An Autonomous Institute of the Dept. of Biotechnology, Ministry of Science & Technology, Govt. of India

STORES AND PURCHASE SECTION

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Address :- Survey No 37/4, Gopanpally Village , Gowalidoodi Area , Serilingampalli Mandal beside Yellamma Temple , Near petrol Pump , RR District, Hyderabad 500032.

NOTICE INVITING TENDER (TWO BID SYSTEM)

E-PROCUREMENT UNDER CENTRAL PUBLIC PROCUREMENT PORTAL

On behalf of the Director, NIAB - Hyderabad, India, **online bids** through www.eprocure.gov.in are invited under **TWO Bid System** from reputed manufacturers or their authorized agents for the supply / installation/ commissioning of the following item(s) / Provide the Service /Work mentioned in Chapter-1 in this tender notice.

KINDLY NOTE THAT ONLY ONLINE BIDS WILL BE CONSIDERED AGAINST THIS TENDER.
MANUAL SUBMISSION OF BIDS WILL NOT BE ACCEPTED.

Website for Online Bid Submission: https://eprocure.gov.in.

E-Tendering Procedure: The procurement shall be carried out through submission of online tenders only. No offer in physical form will be accepted and any such offer if received by NIAB will be rejected. Tender documents can be downloaded from our website www.niab.org.in or website of CPPP www.eprocure.gov.in. The bidders will be required to submit their bids online on the e-Procurement module using website **www.eprocure.gov.in.** Only.

The bidders can enroll themselves on the website http://eprocure.gov.in using the option “Click here to Enroll”. Possession of a Valid Class II/III Digital Signature Certificate (DSC) in the form of smart card/e-token in the Company's name is a prerequisite for registration and participating in the bid submission activities through this web site. Digital Signature Certificates can be obtained from the authorized certifying agencies, details of which are available in the web site http://eprocure.gov.in under the link “Information about DSC”. The web site also has user manuals with detailed guidelines on enrolment and participation in the online bidding process. The user manuals can be downloaded for ready reference.

Please visit website: - http://eprocure.gov.in/eprocure/app and click following section **for complete information about E -Procurement process.**

- **Help For Contractor/Bidders**
- **Information About DSC**
- **FAQ**
- **Bidders Manual Kit**

The helpdesk numbers for any technical queries related to operation of the Central Public Procurement Portal
For any technical related queries please call at 24 x 7 Help Desk Number 0120-4200 462 , 0120-4001 002 , 0120-4001 005 , 0120-6277 787 International Bidders are requested to prefix +91 as country code
E- Mail Support: support-eproc@nic.in , cppp-nic@nic.in , **Please visit website**: - http://eprocure.gov.in/eprocure/app

Any queries relating to the NIT document and the terms and conditions contained therein should be addressed to the Manager (Store& Purchase) of NIAB on the contact details mention on the top of this page.

CONTENTS OF BIDDING DOCUMENT/NIT

IMPORTANT NOTE: - PLEASE READ CHAPTER 5 CAREFULLY AND KEEP SCANNED FORMAT DOCUMENTS READY BEFORE SUBMISSION OF THE BID.

Main Process flow to help you in submission of tender. -

- Take DD ,Write Tender No , Name of Firm , Contact No on backside of DD. Send the DD to NIAB- Hyderabad Address as per due date. SCAN IT IN PDF FORMAT AND UPLOAD ON CPPP before sending it to NIAB. In case of wire transfer, please upload the transaction details of wire transfer on CPPP portal & also send transaction details by E-mail on spm@niab.org.in --- for ready information.
- Read Chapter No 5 & 6 carefully & Keep required documents ready, scan it as per file format to be uploaded in Cover -1.

Few of the conditions/ forms in this document may not be applicable for Service/Work requirement as per this tender. Write "NA" in any of the form wherever it is suitable/applicable as per bid submitting firm considering the requirement in tender.

CHAPTER-1

NIT/DETAILS OF REQUIRMENTS /EMD/TENDER FEES/IMPORTANT DATES

S N	Name of item	Qty.	NIT NO	Bid Type
1	**SURVEY, DESIGN, FABRICATION, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF 900KWp SOLAR POWER PLANT WITH GRID CONNECTION UNDER NET METERING POLICY, IN NIAB HYDERABAD AS PER NIT SPECIFICATION/SCOPE OF WORK & FURTHER AMENDMENT IF ANY.** **(Detailed Specifications in Chapter 6)**	**As Per Specifications**	**NIAB/SP/2021-22/09**	**TWO BID** **ONLINE**

TENDER EMD (REFUNDABLE)	**Rs NIL /-**	Tenders without **TENDER PROCESSSING FEES** / EMD (if applicable) will be rejected.
TENDER PROCESSSING CHARGES (THIS FEES IS NOT EXEMPTED TO ANY FIRM & NON REFUNDABLE). (This is not tender fees/cost of NIT document as tender is issued free of cost, can be downloaded on CPPP / NIAB website or will be E mailed if asked from NIAB. All the firms want to participate this tender must submit this charges failing which your Bid will be rejected)	**Rs 1500 /- (No exemption to any** **All the firms want to participate in this tender must submit Rs 1500 as processing charges failing which your Bid will be rejected. Only EMD exemption is allowed as per chapter 4 -page no 8 of this NIT. For MSE /NSIC registered firms please read page no 8 of this NIT before claiming exemption (if any) for EMD only. Non Compliance/False information will result in rejection of Bid / Ban on Firm for future Tenders.(Rs 1500 /- No exemption to any firm, mandatory to submit the DD for all the firms)**	
MODE OF PAYMENT OF EMD/FEES **(SCANNED COPY OF TENDER FEE AND EARNEST MONEY IS TO BE UPLOADED ONLINE AT THE TIME OF SUBMISSION OF BID)** **(IN CASE OF ANY PROBLEM IN GETTING THE DD DUE TO COVID LOCKDOWN, AMOUNT CAN BE TRANSFERRED AS PER DETAILS GIVEN)**	**Demand Draft** of any nationalized/commercial bank. **Please mention firm name & contact no, tender ref no backside of demand draft and Original DD must be sent to the NIAB HYDERABAD on or before Bid Submission Date & Time as mentioned in Critical Date Sheet.** **Alternatively , Tender fee, can be paid through online mode via https://epayments.in.worldline.com/niab or Visit NIAB WEB SITE http://niab.org.in/ AND CLICK ON Online Payment Link to make payment online.** **After payment, please upload the transaction details on CPPP portal. Also please send the transaction details to NIAB- on E mail Id ---- spm@niab.org.in --- for ready information** **Bids received without submission of Tender Processing Fees are liable for rejection.**	
DD IN FAVOUR OF	**National Institute of Animal Biotechnology** payable at Hyderabad.	
DD TO BE SUBMITTED TO	Manager (Stores & Purchase) National Institute of Animal Biotechnology (NIAB), Opp. Journalist Colony, Near Gowlidoddy, Extended Q City Road, Gachibowli, Hyderabad, Telangana, India -32	

The original EMD amount and Tender Fee in the form of Demand Draft towards cost of bid documents/processing shall be submitted to Manager (Store & Purchase) , NIAB by hand delivery/courier on or before the due date for submission of bids failing which the bid will be rejected. The reference no. of the Tender and super scribing the word "EMD and Tender Fee" should be specifically mentioned on the top of the envelope. Any catalogue /broacher /technical literature which is difficult to scan, except bid document is also permitted along with EMD. This document will be used only as extra supportive for information purpose and not mandatory for submission.

PRE-BID MEETING (IF ANY)	**18-08-2021 (at NIAB LGF S&P Section at 2.30 pm NIAB Address mentioned in Page 1 of this document). (Contact information given at the end of this document for queries (if any) about tender**

The objective of Pre-Bid Meeting is to provide a platform for clarifying issues and clearing doubts, if any, about the specification and other allied technical / commercial details of the bid document. This is also an opportunity to question the bidding conditions and the bidding process. Bids should be submitted only after the PBM if any so as to take care of the changes made in the bidding document. The prospective PBC participants should inform their intention to participate and send written queries at the email **santosh@niab.org.in, spm@niab.org.in** sufficient before PBC date to enable us to keep the response ready. The changes made to the bidding document subsequent to the PBM shall be treated as amendment to this bidding document and the same shall also be hosted on NIAB website.

CRITICAL DATE SHEET (Please strictly adhere to the dates mentioned in this document.

Tender Published Date	07-08-2021 (As per CPPP portal time)
Bid Submission Start Date	07-08-2021 (As per CPPP portal time)
Bid Submission End Date	28-08-2021 (at 14.00 hrs)
Bid Opening Date	30-08-2021 (at 14.30 hrs)

The bidders are requested to please note that all future amendments/corrigendum will be published on NIAB website and no separate advertisement will be released for the same. Bidders are therefore requested to regularly visit our website for any such updates.

