bid or reject any or all Tenders or cancel / withdraw or re invitation to bid without assigning any reason. Such decision of the GNLU shall not be subject to question by any Bidders and the GNLU shall bear no liability whatsoever for such decision.
- 8.5.7. GNLU has right to make minor changes / modifications in the Technical & Site condition matter. In such matter, decision of **The Registrar, GNLU** shall be final and binding to the Contractor to carry out work accordingly.

8.6. LANGUAGE OF THE TENDER

All information in the bid shall be in English. Information in any other language shall be accompanied by its translation in English. Failure to comply with this may disqualify a bid. In the event of any discrepancy in meaning, the English language copy of all documents shall govern. Notarized copy of certificate / documents provided in Hindi / Gujarati will be accepted.

8.7. LOCAL CONDITIONS:

It will be imperative on each bidder to fully acquaint himself of all local conditions and factors which may have any effect / bearing on the execution of the works covered under this tender. GNLU shall not entertain any request for clarifications from the bidders, regarding such local conditions, post award of contract.

It must be understood and agreed that such factors have properly been investigated and considered while submitting the tender. No claim for financial adjustment to the contract awarded under this tender will be entertained by the GNLU. Neither any change in the time schedule of the contract nor any financial adjustments arising thereof shall be permitted by the GNLU, which are based on the lack of such clear information or its effect on the cost of the works to the bidder.

The bidder should take visits of locations/places/buildings of GNLU Campus viz Admin building, Guru Bhavan, Shishya Bhavan, Parking shed roof to get acquainted with local conditions for estimating different designs of structures, foundation and special structure design on the portion of tarrace on hanging hall

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in Admin building by observing height of terrace wall, obstacles, shadow area, load bearing capacity of terrace, hanging hall etc before the bid.

8.8. PRICE BASIS CURRENCIES AND PAYMENTS

Bidder shall indicate bid prices in Indian Rupees only.

8.9. EFFECT AND VALIDITY OF TENDER

The submission of any bid connected with this tender shall constitute an agreement that the bidder shall have no cause of action or claim,

The bid should be kept valid for a period of **120 days** from the date of opening of Technical bid/s. GNLU may ask for extension in validity period. The bidder will be at liberty to accept it or not.

8.10. SIGNING OF CONTRACT

- GNLU will notify successful bidder about acceptance of bid. Detailed order will also be placed by GNLU.
- Within 07 (Seven) days of receipt of the detailed letter of acceptance, the successful bidder shall acknowledge with confirmation of acceptance of terms & conditions.
- The bidder will prepare the contract agreement as per the Performa enclosed at Appendix - 4 in this tender and the same will be executed within 15 days of issue of letter of acceptance and before placement of order.

8.11. JURISDICTION OF CONTRACT:

The laws applicable to the contract shall be the laws in force in India. The court at Gandhinagar shall have exclusive jurisdiction in all matters arising under this contract.

8.12. COMPLETION OF CONTRACT

Unless otherwise terminated under the provisions of any other relevant clause, this contract shall be deemed to have been completed on the expiry of the Comprehensive Maintenance during guarantee period.

8.13. SECURITY (Responsibility of Bidder)

The contractor shall have total responsibility for all equipment and materials in his custody/stores, loose, semi-assembled and/or erected by him at site. The contractor shall make suitable security arrangements including employment of security personnel to ensure the protection of all materials, equipment's and works

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from theft, fire, pilferage and any other damages and loss up to commissioning of the system.

8.14. PROTECTION OF PROPERTY AND CONTRACTOR'S LIABILITY

The successful bidder shall be solely responsible for any damage resulting from his operations up to commissioning and handing over of the system. He shall also be responsible for protection of all persons including members of public and employees of the GNLU and the employees of other contractors and sub-contractors and all public and private property including structures, building, other plants and equipment and utility either above or below the ground up to commissioning and handing over of the system.

The successful bidder will ensure provision of necessary safety equipment such as barriers, signboards, warning lights and alarms, etc. to provide adequate protections to persons and property. The successful bidder shall be responsible to give reasonable notice to the Engineer/GNLU Nominee and the Employer of public or private property and utilities when such property and utilities are likely to get damaged or injured during the performance of his works and shall make all necessary arrangements with such employers, related to removal and / or replacement or protection of such property and utilities.

8.15. WORK & SAFETY REGULATIONS:

The contractor shall ensure proper safety of all the workmen, materials, plants and equipment belonging to him or to the GNLU or to others, working at the site. The contractor shall also be responsible for provision of all safety notices and safety equipment required both by the relevant legislations and the Engineer/GNLU Nominee, as they may deem necessary.

All equipment's used in construction and erection by contractor shall meet Indian/International standards and where such standards do not exist, the contractor shall ensure these to be absolutely safe. All equipment's shall be strictly operated and maintained by the contractor in accordance with manufacturer's operation manual and safety instructions and as per guidelines / rules of the GNLU in this regard.

The successful bidder shall provide suitable safety equipment of prescribed standard to all employees and workmen according to the need.

The successful bidder shall not interfere or disturb electric fuses, wiring and other electrical equipments belonging to the GNLU under any circumstances, whatsoever, unless expressly permitted in writing by the GNLU to handle such fuses, wiring or electrical equipment.

In case any accident occurs during the construction / erection or during guarantee period of 05 years for the activities undertaken by the contractor thereby causing any minor or major or fatal injury to his employees / labourer due to any reason, whatsoever, it shall be the responsibility of the successful bidder to promptly inform

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the same to the registrar of GNLU and also to all the authorities envisaged under the applicable laws. For any fatal / nonfatal accident to human or animal or any mishap within area of installation due to mishandling or reason whatsoever attributable to bidder at the time of commissioning of Solar photovoltaic Photo-Voltaic (PV) System, successful bidder has to pay compensation as provided under the relevant applicable Act.

The successful bidder shall follow and comply with the employer's safety rules relevant provisions of applicable laws pertaining to the safety of workmen, employees, plant and equipment as may be applicable from time to time without any demur, protest or contest or reservations. In case of any discrepancy between statutory requirement and employer's safety rules referred above, the latter shall be binding on the successful bidder unless the statutory provisions are more stringent.

It will be the successful bidder's sole responsibility to take the materials up to the installation site.

8.16. HANDING OVER ASSET:

After successful installation, commissioning and testing of complete system, it is to be handed over to the concerned Engineer/GNLU Nominee in-charge of the GNLU. The handing over note covering the details of all the materials used and total work executed must be signed jointly by the bidder and GNLU's Engineer/GNLU Nominee in-charge. The copy of handing over note (**Appendix-3**) to final bill is required to be submitted by the successful bidder for release of payment.

8.17. INDEMNITY:

The bidder agrees to defend, indemnify and hold harmless the GNLU, its officers, directors, agents, employees and affiliates (and their respective officers, directors, agents and employees) from and against any and all claims, liabilities, actions, demands, judgments, losses, costs, expenses, suits, actions and damages arising by reason of bodily injury, death or damage to property sustained by third parties that are caused by an act of negligence or the willful misconduct of the bidder, or by an officer, director, sub-contractor, agent or employee of the bidder.

8.18. REPEAT / ADDITIONAL ORDERS

GNLU reserves the right to place repeat orders / additional orders on the successful bidders up to 50% of the original quantity of the order at the same prices, terms and conditions stipulated in the original contract during contractual period. In special circumstances GNLU reserves the right to place repeat order / additional order up to 100% quantity mutually agreed upon.

8.19. TERMINATION OF CONTRACT

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In case, the supplier fails to deliver the stores / materials / equipment or any consignment thereof within contractual period of delivery or in case the stores are found not in accordance with prescribed specification, GNLU reserves the right to terminate the contract OR GNLU shall exercise its discretionary power either:

a) In case material is not found as per specification, GNLU has right to seek replacement of the same material without any incremental cost to GNLU.

OR

b) To purchase from elsewhere after giving due notice to the supplier on account and at the risk & cost of the supplier such stores not so delivered or other similar description without canceling the contract in respect of the consignment not yet due for delivery

OR

c) To cancel the contract.

In the event of the risk purchase of stores of similar description, the opinion of GNLU shall be final. In the event of action taken under clause (b) or (c) above, the supplier shall liable to pay for any loss which GNLU may sustain on that account but the supplier shall not be entitled to any saving on such purchases made against default.

The decision of GNLU shall be final as regards the acceptability of stores supplied by the supplier and GNLU shall not be required to give any reason in writing or otherwise at any time for rejection of the stores.

Further, GNLU reserves the right to terminate the Contract (i.e. Purchase order) at any time, without assigning any reasons, whatsoever, by giving a notice period of ONE month from the date of Notice of termination of the Contract. Suppliers will not be entitled for any compensations / damages / losses, whatsoever, on account of such termination of the Contract.

8.20. GUIDELINES FOR BIDDERS

8.20.1. Tender is invited for "Supply, Installation, Commissioning and comprehensive Maintenance for 05 (Five) years during guarantee period of Grid connected roof top mounted solar PV systems at various places/buildings within the campus of GNLU.

8.20.2. The indicative quantities to be supplied, installed and commissioned are as mentioned below:

Item	Indicative Quantity in Nos./ Locations
Solar Photovoltaic (PV) Systems	300 KW Roof top Solar PV System at various places/buildings within the campus of GNLU in total considering Admin building, Guru Bhavan, Shishya Bhavan, Parking shed

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- A. The quantity mentioned above is indicative only and it may vary depending on requirements of GNLU. No Dispute for non-purchase or purchase of very less quantity shall be entertained and GNLU's decision in this regards, shall be binding to the Bidders. The GNLU reserve the right to reduce / enhance the tender quantity as per their requirement at the time of finalization of the tender. GNLU, at its discretion, may reallocate the above quantity within GNLU.
- B. **It is mandatory for bidder to have valid test report of Modules and test certificate of respective solar panel with similar or larger capacity from Govt. approved laboratories.**
- C. The program implementation guidelines of the GNLU as declared from time to time, for SPV program shall be applicable and followed at all times.
- D. The technical specification for which tender is invited are furnished in **Chapter - 15- General Technical Specification for small scale (Rooftop) Solar PV System** of tender
- E. Prices quoted should be F.O.R. basis exclusive of Taxes and levies as per price bid schedule.
- F. The quantity indicated above is only indicative and not final. Payment will be done only for the actual quantity executed.
- G. Comprehensive Maintenance during Guarantee period and Insurance of system for 5 years is included in above quoted prices.

8.20.3. Bidder shall ensure that necessary spares are available to provide necessary after sales service during the guarantee period. For any problem in system, Supplier will immediately replace the defective parts of the system and make the system operative within 3 (Three) days of complaint.

8.20.4. Letter of acceptance (LOA) shall be issued through Fax / e-mail / post to the successful Bidders indicating the quantity with capacity allocated to them and the security deposit amount to be deposited by them with GNLU. Successful Bidders will be required to deposit the requisite security deposit within **15 days** from the date of receipt of Letter of Acceptance, failing which the Letter of Acceptance will be treated as cancelled. The detailed order will be issued to the successful Bidders by GNLU only after receipt of requisite security deposit and signing the contract agreement.

8.21. PERFORMANCE GUARANTEE TOWARDS EXECUTION PERIOD (SECURITY DEPOSIT) and PERFORMANCE GUARANTEE TOWARDS GUARANTEE PERIOD

[Should be paid within 15 (Fifteen) days after receipt of LOA]

The successful Bidders will be required to pay an amount equivalent to **10%** of the value of the order including taxes and duties as a Security Deposit for satisfactory execution of the ordered complete system. Such Security Deposit will be payable either through D.D. / Bank Guarantees. Bank Guarantees from Scheduled / Nationalized Banks will be acceptable, if the amount of security deposit payable exceed Rs.5,000/-. The Security Deposit will be accepted in the form of Demand Draft issued by Nationalized Bank, in favour of GNLU. The Security Deposit can also

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be submitted in the form of Bank Guarantee issued by all the Nationalized Bank including the Public Sector Bank- as per format attached with tender document with validity of 180 days.

In case, if the Bank Guarantee is furnished / submitted, it should have a clear one time validity till the completion of the installation & commissioning of all the ordered system and up to the expiry of Guarantee period from the date of commissioning of the last system.

Bank Guarantee for interim period will not be allowed. If by any reasons the supply & commissioning period is extended, then supplier should undertake to renew the Bank Guarantee at least one month before the expiry of the validity failing which GNLU will be at liberty to encash the same. CORPORATE GUARANTEES NOT ALLOWED.

No interest will be paid on the Security Deposit. Security Deposit shall be suitably extended time to time as per requirement of GNLU.

No bidder is exempted from payment of Performance Guarantee towards execution period (Security Deposit) and towards Guarantee / Guarantee period (PBG) in any case. Security Deposit should be paid within 15 (Fifteen) days of the Letter of Acceptance.

Security Deposit will be returned on successful completion of the installation and commissioning of all the ordered systems and only after the Performance Bank Guarantee (20% of value of order) is furnished and it will be retained till completion of GUARANTEE period.

The bidder will be allowed to convert the Bank Guarantee submitted towards SD in to Performance Bank Guarantee (PBG) and the balance PBG of 10% is required to be submitted separately.

If the full Security Deposit amount is not paid within 15 (Fifteen) days after the receipt of the Letter of Acceptance, then the LOA will be out rightly cancelled at the risk & cost of the Tenderer (at the discretion of GNLU) and without entering into any correspondence and this will be binding on the Tenderer.

In the event of awarding the order of additional quantity, the Bidder will be required to deposit additional Security Deposit on prorata basis within two weeks of the issuance of LOA for the additional order quantity.

In the event of failure to supply no. of systems as contracted by the bidder and as accepted by him while receiving the order, will lead to forfeiture of the Security

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Deposit and will lead to disqualification of the Bidder for transacting business with GNLU for at least two years or the time duration as may be decided by the Board of GNLU

8.22. LOCATION OF INSTALLATION:

The Solar PV Photo-Voltaic (PV) Systems with building wise inverters is required to be installed at any location within campus of GNLU as decided by GNLU considering **Admin Building, Guru Bhawan, Shishya Bhawan, parking shed, mainly. The details of locations and quantities with capacity of SPV Pannels, structures, inverters, wirings, power evacuation point, net metering point, etc is required to be assessed by the prospective bidder prior to bid by visiting the campus of the GNLU.**

8.23. PRICES

Prices quoted should be 'FIRM' and on F.O.R. Destination basis. For supply portion, bidder has to mention Unit End Cost with GST including Freight, Packing, Insurance charges in price schedule.

Comprehensive Maintenance during guarantee period and Insurance of the complete system for 5 years is in the scope of bidder.

8.24. VALIDITY OF THE OFFERS

The offers will have to be kept valid for a period of 120 days from the date of opening of technical bids. In case finalization of the tender is likely to be delayed, the bidders will be asked to extend the same without change in the prices or any terms and conditions of the offer. If any change is made, original or during the extended validity period, the offers will be liable for outright rejection without entering into further correspondence in this regard and no reference will also be made.

8.25. PACKING AND FORWARDING CHARGES:

The prices shall be inclusive of packing & forwarding charges. The stores should be strongly and adequately packed to ensure safe arrival at destination. The materials dispatched from overseas by Air / Shipping should be packed in such a way that it can withstand rough handling and possible corrosion due to exposure to salt laden atmosphere, salt spray or open storage. All packing must be clearly marked with order Number and consignee's name and address.

8.26. TRANSIT INSURANCE

8.26.1 The Bidder shall be responsible and take an Insurance Policy for transit-cum-storage-cum-erection for all the materials to cover all risks and liabilities for supply of materials on site basis, storage of materials at site, erection, testing and

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commissioning. The bidder shall also take appropriate insurance during O&M period.

8.26.2. The Bidder shall also take insurance for Third Party Liability covering loss of human life, Engineer/GNLU Nominees and workmen and also covering the risks of damage to the third party/material/equipment/properties during execution of the Contract. Before commencement of the work, the Bidder will ensure that all its employees and representatives are covered by suitable insurance against any damage, loss, injury or death arising out of the execution of the work or in carrying out the Contract. Liquidation, Death, Bankruptcy etc., shall be the responsibility of bidder.

8.27. TAXES & DUTIES :GST

The F.O.R. Destination prices are excluding GST and Cess as applicable which will be paid extra on a given taxable goods and/or services. The amount and % of GST and Cess as applicable should clearly be indicated separately. (GST/Cess means all applicable Tax/Cess under GST Laws. GST Laws means IGST Act, GST(Compensation to the State for Loss of Revenue) Act, CGST Act, UTGST Act and SGST Act, 2017 and all related ancillary legislations).

You shall have to submit a C.A Certificate & duly authorized Signatory of successful bidder, certifying that you have not claimed Refund of any applicable GST and Cess, charged to GNLU or shall not claim any such Refund, on a future date, from the concerned Authorities and if, any Refund, in respect of such GST and Cess, is claimed by you, it will be immediately passed on to the GNLU, without GNLU making any specific Claim, for the same, either from the Department or from you.

The offers having price INCLUSIVE OF GST and Cess is likely to be rejected if the rate of GST and Cess is not mentioned clearly unless the bidder has opted for Composition Scheme under GST Act, which should be clearly indicated in the price bid. GNLU may at its discretion consider such offer with presumption of highest applicable rate of VAT/GST/Cess prevailing when the price quoted is inclusive of GST and Cess.

If the Supplier/Contractor has opted for the Composition scheme of GST, the same must be clearly specified with valid Declaration & Certificate from Department. In the event of withdrawal/cessation of the Supplier from Composition scheme during the tenure of the contract, the rate mentioned in the price bid shall be final and any additional GST will have to be borne by the BIDDER/tenderer. In no case additional amount towards tax or otherwise will be paid / reimbursed to supplier/contractor. Further Statutory Variation clause will not be applicable in case of Supplier / Contractor has opted for Composition Scheme under GST.

Supplier/Contractor should charge GST in Invoice at the rate as agreed to / mentioned in acceptance of tender only and any deviation in the same shall not be accepted. Further, any additional liability of GST (later on due to wrong mentioning of GST rate, mis-interpretation of HSN/SAC Code, etc.) over and above as charged in the invoice shall be borne by the Supplier/Contractor. However, any

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refund received by the supplier / contractor on account of GST charged from the GNLU; such refund shall have to be passed on to the GNLU, along with interest if any. Such refund along with interest needs to be passed on suo-moto by the supplier / contractor.

Further, the GNLU has a right to recover the amount of GST along with penal interest at the rate of 15% per annum if GST charged is not paid / short paid to the government or fail to upload the details or uploads inaccurate particulars on GSTIN portal by the Supplier / Contractor within the stipulated time limit.

In case, Govt. revises the rate of GST rate / Code during the tenure of the contract, the provision of GNLU's statutory variation clause/policy shall apply.

INPUT TAX CREDIT BENEFIT

In the event of any statutory increase in the rate of Input Tax Credit and / or due to inclusion of any other additional item of their inputs / input services under the ambit of the Input Tax Credit provisions under the GST Act, subsequent to the date of submission of the offer, the same should be passed on to GNLU and you should inform such changes to GNLU from time to time.

At the time of Payment, statutory deduction will be made as per service Tax amount as per applicable rules and rates for TDS, WCT welfare cess etc.

Please note that GNLU will issue form 'C' under the CST act against the goods supplied as per this tender.

- **GNLU's GST Registration No. :24AAATG6633R1Z9**
- **Bidder has to provide his GST Registration No. It is mandatory. Offer without GST Registration No. will be out rightly rejected.**

8.28. UNLOADING

Unloading of the materials at site shall be arranged by Supplier.

8.29. STATUTORY VARIATION

Any statutory increase or decrease in the taxes and duties including GST and Cess as applicable or in the event of introduction of new tax/cess or cessation of existing tax/cess subsequent to suppliers offer if it takes place within the original contractual delivery date will be to GNLU's account subject to the claim being supported by documentary evidence. However, if any decrease takes place after the contractual delivery date, the advantage will have to be passed on to GNLU.

Statutory Variation clause will not be applicable in case of Supplier / Contractor has opted for Composition Scheme under GST.

9. ELIGIBILITY CRITERIA

Bidding is open to individual bidders who satisfy the Eligibility criteria set forth in the tender documents with respect to their experience and financial capabilities as furnished by the Bidder in the corresponding bidding schedules. The Bidder shall also be required to furnish the information specified in the specification in their bid. Bidder must be an EPC contractor having adequate experience in inhouse Engineering and design infrastructure facilities, quality assurance and safety setup to carry out similar type of work. The bid can be submitted by an individual firm. Specific requirements are given below:-

9.1. Technical Criteria

SR. NO.	Minimum Eligibility Criteria	Proof to be submitted for fulfilling the Eligibility Criteria
1	<p>The Bidder must fulfill all the following minimum technical requirements specified</p> <p>The bidder should have supplied or successfully commissioned 1) Single Project of 150 KW OR 2) Two Projects 120 KW OR 3) Three Projects 90 KW OR minimum 180 KW aggregate of grid connected solar rooftop / ground mounted photovoltaic systems except solar lanterns / street light to any State Nodal Agencies / Government Departments / Private sectors during the last three financial years.</p>	<p>(Satisfactory commissioning / functioning report containing complete system details shall be submitted in physical form in seal cover "EMD Cover Documents.")</p>
2	<p>The Bidder shall use only SPV modules manufactured in India</p>	<p>Necessary undertaking letter shall be submitted from the module manufacturer.</p>
3	<p>The Bidder shall agree to accept the entire quantity that is finally allotted to him.</p>	<p>Necessary undertaking shall be enclosed in this regard.</p>
4	<p>Various components of the SPV system shall conform to the MNRE standards as per the Technical Specification.</p>	<p>Copy of valid test certificates/type test reports for each component shall be submitted.</p>
5	<p>Bidder(s) shall not be currently blacklisted by any of the State or Central Government or undertakings of the State/Central Government or Union Territories of India as on date of submission of tender.</p>	<p>Necessary Undertaking letter shall be furnished.</p>

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SR. NO.	Minimum Eligibility Criteria	Proof to be submitted for fulfilling the Eligibility Criteria
6	Bidder must be registered under GST	GST Registration Certificate/Provisional Registration

9.2. Financial Criteria:

- 1.1. **To qualify, the bidder must have Experience for such work in Single Turnkey Contract of 0.76 Cr. in last 7 Years OR Experience for such work in Two Turnkey Contract 0.61 Cr. in last 7 Years OR Experience for such work in Three Turnkey Contract 0.46 Cr.in last 7 Years**

- 1.2. **A Net Worth for the each of the last three Financial Years should be positive. Net worth means the sum total of the paid up capital and free reserves (excluding reserves created out of revaluation) reduced by aggregate value of accumulated loses (including debit balance in profit and loss account for current year) and intangible assets. Certificate from CA is required.**

- 1.3. **Minimum Average Annual Turnover (MAAT) for best three years out of last five financial years of the bidder should not be less than 0.46 Cr. (The self-certified copy of balance sheet for last three years duly audited / certified by Chartered Accountant to be submitted in physical form in seal cover "EMD Cover Documents.") Certificate from CA is required.**

- 1.4. **Bidder shall have liquid assets (LA) and/ or evidence of access to or availability of fund based credit facilities of not less than 0.15 Cr. CA certificate is required.**

Note 1: Information submitted by the bidder with respect to experience and qualifications shall be supported by (a) mandate letters/work orders giving details of scope and cost data AND (b) completion certificates from the respective clients OR evidences towards receipt of final payment of at least 90% of the contract value, failing which their experience claims will not be considered for evaluation.

Note 2: The experience certificates shall comprise of the following:

Experience certificates issued by the respective employers/Contractee on their letter heads with their seals and signature must include order no & date, scope of work, date of completion of work, total cost of work completed and overall satisfactory performance.

Note 3: Information provided on the bidder's financial capacity shall be duly certified by a practicing Chartered Accountant; documents submitted without the required certification will not be considered for evaluation. Further, details

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covered in the respective schedules, especially related to turn over shall be considered only if authenticated by a practicing Chartered Accountant.

Note 4: Since the tender proposed to be floated is a turnkey tender, no price preference will be extended to local SSI Units.

Note 5: GNLU has the right to request the bidders to furnish the required documents/clarifications before opening of price bid.

10. WORK SCHEDULE & TIME FOR COMPLETION OF THE PROJECT

- 10.1.1. **The completion period of the total turnkey project shall be two (02) months from the effective date. The Effective Date will be after One (01) Month of Commencement Period from the Date of Detail Order Issued. The Prototype inspection must be completed within this One Month of Commencement period.**
- 10.1.2. The work shall be considered to be completed only after due certification by the GNLU's authorized representative and GNLU's Engineer/GNLU Nominee-in-charge under whom the work is being carried out.
- 10.1.3. Strict adherence to the time schedule for performing the works specified in the tender specifications shall be the essence of the contract.
- 10.1.4. GNLU reserves the right to request for a change in the work schedule during pre-award discussions with the successful Bidder.
- 10.1.5. The Contractor shall submit a work schedule to the Registrar, GNLU within 15 (fifteen) days from the date of LOA with details such as a) supply of SPV Unit along with matching material and b) erection schedule for respective Unit along with mile stones and timeline to complete the project in given timelines.
- 10.1.6. The work schedule shall consist of adequate number of activities covering various key phases of the work such as design, procurement, manufacturing, shipment and field erection, testing & commissioning activities. This work schedule shall also indicate the interface facilities to be provided by GNLU and dates by which such facilities are needed. During the performance of the contract, if in the opinion of the GNLU's authorized representative and/ or GNLU's Engineer/GNLU Nominee-in-charge, proper progress is not being maintained; suitable changes will be made in the contractor's operations to ensure proper progress without any cost implication to GNLU.
- 10.1.7. The contractor should plan the "supply and erection" under each 'Unit' of work in such a way that the assets created get quickly converted into 'Useful section'
- 10.1.8. An indicative work schedule for each 'Unit' is shown below for guidance of the contractor.
- 10.1.9. Based on the above work schedule, weekly/monthly progress report shall be submitted by the contractor as directed by the GNLU's authorized representative and/or GNLU's Engineer/GNLU Nominee-in-charge.
- 10.1.10. Subsequent to the work schedule, the contractor shall make available to the GNLU's authorized representative and/or GNLU's Engineer/GNLU Nominee-in-charge a detailed progress Report in line with the work schedule. The same shall be reviewed, updated and submitted to the GNLU's authorized representative and/or GNLU's Engineer/GNLU Nominee-in-charge on weekly basis.

11. PENALTY AND GST

11.1. Deduction against Penalty due to Delay in Completion of Projects

11.1.1. If the contractor fails to perform its obligation under the scope of work within the specified period given in the letter of award/ contract documents, the contractor shall pay to GNLU as penalty, a sum of half per cent (0.5%)+GST for work executed after time limit for each calendar week of delay or part thereof. Further Penalty is also to be imposed on work which is completed within execution period but not handed over to GNLU even after completion of all Formalities like approvals etc. and due to which System cannot be put in Operation after specified period given in the contract. However, the amount of penalty for the Contract shall be limited to a maximum of ten per cent (10%)+GST of the total contract price. For the purpose of penalty computation, for delay in work, the contract price shall be taken as total of delayed part price and non-handed over Qty. price of the project.

GST is applicable on Penalty recovered.

11.1.2. Equipment and materials shall be deemed to have been delivered only when all of its components, parts, operating manuals, and drawings are delivered. If certain components are not delivered in time, the equipment's and materials will be considered as delayed until such time, the missing parts are delivered.