CHAPTER-2

INFORMATION TO BIDDERS -PART-1

1	Bids shall be submitted online only at CPPP website: https://eprocure.gov.in/eprocure/app.
2	**Please note the number of covers in which the bid documents have to be submitted, the number of documents including the names and content of each of the document that need to be submitted. Any deviations from these may lead to rejection of the bid. Please read Chapter -5 carefully and prepare all required form /Technical & Price Bid ready before starting the procedure.**
3	The bidders can enroll themselves on the website http://eprocure.gov.in using the option "Click here to Enroll". Possession of a Valid Class II/III Digital Signature Certificate (DSC) in the form of smart card/e-token in the Company's name is a prerequisite for registration and participating in the bid submission activities through this web site. Digital Signature Certificates can be obtained from the authorized certifying agencies, details of which are available in the web site http://eprocure.gov.in under the link "Information about DSC". The web site also has user manuals with detailed guidelines on enrolment and participation in the online bidding process. The user manuals can be downloaded for ready reference. Please visit website: - http://eprocure.gov.in/eprocure/app and get complete information.
4	**Bid documents may be scanned with 100 dpi with black and white option which helps in reducing size of the scanned document.**
5	The tenderers should have Digital Signature Certificate (DSC) for filling up the Bids. The person signing the tender documents should be authorized for submitting the on line e-tender.
6	Please go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as part of the bid.
7	Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document / schedule and generally, they can be in PDF / XLS / RAR / DWF/JPG formats. Bid documents may be scanned with 100 dpi with black and white option which helps in reducing size of the scanned document.
8	To avoid the time and effort required in uploading the same set of standard documents which are required to be submitted as a part of every bid, a provision of uploading such standard documents (e.g. PAN card copy, annual reports, auditor certificates etc.) has been provided to the bidders. Bidders can use "My Space" or ''Other Important Documents'' area available to them to upload such documents. These documents may be directly submitted from the "My Space" area while submitting a bid, and need not be uploaded again and again. This will lead to a reduction in the time required for bid submission process.
9	Upon the successful and timely submission of bids (i.e. after Clicking "Freeze Bid Submission" in the portal), the portal will give a successful bid submission message & a bid summary will be displayed with the bid no. and the date & time of submission of the bid with all other relevant details. The bid summary has to be printed and kept as an acknowledgement of the submission of the bid. This acknowledgement may be used as an entry pass for any future meetings.
10	Tenderer who has downloaded the tender from the Central Public Procurement Portal (CPPP) website https://eprocure.gov.in/eprocure/app and NIAB website shall not tamper/modify the tender form including downloaded price bid template, All other format in any manner. In case if the same is found to be tempered/ modified in any manner, tender will be completely rejected and EMD would be forfeited and tenderer is liable to be banned from doing business with NIAB
11	**Please Make sure all format asked as per CHAPTER - 5 of tender document are properly uploaded online in suitable cover on CPPP Website for E-Procurement http://eprocure.gov.in .**

CHAPTER – 3

INFORMATION TO BIDDERS -PART-2

SN	DETAILS
1	**BIDDERS ELIGIBLEITY / QUALIFICATION / REQUIREMENTS**
	This Invitation for Bids is open to all Original Manufacturers/ their Authorized Dealers/ vendors / suppliers to quote on their behalf for this tender as per Manufacturer's Authorization Form who possess the qualifying requirements as specified in the Tender. Any person signing a Tender shall submit documentary evidence that his signature on the Tender, submitted by him, is legally binding upon himself, his firm. If it is detected that the person so signing the Tender has no authority to do so, the Director, NIAB may, without prejudice to other civil and criminal remedies, not consider the Tender and hold the signatory liable for all costs and damages. Bidders should not be associated, or have been associated in the past, directly or indirectly, with a firm or any of its affiliates which have been engaged by the Purchaser to provide consulting services for the preparation of the design, specifications, and other documents to be used for the procurement of the goods to be purchased under this Invitation of Bids. The bidder or his agent must have an office in India. That the Bidder will assume total responsibility for the fault-free operation of equipment, application software, if any, and maintenance during the warranty period and provide necessary maintenance services after end of warranty period if required. Bidders who meet the criteria given above are subject to be disqualified, if they have made untrue or false representation in the forms, statements and attachments submitted in poof of the qualification requirements or have a record of poor performance, not properly completing the contract, inordinate delays in completion or financial failure, etc. Other things being equal, preference shall be / may be given to firms who or his principal has supplied and installed similar system at any CSIR/ICAR/ICMR/DAE/DRDO/DST/DBT/other Govt. or autonomous research Labs in India. The Bidder should be a manufacturer or their dealer specifically authorized by the manufacturer to quote on their behalf of this tender as per manufacturer authorization form and Indian agents of foreign principals, if any who must have designed, manufactured, tested and supplied the equipment(s) similar to the type specified in the "Technical Specification". Such equipment must be of the most recent series/models incorporating the latest improvements in design. The models should be in successful operation for at least one year as on date of Bid Opening in India and is engaged in R&D activities. The Indian Agents of foreign manufacturers / suppliers quoting directly on behalf of their principals for items appearing in the restricted list of the current Foreign Trade Policy registered with DGS&D (if applicable). One Indian Agent cannot represent two different foreign principals for the same item in one tender. The bidder should have executed at least one similar order successfully during the preceding three financial years. Details of service support facilities that would be provided after the warranty period should be submitted in the Service Support Details Form. That, in the case of a Bidder not doing business in India, the Bidder is/or will be (if successful) represented by an Agent in India who shall be equipped and able to carry out the Supplier's maintenance, repairs and spares parts.
2	**OPENING OF BIDS**
	In case of SINGLE BID system, the bid is required to be submitted in ONE PART. Techno-Commercial & Financial / Price Bid together as one single bid. In case of single bid system ---- Bids will be opened on the date and time given and technical evaluation committee will chose technically suitable and finically L1 bidder. All the process will be done online through E-PROCUREMENT UNDER CENTRAL PUBLIC PROCUREMENT PORTAL (eprocure.gov.in). In case of TWO BID system, the bid is required to be submitted in TWO PARTS. One part is the Technical Unpriced Bid (PART-I) and the other part is the Price / Financial Bid (PART-II). In two bid system -------In the first instance, the Technical Bids (PART-I) will be opened. Final selection of the Technical Bids will be based on the Technical Evaluation by the authorities of NIAB. The Price Bid of only those Technical Bid(s) are found technically suitable will be opened subsequently by informing to qualified vendors.
3	**LANGUAGE OF BID**
	The bid prepared by the bidder, as well as all correspondence and documents relating to the bid exchanged by the bidder and the purchaser shall be written in Hindi/English language only.
4	**DOCUMENTS COMPRISING THE TECHNICAL BID**
	Please read points given in Chapter-5, for all forms, Details of Installations of similar equipment in India; Availability of number of trained support personnel, both application & service support. Compliance statement indicating yes/no as per the specifications. All necessary catalogues/technical literature, data as are considered essential for full and correct evaluation of offers must be submitted.
5	**BID PRICES**
	Please read points given in **Chapter No- 2** before preparing Price Bid /Quotation and submit the same along with PRICE SCHEDULE 'A' & PRICE SCHEDULE 'B' after considering all the points. **BID PRICE MUST BE IN CURRENCY: - INR (THE INDIAN RUPEE) ONLY**
6	**DOCUMENTS ESTABLISHING BIDDER'S ELIGIBILITY AND QUALIFICATIONS**
	The bidder shall furnish, as part of its bid, documents establishing the bidders' eligibility to bid and its qualification to perform the contract if its bid is accepted. That the bidder meets the qualification criteria as per Bid document. In case a bidder not doing business within the purchasers' country, that the bidder is or will be represented by an agent in the country equipped and able to carry out the supply, maintenance, repair obligations etc. during the warranty and post-warranty period or ensure a mechanism at place for carrying out the supply, maintenance, repair obligations etc. during the warranty and post-warranty period.
7	**DOCUMENTS ESTABLISHING GOOD'S ELIGIBILITY AND CONFORMITY TO BIDDING DOCUMENTS**

	To establish the goods' eligibility, the documentary evidence of the goods and services eligibility shall consist of a statement on the country of origin of the goods and services offered which shall be confirmed by a certificate of origin at the time of shipment. To establish the conformity of the goods and services to the specifications, the documentary evidence of conformity of the goods and services to the bidding documents may be in the form of literature, drawings and data etc.
8	**EARNEST MONEY DEPOSIT (EMD)/TENDER FEES (if any)**
	The Bidder shall furnish, as part of its bid, Earnest Money Deposit (EMD) / **TENDER FEES (if any)** specified in the Bid document. This shall be submitted either by the principal or by the Indian agent and in the case of indigenous bidders shall be submitted by the manufacturer or their authorized dealer. The Bid Security is required to protect the Purchaser against the risk of Bidder's conduct, which would warrant the security's forfeiture. The Bid Security shall be in Indian Rupees for offers received for supply within India The Bid Security shall be payable promptly upon written demand by the purchaser in case the conditions in the Tender Documents are invoked. The Bid Security should be submitted in its original format. Copies shall not be accepted. The successful Bidder's Bid Security will be discharged upon the Bidder furnishing the performance security. The firms registered with DGS&D & NSIC, if any, are exempted from payment of EMD provided such registration includes the item they are offering which are manufactured by them and not for selling products manufactured by other companies. The bid security may be forfeited. If a Bidder withdraws or amends or impairs or derogates its bid during the period of bid validity specified by the Bidder; or In case of a successful Bidder, if the Bidder fails to furnish order acceptance within 15 days of the order and/or fails to furnish Performance Security within 21 days from the date of contract/ order.
9	**PERIOD OF VALIDITY OF BIDS**
	Bids shall remain valid for 180 days after the date of bid opening prescribed by the Purchaser
10	**NEGOTIATIONS**
	Negotiations, if any and at all done, shall be held with only the technically Qualified (L1) bidder.
11	**PURCHASER'S RIGHT TO ACCEPT ANY BID AND TO REJECT ANY OR ALL BIDS**
	The Purchaser reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to award of Contract, without thereby incurring any liability to the affected Bidder or Bidders.
12	**PURCHASER'S RIGHT TO VARY QUANTITY, ADD SPECIAL TERMS IF REQUIRED AT THE TIME OF AWARD OF CONTRACT** The Purchaser reserves the right at the time of award of Contract to increase or decrease the quantity of goods and services originally specified in the Tender documents without any change in unit price or other terms and conditions. This tender document and all terms and conditions, Purchase order terms / special term if mutually agreed will be form parts of total contract.
13	**JOINT VENTURE, CONSORTIUM OR ASSOCIATION**
	If the Supplier is a joint venture, consortium, or association, all of the parties shall be jointly and severally liable to the Purchaser for the fulfilment of the provisions of the Contract and shall designate one party to act as a leader with authority to bind the joint venture, consortium, or association. The composition or the constitution of the joint venture, consortium, or association shall not be altered without the prior consent of the Purchaser.
14	**DISQUALIFICATION OF TENDERS**
	Tenders are liable for rejection if they are not in line with the terms and conditions of this tender notice. Conditional quotations will be liable for rejection or may not be considered. Incomplete tenders /tenders without EMD will be liable for rejection. Submission of Single Bid as against Two Bid System or Quotes submitted in Email/fax will be rejected. The Bidder should ensure that the prices are mentioned only in the Price Bid and nowhere in the Technical Bids in case of TWO BID SYSTEM.
15	**PRELIMINARY EXAMINATION /EVALUATION & COMPARISON OF BIDS**
	Technically SPECIFICATION Qualified L1 BIDDER is main base point for award of contract. The Purchaser shall examine the bids to confirm that all documents and technical documentation requested in have been provided, required sureties have been furnished, and to determine the completeness of each document submitted. The Purchaser will examine the technical bids to determine whether they are complete, whether the documents have been properly signed, and whether the bids are generally in order. The competent committee decision and parameters will be final for qualifying the firms technically. No queries will be entertained for the decision and method for the same. No interim queries will be entertained till final award of contract. The total cost of requirement/item/service to be purchased is main criteria for evaluation irrespective of different standard warranty period offered in any. The purchase of Additional warranty /CMC is at sole discretion of institute and not mandatory for comparison in case of standard warranty period differs. For the bids surviving the technical evaluation which have been found to be responsive the evaluation & comparison shall be made as under: The final landing cost of purchase after all discounts, freight, forwarding, insurance warehouse to warehouse, custom clearing charges, all duties, taxes etc. shall be the basis of evaluation. Imported Vs. Indigenous Offers - The final landing cost (ware house to ware house) of purchase taking into account, freight, forwarding, insurance, taxes etc. CIF/CIP applicable if any with customs clearance charges, Bank/LC charges, transportation up to NIAB, Hyderabad shall be the basis of evaluation. Conditional tenders/discounts etc. shall not be accepted. Rates quoted without attached conditions (viz. Discounts having linkages to quantity, payment terms etc.) will only be considered for evaluation purpose. Thus conditional discounted rates linked to quantities and prompt/advance payment etc. will be ignored for Comparison. The Purchaser however reserves the right to use the discounted rate/rates considered workable and appropriate for counter offer to the successful tenderers. Arithmetical errors in the financial bids will be rectified on the following basis. If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected. If the supplier does not accept the correction of errors, its bid will be rejected. If there is a discrepancy between the price quoted in words and figures, the rate quoted in words will be taken as final and shall be binding on the Bidder. **BID PRICE MUST BE IN CURRENCY: - INR (THE INDIAN RUPEE) ONLY.**