11.1.3. This excludes delay in the completion of the work due to unforeseen reasons beyond the control and without fault and negligence of the Bidder including (but not restricted to) act of God or public anomie action of Government in its sovereign capacity, floods, epidemics, strikes, lockouts, fires and accidents. In the event of any of the aforesaid contingencies GNLU may be promptly kept informed by the Bidder by e-mail / Fax followed by confirmation in writing with documentary proof within fifteen days of commencement and cessation of Force Majeure circumstances. Under such circumstances reasonable extension of time shall be granted by GNLU. Application for such extension must be made after completion of work as per agreement. In the event of termination of the agreement, GNLU shall be at liberty to get the remaining part of the work done through any other agency / Bidder at the risk and cost of successful bidder and in the manner and on the terms it thinks proper. If the cost of executing the work as aforesaid shall exceed the balance due to the Bidder, and the Bidder fails to make good the deficiency, GNLU may recover it from the Bidder in any lawful manner.

12. PAYMENT TERMS

- a) **50% payment** of against supply of material as per the specification and producing invoice.

40% payment against successful commissioning in all respect against these each installed locations as per Order quantity.

Successful commissioning means submission of necessary documents (Appendix 3 Part – A,B,C) in **triplicate** at GNLU & after on-site verification, inspection, by GNLU and / or its authorized inspection agencies as per norms of GNLU, for which the claim is received.

Above Payments will be made by GNLU Office on submission of required Documents.

- b) **Balance 10% payment** of the order value and security deposit (10%) shall be made after taking in to account the following pre requisites
- i. Payment made under clause (a) & (b) above and
 - ii. Satisfactory performance certificate duly signed by designated officer of GNLU showing its installation date and satisfactory performance for 100% ordered quantity in terms of identified locations as proposed in the tender document for solar roof top system.
 - iii. Against submission of Performance Bank Guarantee of 20% of order value (drawn on Nationalized Bank as per the prescribed format attached with tender documents) which should be valid for a period of five years from the date of completion of total order & should be submitted to Registrar Office, GNLU,.
 - iv. **Final Payment will made from Registrar Office on submission of above documents.**
- c) Security Deposit shall be released against submission of Performance Bank Guarantee. Performance Bank Guarantee shall be submitted after completion of ordered quantity.
- d) The supplier / contractor / successful bidder has to give Performance Bank Guarantee with validity period of additional 01 (one) month i.e. more than actual Guarantee period of 60 months (depending upon product) to safeguard Company's interest in case of any eventuality happening on the last day of the Guarantee period after office hours of the Bank or Bank holidays.
- e) Supplier has to submit Project Completion / Commissioning Report in the format (*Appendix - 3 Project completion Report for SPV Photo-Voltaic (PV) System*) along with photograph before and after the system installed & commissioned by them while claiming payment as per **(B)** mentioned above.

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- f) Supplier has to submit insurance policies while claiming payment as per (C) mentioned above.
- g) Final Payment will be made by GNLU office.
- h) In case of any type of misappropriations, cheating or intention of cheating, frauds, irregularities, malpractice, etc., GNLU reserves the right to cancel the order without giving reasons thereof and forfeit the security deposit and / or performance bank guarantee/s and purchase the system under risk & cost of the supplier.
- i) During site inspection by GNLU's staff / authorized representative, if the systems are found to be not installed and false report of installation & commissioning is submitted to GNLU for claiming payment, GNLU is empowered to take action(s) as deemed fit and or forfeit Security Deposit and / or performance bank guarantee/s up to 100%.
- j) Bidders are also required to quote rates inclusive of Comprehensive Maintenance during guarantee period of five years for the systems. The rates quoted should be inclusive of charges for providing routine maintenance services to ensure smooth and satisfactory performance of the system. Replacement of any components of the system is included in the scope of work of maintenance at free of cost. As per the **Appendix-2** format quarterly report should be prepared and submitted to GNLU after providing necessary services.
- k) Third Party Inspection may be carried out by the agency authorized by GNLU.
- l) The bidder should provide the bill of material for each system along with the delivery of system.

13. TENDER EVALUATION CRITERIA

13.1. PRELIMINARY BID

Earnest Money Deposit and tender fee in the prescribed form to be submitted with tender. (Please refer **Chapter -3 – Instruction to the Bidder** and **Chapter - 4 - Schedule-A** of tender)

13.2. TECHNICAL

The bids of only those bidders who have submitted the following required documents in physical form under seal cover of "EMD Cover Documents" and submitted required details / documents online in respective **Annexure** will be considered for technical evaluation.

SR. NO.	Minimum Eligibility Criteria	Proof to be submitted for fulfilling the Eligibility Criteria
1	<p>The Bidder must fulfill all the following minimum technical requirements specified</p> <p>The bidder should have supplied or successfully commissioned 1) Single Project of 150 KW OR 2) Two Projects 120 KW OR 3) Three Projects 90 KW OR minimum 180 KW aggregate of grid connected solar rooftop / ground mounted photovoltaic systems except solar lanterns / street light to any State Nodal Agencies / Government Departments / Private sectors during the last three financial years. (Satisfactory commissioning / functioning report containing complete system details shall be submitted in physical form in seal cover "EMD Cover Documents.")</p>	<p>Satisfactory commissioning / functioning report containing complete system details shall be submitted in physical form in sealed cover "EMD Cover Documents.")</p>
2	<p>The Bidder shall use only SPV modules manufactured in India</p>	<p>Necessary undertaking letter shall be submitted from the module manufacturer.</p>
3	<p>The Bidder shall agree to accept the entire quantity that is finally allotted to him.</p>	<p>Necessary undertaking shall be enclosed in this regard.</p>
4	<p>Various components of the SPV system shall conform to the MNRE standards as per the Technical Specification.</p>	<p>Copy of test certificates/type test reports for each component shall be submitted.</p>

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SR. NO.	Minimum Eligibility Criteria	Proof to be submitted for fulfilling the Eligibility Criteria
5	Bidder(s) shall not be currently blacklisted by any of the State or Central Government or undertakings of the State/Central Government or Union Territories of India as on date of submission of tender.	Necessary Undertaking letter shall be furnished.
6	Bidder must be registered under GST	GST Registration Certificate/Provisional Registration

13.3. Financial Criteria:

- 1.5. To qualify, the bidder must have Experience for such work in Single Turnkey Contract of 0.76 Cr. in last 7 Years OR Experience for such work in Two Turnkey Contract 0.61 Cr. in last 7 Years OR Experience for such work in Three Turnkey Contract 0.46 Cr.in last 7 Years**
- 1.6. A Net Worth for the each of the last three Financial Years should be positive. Net worth means the sum total of the paid up capital and free reserves (excluding reserves created out of revaluation) reduced by aggregate value of accumulated loses (including debit balance in profit and loss account for current year) and intangible assets. Certificate from CA is required.**
- 1.7. Minimum Average Annual Turnover (MAAT) for best three years out of last five financial years of the bidder should not be less than 0.46 Cr. (The self-certified copy of balance sheet for last three years duly audited / certified by Chartered Accountant to be submitted in physical form in seal cover "EMD Cover Documents.") Certificate from CA is required.**
- 1.8. Bidder shall have liquid assets (LA) and/ or evidence of access to or availability of fund based credit facilities of not less than 0.15 Cr. CA certificate is required.**

13.3.1. The bidder should have supplied or successfully commissioned 1)Single Project of 150 KW OR 2) Two Projects 120 KW OR 3) Three Projects 90 KW OR minimum 180 KW aggregate of grid connected solar rooftop / ground mounted photovoltaic systems except solar lanterns / street light to any State Nodal Agencies / Government Departments / Private sectors during the last three financial years. (Satisfactory commissioning / functioning report containing complete system details shall be submitted in physical form in seal cover "EMD Cover Documents.")

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13.3.2. Details of above work done in last three years (the copies of the orders and certificates from the user agencies to be uploaded in technical stage of online tender) is to be given in *Annexure - 3* of technical stage of online tender.

Technical Bids of only those bidders who are found qualified, based on considerations specified under will be opened.

13.4. GENERAL

13.4.1. The bidder should have declared, if any relative is working with or employee of GNLU in *Annexure - 5*

Offers not satisfying as per eligibility criteria will be liable for rejection.

GNLU reserves the right to accept or reject any or all the tenders. Decision taken by GNLU shall be final and binding on all.

13.5. PRICE BID EVALUATION

13.5.1. If any bidder is quoting for supply of Item/s, it is mandatory for them to quote installation (i.e. installation means erection of whole system, successful testing, commissioning of system and maintenance of system during guarantee period) portion also for respective supply item. If installation portion is missing then their quoted prices shall be assumed to be inclusive of supply and installation of solar system and if such bid is accepted, bidder shall supply, install, commission and maintain the solar system without any additional financial implication to PGVCL. The same will be applicable vice-versa also.

13.5.2. Bids shall be compared for award on total prices for the entire scope of work inclusive of GST. **Bidder has to quote the price in terms of per kW (Price Schedule B)**

14. TERMS OF REFERENCE

14.1. Scope of Work

The Solar Company/Firm/Bidder shall be obligated to perform the following **Work** in relation to the Project. The Scope of Work of the Solar Company/Firm/Bidder includes, but is not limited to, the following:

Design, develop, procure, construct, commission, operate and maintain during guarantee period at various roof mounted solar PV power packs totaling to Installed Capacity, which includes, but is not limited to the following:

- a) Solar PV modules.
- b) Mounting frames, structures, array foundation (grouting on terrace), earthing grid design, and module inter-connection.
- c) All System Junction boxes.
- d) Power Conditioning Units (PCU) with monitoring.
- e) MPPT – Max power point tracking built in the PCU.
- f) Appropriate AC power evacuation panels or inverters, according to Project Site requirements, with bus bars (in-built or otherwise) and circuit breakers.
- g) Protection or isolation systems.
- h) Power and Control Cables.
- i) Earthing system for PV Array, DC power system, lightning protection system.
- j) Data monitoring system with **remote monitoring facilities (Completely in scope of bidder).**
- k) Transportation, unloading, and loading of all equipment at Project Site.
- l) Project Management including adherence to all requisite safety practices.
- m) Firefighting equipment's (fire extinguisher and sand bucket with stand)
- n) Making arrangements for water in the plant area for module cleaning along with cleaning mechanism.
- o) Control panel with suitable material, proper ventilation for temperature control of the equipment and serviceability within the building.

14.2. Installation and Commissioning of roof top SPV

Installation and Commissioning of various roof mounted SPV power packs totaling to Installed Capacity, which includes:

- a) Confirm Feasibility of mentioned Solar PV System capacity along with site visit report, Design and construction of foundations or grouting for holding module mounting structures without puncturing the roof; maintaining proper drainage of rain water over terrace through the installation area; cable routings through PVC pipes not obstructing the movement on the terrace as per site requirement.
- b) Before commencement of work, the Solar Company/Firm/Bidder needs to obtain approvals from all concerned authorities including GEDA, GPCL, CEI and R&B department.
- c) All drawings shall conform to relevant IS/ IEC standards.

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- d) Special care to be taken while designing all structures for modules to cater to heavy rainfall, strong winds and earthquake that may be prevalent in the area.
- e) Serial Number (identification mark) must be permanently marked on all major components of the SPV systems. Metallic number plates with serial numbers duly riveted or fixed with strong adhesive for non-metallic body, as approved by GNLU, shall be fixed on each charge controller.
- f) Undertake Pre-commissioning and Commissioning of all supplied equipment:
 - i. Test running of the grid-connected solar Facility including load trials at Project Site, prior to handover and commencing energy export for metering.
 - ii. Grid commissioning; the plant needs to be grid interactive. Delivery points to be checked and certified by the Procurer for accuracy and safety.
 - iii. Installation of Main Meter and Backup Meter shall be done by the Solar Company/Firm/Bidder and the Solar Company/Firm/Bidder shall submit drawings for grid interface for each individual power pack and get approved prior to commencement of work on Project Site.
 - iv. Commissioning certificate from relevant authorities for the Facility.

14.3. General Instructions

- a) Water and power supply for the construction shall be the responsibility of the Solar Company/Firm/Bidder.
- b) Security, safety, watch, and ward of all materials at sites shall be the responsibility of the Solar Company/Firm/Bidder.
- c) The Solar Company/Firm/Bidder to obtain comprehensive insurance cover Of the Project up to guarantee period
- d) Liaison with R&B, GEDA, GPCL the Chief Electrical Inspector and any other statutory authorities as applicable for all the Project approvals.
- e) Expenses for any other works, supply of material, and providing services required for the successful commissioning and operation of the Facility, but not specifically mentioned in this document.
- f) Contractor safety management to be strictly complied with by the Solar Company/Firm/Bidder throughout Project activity.
- g) First-aid medical facilities at the Project Site during construction to be provided by the Solar Company/Firm/Bidder.
- h) All local labour, employment, and other issues shall be handled independently by the Solar Company/Firm/Bidder.
- i) The entire responsibility and risk relating towards the workforce working at the Project Site, and compliance of different statutory regulations like Workman Compensation Act, Employees' State Insurance Corporation, Factory Act 1948, Contract Labour Regulation, and Abolition Act 1970, Shop and Establishment Act 1948, and other Statutory regulatory bodies shall solely lie with the Solar Company/Firm/Bidder. The Solar Company/Firm/Bidder shall also be solely responsible for payment of wages, provident fund, bonus, retrenchment compensation leave, etc. applicable as per various statutory regulations to

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their entire workforce, and keep the Procurer indemnified in this regard against any Claim.

14.4. Statutory Clearances to be obtained by Solar Company/Firm/Bidder

The following Statutory Clearances to be obtained by the Solar Company/Firm/Bidder wherever applicable:

- a) Building and Architectural Drawings approvals from relevant authorities
- b) Factory Inspector approval for drawings
- c) Electrical System approval (Chief Electrical Inspector)
- d) Fire System approval (CFO)
- e) All equipment, accessories, materials, civil construction & erection works should comply with statutory requirements, IS and required and highlighted IEC standards.
- f) All statutory requirements for working at the Project Site like labour registration, workman compensation policy, ESIC etc. to be complied with by the vendor before deployment of resources at the Project Site.

14.5. Undertaking to be given by Solar Company/Firm/Bidder

The Solar Company/Firm/Bidder shall give undertaking that for the plant guarantee period of **5 (five)** years all the power packs covered under this Project will be operated, maintained and repaired whenever necessary so that all Units are operative and export maximum possible energy to the grid This shall be ensured through undertaking services that include, but are not limited to, the following

- i. Daily monitoring of plant performance.
- ii. Supply of all technical, production/operation data and information through a Monthly report.
- iii. Planned visits on a quarterly, and annual basis for preventative and corrective maintenance which include, but are not limited to the following:
 - a) Cleaning of solar panels on weekly basis during the guarantee period as appropriate to get maximum output from the panels.
 - b) Checking inverter cabinets (ventilation openings, lighting, leakages in inverter cabinets and cleaning of filters) and inverter maintenance. Solar Company/Firm/Bidder will keep the necessary spares at the Project Site.
 - c) Check security and fire protection system.
 - d) Check parts for corrosion.
 - e) Check the state of tightness of connections, fuses, main junction boxes, etc.
- iv. Adequate spares to ensure uninterrupted operation and minimum downtime during the entire period.
- v. Comprehensive maintenance of the Facility up to the energy meter shall be the responsibility of the Solar Company/Firm/Bidder.
- vi. Comprehensive maintenance during guarantee period of the systems shall include supply of spares, consumables, machine breakdown insurance, transpiration, and general comprehensive insurance covering fire, earthquake and provision of security personnel with the insurance policy which shall be taken in the name of GNLU Copies of the insurance policies are to be given to

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the concerned department, as and when taken/renewed. All risks associated with lapses or delays in insurance coverage, during the construction period, shall be at the Solar Company/Firm/Bidder's cost

- vii. The Solar Company/Firm/Bidder shall ensure efficient operation of the Project and the associated facilities to achieve the maximum power generation from the Project. For this purpose the Solar Company/Firm/Bidder shall engage the services of adequate number of Engineer and technicians. The Solar Company/Firm/Bidder shall also attend to all failures, rectifications, breakdown, comprehensive Operation and Maintenance checks. Weekly Management Information System (MIS) reports with generation and down time analysis data shall be made available to GNLU

The Solar Company/Firm/Bidder should not misuse the area and/or assign responsibility for the safety of machinery within the premises.

14.6. Key components of solar rooftop system

The Key components of solar rooftop system are as follows:-

- 14.6.1. **Solar Panels** - A solar panel (also solar module, photovoltaic module or photovoltaic panel) is a packaged, connected assembly of photovoltaic cells and it is used as a component of a rooftop system to generate and supply electricity (DC to AC). Solar panels usually form a part of a large solar array (multiple panels connected together). Each panel is rated by its DC output power under standard test conditions, and typically ranges from 100 to 450 watts.
- 14.6.2. **Junction box** - An electrical junction box is a container for electrical connections, usually intended to conceal them from sight and tampering. A small metal or plastic junction box may form part of an electrical conduit wiring system in a building, or may be buried in the plaster of a wall, concealed behind an access panel or cast into concrete with only the lid showing. It also includes terminals for joining wires.
- 14.6.3. **Inverter and Power Control Unit** - A solar inverter converts the variable direct current output of a photovoltaic (PV) solar panel into a utility frequency alternating current that can be fed into a commercial electrical grid or used by a local, off-grid electrical network. It is a critical component in a photovoltaic system, allowing the use of ordinary commercial appliances. Solar inverters have special functions adapted for use with photovoltaic arrays, including maximum power point tracking and anti-islanding protection.
- 14.6.4. **Manual/Automatic disconnect switch** - It is an automatically/manually operated electrical switch designed to protect an electrical circuit from damage caused by overload or short circuit. Its basic function is to detect a fault condition and, by interrupting continuity, to immediately discontinue electrical flow.

General System and Component Requirements The proposed solar PV based rooftop projects shall be developed across a number of distributed rooftops.

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Each rooftop shall have an individual solar PV based power plant (also called power pack) and each power plant shall be connected to the grid at an appropriate voltage based on the size of the plant and the availability of the grid.

14.7. General System Design Guidelines

Each individual solar PV rooftop based power plant shall be developed based on the actual availability of space on the rooftop and convenience of the rooftop owners. The broad general guidelines for the development of individual plants shall follow the following key points:

- a) Each individual plant capacity may vary based on rooftop sizes and system sizes. Individual plant capacity may vary as per the technical feasibility of the location as per the Solar Policy.
- b) Each plant shall feed AC power to the distribution grid of the respective building as per power evacuation and interconnection requirements.
- c) Each plant shall consist of a solar PV array, a fixed solar PV array support structure, junction box, DC cabling, DC distribution box, inverter and power control unit, AC cabling, AC distribution box, main distribution panel and meters.
- d) The individual Solar PV arrays shall be installed on existing terraces/rooftops of buildings using fixed solar PV array support structures.
- e) The individual junction boxes and DC cabling shall be installed on the existing terraces/rooftops of buildings.
- f) The individual inverter and the power control units (PCU's) shall be installed either in a control room/closed but air ventilated space provided in the respective buildings or next to the panel arrays in case of large buildings based on considerations like safety, efficiency and loss reduction.
- g) Individual DC and AC distribution boxes, DC and AC cabling, energy meters and main distribution panel shall be installed either in the control room or in an appropriate open space provided in the respective building.
- h) A weather monitoring system shall be installed by contractor for measurements of plane and global irradiance, ambient and module temperature, wind etc. these data shall be used for calculating the adjusted NEEGG and performance calculation of solar plant.

14.8. Interconnection Requirement: Scope of Work for the Solar Company/Firm/Bidder

14.8.1. The Project aims to develop decentralized power generation using photovoltaic plants that feed energy to the grid.

14.8.2. All work must be carried out as per the following :

- ✓ Indian Electricity Act and rules therein
- ✓ Indian Electricity Grid Code
- ✓ Central Electricity Authority (CEA) (Technical Standard for connectivity to the grid) Regulation, 2007
- ✓ Direction of the State electricity regulatory commission (GERC)
- ✓ Regulations of Chief Electrical Inspector

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The Solar Company/Firm/Bidder must place danger plates and warning signs at all relevant places as the plants would be on the roofs of occupied buildings of offices or residences.

14.9. Quality and Workmanship

Solar PV modules are designed to last 25 years or more. It is therefore essential that all system components and parts, including the mounting structures, cables, junction boxes, distribution boxes and other parts also have a life cycle of at least 25 years. Therefore all works shall be undertaken with the highest levels of quality and workmanship. During inspection special attention will be given to neatness of work execution and conformity with quality and safety norms. Any rework during the comprehensive maintenance tenure shall be done by the implementing agency.

14. 10. Delivery Points

The Gujarat solar Policy 2015 specifies the evacuation specifications for photovoltaic systems based on installed capacities. These specifications shall be followed in designing the system and arriving at the delivery point based on mutual discussions with the distribution company.

Table: Classes and evacuation specifications for photovoltaic systems

System capacity	System type	Evacuation
1 kW to 6 kW	Rooftop	230 V , 1 Phase
6 kW to 100 kW	Rooftop	415 V , 3 Phase

The evacuation specifications mentioned above are the minimum voltage specifications corresponding to the respective system capacity. The GERC Solar Tariff Order lists the mechanism to arrive at the Delivery Point. In most cases the scheme proposed by the GERC shall be used to arrive at the Delivery Point. However in specific cases, the Delivery Point would have to be located at a higher voltage than the minimum evacuation specifications for such system capacities and the Delivery Point voltage would require to be stepped up due to system requirements like non-availability of appropriate voltage grid or lack of appropriate capacity of the Distribution Grid.

13.11 Warrantees and Guarantees to be provided / obtained by the Solar Company/Firm/Bidder

Besides conforming to the standards requirements the Solar Company/Firm/Bidder shall also have to ensure that the components/ sub systems of the rooftop solar PV systems continue to operate and generate power and do not fail due to a manufacturing or design flaw. These warranties are to be provided to the Solar Company/Firm/Bidder by the original equipment provider and shall cover warranty, performance and an obligation for replacement in case of defects.

15. SMALL SCALE (ROOFTOP) SOLAR PV SYSTEM CAPACITY SIZING

15.1. Solar Array Capacity

The capacity of a solar PV array (in kW_p, kilowatt-peak) depends on contract demand of the building and the shadow free rooftop (or other) area available. Total 300 kWp Solar PV Plants can be installed on various rooftops of GNLU building.

15.2. Assumptions

- The roof (or elevated structure) area requirement per kW of solar PV modules is about 12m².
- In Gujarat the typical average annual energy generation per installed kW of solar PV capacity is 1,500 kWh. (This number assumes a system capacity utilization factor of 18% and average grid availability of 95% during the daytime).

With these assumptions, the recommended capacity of the solar modules array of a proposed grid-connected solar PV system can be calculated with the following three steps.

Step 1: Calculate the maximum system capacity on the basis of the shade-free rooftop area.

Formula: Capacity = shade-free rooftop area (in square meters) divided by 12.

Example:

The shade-free rooftop area is 60 m².

The maximum solar PV capacity that can be installed on this rooftop area would be $60 / 12 = 5 \text{ kW}_p$

Step 2: Calculate the system capacity based on Contract Demand of the building.

Formula: Capacity = 50% Contract Demand of the building.

Example:

The Contract Demand (in kW) of the building where solar roof top system to be installed

The solar PV system capacity based on contract demand would be $(20 \text{ kW}_p) = 10 \text{ kW}_p$

Recommended Capacity: Take the lowest of the above two capacity calculation results.

In this example: 5 kW_p

16. GENERAL TECHNICAL SPECIFICATION FOR SMALL SCALE (ROOFTOP) SOLAR PV SYSTEMS

16.1. Objective

- 16.1.1. In grid-connected solar photo-voltaic (PV) systems, electricity generated is fed into the building loads that are connected to the GNLU grid through a service connection with surplus energy being fed into the grid and shortfall being drawn from the grid. . Grid-connected solar PV systems have no battery storage and will not work during grid outage. For buildings with grid-connected solar PV systems, the service connection meter needs to be of the bidirectional type, whereby import kWh and export kWh are separately recorded.
- 16.1.2. A grid-connected solar PV system consists of the solar panels, solar panels mounting structure, one or more solar grid inverters, protection devices, meters, interconnection cables and switches.
- 16.1.3. Components and parts used in solar PV systems should conform to the BIS or IEC or other international specifications, wherever such specifications are available and applicable.
- 16.1.4. The nominal steady electrical characteristic of the system are as follows:
- a. Single/ Three phase alternating current at 50 Hertz plus or minus 0.5 Hertz
 - b. Nominal voltage of 230 V/415V/11KV with +10% to -12.5% variation.
- 16.1.5. The Project shall be designed and capable of being synchronized and within a frequency range of 47.5 to 51.5 Hertz and voltage of 230V/415V/11kV
- 16.1.6. Short circuit rating: As a part of the detailed design process, the Solar Company/Firm/Bidder shall calculate the short circuit rating (minimum and maximum), and supply this information to the Procurer.

Note: The tolerances & electrical characteristics variations will be as per the Procurer.

The electrical clearances will be as per relevant standard.

16.2. System Requirements

The project aims to develop a replicable model of decentralized power generation using photovoltaic plants that feed energy to the grid. It envisages deployment of number of grid connected solar photovoltaic power project on the existing roofs of different buildings under jurisdiction of GNLU.

The technology for solar modules to be employed here would be crystalline silicon or any other technology (as appropriate) and should consider optimizing output from the limited space available. All the installation should be carried out in such a way that the power packs are easily accessible, cannot be seen from the roads outside building ,have minimum working life of 25(twenty five) years ,operate at optimum efficiency and provide maximum possible protections to the user ,building, grid, power pack itself and general environment.

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The scope would include design, manufacture, supply, installation, testing, commissioning and operations & maintenance for 5 (five) years of guarantee period of these solar power packs.

Following are the major components of the proposed system. Detailed specifications are given on following pages for each of these components. The Solar Company/Firm/Bidder should note that these are minimum requirements and the Solar Company/Firm/Bidder must provide more than these laid out requirements so as to achieve maximum energy output from various power packs.

- Solar PV modules
- Power Condition Unit (PCU)/Inverter
- Module mounting structure
- Solar Array Fuse
- DC Combiner Box
- AC Distribution Box
- AC & DC Cables
- Junction boxes
- Earthing and Lightening Protections
- Energy Meter

16.3. Specification of Solar PV Modules

The PV module must be tested and approved by one of the IEC authorized test centers of MNRE.

The Solar Company/Firm/Bidder should clearly indicate and confirm the technology proposed to be used in the project. The technology must have been commercially available and used at least for 1 (one) year in the field.

The Solar Company/Firm/Bidder will have to follow following technical specification for performance of their Scope of Work.

Detail Specification	Acceptable Norms
PV module types.	Mono crystalline / poly crystalline
Module certification from IEC approved test centers of (MNRE)	<ul style="list-style-type: none">• IEC 61215 for crystalline• IEC 61646 for thin film Both types must have IEC 61730-1,-2
Minimum wattage of individual Solar PV module	<ul style="list-style-type: none">• 300 Wp crystalline
The rated output variation of individual module from average modules in single Unit.	+/-3% in single plant so as to reduce mismatch losses

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Detail Specification	Acceptable Norms
	Each module shall display rating and power curve shall be available for inspection.
Power output rating	To be given for standard test conditions (STC). I-V curve of the sample module shall be submitted.
Salt Mist Corrosion Testing	As per IEC 61701
Module Frame	<ul style="list-style-type: none">▪ Aluminum anodized corrosion resistant material.▪ Shall be electrolytically compatible with mounting material
Module cover surface	<ul style="list-style-type: none">• Toughened high transmissive glass at front.• Multi-layered polymer sheet/glass cover at back• Suitable encapsulation and sealants to protect module from environmental effect such as moisture and dust.
Photo electrical conversion Efficiency of SPV module	>15% for crystalline type
Fill factor	>= 75%
Origin	Manufactured in India
Range of Temperature and Humidity for Satisfactory performance	Relative humidity up to 85% Temperature between -10 degree to +85 degree
Degradation warranty of Module	Crystalline silicon type modules shall carry warranty of minimum 25 years. Panel output (Wp) capacity to be >=90% of design nominal power for 10 years and >=80% of design nominal power for next 15 years.
Termination box	Thermo-plastic, IP 65, UV resistant
RF Identification tag for each solar module	Shall be provided inside the module and must be able to withstand environmental conditions and last the lifetime of the solar module.
RF Identification tag data	<ul style="list-style-type: none">a) Name of the manufacturer of PV Module Name and Monogram or symbol of the Manufacturer of Solar cells.b) Month, year and Place of manufacture (separately for solar cells and module).c) Country of origin (separately for solar cells and module).