THE COMPETENT AUTHORITY USE THE FOLLOWING CRITERIA/METHOD OF EVALUATION TO AWARD THE CONTRACT.

Part –A (Technical Pre-Qualification)

The bidder fulfilling PART –A criteria only will be evaluated further for PART- B . Those Who Qualify in Technical Marking Points (A) above will be considered for this further marking in Technical Marking Points (B) , Others who does not qualify in this will be termed (Part- A –Failed) and their Bid will be rejected .

SN	Description	Supporting Copies Submitted (Yes /NO) with details
1	Bidder must have work experience as per this NIT.The bidder should have satisfactorily completed similar type of work for Govt Bodies from **Jan 2014** till Bid Submission End Date & time of this NIT. The value of each work order should be notless than as mentioned below. PO must be on Bidder Name and not on any other firm. One completed work / PO copy of total value not less than Rs. 320 Lakh "OR" Two completed work / PO copy of total value not less than Rs. 200 Lakh "OR" Three completed work / PO copy of total value not less than Rs. 160 Lakh **Work / Similar type of Work for this NIT is mentioned as below.** **Turnkey Project of Supply, Fabrication, Installation, Commissioning of Solar Power of 1.0 to 1.5 MW Solar Power to any Govt /Semi Government /Autonomous institute / Govt Funded institute / reputed private firms.** **Turnkey Project should include work related to setting of above facilities with Solar Power with Synchronization with State/Central Govt. Regulatory Bodies for Commissioning of Solar Power Generation in NIAB Campus**	
2	Copies of Company registration, GST certificate, PAN Card , firm profile etc documents must be provided along with **(Form given in this NIT must be submitted).**	
3	Site Visit is mandatory to understand the scope of work. Please take certificate of site visit from NIAB concerned authorities. For site visit permission & information Send E mail to spm@niab.org.in / santosh@niab.org.in . (Copy of Email Sent to these email id to be submitted along with BID) Please take confirmation after site visit form NIAB officer & the information will be provided by Email.	
4	The Bidder should submit undertaking that their firm / organization have never been blacklisted by any Govt/ Semi Govt Organizations/ / PSU's etc & document /information given by bidder are true and correct. **(Form given in this NIT must be submitted).**	
5	The Bidder must give a self-undertaking to finish this work in prescribed time limit **(Maximum within 90 days)** as per this NIT as this is a urgent requirement and need priority by Bidder for completion as early as possible.	

Part-B (Technical Marking)

Only the Bidders who qualify Part- A will be evaluated for further Part- B as follows. Mark (I) will be calculated at weightage of 70 % of the Part-B (Technical mark) . Considering below points, firms are informed to submit all relevant supporting documents which will give them marks as per above points.

Part-B (Technical Marking)

SN	Point	Description & marks	Maxi m um Mark
1	Number of Years in operation (evidenced by date of registration of company)	a) From 01 year to 3 Yrs -------- 2.5 Mark b) More than 3 years & up to 6 years ---- 5 marks c) More than 6 years ----- 10 Marks	10
2	Work experience as per this NIT (based on Po copies details submitted by bidder	a) Up to 3 No. of PO copies of similar work -------- 2.5 Marks b) From 4 to 6 No. of PO copies of similar work ---- 5 marks c) More than 6 Number of PO copies of similar work ---10 marks	10
3	Work experience as per this NIT with Govt. Institutions -- PSUs/any Govt funded institute/Pvt Organisation (based on Po copies details submitted by bidder	a) Up to 03 PO copies Govt. Institutions -- Academic / Research Lab / PSUs/AB/ IIT /NIT /any Govt fundedinstitute/ Reputed Private Organization's -- 5 marks b) More than 3 PO copies Govt. Institutions/PSUs/AB any Govt funded institute/Reputed Private Organization's ------- 10 Marks	10
4	Satisfactory work completion certificate by clients (based on Satisfactory work completion certificate details submitted by bidder	a) Up to 3 clients' satisfactory work completion certificate ------ 2.5 Marks b) 4 to 6 clients' satisfactory work completion certificate ---- 5 Marks c) 7 & above clients' satisfactory work completion certificate ----10 Marks	10
5	Average Turnover for last **5 Financial Year**s as per NIT (**Evidenced by Profit & Loss Account & Balance Sheet duly authenticated by CA)**	a) Up to 1.5 Crores ---------- -- 2.5 Marks b) More than 1.5 Crores ---------- 5 Marks	5

6	PO Value of Work **(to be supported with PO copies)**	a) Total PO value up to 8 Cr --- 5 Marks b) Total PO value above 8 Cr --- 10 Marks The format as per NIT must be submitted along with PO copies. **POs from Jan 2014** onwards till Bid Submission End Date & time of this NIT will be considered for abovecalculation & Po must be on Bidder name.	10
7	Supply, Installation and Commissioning of Solar Power in Reputed Company / Govt. Institutions,PSUs/ any Govt funded institute/Reputed Private Organisations **Supported by PO copies/ Client certificate AS PER capacity mentioned in at least one order**	a. At least One order of Project of Supply, Installation and Commissioning of Solar Power of 400 KWp ---2.5 Marks b. At least One order of Project of Supply, Installation and Commissioning of Solar Power above 400 KWp to 1000 KWp --- 5 Marks c. At least One order of Project of Supply, Installation and Commissioning of Solar Power of above 1000 KWp to 1500 KWp --- 10 Marks d. At least One order of Project of Supply, Installation and Commissioning of Solar Power above 1500 KWp ----15 Marks **POs from Jan 2014** onwards till Bid Submission End Date & time of this NIT will be considered for above calculation & PO must be on Bidder name.	15
8	Bank solvency certificate issued by any reputed bank of bidders account. Certificate taken for any other Project /NIT not be more than 06 months old from the date of publication of tender can be considered for this NIT.	a. Bank solvency certificate up to 50 Lakhs ---- 1.5 Marks b. Bank solvency certificate (More than 50 –Less than 1Cr) ---- 2.5 Marks c. Bank solvency certificate (More than 1 Cr)------5 Marks (Format as per form no 9 of this NIT) / as per bank standard format. This certificate must be submitted along with Bid or on or before technicalpresentation failing which No marks will be awarded for this category.	05
9	Technical Presentation (The detail of date and time will be intimated to Qualified Bidders)	Review of technical specification and adherence to terms as per bid submitted, Documents submitted along with bid, Overall Quality & value of past work completed, Customer feedback, Technical expertise, HR, Professional membership, Standards certification, Financial soundness of the firm, Proof of concepts, drawing, designs, presentation, technical competence of past projects etc . **Bidder should present with proposal / design/ 3 D model/ Power point presentation with tentative timeline for completion of this project.**	25
		Total	100

Mark – (I) = 70 % of Total marks as par Part-B (Technical Marking)

Mark (I) will be calculated at weightage of 70 % of thePart-B (Technical mark)

Part-C (Financial Marking) Financial Marking Points.

The price Bid will be opened. Ranking will be done as L1 ,L2,L3,L4 .....etc on total cost basis & L1 will be the lowest cost of all . Then L1 will be given 100 Marks. L2 = (L1 cost x 100) / L2 cost and like L3 ,L4 marks will be calculated.

Mark (II) = 30 % of Financial Marking Points- Part-C (Financial)

Total Marks = [Mark – (I) + Mark – (II)] mentioned asabove will be calculated.

Firm getting highest marks for total of [Mark – (I) + Mark – (II)] will be awarded the contract.

The decision of competent authority & concerned committee of NIAB will be final about the process of evaluation and awardof contract and no claim whatsoever will be entertained in this regards. Considering above points, firms are informed to submit all relevant supporting documents which will give them better marks in above technical criteria. Please Quote best discounted price. This will be helping the firm in getting this contract.