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Detail Specification	Acceptable Norms
	d) I-V curve for the module. e) W_m , I_m , V_m and FF for the module. f) Unique Serial No and Model No of the module, Date and year of obtaining IEC PV module qualification certificate. g) Name of the test lab issuing IEC certificate. h) Other relevant information on traceability of solar cells and module as per ISO 9000 standard. i) Type or model number; j) Unique serial number k) Maximum suitable system voltage for the module

16.4. Power Condition Unit (PCU)/Inverter

- a) PCU shall include a facility to convert the DC energy produced by solar array to AC voltage, through DC bus, using its MPPT (Maximum Power Point Tracking) Control to extract maximum energy from array and produce AC power at 415V AC, 3 phase.
- b) MPPT Controller, IGBT (Insulated Gate Bipolar Transistor) based inverter and associated control or can be provided separately.
- c) The recommended solar grid inverter capacity in kW shall be in a range of 95% - 110% of the solar PV array capacity. The Continuous power rating of this individual unidirectional inverter shall be equivalent to minimum 80 % (eighty percent) of peak power rating of each power pack array.
- d) Each individual inverter will have all necessary protections against disturbances in frequency, voltage and current of the grid due to internal or external faults, abnormal temperatures and islanding. Its prime function will be to protect itself and solar array from any factors as well as avoid unintentional islanding.
- e) Once the PCU has been shut off as a protective measure it must automatically reconnect once the normal conditions are restored for minimum of 2 (two) minutes.
- f) There will be three modes of functioning viz. Sleep, stand- by and operational mode. It shall have optimum efficiencies for each mode as given in the specification sheets hereunder.

Technical Specification	Acceptable Norms
Total output power (AC)	To match solar PV plant capacity while achieving optimum system efficiency

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Technical Specification	Acceptable Norms
Input DC voltage range	As required for the solar grid inverter DC input.
Maximum power point (MPPT) tracking	Shall be incorporated, MPPT range must be suitable to individual array voltage in power packs
Number of independent MPPT inputs	Min. 2
Operation AC voltage	Three phase 415V (+ 15%, -10%)
Operating Frequency range	47.5 – 51.5 Hz
Nominal frequency	50 Hz
Waveform	Pure Sine Wave
Harmonics	AC side total harmonic current distortion <3% AC side single frequency current distortion <3%
Ripple	DC Voltage ripple content shall be not more than 3 %
Power factor of the inverter	0.8 inductive to 0.8 capacitive
Built-in Protection	AC high / low voltage; AC high /low frequency
Anti-islanding protection	As per VDE 0126-1-1, IEC 60255.5 / IEC 60255.27
Operating ambient temperature range	-10 deg C - +60 deg C
Humidity	0 – 95% Rh
Inverter efficiency	>=95% at 20% Load
Inverter weighted efficiency	>=94%
Protection degree	IP 65 for outdoor mounting, IP 54 for indoor mounting
Communication interface	RS 485 / RS 232 / RJ45 / USB Port
Safety compliance	IEC 62109-1, IEC 62109-2
Environmental Testing	IEC 60068-2 (1,2,14,30)
Efficiency Measurement Procedure	IS/IEC 61683
Cooling	Convection
Internal Wiring	Copper wires shall be insulated with flame resistant material
Losses	Maximum losses in sleep mode : 2W per 5 kW Maximum losses in standby mode : 10W
Casing protection levels	Degree of protection : Minimum IP-20 for internal units and IP 65 for outdoor units Should withstand temperatures from -10 to +60 deg Celsius Should withstand humidity up to 95 %
Operation	Completely automatic including wake up , synchronization (phase- locking) and shut down
Display type	LCD for data display. LCD / LED for status display
Indication through LED/LCD display	Inverter ON
	Grid ON
	Inverter Under/Overvoltage
	Inverter Overload

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Technical Specification	Acceptable Norms
	Inverter Over Temperature
IEEE 519- 1992	Recommended practices and requirements for harmonic control in electric power systems
IEEE928	Recommended criteria for terrestrial PV power
IEEE 929	Recommended practices for utility interface of residential and intermediate PV systems
IEC 61727	Photovoltaic (PV) Systems - Characteristics of the utility interface
IEC 62103	Electronic equipment for use in power installations
Display on Front Panel	Instantaneous & cumulative array power (W), Instantaneous & cumulative output power (W) Cumulative energy (Wh), DC voltage (V), DC current (A), AC voltage (V) (all three phases) AC frequency (Hz), AC current (A), Cumulative hours of operation (h), Daily energy produced Power factor, Ambient temperature, Solar radiation. Data logging facility

- g) Typical failure analysis report of PCUs and recommended list of critical components shall be provided by the vendor while submitting their offer
- h) Physical Isolation to be provided with TPN/MCB arrangements of suitable size as per load.

16.5. Solar PV Modules Mounting Structure

The PV modules shall be mounted on fixed metallic structures having adequate strength and appropriate design, which can withstand the load of the modules and high wind velocities. The support structure shall be hot dip galvanized steel or Aluminum.

Detailed specifications for the mounting structure:

Detailed specifications	Acceptable Norms
Wind velocity withstanding capacity	180 km / hour
Structure material	The array structure shall be made of hot dipped galvanized MS angles of suitable size subject to

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Detailed specifications	Acceptable Norms
	withstand the wind load of 180 Km/hour with (minimum 120 micron thickness of galvanization) Use of Aluminum profiles shall be considered depending on design considerations and subject to withstanding wind load criteria.
Bolts, nuts, fasteners, panel mounting clamps	Stainless steel SS 304
	The Structure shall be fixed type with option of periodic change in the tilt angle The module alignment & tilt angle shall be calculated to provide the maximum Annual energy output and this shall be decided based on the location of array installation.
Minimum distance between terrace and MMS at any point	Min. 2 inch
Mounting arrangement for RCC-flat roofs and ground installations	With removable concrete ballast made of pre-fabricated PCC (1:2:4), M15; assuring enough ground clearance to prevent damage of the module through water, animals and other environmental factors.
Mounting arrangement for metal sheet roofs	Mounting directly on the sheet metal, ensuring stability and wind withstanding capacity, or penetrating the sheet metal and fixing to the substructure, ensuring that the roof remains water proof and ensuring stability and wind withstanding capacity
Mounting arrangement for elevated structures	The elevated structure has to be securely anchored to the supporting surface. Concrete foundations of appropriate weight and depth for elevated structures mounted directly on the ground; bolted with anchor bolts of appropriate strength for elevated structures mounted on RCC surfaces. The array structure shall be grounded properly using maintenance free earthing kit suitable for mounting over building terrace.
Installation	The structures shall be designed for simple mechanical on-site installation. There shall be no requirement of welding or complex machinery at the installation site. The mounting of solar modules shall be done in such a way that there is no possibility of short circuit due to water logging. In addition, the structure of

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Detailed specifications	Acceptable Norms
.	the Unit or the module should be mounted in such a way so as to cause no puncturing or any other damage to the roof.
Access for panel cleaning and maintenance	All solar panels must be accessible from the top for cleaning and from the bottom for access to the module junction box.
Panel tilt angle	North – south orientation with a fixed tilt angle of 11 – 13 degrees (depending on location), south facing.
Module weight and Structure Strength	Total weight of the module and module mounting structure should not exceed 30kg per sq. mtr. It is clarified that the contractor shall be responsible for verification of the roof's structural strength for installation of the Unit. Structure shall be verified from reputed chartered structural consultants. Factor of safety for designing shall be considered Min. 1.5.

The prospective Installer shall specify installation details of the solar PV modules and the support structures with lay-out drawings and array connection diagrams. The work shall be carried out as per the designs approved by the GNLU.

16.6. Solar Array Fuse

The cables from the array strings to the solar grid inverters shall be provided with DC fuse protection. Fuses shall have a voltage rating and current rating as per IEC standard requirement. The fuse shall have DIN rail mountable fuse holders and shall be housed in thermoplastic IP 65 enclosures with transparent covers.

16.7. DC Combiner Box

A DC Combiner Box shall be used to combine the DC cables of the solar module arrays with DC fuse protection for the outgoing DC cable(s) to the DC Distribution Box.

DC Distribution Box

A DC distribution box shall be mounted close to the solar grid inverter. The DC distribution box shall be of the thermo-plastic IP65 DIN-rail mounting type and shall comprise the following components and cable terminations:

- Incoming positive and negative DC cables from the DC Combiner Box;
- DC circuit breaker, 2 pole (the cables from the DC Combiner Box will be connected to this circuit breaker on the incoming side);
- DC surge protection device (SPD), class 2 as per IEC 60364-5-53;
- Outgoing positive and negative DC cables to the solar grid inverter.

As an alternative to the DC circuit breaker a DC isolator may be used inside the DC Distribution Box or in a separate external thermoplastic IP 65 enclosure adjacent to the

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DC Distribution Box. If a DC isolator is used instead of a DC circuit breaker, a DC fuse shall be installed inside the DC Distribution Box to protect the DC cable that runs from the DC Distribution Box to the Solar Grid Inverter.

16.8. AC Distribution Box

An AC distribution box shall be mounted close to the solar grid inverter. The AC distribution box shall be of the thermo plastic IP65 DIN rail mounting type and shall comprise the following components and cable terminations:

- Incoming 3-core / 5-core (single-phase/three-phase) cable from the solar grid inverter
- AC circuit breaker, 2-pole / 4-pole
- AC surge protection device (SPD), class 2 as per IEC 60364-5-53
- Outgoing cable to the building electrical distribution board.

16.9. Cables

- All cables shall be supplied conforming to IEC 60227/ IS 694 & IEC 60502/ IS 1554. Voltage rating: 1,100V AC, 1,500V DC
- For the DC cabling, XLPE or XLPO insulated and sheathed, UV stabilized single core flexible tinned copper cables shall be used. Multi-core cables shall not be used.
- For the AC cabling, PVC or XLPE insulated and PVC sheathed single or multi-core flexible copper cables shall be used. Outdoor AC cables shall have a UV-stabilized outer sheath.
- The total voltage drop on the cable segments from the solar PV modules to the solar grid inverter shall not exceed 2.0%.
- The total voltage drop on the cable segments from the solar grid inverter to the building distribution board shall not exceed 2.0%
- The DC cables from the SPV module array shall run through a UV-stabilized PVC conduit pipe of adequate diameter with a minimum wall thickness of 1.5mm.
- Cables and wires used for the interconnection of solar PV modules shall be provided with solar PV connectors (MC4) and couplers.
- All cables and conduit pipes shall be clamped to the rooftop, walls and ceilings with thermo-plastic clamps at intervals not exceeding 50 cm. The minimum DC cable size shall be 4.0 mm² copper. The minimum AC cable size shall be 4.0 mm² copper. In three phase systems, the size of the neutral wire size shall be equal to the size of the phase wires. The following colour coding shall be used for cable wires:
 - ✓ DC positive: red (the outer PVC sheath can be black with a red line marking)
 - ✓ DC negative: black
 - ✓ AC single phase: Phase: red; neutral: black
 - ✓ AC three phase: Phases: red, yellow, blue; neutral: black
 - ✓ Earth wires: green

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- ✓ Cables and conduits that have to pass through walls or ceilings shall be taken through a PVC pipe sleeve.
- Cable conductors shall be terminated with tinned copper end-ferrules to prevent fraying and breaking of individual wire strands. The termination of the DC and AC cables at the Solar Grid Inverter shall be done as per instructions of the manufacturer, which in most cases will include the use of special connectors.
- All cables shall be from a reputed manufacturer and shall be in line with IEC 60189/IS 1554 IS 694. These also shall meet following standards.
 - **IEC 62208** : - General requirements for empty enclosure for low voltage switch gear and control gear assemblies
 - **IEC 60947**:- Standard test and measurement methods for PVC insulated cables for working voltages up to and including 1100V, UV resistant for outdoor applications.
 - **IEC 60947** :- Connectors for Photovoltaic system-Safety
 - **IEC 50521** : - Connectors for Photovoltaic system-Safety
 - **IEC 60189-1**:-Low frequency cables and wire with PVC insulation and PVC sheath-General test measuring methods.
 - **IEC 60189-2**:- Low frequency cables and wires with PVC insulation and PVC sheath-Cables in pairs triples, quads and quintuples for inside installations.

DC Cables in plants

All DC cable shall comply with standards: IEC 60332-1/3; IEC 60754-1/2; IEC 61034. DC cables shall meet following minimum requirements:

- All module interconnecting cables and those between solar module and array junction boxes shall be of flexible type. UV protected cables these shall be laid along the module mounting structures.
- Size of interconnection for modules and from modules to inverter shall be so selected that loss would not be more than 3%.
- The expected life of cables shall be not less than 30(thirty) years
- The cables shall have suitable insulation and outer sheath:
 - No fire propagation/flame retardant
 - Low smoke emission in case of fire
 - Halogen-free
 - High ambient temperature range -40 deg. C and +90 deg. C
 - Withstand conductor temperature of 120 C
- It shall have high resistance to UV, water, vapour, chemical, corrosion
- Should have certification of TUV

16.10. Junction Boxes

Specifications for junction boxes to be used in proposed roof top SPV power packs on roofs.