Forms to be submitted for Part-A (Technical Pre-Qualification)

FORM FOR SR NO -1 for Part-A (Technical Pre-Qualification)

The bidder should have satisfactorily completed similar type of work . The value of each work order should be not less than as per given limit . PO details (WORK AS PER THIS NIT) must be submitted from Jan 2014 to till Bid Submission End Date & time of this NIT.

(PO DETAILS GIVEN IN THIS FORM ONLY WILL BE CONSIDERED FOR EVALUATION FOR THIS NIT)

Sr No	Po No	PO date	Client Name	PO copy enclosed (yes/No)	PO value (in laksh)
1					
2					
3					

FORM FOR SR NO -2 for Part-A (Technical Pre-Qualification)
(Bidder Information)

Copies of Company registration, GST certificate, PAN Card , firm profile etc documents must be provided along with **(Certificate as per format given in this NIT must be submitted).**

Name of the Firm	
Address of the Firm	
Contact details of Firm Phone /Email id	
Company registration Certificate details (enclose copy)	
Pan Card Registration No. (enclose copy)	
GST Registration No. (enclose copy)	
Brief company Profile	
Experience in yrs & name & contact details of the Key Person will be handling this Project if awarded.	
	Competent Authority to sign: Name, Designation : Date with stamp & seal of organisation:

FORM FOR SR NO -4 for Part-A (Technical Pre-Qualification)

(Declaration)

The Director,
National Institute of Animal Biotechnology (NIAB),
Opp. Journalist Colony, Near Gowlidoddy,
Extended Q City Road, Gachibowli, Hyderabad, Telangana, India -32

Sir,

Subject: Submission of bids for the work Supply, installation, testing and commissioning of proposed solar project as per NIT specification at NIAB, Hyderabad.

Ref.: NIT No._____; Dated _____

We ..... hereby confirm that our firm has not been banned or blacklisted by any Government organization/Financial institution/Court /Public sector Unit /Central Government. In case the above statement made by us are found to be false or incorrect, you have right to reject our bid at any stage including forfeiture of our PBG and / or cancel the award of contract. .

It is also certified that in the event of submitted information of any point /document as per this NIT being found false or incorrect at any stage, bid shall be liable to rejection/termination of accepted Bid/Order /any further action suitable in accordance of rules and regulations of GOI.

Competent Authority to sign:
Name, Designation :
Date with stamp & seal of organisation:

FORM FOR SR NO 5 for Part-A (Technical Pre-Qualification)
(Declaration)

The Director,
National Institute of Animal Biotechnology (NIAB),
Opp. Journalist Colony, Near Gowlidoddy,
Extended Q City Road, Gachibowli, Hyderabad, Telangana, India -32

Sir,

This is to certify that I/We have read this NIT and understood the scope of work and urgency of the requirement. Our Firm will give highest priority for completion of this project within 90 days after award of contract and try best efforts to complete this project with in maximum 90 days.

Competent Authority to sign:
Name, Designation :
Date with stamp & seal of organisation:

Form to be submitted for Part-B (Technical Marking)

FORM FOR SR NO -1 OF PO Part-B (Technical Marking)	
Number of Years in operation (evidenced by date of registration of company)	
Date of Registration	
Supporting documents enclosed (yes / No with details of what document enclosed)	

FORM FOR SR NO – 2 & 6 OF Part-B (Technical Marking)

Work experience as per this NIT (Po copies) & PO Value of Work (to be supported with PO copies) PO details (WORK AS PER THIS NIT) must be submitted from Jan 2014 to till Bid Submission End Date & time of this NIT. The PO which is not mentioned here will not be considered for marking. Please enclose PO copies. PO must be on Bidder Name and not on any other firm.

(PO DETAILS GIVEN IN THIS FORM ONLY WILL BE CONSIDERED FOR EVALUATION FOR THIS NIT)

Sr No	Po No	PO date	Client Name	PO copy enclosed (yes/No)	PO value (in laksh)
				Total of PO value	

FORM FOR SR NO – 3 OF Part B (Technical Marking)

Work experience as per this NIT (PO copies Govt. Institutions -- Academic / Research Lab / PSUs/AB/ IIT /NIT /any Govt funded institute . This must be submitted from Jan 2014 to till Bid Submission End Date & time of this NIT. The PO which is not mentioned here will not be considered for marking. Please enclose PO copies. PO must be on Bidder Name and not on any other firm.

SR No	Name of Organization	brief scope of work	Po No. and Date	Po Value (Rs.)	Po enclosed (Yes/No)	Contact details of Client (Name/Phone/Email id)

FORM FOR SR NO – 4 OF Part B (Technical Marking)
(Satisfactory work completion certificate by clients)

Please give all your certificate details here only to consider for marking. The PO which is not mentioned here will not be considered for marking. Please enclose copies for the same work completion certificate/ installation certificate.

Sr. No.	Client Name	Po No. and Date	PO value	Date of completion of work	Work Completion Certificate enclosed (yes/No)

Competent Authority to sign:
Name, Designation :
Date with stamp & seal of organization:

FORM FOR SR NO – 5 OF Part B (Technical Marking)

Average Turnover for 4 Financial Years as per NIT
(Evidenced by Profit & Loss Account & Balance Sheet duly authenticated by CA)

S.No.	Financial / Accounting Year	Annual Turnover (Rs.)	Net Profit (Rs.)	Loss (if any) (Rs.)
1	2016-17			
2	2017-18			
3	2018-19			
4	2019-20			
5	2020-21			

AVERAGE TURNOVER OF LAST FOUR YEARS AS ABOVE =

Signature of Chartered Accountant with Seal Note :

The above data is to be supported by audited balance sheets. Attach copies of audited balance sheets duly certified by the chartered accountant for all three years Audited Balance sheet should mention the membership number of chartered accountant issued by ICAI along with full address.

FORM FOR SR NO – 7 OF Part B (Technical Marking)

Supply, Installation and Commissioning of Solar Power . (Supported by PO copies/ Client certificate)

Sr. No	Client Name	**Kwp Details**	Po No. and Date	Po Value	PO copies enclosed (Yes/No)	work completion/satisfactory performance Certificate enclosed (Yes/No)	Contact details of Client (Name / Phone / Email id)
1							
2							
3							

Competent Authority to sign:
Name, Designation :

Date with stamp & seal of organization:

MSE Guidelines for EMD/Tender Fees Exemption

Revised Classification applicable w.e.f 1st July 2020			
Composite Criteria: Investment in Plant & Machinery/equipment and Annual Turnover			
Classification	Micro	Small	Medium
Manufacturing Enterprises and Enterprises rendering Services	Investment in Plant and Machinery or Equipment: Not more than Rs.1 crore and Annual Turnover ; not more than Rs. 5 crore	Investment in Plant and Machinery or Equipment: Not more than Rs.10 crore and Annual Turnover ; not more than Rs. 50 crore	Investment in Plant and Machinery or Equipment: Not more than Rs.50 crore and Annual Turnover ; not more than Rs. 250 crore

Presently EMD/Tender Fee exemptions and price preference are applicable to only Micro and Small Industries. View above, if you are claiming EMD/Tender Fee exemptions, you should meet above criteria / criteria as revised for Micro and Small Industries.

1. You have to submit your supporting documents issued by competent Govt bodies to become eligible for the above exemption.

2. Also your certificate (NSIC) / MSE shall cover the items tendered to get EMD/Tender fee exemptions.

3. NSIC certificate shall be valid as on due date / extended due date of the tender.

4. In case the bid is submitted as an Indian arm of a foreign bidder and the eligibility criteria conditions were met thru foreign company, then the EMD Exemption cannot be claimed under the MSME status of Indian arm / subsidiary.

5. UAM number :- Udyog Aadhar memorandum (UAM) number issued by MSMS , Copy of Registration Certificate issued by NSIC, With current validity / MSE / MSEs owned by SC/ST entrepreneurs in respect of those who are seeking exemption for payment of Earnest Money Deposit (Bid Security)/fees.

Thus a Bidder who solely on it's own, fulfills each eligibility criteria condition as per the tender terms and conditions and who are having MSE status, can claim EMD exemption/ tender fee but not Rs 1500/-processing charges which is mandatory for all. If all these conditions are not fulfilled or supporting documents are not submitted with the Bid, then all those Bids without Tender fees /EMD will be summarily rejected and no queries will be entertained.

This Tender document is free of cost and no tender fees is applicable. EMD exemption is as rules mentioned herein.

TENDER PROCESSSING CHARGES Rs 1500 /- in this NIT is mandatory for all firms and not exempted to any firm.

Please read above points before preparing Price Bid /Quotation and submit your quotation after carefully reading /considering all the points.