- The array junction boxes shall be dust, Vermin & waterproof & made of FRP/ABS plastic and Minimum as per IEC 62208 and IP 65 protected
- The array junction box will also have suitable surge protection.
- The junction boxes should be able to combine groups of modules into independent charging sub- arrays.
- The junction boxes should provide arrangement for disconnection for each of the groups
- It should provide a test point for each sub- group for quick fault location to provide group array isolation.
- The current carrying rating of the junction box shall be suitable with adequate safety factor to inter connect the Solar PV array.
- The junction boxes shall have suitable cable entry points fitted with cable glands of appropriate size for both incoming & outgoing cables
- Suitable markings shall be provided on the bus bar for easy identification & cable ferrules shall be fitted at the cable termination points for identification.
- Junction boxes and solar panel terminal boxes shall be of the thermo plastic type with IP 65 protection for outdoor use and IP 54 protection for indoor use.
- Cable terminations shall be taken through thermo-plastic cable glands. Cable ferrules shall be fitted at the cable termination points for identification.

16.11. Earthing and Lightning Arresters and Protections

All the SPV power packs including modules and mounting structures and inverters shall have proper arrangement for earthing. DC part of the plant shall be singly grounded. Module array shall also have lightning arresters as necessary.

Earthing

- The PV module structure components shall be electrically interconnected and shall be grounded.
- Earthing shall be done as per **RE Norms**, provided that earthing conductors shall have a minimum size of 6.0 mm² copper, 10 mm² aluminium or 70 mm² hot dip galvanized steel. Unprotected aluminium or copper-clad aluminium conductors shall not be used for final underground connections to earth electrodes.
- A minimum of two separate dedicated and interconnected earth electrodes must be used for the earthing of the solar PV system support structure with a total earth resistance not exceeding 1 Ohm.

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- Earthing shall be maintenance free chemical earthing with chemical compound and 3 meter copper electrode. The earth electrodes shall have a precast concrete enclosure with a removable lid for inspection and maintenance. The entire earthing system shall comprise non-corrosive components.

Surge Protection

- Surge protection shall be provided on the DC side and the AC side of the solar system.
- The DC surge protection devices (SPDs) shall be installed in the DC distribution box adjacent to the solar grid inverter.
- The AC SPDs shall be installed in the AC distribution box adjacent to the solar grid inverter.
- The SPDs earthing terminal shall be connected to earth through the above mentioned dedicated earthing system. The SPDs shall be of type 2 as per IEC 60364-5-53.

Anti-islanding Protection

When islanding is detected, the small generation sources trip offline. There are specific performance requirements for distributed generation defined in IEEE standard 1547, which cover the time in which anti-islanding protection should operate, and what levels of parameters define abnormal conditions. For anti-islanding protection in inverters, they specifically use a phase locked loop (PLL) with a small amount of positive feedback in its control loop to quickly and continuously check the grid connectivity. The following test/Standards can be used for testing the efficacy of the islanding arrangements:

- IEC 61727- PV system -characteristic of Utility interface
- IEC 62446-Grid connected photovoltaic system-Minimum requirements for system documentation, commissioning ,test and inspection
- IEC 62116-Test procedure of islanding prevention measure for utility-interconnected photovoltaic inverters

Besides the above measures, certain precautions prescribed the CEA in a solar rooftop technical note shall also be incorporated into the solar PV system design:

- PV system shall be provided with adequate rating fuses, fuses on inverter input side (DC) as well as output side (AC) side for overload and short circuit protection and disconnecting switches to isolate the DC and AC system for maintenance.
- Fuses of adequate rating shall also be provided in each solar array module to protect them against short circuit.

Secondary Protection

In case of failure of Primary protection i.e. islanding function of inverter Secondary Protection to be provided by installing "No Volt Relay" of suitable rating for tripping the main circuit breaker or contactor to prevent flow of power in the system in event of grid non availability.

Phase Imbalance

Phase imbalance can occur due to varied power injected into different phases of the grid. Whenever solar power plants (SPPs) of lower capacities with single phase inverters are used to feed power into the grid using a single phase injection point, they tend to induce imbalance.

This imbalance can be resolved simply by connecting /injecting power to difference phases in the same grid.

- The Solar Company/Firm/Bidder shall have to follow imbalance limits imposed by the GNLU and shall also have to follow the guidelines before connecting such limits to the grid.
- The Injection Phase for each system to be injected into a single phase shall be approved by GNLU.

Inter connection System

The AC output of the solar grid inverter shall be connected to the GNLU Grid electrical system before GNLU service connection meter on the supply side.

16.12. Energy Meter

Each solar system shall be provided with an energy meter for accurate periodical readings of AC energy generated and fed to the grid .This shall be inspected tested and the time of installation and also during operation lifetime of Facility.

SPECIFICATIONS FOR METERING SYSTEM

The Meter shall be of the same accuracy class as the GNLU service connection meter or as specified by GERC. Following GERC's orders on solar metering, solar projects will have "ABT compliant meters at the interface points" and conform to the CEA (Installation and Operation Meters) Regulations, 2006. An energy meter shall be of approved make of the GNLU and shall conform to the requirements laid down by the CEA's (Installation and Operation of Meters) Regulation, 2010. This shall be inspected, tested and calibrated at the time of installation and also during operation lifetime of power plant.

- Technical particulars as recommended by CEA subgroup shall be followed. The meter shall be a Bidirectional meter which shall record excess electricity

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generated and fed back into the grid installed along with the other existing load energy meter.

- CEA has notified regulations on "Installation and Operation of Meters", grid connectivity and technical standards of grid connectivity which stipulates the various technical requirements such as accuracy class of meters, level of harmonics and other requirements. The Solar Company/Firm/Bidder shall ensure that requirement of these Regulations are complied with for the metering.
 - The main meter should be of automated meter reading facility type and shall be provided for each Interconnection Point and shall meet the utility requirements. Backup meter also shall be provided for systems above 20 kW and shall be approved by the Procurer.
 - Minimum one meter shall be installed at each plant level in ACDB for measurement of energy generated from the plant.
 - Second meter shall be Net Meter three phase at 11 KV as per requirement) capable of recording import and export of power in kWh. These meters shall be MRI and AMR compliant. This meters shall be used for commercial reading, recording and payment.
 - Necessary arrangement shall be made by successful bidder for replacement of existing CT-PT unit, two pole structure and its protection equipments as per guidelines and specification of UGVCL, CEI & CEA.
 - Net Meter shall comply existing standard IS 14697 and IS 15959.
-
- Voltage Range
The following range as per system standards;
 - a. 1 Phase, 2 wire system, - 230 Volts (-30% to +20%)
 - b. 3 phase, 4 wire system- 415 Volts (-40% to +20%)
-
- Standard frequency
50 Hz +/- 5% in 1 phase and 3 phase system
-
- Standard Basic Current
 - 1 Phase system- 2.5, 5 and 10 A
 - 3 Phase system- CT operated (5 A) or whole current operated
-
- Accuracy Class
 - As per IS 13779 / IEC 61036, the Accuracy class will be - Class 1
 - As per IS 14697 / CBIP - 88, the Accuracy class will be Class 0.2S - for tariff metering.
-
- Power Factor
 - 1 Phase system - 0.5 Lag - Unity Power Factor - 0.8 Lead
 - 3 Phase system - 4 quadrant operation

16.13. Quality of Service

The Solar Company/Firm/Bidder shall be responsible for the delivery of energy conforming Performance Standards for injection in the Distribution Grid as may be approved by GERC from time to time.

The maximum current and voltage waveform distortion shall be in accordance with Engineer/ Recommendations, System Design and Development Committee, Limits for Harmonics in the Indian Electricity Supply System norms. Phase voltage unbalance will be limited to 1% (one percent).

16.14. Power Factor

The generator shall maintain the Power Factor as per the prevailing regulations of GERC and as may be stipulated / specified by the Procurer from time to time. The Solar Company/Firm/Bidder shall provide suitable protection devices, so that the Project could be isolated automatically when grid supply fails.

Connectivity criteria like short circuit level (for switchgear), neutral grounding, fault clearance time, current unbalance (including negative and zero sequence currents), limit of harmonics etc. shall be as per applicable grid code.

16.15. Tools, Tackles and Spares

The Installer shall keep ready stock of tools, tackles and essential spares that will be needed for the day-to-day maintenance of the solar PV system. This shall include but not be limited to, the following:

- Screw driver suitable for the junction boxes and combiner boxes;
- Screw driver and / or Allen key suitable for the connectors, power distribution blocks, circuit breaker terminals and surge arrestor terminals;
- Spanners / box spanners suitable for the removal of solar PV modules from the solar PV module support structure;
- Solar panel mounting clamps;
- Cleaning tools for the cleaning of the solar PV modules;
- Spare fuses.

Note: Post completion of guarantee period, successful bidder to handover one complete set of tools and tackles to GNLU.

16.16. Caution Signs

16.16.1. In addition to the standard caution and danger boards or labels as per Indian Electricity Rules, the AC distribution box near the solar grid inverter, the

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building distribution board to which the AC output of the solar PV system is connected and the Solar Generation Meter shall be provided with a non-corrosive caution label with the following text:

WARNING – DUAL POWER SOURCE GNLU & SOLAR

- 16.16.2. The size of the caution label shall be 105mm (width) x 20mm (height) with white letters on a red background.
- 16.16.3. Caution labels as may be prescribed by GNLU shall be fixed as per GNLU specifications.

16.17. Documentation

- 16.17.1. The Installer shall supply the following documentation:
- a. System description with working principles.
 - b. System single line diagram.
 - c. Solar PV array lay-out.
 - d. Routing diagram of cables and wires.
 - e. Data sheets and user manuals of the solar PV panels and the solar grid inverter.
 - f. A system operation and maintenance manual.
 - g. Name, address, mobile number and email address of the person/ service Centre to be contacted in case of failure or complaint.
 - h. Warranty cards.
 - i. Maintenance register.

16.18. Test Certificates and Reports

Test Certificates / Reports from IECQ / NABL accredited laboratory for relevant IEC / equivalent BIS standard for quoted components shall be furnished. Type Test Certificates shall be provided for the solar modules and the solar grid inverters to provide evidence of compliance with specified relevant standards. Customer reserves the right to ask for additional test certificates or (random) tests to establish compliance with the specified relevant standards.

17. ANNEXURES

Annexure - 1 undertaking (To be submitted in Online tendering mode)

TENDER NO.: _____

Sub: Supply, Installation & commissioning of Solar Photo-Voltaic (PV) System at Various Locations within the Jurisdiction of GNLU

In connection with the above subject, I / We confirm the following:

- I. I / We the undersigned have read and examined the Tender Document No. GNLU/DSM/IPDS-Solar/01, for Supply, Installation & commissioning of Solar Photo-Voltaic (PV) System at various locations within the Jurisdiction of GNLU of Gandhinagar, Gujarat.
- II. I / We declare that our offer is strictly in line with Tender Specification and there is no deviation. Further, I/We also agree that additional conditions / deviations, if any, found in our bid, the offer shall be out rightly rejected without assigning any reason thereof.
- III. I / We hereby submit our bid and undertake to keep our bid valid for a period of 120 days from the date of opening of technical bid. I / We hereby further undertake that during the said period, I / We shall not vary/alter or revoke my/ our bid.
- IV. / We, an authorized signatory of our company (bidder) here by certify that our company (bidder) is not stopped deal/blacklisted by GUVNL and or their any subsidiary company viz. GSCEL / GETCO / DGVCL / MGVCL / UGVCL /PGVCL and GNLU or by any other Govt. PSU / Govt. Company / Govt. Department.
- V. I/We also agree to abide by and fulfill all the terms, conditions and provisions of the above mentioned bid documents.

Signature of the Authorized Signatory and
Seal of the Company

Tender: No: GNU/Turnkey/Solar Rooftop/PC-04/2018

Annexure - 2 Manufacturing Capacity of bidders/bidder's suppliers offered for Solar Panel

(To be submitted in Online tendering mode)

Manufacturing Capacity of bidders/bidder's suppliers offered for Solar Panel

Name of the Bidder	
Address of the Manufacturing Facility	

Item	Manufacturing capacity of SPV modules per month	No. of systems committed to be supplied, installed and commissioned in the State before end of March-2016.
Solar Photovoltaic Photo-Voltaic (PV) Systems		

Signature of the Authorized Signatory and
Seal of the Company

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Annexure - 3 Details of similar work experience in last three years

(To be submitted in online mode only)

Sr. No.	Name of the Company with full address, phone, fax and name of contact person with e-mail ID.	Work Description / Qty. Supplied.	Ref. & date of the order	Work Order Value	Details of order & its configuration

Note:

The copies of MAJOR Work orders along with Work completion certificates should be *uploaded in technical stage of online tender*. If necessary, separate sheet may be used to submit the information.

Signature of
the Authorized Signatory and

Seal of the Company

Tender: No: GNLU/Turnkey/Solar Rooftop/PC-04/2018

Annexure - 4 Details of Technical staff available with the company for execution of work

(To be submitted in online mode only)

(To be completely filled by the Bidder)

No.	Name	Qualification	Additional Certification, if any	Total Experience, no. of years	Remarks

Note:

The copies of resumes and appropriate certificates should be *uploaded in technical stage of online tender*. If necessary, separate sheet may be used to submit the information.

Signature of the Authorized Signatory and
Seal of the Company

Tender: No: GNLU/Turnkey/Solar Rooftop/PC-04/2018

Annexure - 5- DECLARATION

(To be submitted in online mode only)

(Strike off whichever is not applicable)

This is to declare that Mr. / Ms. _____, employee of GNLU at _____ (place), is related to our _____ (designation & name).

Note: Bidders has to reproduce above declaration in the text box area with filling of all blanks.

OR

This is to declare that none of the Proprietors / Partners / Directors is having any relatives employed or working with GNLU's at any of its offices.

Date:

Signature of the Authorized Signatory and
Seal of the Company

Tender: No: GNLU/Turnkey/Solar Rooftop/PC-04/2018

Annexure - 6 - DEVIATION SHEET

(To be submitted in online mode only)

Any deviations offered from the terms and conditions of the offer should be clearly specified below in this sheet. If there are no deviations offered, it should be clearly mentioned on this page.