SN	Point	Description	Point Noted & complied in Price Bid.
1	Price Breakup	The Bidder shall indicate the unit prices, discounts rate / percentage and total bid prices of the goods it proposes to supply. All breaks up of price incl Packing, Transportation, Taxes, incidental expenses must be given up to satisfactory installation in NIAB premise. Vague terms like "packing, forwarding, transportation, taxes etc. extra" without mentioning the specific amount/percentage of these charges will NOT be accepted. Where there is no mention of packing, forwarding, freight, insurance charges, such offers shall be summarily rejected as incomplete / non-responsive. Prices quoted by the bidder shall remain fixed during the entire period of contract and shall not be subject to variation on any account.	□ Point Noted for Bid Preparation
2	Quote for Complete item set up / functioning required as per specification.	Item quoted should be completed in all respects; any additional accessories required instrument to operate /function should also be quoted as part of the instrument and should be supplied along with instrument. It should not be included in optional.	□ Point Noted for Bid Preparation
3	Optional accessories / PC /UPS /stabilizer	The cost of accessories in optional should be quoted separately. List of all optional accessories with detail specification must be given with List price & discount.	□ Point Noted for Bid Preparation
4	Bid Currencies	PLEASE quote your price in Currency :- INR (The Indian rupee) only. **Please read all instructions given in all column of BOQ to be uploaded on CPPP.** **BID PRICE MUST BE IN CURRENCY: - INR (THE INDIAN RUPEE) ONLY**	□ Point Noted for Bid Preparation
5	For indigenous Items OR goods of foreign origin to be supplied in Indian currency	Ex-factory / Ex-warehouse //Ex-showroom /Off-the shelf Tax (if any) [%age & value] Transportation , loading/ unloading and incidental costs till NIAB site Insurance charges (if any with period cover) Incidental services (including installation & commissioning, and training) at NIAB site	□ Point Noted for Bid Preparation
6	Taxes, Custom duties etc.	**For NIAB Customs Duty under notification No.51/96 dated 23.07.1996. Hence Customs Duty, if any, should be shown separately. Please mention the applicable taxes clearly. We don't issue any 'Form C' or 'Form D'. Custom bonded warehouse price should be quoted in case of imported item quoting INR. Instrument quoted should be complete in all respects. If there is no explicit mention about taxes in your offer, then quoted price will be deemed inclusive of all such taxes and no other charges except those mentioned clearly in the quotation will be paid.** **The GST Rates / Exemption applicable will be as per GOI, MoF Notification No. 47/2017-Integrated Tax (Rate) dt. 14/11/2017 & GOI - GST Law 2017 as applicable. The Custom duty Rates / Exemption will be as applicable as per Govt. of India Rules as applicable to DSIR Registered institute/Govt. funded research institute. It is certified that National Institute of Animal Biotechnology, is an Autonomous Institute of the Department of Biotechnology, Ministry of Science & Technology, Govt. of India and it is registered with the (DSIR) Department of Scientific & Industrial Research, Government of India vide their Registration No. TUV/RG-CDE(1175)/2020 dated 28th Aug 2020 , Valid up to 31.08.2025.**	□ Point Noted for Bid Preparation
7	Bid Validity	The Bid should be valid for at least 180 days.	□ Point Noted for Bid
8	Comprehensive WARRANTY & AMC	The charges for AMC/CMC after warranty shall be quoted separately as per price schedule 'B'. Standard Warranty period is taken as 12 Months unless otherwise specified. The purchase of Additional warranty /CMC is at sole discretion of institute. ➢ The cost of Annual Maintenance Contract (AMC) which includes preventive maintenance including testing & calibration as per technical/service/ operational manual and labour, after satisfactory completion of warranty period may be quoted for next 3 (or as specified) years on yearly basis for complete equipment. ➢ The cost of CMC may be quoted along with taxes applicable on the date of Tender opening. The taxes to be paid extra, to be specifically stated. In the absence of any such stipulation the price will be taken inclusive of such taxes and no claim for the same will be entertained later. ➢ Cost of CMC will be added for ranking/evaluation purpose. ➢ The uptime warranty will be 98% on 24 (hrs) x 7 (days) x 365 (days) basis. ➢ The stipulation in technical specification will supersede above provision. The supplier shall keep sufficient stock of spares required during comprehensive maintenance contract period. In case the spares are required to be imported, it would be the responsibility of the supplier to import and get them custom cleared and pay all necessary duties. Please read above points before preparing Price Bid /Quotation and submit your quotation after carefully reading /considering all the points. Please read all instructions given in all column of BOQ to be uploaded on CPPP. IN CASE OF ANY DISCREPANCY IN PRICE/COST SUBMITTED IN BOQ FORMAT AS WELL AS ANY OTHER DOCUMENT AS MENTIONED IN NIT, THE DECISION OF NIAB COMPETENT AUTHORITY WILL BE FINAL AND BINDING FOR FIRM PARTICIPATED IN TENDER.)	Point Noted for Bid Preparation

CHAPTER 4
GENERAL CONDITIONS OF CONTRACT

SN	DETAILS
1	**DEFINITIONS**
	In this Contract, procurement through this tender ,the following terms shall be interpreted as indicated: The following words and expressions shall have the meanings hereby assigned to them: "Contract Price" means the price payable to the Supplier as specified in the Purchase Order, subject to such additions and adjustments thereto or deductions there from, as may be made pursuant to the Contract. "Day" means calendar day. "Completion" means the fulfilment of the Related Services by the Supplier in accordance with the terms and conditions set forth in the Purchase Order. "Goods" means all of the commodities, raw material, machinery and equipment, and/or other materials that the Supplier is required to supply to the Purchaser as per the Purchase Order. "Related Services" means the services incidental to the supply of the goods, such as transportation, insurance, installation, commissioning, training and initial maintenance and other such obligations of the Supplier as per the Purchase Order. "Supplier" means the natural person, private or government entity, or a combination of the above, whose bid to perform the Contract has been accepted by the Purchaser and is named as such in the Purchase Order. The final destination," where applicable, means the place of delivery as indicated in the Purchase Order. "The Purchaser" is 'The Director, National Institute of Animal Biotechnology (N.I.A.B), Hyderabad, Telangana. "The Purchaser's country is "India".
2	**SUPPLIER'S RESPONSIBILITIES**
	The Supplier shall supply all the Goods and Related Services included in the Scope of Supply and the Delivery and Completion Schedule, as per Purchase Order Terms.
3	**SUB-CONTRACTS**
	The Supplier shall notify the Purchaser in writing of all subcontracts awarded under this Contract if not already specified in the bid. Such notification, in his original bid or later, shall not relieve the Supplier from any liability or obligation under the Contract. Sub-contract shall be only for bought-out items and sub-assemblies. The Supplier shall not assign, in whole or in part, its obligations to perform under the Contract, except with the Purchaser's prior written consent
4	**CONTRACT PRICE**
	Prices charged by the Supplier for the Goods supplied and the Related Services performed under the Purchase Order shall not vary from the prices quoted by the Supplier in its bid.
5	**COPY RIGHT**
	The copyright in all drawings, documents, and other materials containing data and information furnished to the Purchaser by the Supplier herein shall remain vested in the Supplier, or, if they are furnished to the Purchaser directly or through the Supplier by any third party, including suppliers of materials, the copyright in such materials shall remain vested in such third party
6	**PATENT RIGHTS**
	The Supplier shall indemnify the Purchaser against all third-party claims if any, of infringement of patent, trademark or industrial design rights, copy rights arising from use of the Goods or any part thereof in India.
7	**INSPECTIONS AND TEST**
	The Supplier shall at its own expense and at no cost to the Purchaser carry out all such tests and/or inspections of the Goods and Related Services Or as discussed during the course of finalizing the contract. The Purchaser or its representative shall have the right to inspect and/or to test the Goods to confirm their conformity to the Contract specifications at no extra cost to the Purchaser. The Purchaser shall notify the Supplier in writing in a timely manner of the identity of any representatives retained for these purposes. The inspections and tests may be conducted on the premises of the Supplier or its subContractor/Bidder(s), at the point of delivery and/or at the Goods final destination. If conducted on the premises of the Supplier or its subContractor/Bidder(s), all reasonable facilities and assistance, including access to drawings and production data -shall be furnished to the inspectors at no charge to the Purchaser.
8	**PACKING**
	The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit and open storage. Packing case size and weights shall take into consideration, where appropriate, the remoteness of the Goods' final destination and the absence of heavy handling facilities at all points in transit. In order to maintain safety of the equipment, we prefer to have wooden crating with adequate cushion inside for transportation of any goods. The Material to be dispatched with International standard packing to withstand Rigors, and to avoid any transit damages. **PACKING INSTRUCTIONS** Each package will be marked on three sides with proper paint/indelible ink, the following: Purchaser Name & Address, Item Nomenclature, Order/Contract No. ,Country of Origin of Goods ,Packing list reference number
9	**AMENDMENTS**
	The Purchaser may at any time, by written order given to the Supplier make changes within the general scope of the Contract as mutually agreed terms.
10	**DELIVERY AND DOCUMENTS**
	Delivery of the Goods and completion related services shall be made by the Supplier in accordance with the terms specified by the Purchaser in the Purchase Order/Maximum within 08 weeks.