Deviation offered to Chapter No./ Clause No. of the tender document	Deviation offered

Date:

Signature of the Authorized Signatory and
Seal of the Company

Tender: No: GNLU/Turnkey/Solar Rooftop/PC-04/2018

Annexure - 7 List of Plant and Machinery

(To be submitted in online mode only)

List of Plant and Machinery

(To be completely filled by the Bidder)

For manufacturing of Solar PV panels:

Sr. No.	Name of equipment	Date of purchase	Date of calibration	Utility

Date:

Signature of the Authorized Signatory and
Seal of the Company

Tender: No: GNLU/Turnkey/Solar Rooftop/PC-04/2018

Annexure - 8 - UN – PRICED SCHEDULE (COPY WITHOUT PRICES)

(To be submitted in online mode only)

UN – PRICED SCHEDULE (COPY WITHOUT PRICES)

Sr. No	Details of the Items / Equipments Offered	Quantity Offered	Firm's Per Annum Production Capacity for the offered item / items.

Date:

Signature of the Authorized Signatory and
Seal of the Company

Tender: No: GNLU/Turnkey/Solar Rooftop/PC-04/2018

Annexure - 9 - Non-Blacklisting Declaration

(To be submitted in online Mode only)

(UNDERTAKING IN REGARD TO STOP DEAL / BLACK LIST THEREOF)

Sub: Undertaking in regard to Stop Deal / Black List thereof.

Ref: Tender No.: GNLU/DSM/IPDS-Solar Roof Top/PC-04/2018

.....

I / We _____
authorized signatory of M/S _____ here by
certify that M/S _____ is not stop deal / black
listed by GUVNL and or their any subsidiary company viz. GSECL / GETCO / DGVCL /
MGVCL / UGVCL / PGVCL/ and GNLU for the tendered item.

Date:

Note: Bidders has to reproduce above declaration in the text box area with filling of
all blanks.

Signature of the Authorized
Signatory and
Seal of the Company

Tender: No: GNLU/Turnkey/Solar Rooftop/PC-04/2018

Annexure - 10 – Memorandum

(To be submitted in online mode only)

1	PRICES: [i.e. FIRM]	YES / NO
2	GST : [IN %]	_____ % <i>First</i>
3	PENALTY TERMS OF TENDER AGREED:	YES / NO
4	PERFORMANCE GUARANTEE TO COVER EXECUTION PERIOD (SECURITY) TERMS OF TENDER AGREED:	YES / NO
5	PERFORMANCE GAURANTEE TO COVER GAURANTEE PERIOD (INCLUDING MAINTENANCE DURING GUARENTEE PERIOD) TERMS OF TENDER AGREED: (Wherever applicable):	YES / NO
6	VALIDITY OF THE OFFER OF TENDER AGREED	YES / NO
7	PAYMENT TERMS OF TENDER AGREED:	YES / NO
8	Scope of work, technical specification and General & Commercial Terms and condition of tender.	<i>Accepted / Not Accepted</i>
9	QUANTITY OFFERED (Solar PV System):	

Note:

Percentage /amount of excise duty and sales tax will be considered as offered in price bid.

Signature of the Authorized Signatory and
Seal of the Company

Tender: No: GNLU/Turnkey/Solar Rooftop/PC-04/2018

Annexure - 11– Document Enclosed

(SCANNED / PHOTO COPY OF EACH OF FOLLOWING TO BE UPLOADED IN ONLINE / E - TENDER FORMAT ONLY AS AN ATTACHMENT)

Bidders are required to upload the below details /documents in technical stage of online bid. The documents are required for technical bid evaluation.

- (1) List of testing equipments (must have been calibrated up dated) at the works of manufacturer for tender items/s.
- (2) List of machinery installed for manufacturing tender item/s at the works of manufacturer
- (3) Annual production capacity (with shift in operation) of each item manufactured
- (4) GSTIN Registration no. and date and issuing authority
- (5) Valid factory license (for manufacturer)
- (6) EPF Registration No. and date of issue in the name of bidder.
- (7) The copy of Income tax PAN No. in the name of bidder
- (8) Audited Accounts and financial turnover of last three years of the firm / bidder duly audited by C.A.
- (9) Performance reports, if any
- (10) Consent letter from their principals to manufacture such items whenever applicable
- (11) Copy of partnership deed / Memorandum of Pvt. or Public limited company's issued by RoC/relevant office in respect of bidder
- (12) The list of order/s and the copy of order/s of tender item/s of GUVNL and other NLU / SEB of the country, which is / are executed in last three years (to be submitted in physical form in "EMD Cover Document" also)
- (13) The list of order/s and the copy of order/s of tender item/s of other NLU / SEB of the country, which is / are under execution
- (14) The documents / copies related to Annexure - 3
- (15) The documents / copies related to Annexure - 4
- (16) Certified copy of GST registration is required
- (17) *All the relevant documents ,Experience certificates, reports and financial documents satisfying the eligibility /qualifying criteria as per the tender*

Note: In case of non-uploading of document or attachment of wrong document, bid/offer may not be considered for technical bid evaluation.

Signature of the Authorized Signatory and
Seal of the Company

Tender: No: GNU/Turnkey/Solar Rooftop/PC-04/2018

Annexure - 12 DETAILS OF THE FIRM

(TO BE SUBMITTED / FILLED IN ONLINE / e-TENDER FORMAT ONLY)

GENERAL INFORMATION ABOUT THE BIDDER & their OEMs

Supplier / Bidder Category	Manufacturer/Authorized dealer/distributor/Trader/Agent
Bidder / Supplier Name	
Manufacturers' Name	
Manufacturing Works/factory at	
Works Within Gujarat / Outside Gujarat	
Firm/Pvt. Firm / Public Ltd. / State Govt. Under taking / Central Govt. undertaking	
GSTIN TIN Date of bidder	
MSEs / SSI Certificate /EM No. and Date (in case of mfg.)	
NSIC/DGS&D/CSPO Certificate No. (Should be revalidated since last 3 yrs.)	
NSIC/ DGS&D/CSPO Certificate Date.	
Whether under NSIC/ DGS&D/CSPO scheme. If Yes then Monetary limit.	Rs.
ISO Certification Details	
Name of ISO Certification Agency	
Validity Period of ISO Certification	From Date_____ to Date_____
Manufacturing facilities (a list of machinery be attached as per Annexure - 7)	
Name and address of the Indian/Foreign collaborator(s) if any.	
Details of Technical Staff available. (Please furnish information as per Enclosed Annexure - 4)	
Details of workmen on muster roll Skilled / semi-skilled / unskilled (attach copy of muster roll)	

(Sign. & Seal of the Bidder)

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Turnover of company for last 3 years and profit for each year. (With Annual Accounts). Duly audited/certified by C.A. firm.		Year_____ Rs._____	
		Year_____ Rs._____	
		Year_____ Rs._____	
Has any Govt. Dept. / Undertaking ever debarred the company / firm from executing any work?			
Address of	Registered Office of bidder	Factory / Works of mfg.	Authorized Representative/ Signatory
Contact person name			
Designation			
Address			
City & Pin code			
State			
Country			
Phone Nos.(Office)			
Phone Nos.(Residence)			
Fax Nos.			
STD Code.			
Mobile No.			
Web site address			
Email-id			
Specimen signature			

Signature of the Authorized Signatory and
Seal of the Company

18. APPENDIX

Appendix - 1 Format for Guarantee Card

FORMAT FOR GUARANTEE CARD TO BE SUPPLIED WITH EACH SOLAR PV ROOF TOP SYSTEM

1. Name & Address of the supplier of the System:
2. Name & Address of Purchasing Agency :
3. Date of supply of the system :
4. Details of PV Module (s) supplied in the System

Make (Name of the Bidder):

Model Serial No(s)

Wattage of the PV Module (s) under STC

Guarantee valid up to

5. Details of Electronics & other BOS items.

System Make (Name of the Bidder)

Model

Serial No(s)

Guarantee valid up to

(Signature)

Name & Designation

Name & Address of the Bidder/bidder

(SEAL)

Place & Date:

(During the guarantee period GNLU / Users reserves the right to cross check the performance of the systems with the minimum performance levels specified in the MNRE / Tender specifications).

Tender: No: GNLU/Turnkey/Solar Rooftop/PC-04/2018

Appendix - 2 Quarterly Maintenance & Servicing Report

1. DETAILS OF SOLAR PHOTOVOLTAIC PHOTO-VOLTAIC (PV) SYSTEM INSTALLED

1. Supplied by :
2. Date of installation :
3. Servicing period : From to

2. USER PROFILE

1. Name and address of User:

3. TECHNICAL DETAILS

2. SPV Module Capacity, make and serial numbers :

4. CHECK OF THE PRODUCT

1. Correct inclination and orientation of SPV panel :
2. Cleaning of dust from SPV panel :
3. Interconnection of modules, charge controller etc.:
4. Fuse of charge controller:

5. DIFFICULTIES IN OPERATION/ PROBLEM FACED BY USER:

6. DIAGNOSIS DETAILS/ REPAIR ACTION:

7. DATE ON WHICH SYSTEM WAS LAST ATTENDED:

REMARKS:

User Name & Signature

Date:

Technician's Name & Signature

(with rubber stamp)

Tender: No: GNLU/Turnkey/Solar Rooftop/PC-04/2018

Appendix - 3 Project completion Report for SPV Photo-Voltaic (PV) System

Part A:-By the Contractor

S No	Component	Observation
1	Sanction No & Date	
2	Category :-Nodal Agency/ Channel partner (Name) and Complete Address	
	Site/ Location with Complete Address	
	Longitude/ Latitude	
3	Capacity of system installed(kWp)	
4	Specification of the Modules	
	Type of modules(multi/mono)	
	Make of Modules and year of manufacturing	
	Wattage and no of modules	
	Module Efficiency	
	No of series &Parallel combinations	
	Tilt Angle of Modules	
4.1	IEC certificate Date of issue Agency Validity Enclose a IEC certificate	
4.2	Whether imported or indigenous.	
4.3	RFID tag is pasted inside or outside	
4.4	Type of RFID	
5	PCU	
	Make,& rating Type of Charge controller/MPPT	
	Capacity of inverter and year of manufacturing	
	AC Output	
	Whether hybrid or stand alone	

Tender: No: GNU/Turnkey/Solar Rooftop/PC-04/2018

	Whether indigenous or imported	
	Enclose test certificate as per MNRE requirement	
	Input Voltage to Inverter	
6	Structures	
	Tracking or non-tracking	
	Indigenous or imported	
7	Cables Make and size	
	Enclose Certificate: Rating :-	
	voltage of cable	
8	Distribution Box	
	Name	
	Make	
	Certificate	
9	Earthing and protections	
	Lightening Arrester (Type)	
10	Date of Commissioning	
11	Enclose Generation data for one month (for without battery systems)	
11a.	Enclose energy consumption data for one month (for battery based systems)	
12	Monitoring Mechanism for the installed System	
	Technical Person Trained to maintain system	
	Name with Mobile no.	

Declaration

It is to certify that all the components/subsystems and materials including junction boxes, cables, distribution boards, switches, circuit breakers used are as per MNRE requirement.

(Solar Company/Firm/Bidder signature and stamp)

Date and place

(Sign. & Seal of the Bidder)

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Part B: - By the customer

S No	Component	Observation
1	Name of the customer	
2	Location	
	Capacity (kWp)	
	Location	
3	Whether training was provided by installer for operation and maintenance	
4	Whether the following documents were provided or not	
	I-V curves of all modules	
	Inverter manual	
	Warranty card for system	
5	Date of handing over of the system	
6	Total project cost:	

It is to certify that all information given above is true and correct to best of my knowledge

(User signature and stamp)
Date and place

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Part C: - Inspection Report

(By inspecting officer)

S No	Component	Observation
1	Site/ Location with Complete Address	
2	Capacity of system installed(kWp)	
3	Whether the system was installed in shadow free area or not? If not mention the details	
	Gap between rows of the modules	
	Any inter module shading exists or not	
	Whether the modules contains information about company name, serial no and year manufacturing inside	
	RIFD pasted inside or outside	
4	PCU	
	Whether the information given in part A is same or found any deviation	
5	Structures	
6	Cables Make and size	
7	Distribution Box	
8	Earthing and protections	
9	Cumulative generation data at the date of visit or cumulative energy consumption data at the time of visit	
10	User Feed Back	
11	Any specific problem	

1. **Signature of User With Stamp and date**

2. **Solar Company/Firm/Bidder signature with stamp and date**

3. **Signature of inspecting Officer and date**

Appendix - 4 AGREEMENT

(On Non-judicial stamp paper of Rs.100/- duly notarized)

A G R E E M E N T

THIS AGREEMENT made on this day of Two thousand

BETWEEN

..... (Name of the Firm/Company), having Registered Office at and represented by (Name and designation of the Authorized Officer (herein after called "**The Supplier/Contractor**", which expression where the context so requires or admits shall include his legal heir, administrators, executors, assignees and legal representatives) of the **ONE PART.**

AND

..... (Name of the Firm/Company), having Registered Office at and represented by (Name and designation of the Authorized Officer (here in after called "**The Purchaser / purchaser Company**", which expression where the context so requires or admits shall include his administrators, executors, authorized person, assignees and legal representatives) of the **OTHER PART.**

WHEREAS, the Supplier/Contractor willingly submitted bids for the Tender No.....of the Purchaser company for supply of **[Name of the material / items to be supplied by the Supplier]** as specified and as per delivery instructions provided in the Acceptance of Tender (AT) / Letter of Acceptance (LOA) issued vide No.....dtd..... by the Purchaser/ purchaser company at the accepted respective prices or rates mentioned against the said items / materials.

AND WHEREAS THE PURCHASER/Purchaser Company has accepted the tender of the Supplier/Contractor for the supply for the total sum of Rs. _____ (Rupees _____ only) *including / excluding taxes upon the terms and subject to the conditions herein mentioned in the agreement.