	Delivery of the Goods shall be made by the Supplier in accordance with the terms specified by the Purchaser in the Purchase Order. The details of shipping and / or other documents to be furnished by the supplier are also specified in Purchase Order. Delivery of the goods should be made as per the Delivery Schedule incorporated in the Purchase Order. The supplier should intimate the shipment details within 72 hours before for custom clearance of the material. The supplier shall notify the purchaser the full details of the shipment including order/contract number, railway receipt number /AWB etc and date, description of goods, quantity, name of the consignee, invoice etc. The supplier shall e-mail the following documents to the purchaser, with a copy to the Clearing Agent. i. 3 copies of the Supplier invoice showing Order/contract number, goods' description, quantity, unit price, total amount; ii. Acknowledgement of receipt of goods from the consignee(s) by the transporter; iii. Insurance Certificate if applicable; iv. Manufacturer's/Supplier's warranty certificate; v. Inspection Certificate issued by the nominated inspection agency, if any, and the Supplier's factory inspection report; a vi. Certificate of Origin. vii. Two copies of the packing list identifying the contents of each package. viii. Airway Bill / Bill of Lading The above documents should be received by the Purchaser before arrival of the Goods (except where the Goods have been delivered directly to the Consignee with all documents) and, if not received, the Supplier will be responsible for any consequent expenses. Please make appropriate commitments in writing that the instrument model being offered is current and is not likely to be obsolete within the next couple of years and that spare parts will be available for it for at least seven years after the installation. The Installation of the equipment is deemed complete only after all the sub-units of the main equipment such as the computers/printers/UPS/Software etc., is installed and tested as per the specifications in the offer/brochure / purchase order and demonstrated to the satisfaction of the end user.
11	**INSURANCE**
	The Goods supplied under the Contract shall be fully insured in Indian Rupees against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery. For delivery of goods at the purchaser's premises, the insurance shall be obtained by the Supplier in an amount equal to 110% of the value of the goods from "Warehouse to warehouse" (final destinations) on "All Risks" basis including war Risks and Strikes. The insurance shall be valid for a period of not less than 3 months after installation and commissioning. However, in case of orders placed on FOB/FCA basis, the purchaser shall arrange insurance.
12	**TRANSPORTATION**
	Where the Supplier is required under the Contract to deliver the Goods on FOB, transport of the Goods, up to and including the point of putting the Goods on board the vessel at the specified port of loading, shall be arranged and paid for by the Supplier. Where the Supplier is required under the Contract to deliver the Goods FCA, transport of the Goods and delivery into the custody of the carrier at the place named by the Purchaser or other agreed point shall be arranged and paid for by the Supplier, and the cost thereof may be included in the Price Schedules. Where the Supplier is required under the Contract to deliver the Goods CIF or CIP, transport of the Goods to the port of destination or such other named place of destination in the Purchaser's country, as shall be specified in the Contract, shall be arranged and paid for by the Supplier, and the cost thereof maybe included in the Price Schedules. In the case of supplies from within India, where the Supplier is required under the Contract to transport the Goods to a specified destination in India, defined as the Final Destination, transport to such destination, including insurance and storage, shall be arranged by the Supplier, and the related costs may be included in the Contract Price.
13	**STANDARDS**
	The Goods supplied and services rendered under this Contract shall conform to the standards mentioned in the Technical Specifications, and, when no applicable standard is mentioned, to the authoritative standard appropriate to the Goods' country of origin and such standards shall be the latest issued by the concerned institution
14	**WARRANTY**
	The Supplier warrants that all the Goods are new, unused, and of the most recent or current models, and that they incorporate all recent improvements in design and materials, unless provided otherwise in the Contract. The Warrantee should be comprehensive and on site. The Supplier further warrants that the Goods shall be free from defects arising from any act or omission of the Supplier or arising from design, materials, and workmanship, under normal use in the conditions prevailing in India. The warranty shall remain valid for twelve (12) months from the date of installation of the equipment or as per the Specification whichever is higher. The Purchaser shall give notice to the Supplier stating the nature of any such defects together with all available evidence thereof, promptly following the discovery thereof. The Purchaser shall afford all reasonable opportunity for the Supplier to inspect such defects. Upon receipt of such notice, the Supplier shall, within a reasonable period of time expeditiously repair or replace the defective Goods or parts thereof, at no cost to the Purchaser. If during the period of warranty any component or spare part is need to be brought from abroad, all associated cost shall be borne by the supplier including the cost of customs duty. All incidental charges / additional duties incurred for importing warrantee replacements are to be borne by the suppliers. The defective material / goods will not be handed over to the supplier and the same will be re-exported to the place of manufacturer at the cost of the supplier. In case, the manufacturer has the office in India the same may be handed over to them with an undertaking that they will re-export to their manufacturing facility within a reasonable time and submit the proof to that extent. If having been notified, the Supplier fails to remedy the defect within a reasonable period of time; the Purchaser may proceed to take within a reasonable period such remedial action as may be necessary, at the Supplier's risk and expense and without prejudice to any other rights which the Purchaser may have against the Supplier under the Contract.

15	**TERMS OF PAYMENT**
	Payment Term will be finalized by NIAB Policy and remain mandatory for supplier as issued in Contract /Purchase order. There will not be any advance payment . payment of your bill will be made after receipt of the articles in good condition & successful installation/ completion of work by way of Wire Transfer as per NIAB Order Terms & conditions. For Indigenous items Payment will be made after delivery and installation. **The following documents shall be required for foreign payment.** Signed commercial invoice in quadruplicate, Certificate of Origin issued by the Beneficiary/ Concerned Chamber of Commerce, Insurance copies/ certificates, Airway Bill / Bill of Lading Copy, Packing list indicating description of goods and quantity package wise in triplicate. All banking charges outside India will be borne by the supplier and inside India charges will be borne by the purchaser. In case of works /Turnkey project the interim payment can be done for 50 % of the value of supplied & accepted Project Materials (on the submission of invoice & supporting documents) .Balance payment will be made after successful completion of the project as per NIT .
16	**EXTENSION OF TIME**
	Delivery of the Goods and performance of the Services shall be made by the Supplier in accordance with the time schedule specified in the contract. If at any time during performance of the Contract, the Supplier or its sub-Contractor/Bidder(s) should encounter conditions impeding timely delivery of the Goods and performance of Services, the Supplier shall promptly notify the Purchaser in writing of the fact of the delay, its likely duration and its cause(s). As soon as practicable after receipt of the Supplier's notice, the Purchaser shall evaluate the situation and may, at its discretion, extend the Supplier's time for performance with or without penalty, in which case the extension shall be ratified by the parties by amendment of the Contract. Except as provided under the Force Majeure clause, a delay by the Supplier in the performance of its delivery obligations shall render the Supplier liable to the imposition of penalty pursuant to Penalty Clause unless an extension of time is agreed upon pursuant to above clause without the application of penalty clause.
17	**PENALTY CLAUSE**
	Subject to clause on Force Majeure, if the Supplier fails to deliver any or all of the Goods or to perform the Services within the period(s) specified in the Purchase order, the Purchaser shall, without prejudice to its other remedies under the Contract, deduct from the Contract Price, as penalty, a sum equivalent to 1 percent of the order value for each week or part thereof of delay until actual delivery or performance, up to a maximum deduction of 10 Percent. Once the maximum is reached, the Purchaser may consider termination of the Contract for Default.
18	**TERMINATION FOR DEFAULT / INSOLVENCY**
	The Purchaser may, without prejudice to any other remedy for breach of contract, by written notice of default sent to the Supplier, terminate the Contract in whole or part If the Supplier fails to deliver any or all of the Goods within the period(s) specified in the contract, or within any extension thereof granted by the Purchaser If the Supplier fails to perform any other obligation(s) under the Contract. If the Supplier, in the judgment of the Purchaser has engaged in corrupt or fraudulent or collusive or coercive practices. In the event the purchaser terminates the contract in whole or in part, he may take recourse to any one or more of the following action: The Performance Security is to be forfeited. The purchaser may procure, upon such terms and in such manner as it deems appropriate, stores similar to those undelivered, and the supplier shall be liable for all available actions against it in terms of the contract. The Purchaser may at any time terminate the Contract by giving written notice to the Supplier, if the Supplier becomes bankrupt or otherwise insolvent. In this event, termination will be without compensation to the Supplier, provided that such termination will not prejudice or affect any right of action or remedy, which has accrued or will accrue thereafter to the Purchaser.
19	**NOTICES**
	Any notice given by one party to the other pursuant to this contract/order shall be sent to the other party in writing and confirmed to the other party's address specified in the Purchase Order.
20	**SITE PREPARATION AND INSTALLATION**
	The supplier shall inform the purchaser about the site preparation, if any, needed for installation, of the goods at the purchaser's site immediately after placement of Purchase Order. In compliance with the technical and environmental specifications Supplier to perform a site inspection to verify the appropriateness of the sites before the installation of the equipment, if required.
21	**TAXES AND DUTIES**
	Suppliers shall be entirely responsible for all taxes, duties, license fees, octroi, road permits, etc., incurred until delivery of the ordered Goods to the Purchaser at the final destination.
22	**INCIDENTAL SERVICES**
	The supplier may be required to provide any or all of the services, as discussed during the course of finalizing the contract. User and detailed Service Manual /training to be supplied along with the equipment.
23	**SPARE PARTS**
	The Supplier shall be required to provide the spare part details/materials, notifications, and information pertaining to its manufacture or distribution: Such spare parts as the Purchaser may elect to purchase from the Supplier, providing that this election shall not relieve the Supplier of any warranty obligations under the Contract; and In the event of termination of production of the spare parts: advance notification to the Purchaser of the pending termination, in sufficient time to permit the Purchaser to procure needed Requirements if any; and Following such termination, furnishing at no cost to the Purchaser, the blueprints, drawings and specifications of the spare parts, if requested.

24	**PERFORMANCE SECURITY**
	The successful Bidder must be ready to provide Performance security (3% of the order value unless mentioned otherwise) in the Performance Security Form provided in the Bid Document, within 21 days of the receipt of notification of award/purchase order from the Purchaser or/as mentioned in purchase order/contract awarded failing which it shall be presumed that the vendor is not interested and his bid security is liable to be forfeited & the contract shall be deemed terminated. The proceeds of the performance security shall be payable to the Purchaser as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract. Bidder can submit the performance security of Bank Guarantee issued by a Nationalized/Scheduled bank located in India on the format provided in the bidding documents / as issued by NIAB post contract. The PBG will be forfeited in case supplier fails to honour contractual obligation.
25	**FRAUD AND CORRUPTION**
	The purchaser requires that the bidder's suppliers and Contractor/Bidders observe the highest standard of ethics during the procurement and execution of such contracts. In pursuit of this policy, the following are defined: "Corrupt practice" means the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the action of a public official in the procurement process or in contract execution; "Fraudulent practice" means a misrepresentation or omission of facts in order to influence a procurement process or the execution of a contract; "Collusive practice" means a scheme or arrangement between two or more bidders, with or without the knowledge of the purchaser, designed to establish bid prices at artificial, non-competitive levels; and "Coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the procurement process or affect the execution of a contract. The purchaser will reject a proposal for award if it determines that the Bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive or coercive practices in competing for the Contract in question.
26	**SETTLEMENT OF DISPUTES**
	The Purchaser and the supplier shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the Contract. If, after thirty (30) days from the commencement of such informal negotiations, the Purchaser and the Supplier have been unable to resolve amicably a Contract dispute, either party may require that the dispute be referred for resolution to the formal mechanisms. These mechanisms may include, but are not limited to, conciliation mediated by a third party, adjudication in an agreed national or international forum, and national or international arbitration. In case of Dispute or difference arising between the Purchaser and a domestic supplier relating to any matter arising out of or connected with this agreement, such disputes or difference shall be settled in accordance with the Indian Arbitration & Conciliation Act, 1996, the rules there under and any statutory modifications or re-enactments thereof shall apply to the arbitration proceedings. The dispute shall be referred to the Director, NIAB and if he is unable or unwilling to act, to the sole arbitrator so appointed shall be final conclusive and binding on all parties to this order. In the case of a dispute between the purchaser and a Foreign Supplier, the dispute shall be settled by arbitration in accordance with provision of sub-clause (a) above. But if this is not acceptable to the supplier then the dispute shall be settled in accordance with provisions of UNCITRAL (United Nations Commission on International Trade Law) Arbitration Rules. The Venue of the arbitration shall be the place from where the order is issued.
27	**APPLICABLE LAW**
	The Contract shall be interpreted in accordance with the laws of the Union of India and all disputes shall be subject to place of jurisdiction Hyderabad.
28	Your Bid will be rejected if Technical Bid Compliance form AS PER THIS NIT is not submitted.

CHAPTER - 5

REQUIRED DOCUMENTS/ FORMAT WITH BID (TO BE UPLOADED ONLINE)

FORMAT TO KEEP READY BEFORE ONLINE SUBMISSION OF BIDS

Bid will contain all the technical details of the products along with following format. Please keep all the following documents ready as per format mentioned herein for uploading on the website during online submission of your bid. Non Submission of these format may result in rejection of your bid. Read all forms carefully and submit it exactly same as per below format. Changing of our wording of format may result in rejection of your bids. BOQ final cost must be same as per Quotation / Price Bid submitted as per above documents

IT IS TWO BID ---- THERE ARE 2 COVERS TO BE UPLOAD

- ✓ **Cover-1 -- Part-1 --- FEE/PRE QUAL/TECHNICAL/FORMS**
- ✓ **Cover-2 -- Part-1 --- PRICE BID AS PER FORMAT MENTIONED IN THIS NIT**
- ✓ **Cover-2 -- Part-2 --- BOQ/FINANCE DETAILS**

KEEP SCAN COPY OF PART-1, PART-2, PART-3 READY AS PER FORMAT
BEFORE STARTING APPLYING FOR TENDER ON CPPP

Documents to be uploaded on CPPP Cover 1 & 2	Documents format	Documents to be uploaded (keep ready , scanned **as one file** as per as per format mentioned herein)
CPPP Cover -1 Part -1 as per NIT (All documents asked as per point No 1 , 2, 3 ,4 to be uploaded , KEEP IT READY BEFORE ONLINE SUBMISSION scanned AS ONE .pdf file)	**.pdf**	1. **Complete Technical Compliance Form as Per NIT** 2. All supporting Technical d o c u m e n t s , description / Literature / Catalogue showing technical compliance for the requirement Mentioned in NIT. 3. SCAN COPY OF DD (EMD /TENDER PROCESSING FEES/TENDER FEES AS APPLICABLE.) 4. Copy of PAN card/ Certificate of Registration with Govt. Tax Authorities / GST / UAM number Udyog Aadhar memorandum (UAM) number issued by MSMS IF ANY , Copy of Registration Certificate issued by NSIC, Govt. of India Enterprise/ DG, S&D / MSME, units registered with District Industries Centre / Joint Director of Commerce and Industries, Govt. of Telangana/ respective State Govts. With current validity / MSE / MSEs owned by SC/ST entrepreneurs in respect of those who are seeking exemption for payment of Earnest Money Deposit (Bid Security)/fees. / PO copies of similar work done/item supplied
CPPP- Cover - 2 Part -1 Only Pride Bid	**.pdf**	1. Price Quotation on firm's Letterhead giving full cost, tax details (all in detail) for the requirement mentioned in NIT. **INCLUDING PRICE SCHEDULE 'A' & PRICE SCHEDULE 'B' FORMAT AS PER NIT (If any) / FINANCIAL BID / SCANNED QUOTATION ON FIRM LETTERHEAD GIVING TOTAL COST OF REQUIRMENT IN TENDER** **COST AS PER THIS QUOTATION SHOULD MATCH WITH BOQ**
CPPP Cover – 2 Part -2 BOQ/Price Details	**.xls**	BOQ /Finance details -- BOQ can be downloaded from CPPP along with other NIT, filled and then uploaded again. **Please read all instructions given in all column of BOQ to be uploaded on CPPP.**

KEEP ABOVE DOCUMENTS SCANNED AS PER FORMAT MENTIONED ABOVE, READY FOR UPLOAD BEFORE START APPLYING FOR TENDER. BOQ FINAL COST MUST BE SAME AS PER QUOTATION / PICE BID SUBMITTED AS PER ABOVE DOCUMENTS

KEEP THESE FROMS READY AS PER FORMAT MENTIONED ABOVE. READY FOR UPLOAD BEFORE START APPLYING FOR TENDER.

FORM NO - 1

PROCESS COMPLIANCE/ACCEPTANCE OF TENDER CONDITIONS FORM

The Director,
National Institute of Animal Biotechnology (NIAB),
Opp. Journalist Colony, Near Gowlidoddy,
Extended Q City Road, Gachibowli, Hyderabad, Telangana, India -32

Sub: Acceptance to the Process related & Terms and Conditions for the e-Tendering
Ref.:- The Terms & Conditions for e-Tendering mentioned in tender No.:_____

Sir,

We hereby confirm the following.

The undersigned is authorized representative of the company. We have carefully gone through the NIT, Tender Documents and the Rules governing the e-tendering as well as this document. We have examined and have no reservations to the Bidding Documents, including addendum (if any). We offer to supply in conformity with the Bidding Documents and in accordance with the condition of contact, specified in this tender document. We will honour the Bid submitted by us during the e-tendering. We give undertaking that if any mistake occurs while submitting the bid from our side, we will honour the same.

Bid securing declaration: - We accept that if we withdraw or modify Bids during the period of validity, or if we are awarded the contract and fail to sign the contract, or to submit a performance security before the deadline defined in this bids document, we will be suspended for the period of 01 year from being eligible to submit Bids for contracts with NIAB.

We are aware that if NIAB has to carry out e-tender again due to our mistake, NIAB has the right to disqualify us for this tender. We confirm that NIAB shall not be liable & responsible in any manner whatsoever for my/our failure to access &submit offer on the e-tendering site due to loss of internet connectivity, electricity failure, virus attack, problems with the PC, digital signature certificate or any other unforeseen circumstances etc. Our bid shall be valid for the period from the date fixed for the bid submission deadline, and it shall remain binding upon us and accepted at any time before the expiration of bid validity period as per this tender. IN CASE OF ANY DISCREPANCY ABOUT PRICE/COST IN PRICE BID , SCHDULE A / COST SUBMITTED IN BOQ FORMAT/ COMPARATIVE GENERATED BY CPPP AS WELL AS ANY OTHER DOCUMENT AS MENTIONED IN NIT, THE DECISION OF NIAB COMPETENT AUTHORITY WILL BE FINAL AND BINDING FOR FIRM PARTICIPATED IN TENDER.

If our bid is accepted, we commit to provide a performance security in Bank Guarantee /Fixed Deposits for due performance of the contract as per NIAB policy and warranty-guarantee as per tender specification or agrees as per contract. We understand that this bid, together with your written acceptance thereof included in your notification of award/placement of order, shall constitute a binding contract between us. We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive. We accept that the competent authority in NIAB will have full right to reject any/all offer(s) without assigning any reason thereof and does not bind itself to accept the lowest or any other tender and full authority to postpone the tender issue date, submission /opening date or to alter any other condition of tender /cancellation of this tender, as per policy/committee recommendations of NIAB at any stage without assigning any reason thereof for which no claim from whomsoever will be entertained. I/We the undersigned, have read the entire terms and conditions of this Tender document and we are fully agreeable to the terms and conditions mentioned herein. The decision of competent authority of NIAB with respect to this Tender-Result will be fully agreeable and binding on us.

This letter can be treated as signed and acceptance copy of tender documents and the forms submitted as signed by competent authority of firm submitting this tender and there is no need to submit separate signed copy of tender document.

Competent Authority to sign:

Name:-

Designation:-

Contact Details :-

Date with stamp & seal of organization:

(FORM NO 2)

DETAILS OF LOCAL / ANY OTHER SERVICE SUPPORT

Location /Address of Service Centre :-

Name of Technical /In charge Person/Qualification:-

Phone/Fax/Email :-

Office Hours :-

Details of Service Facilities available :-

(FORM NO 3)

PRICE REASONABILITY CERTIFICATE

This is to certify that we have offered the maximum possible discounted price to your institute for the Item required as per this Tender No_____in our Quotation No. _____date_____for total Currency / as per quotation submitted .We would like to certify that the quoted price are the minimum and we have not quoted the same item on lesser rates than those being offered to NIAB to any other customer nor we will do so till the validity of offer or execution of purchase order, whichever is later.

(FORM NO 4)

PERFORMANCE STATEMENT/ CLIENTELE/LIST OF USER

Attached separate sheet in same format if above place is not sufficient

Please find attached herewith our list of clients to whom we have supplied the same /similar work as required vide this Tender No_____dt_____for the item _____

SN	Name & Address of purchaser	Description	Purchase Order No. and date	Value of work	Contact Person along with Tel. NO., Fax No. & e-mail address

(FORM NO 5)

MANUFACTURERS' AUTHORIZATION

(wherever applicable/ for the main items in case of turnkey project)

Note: This letter of authority should be on the letterhead of the manufacturer and should be signed by a person competent and having the power of attorney to bind the manufacturer. In case of foreign manufacturer, scan copy can be accepted if supported by copy of original valid normal authorization to local distributor is submitted along with above format.

The Director,
National Institute of Animal Biotechnology (NIAB),
Opp. Journalist Colony, Near Gowlidoddy,
Extended Q City Road, Gachibowli, Hyderabad, Telangana, India -32

Sir,

We_____who are established and reputed manufacturers of the equipment having factories at_____(address of factory) do hereby authorize M/s._____ (Name and address of Agent) on our behalf to submit a bid, negotiate and receive the order from you against your tender No._____dt._____.

We hereby extend our full support, guarantee and warranty as per the Terms and Conditions of this Tender/PO (issued if any) for the goods and services offered by the above firm as per this tender.