AND WHEREAS, a list is made out in the "**SCHEDULE**" hereunder written and all of which said documents of the Schedule are deemed to form part of this agreement and included in the expression "**the Supply, install, commission and maintain for five years**" wherever herein used, upon the terms and subject to the conditions hereinafter mentioned.

Tender: No: GNLU/Turnkey/Solar Rooftop/PC-04/2018

NOW THIS AGREEMENT WITNESSES AS UNDER AND IT IS HEREBY AGREED AND DECLARED THAT:-

- (1) The Supplier/Contractor has accepted the Terms and Conditions set out in the Tender Notice No. dtd. as well as in the form of Acceptance of Tender (AT) / Letter of Acceptance (LOA) No. dtd. which will hold good & valid during the period of this Agreement.
- (2) The supplier/Contractor shall do and perform for all supplies and things mentioned and described in this agreement/tender documents or which are implied therein or therefrom respectively or are reasonably necessary for the in-time and in manner supplies as mentioned and subject to the general / commercial terms & conditions and stipulations contained in this agreement/tender documents.
- (3) In consideration of the due provision, executions, completion of the Supply, as agreed to by the Supplier/contractor as aforesaid, the Purchaser /purchaser company hereby agrees to pay all the sums of money as and when they become due and payable to the supplier/contractor under the provisions of the agreement and such payment to be made at such times and in such manner as provided in the agreement.
- (4) In respect of the said Tender as per the terms & conditions of this Agreement/contract, the Supplier has deposited amount in Cash or DD or has provided valid Bank Guarantee of Rs (Rupeesonly) with the Purchaser/Purchaser Company towards performance guarantee of execution period i.e. for security deposit of the supply material / items.
- (5) Upon breach by the Supplier/Contractor of any of the conditions of this Agreement/Tender documents, the purchaser/ Purchaser Company may give a notice in writing to rescind, determine and put to an end to the A/T without prejudice to the right of the Purchaser/Purchaser company to claim damages for antecedent breaches thereof on the part of the Supplier/Contractor and also to claim reasonable compensation / risk & cost purchase for the loss occasioned by the Purchaser/Purchaser Company due to failure of the Supplier/contractor to fulfill the Order as certified in writing by the Purchaser for which Certificate shall be conclusive evidence of the amount of such compensation payable by the Supplier/Contractor to the Purchaser.
- (6) The Purchaser/Purchaser Company shall not be bound to take the whole or any part of the ordered quantity herein or therein mentioned in the LOA / AT and may cancel the contract at any time after giving **ONE MONTH'S NOTICE IN WRITING** without compensating the Supplier/Contractor.
- (7) This Agreement shall remain in force till the expiry of satisfactory performance of the Supply and installation, commissioning and maintenance during Guarantee period including for the quantity mentioned in the repeat order, if any as per the terms & conditions of the LOA / AT.

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(8) Any Notice in connection with the Supply/installation, commissioning, maintenance including the Notice for termination may be given by the Purchaser or any Authorized Officer for the said purpose as per the Commercial Terms & Conditions of the LOA / AT.

(9) If subject to the circumstances beyond control i.e. Force Majeure conditions, the Supplier/Contractor fails to deliver the materials, the same shall be governed as per the Tender Documents.

(10) The agreed value, extent of supply, delivery dates, specifications, and other relevant matters may be altered by mutual agreement as per the policy of the purchaser/purchaser Company and if so altered shall not be deemed or construed to mean or apply to affect or alter other general / commercial terms & conditions of the agreement and the agreement so altered or revised shall be and shall always be deemed to have been adhered subject to and without prejudice to said stipulation.

(11) The following is the Schedule forming part of this agreement as provided herein above:

SCHEDULE

List of documents:

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.

In witness whereof the parties hereto have set their hands and seals this day, month and year first above written.

Place:

Date:

1. Signed, Sealed and delivered by :

(Signature with Name, Designation & official seal / stamp)

For and on behalf of M/s. _____ (Supplier)

(Complete Name, Address of the authorized person of the Supplier/Contractor with Authority letter or Board's Resolution in case of company)

In the presence of Name, full Address & Signatures:

(Sign. & Seal of the Bidder)

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i) _____

ii) _____

2. Signed, Sealed and Delivered by :

(Signature with Name, Designation & official seal / Stamp)

For and on behalf of _____ *(Purchaser)*,
(Complete Name, Designation & Location / Address of the authorized officer as per DOP of the Purchaser/Purchaser Company)

In the presence of Name, Full Address & Signature:

i) _____

ii) _____

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Appendix - 5 E. M. D. BANK GUARANTEE FORMAT

FOR TENDER NO.: _____

(BANK GUARANTEE ON NON-JUDICIAL STAMP PAPER OF Rs. 100/-)

WHEREAS M/s. _____ (name & address of the Firm) having their registered office at _____ (address of the firms Registered Office) (hereinafter called the 'Tenderer') wish to participate in the tender No. _____ for _____ of (Supply / Erection / Supply & Erection Work) (Name of the material / equipment / Work) for _____ Gujarat National Law University and WHEREAS a Bank Guarantee for (hereinafter called the "Beneficiary") Rs. _____ (amount of EMD) valid till _____ (mention here date of validity of this Guarantee which will be **4 (FOUR)** months from the schedule Date of Opening) which is required to **be submitted by the Tenderer along with the Tender.**

We, _____ (name of the Bank and address of the Branch giving the Bank Guarantee) having our Registered Office at _____ (address of Bank's Registered Office) hereby give this Bank Guarantee No. _____ dated _____ and hereby agree unequivocally and unconditionally to pay immediately on demand in writing from the Gujarat National Law University or any Officer authorized by it in this behalf any amount not exceeding Rs. _____ (amount of E.M.D.), (Rupees _____ (in words) to the said Gujarat National Law University on behalf of the Tenderer.

We _____ (name of the Bank) also agree that withdrawal of the Tender or part thereof by the Tenderer within its validity or Non-submission of Security Deposit by the Tenderer within one month from the date tender or a part thereof has been accepted by the Gujarat National Law University would constitute a default on the part of the Tenderer and that this Bank Guarantee is liable to be invoked and encashed within its validity by the Beneficiary in case of any occurrence of a default on the part of the Tenderer and that the encashed amount is liable to be forfeited by the Beneficiary.

This agreement shall be valid and binding on this Bank up to and inclusive of _____ (mention here the date of validity of Guarantee) and shall not be terminable by notice or by Guarantor change in the constitution of the Bank or the firm of Tenderer Or by any reason whatsoever and our liability hereunder shall not be impaired or discharged by any extension of time or variations or alternations made, given, conceded with or without our knowledge or consent by or between the Tenderer and the GNLU.

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“Notwithstanding anything contrary contained in any law for the time being in force or banking practice, this Guarantee shall not be assignable, transferable by the beneficiary (i.e. GNLU). Notice or invocation by any person such as assignee, transferee or agent of beneficiary shall not be entertained by the Bank. Any invocation of the Guarantee can be made only by the beneficiary directly.”

NOTWITHSTANDING anything contained hereinbefore, our liability under this guarantee is restricted to Rs. _____ (Amt. of E.M.D.) (Rupees _____) (in words). Our Guarantee shall remain in force till _____ (Date of validity of the Guarantee). Unless demands or claims under this Bank Guarantee are made to us in writing on or before _____ (**Date of validity of the Guarantee**), all rights of Beneficiary under this Bank Guarantee shall be forfeited and we shall be released and discharged from all liabilities there under:

Place:

Date:

Please Mention here Complete Postal
Address of the Bank with Branch Code,
Telephone and Fax Nos.

Signature of the Bank's
Authorized Signatory with
Official Round Seal.

NAME OF DESIGNATED BANKS:

1. All Nationalized Banks including Public Sector Banks

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Appendix - 6 FORM OF BANKER'S UNDERTAKING

ON STAMP PAPER OF RS. 100/-

FORM OF BANKER'S UNDERTAKING

[For Performance Guarantee (SD) for supply period As per Commercial Terms and Conditions of Tender]

We, Bank of _____ (Name of the Bank) hereby agree unequivocally and unconditionally to pay immediately on demand in writing from the **Gujarat National Law University** / or any Officer authorized by it in this behalf any amount up to and not exceeding Rs. _____ (in words) Rupees _____ to the said **Gujarat National Law University** / on behalf of M/s. _____ who have entered into a contract for the supply/works specified below:

L.O.A. No. _____ dated _____.

This agreement shall be valid and binding on this Bank up to and inclusive of _____ and shall not be terminable by notice or by change in the constitution of the Bank or the firm of Contractors / Suppliers or by any other reasons whatsoever and our liability hereunder shall not be impaired or discharged by any extension of time or variations or alterations made, given conceded or agreed, with or without our knowledge or consent, by or between parties to the said within written contract.

"Notwithstanding anything contrary contained in any law for the time being in force or banking practice, this Guarantee shall not be assignable, transferable by the beneficiary (i.e. GNLU). Notice or invocation by any person such as assignee, transferee or agent of beneficiary shall not be entertained by the Bank. Any invocation of the Guarantee can be made only by the beneficiary directly."

"NOTWITHSTANDING" anything contained herein before, our liability under this guarantee is restricted to Rs. _____ (Rupees _____ only). Our guarantee shall remain in force until _____ (Date of validity of the Guarantee). Unless demands or claims under this Bank Guarantee are made to us in writing on or before _____ (**Date of validity of the Guarantee**), all rights of Beneficiary under this Bank Guarantee shall be forfeited and we shall be released and discharged from all liabilities there under:

Place:

Date:

Please Mention here Complete Postal Address of the Bank with Branch Code, Telephone and Fax Nos.	Signature of the Bank's Authorized Signatory with Official Round Seal.
--	--

NAME OF DESIGNATED BANKS:

1. All Nationalized Banks
- _____

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19. PRICE BID SCHEDULE – B

Supply, Installation, Testing & Commissioning including Comprehensive Maintenance during Guarantee period of 5 years of Solar Photovoltaic Photo-Voltaic (PV) Systems.

Sr No.	Description	Qty.	End cost without GST but including Freight & Packing, insurance charges <u>per KWp in Rs.</u>	GST		End Cost Per KWp in Rs. (4+6)
				%	Rs (4*5%)	
1	Design , Manufacturing , Supply , Erection , Testing & Commissioning including trail Operation, Operation & maintenance for a period of 5 years including Power Evacuation System and cost of replacement of all the parts, covered under Guarantee period for a period of 5 years from the date of commissioning of Roof top Solar PV system at various places/buildings within the GNLU Campus	3	4	5	6	7
	PER KWp COST					
	TOTAL COST FOR 300 KWp					
			<p align="center"><u>Price bid must be submitted in ON-LINE MODE ONLY.</u></p> <p align="center"><u>PHISICAL SUBMISSION OF PRICE BID IS NOT REQUIRED AND WILL NOT BE CONSIDERED, IF RECEIVED.</u></p>			

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20. ENCLOSURE I : ACCREDITED TEST CENTERS FOR MNRE OFF-GRID PROGRAM

Lab/ Organization	PV Module	Lighting Systems		Battery	Inverter >100 W		Charge Controller	
		as per MNRE Specifications	Environmental		Efficiency	Environmental	protection s	Environment al
SEC	Yes (IEC612 15 up to 100WP) NABL Accredited	Yes MNRE Accredited	Yes (Including IP) MNRE Accredited	Yes MNRE Accredited	Yes (up to 10KVA) MNRE Accredited	Yes (Including IP) MNRE Accredited	Yes MNRE Accredited	Yes (Including IP) MNRE Accredited
ERTL (east)	STC Test Facility MNRE Accredited	Yes NABL/MNRE Accredited	Yes NABL/MNRE Accredited	Yes Up to 1000AH	Yes NABL/MNRE Accredited	Yes NABL/MNRE Accredited	Yes NABL/MNRE Accredited	Yes NABL/MNRE Accredited
ETDC (B)	Yes (IEC61215) under IEC61701 (upto 100WP) NABL Accredited	Yes NABL/MNRE Accredited	Yes NABL/MNRE Accredited	Yes Up to 100 AH	Yes (up to 3KVA) NABL/MNRE Accredited	Yes NABL/MNRE Accredited	Yes NABL/MNRE Accredited	Yes NABL/MNRE Accredited
CPRI (B)	NO	Yes NABL/MNRE Accredited	Yes NABL/MNRE Accredited	Yes Up to 500 AH	Yes (up to 10KVA) NABL/MNRE Accredited	Yes NABL/MNRE Accredited	Yes NABL/MNRE Accredited	Yes NABL/MNRE Accredited
ERTL (N)	NO	Only Electronics & luminaire	Yes NABL Accredited	NO	Yes (up to 5 KVA) NABL	Yes NABL Accredited	Yes (up to 5 KW) NABL	Yes NABL Accredited

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Lab/ Organization	PV Module	Lighting Systems		Battery	Inverter >100 W		Charge Controller	
		as per MNRE Specifications	Environmental		Efficiency	Environmental	protections	Environmental
		NABL Accredited			Accredited		Accredited	
UL(B)	Yes (IEC61215 IEC 61730 Pt.II and IEC 61701) upto400WP NABL Accredited	Yes (except battery) NABL Accredited	Yes NABL Accredited	NO	Yes (up to 6 KVA) NABL Accredited	Yes NABL Accredited	Yes (up to 6 KW) NABL Accredited	Yes NABL Accredited
TUV Rhineland	Yes (IEC61215 & 61730 Pt-II) upto400WP NABL Accredited	NO	Yes NABL Accredited	NO	Yes (up to 10 KVA) NABL Accredited	Yes NABL Accredited	Yes (up to 10 KW) NABL Accredited	Yes NABL Accredited
Inter Tek	NO	Only Electronics & luminaire NABL Accredited	Yes NABL Accredited	NO	Yes (up to 5 KVA) NABL Accredited	Yes NABL Accredited	Yes (up to 5 KW) NABL Accredited	Yes NABL Accredited

Tender: No: GNLU/Turnkey/Solar Rooftop/PC-04/2018