Competent Authority to sign:
Name, Designation :
Date with stamp & seal of organisation:

(FORM NO- 6)

UNDERTAKING TO SUBMIT PERFORMANCE BANK GUARRNATEE

The Director,
National Institute of Animal Biotechnology (NIAB),
Opp. Journalist Colony, Near Gowlidoddy,
Extended Q City Road, Gachibowli, Hyderabad, Telangana, India -32

Sub:- Assurance for PBG

Sir,

We the Firm are participating in your Tender No _____
If our bid is accepted against this subject tender notice, we commit to provide a performance security for due performance of the contract as per NIAB policy/format/form and warranty-guarantee as per tender specification or agrees as per contract valid for 60 days more than the contract period. We accept that PBG on the instruction of competent authority of NIAB will be forfeited in case our failure in meeting

(FORM NO 7)

ORGANISATIONAL DETAILS

1	Name & Address of the applicant with Telephone No./Fax No./ Email ID	
2	Address of local office (in Hyderabad/India)	
3	Year of Establishment	
4	Legal status of the applicant (attach copies of original document defining the legal status) a) A proprietary firm b) A firm in partnership c) A limited company or Corporation / Joint venture / Consortia /Any other	
5	Names of Key executives with designation to be connected with this bid /Designation of individuals authorized to act on behalf the organization.(Contac No /E mail ID)	
6	Details of manufacturer /factory Name :- Address :-	
7	Has the bidder, or any constituent partner in case of partnership firm / limited company/ Joint venture, ever been convicted by the court of law? If so, give details.	
8	Any other information considered necessary from your side but not included above.	
9	Confirm that the Bidder has not been banned OR delisted/blacklisted by any Government or Quasi Government agencies or Public Sector Units.	
10	Confirmthat Bidder is not under Liquidation, court Receivership or similar proceedings.	
COMPETENT AUTHORITY NAME , SIGN & DATE WITH STAMP & SEAL OF ORGANIZATION		

FORM NO – 8

INDEMNITY BOND

To,
The Director
NIAB - Hyderabad

Sub :- INDEMNITY BOND

It is confirmed that we the Bidder will sign the indemnity bond in case of award of contract/ signing of agreement for this proposed work.

The Contractor/Bidder must furnish Indemnity Bond confirming that the Contractor/Bidder hereby undertakes to indemnify the Institute and keep the Institute indemnified from time to time against any loss caused due to mishandling, mis- operating or improper maintenance etc. or damage caused to or suffered by the Institute by reason of any breach or breaches on the Contractor/Bidder's part of any of the Terms & Conditions contained in contract issued and in the event the Contractor/Bidder shall make any default or defaults in carrying out any of the works under the said Agreement or otherwise in observance or performance of any of the Terms & Conditions relating thereto in accordance with the true intent and meaning thereof, the Contractor/Bidder shall forthwith on demand and without demur pay to the Institute such sum or sums as may be claimed by the Institute as losses, damages, costs, charges or expenses by reason of such default or defaults on the Contractor/Bidder's part. This Indemnity shall continue and hold good until it is released by the Institute in writing on the Contractor/Bidder's application after expiry of relative Guarantee period of the Agreement and after the Contractor/Bidder has discharged all his obligations under the said Agreement and submitted a "NO DEMAND CERTIFICATE" from the Institute under the said Agreement. The Indemnity Bond shall be valid for a minimum period of CONTRACT PERIOD and renewable thereof (Claim Period).

COMPETENT AUTHORITY NAME , SIGN & DATE
WITH STAMP & SEAL OF ORGANIZATION

(FORM NO – 9)

BANK SOLVENCY CERTIFICATE

Note: - Banker's certificate should be on letter head of the Bank and should not be more than 06 months old from the date of publication of tender. Certificate taken for any other Project /NIT not be more than 06 months old from the date of publication of tender can be considered for this NIT.

Date:

To,
The Director
NIAB - Hyderabad

BANK SOLVENCY CERTIFICATE

We the **(Bank Name)** do hereby certify that **(Name of Firm)** having their Registered office at **(Registered Office Address) is** solvent to the extent of Rs. _____ Rs in words _____) as disclosed by the information and records which are available with the aforesaid bank.

It is further notified that this certificate is being issued at the request of **(Name of Firm)** without attaching any risk and responsibility on our part in any respect whatsoever more particularly either as guarantor or otherwise.

Sign & Stamp of Bank Manager with date

(FORM NO – 10)

MAJOR WORKS/SUPPLY OF SIMILAR REQUIRMENT COMPLETED

Please submit the following details as per format mentioned herewith.

- Select the year as per the date **of Purchase order falls in from Jan to Dec.**
- Work/Supply should have been executed by the firm under the name in which they are submitting the applications.
- Write NIL if no data is available in any of the following year.
- Attach PO copies as supporting document.

Format of major works completed.

PO date should fall in Jan to Dec period of above year. Please give details of each year separately as per this format

Year	Purchase/ Work order date and Number	Name of the Client	Cost of Order	Month/ year of completion	Name and address/telephone number of officer to whom reference may be made	Remark if any
2014						
2015						
2016						
2017						
2018						
2019						
2020						
2021 till Bid Submission End Date & time of this NIT						

FORM NO – 11

BIDDER UNDERTAKING FOR COMPLIANCE TO NIT BID TERMS & FOLLOWING PROVISION OF THIS NIT

This is to certify that, I/We the Bidders have read all terms of this NIT & the below information/OM .
I/we hereby declare that we will provide all information desired by NIAB competent authority in this regard at any stage of this procurement. In the event of failure to provide required information, submitted information being found false or incorrect at any stage, bid shall be liable to rejection/termination of accepted Bid/Order /any further action suitable in accordance of law of GOI.

SN.	**OM No. / Description**
1.	OM No F.No.6/18/2019-PPD dated 23rd/24th July 2020 (Public Procurement 1, 2 and 3) issued by Ministry of Finance, Department of Expenditure, Public Procurement Division and any further change / Amendment w.r.t this OM regarding Eligibility of bidders from specified countries
2.	OM No F.20\212014-PPD dated 25.07.2016 and subsequent clarifications dt 20.09.2016; 27.07.2019; 29.06.2020 issued by Ministry of Finance, Department of Expenditure, Public Procurement Division and any further change / Amendment w.r.t this OM regarding Relaxation of prior turnover and experience for Start-ups
3	OM No. F.9/4/2020-PPD dt e 12th November 2O2O issued by Ministry of Finance, Department of Expenditure, Public Procurement Division and any further change / Amendment w.r.t this OM regarding Bid Security/ Earnest Money Deposit
4.	Public Procurement Policy for the Micro and Small Enterprises (MSEs) Order, 2012 and its amendments 09.11.2018 and any further change / Amendment w.r.t this OM regarding Purchase Preference and facilities to MSEs
5.	"Public Procurement (Preference to Make in India) Order 2017" (PPP-MII) of Department for Promotion of Industry and Internal Trade, (DPIIT - Public Procurement Section) as revised by No. P-45021/2/2017-PP (BE-II) dated 16th September 2020 and any further change / Amendment w.r.t this OM regarding To encourage 'Make in India' and promote manufacturing and production of goods and services in India
6.	OM No. F.9/4/2020-PPD dt 12/11/2020 issued by Ministry of Finance, Department of Expenditure, Public Procurement Division and any further change / Amendment w.r.t this OM regarding Performance Security.

COMPETENT AUTHORITY NAME, SIGN & DATE
WITH STAMP & SEAL OF ORGANIZATION

Every care has been taken to ensure that the contents of this NIT are accurate and updated/ in compliance with latest rules, in case of any conflict between the provisions stipulated in this document and in GFR 2017 / The prevailing laws by GOI, Competent authority will follow the latest rules/laws/Amendment Rule applicable to NIAB issued by GOI. The decision of competent authority of NIAB will be treated as final in this regard/ Dispute if any. The Tender Inviting Authority (TIA) hereby confirms that while formulating the Tender Document (NIT), GFR & following regulations have been taken in to consideration and same will be applicable. Bidders must read, understand and participate for this NIT if following OM / Rules/Provision are compiled and accepted along with NIT terms. All these OM are available on internet if you search with OM number /description failing which you can send request to NIAB to email you any of this OM (if required). The competent authority reserves the right to ask all relevant the supporting documents from Bidder at any stage of Tender and BID will be rejected in case of failure to submit the required documents within stipulated time for compliance with any of following OM /Provision of GFR / Any applicable latest law / Rule issued by GOI applicable to NIAB.

FORM NO –12

PRICE BID FORMAT --- PRICE SCHEDULE 'A' & 'B'

(To be utilised by the bidders for quoting their prices).

- **Please remember this is Two Bid System.**
- **Don't Give Price Bid details an any of the document with technical BID.**
- **The following Price Bid will be uploaded only on CPPP in Cover – 2 -- Part -1 --Only Pride Bid.**

PRICE SCHEDULE 'A'

S.No	Description of Item	Proposed Make if any	Unit	Qty.	Rate (Incl GST and All)	Amount
A	**Major Equipment**					
1.0	**Mechanical data**					
A	Solar Photovoltaics Modules-High power Polycrystalline solar cells Make:BHEL/BOSCH/TATA Power Solar /Havells or Equivalent		**Lot**	**1**		
B	Inverter 3 Phase PCU/Inverter 10KW and Make:ABB/Siemens /GE /Hitachi /Schnider or any Equivalent		**Lot**	**1**		
2.0	**Electrical Cables**					
	Cables of appropriate size to be used in the system shall have the following characteristics: I. Shall meet IEC 60227/IS 694, IEC 60502/IS1554 standards II. Temp. Range: –10oC to +80oC. Voltage rating 660/1000V Excellent resistance to heat, cold, water, oil, abrasion, UV radiation Flexible meeting IS standards		**Lot**	**1**		
A	AC Distribution Panel Board		**No**	**1**		
B	Transformer(if required)		**No**	**1**		
C	Lightning Protection		**Lot**	**1**		
D	Earthing Protection		**Lot**	**1**		
E	ACB/MCCB or LBS and ACDB		**Lot**	**1**		
F	Junction Boxes		**Lot**	**1**		
3.0	**Civil Works**					
	The I-sections, MS sheets, Channels, L Angles, MS Structure, Foundation, Scaffolding, Painting and concrete work		LS	1		

	etc. as per the site condition and all makes is should meet IS Standards					
4.0	**Array Structure**					
	Hot dip galvanized MS mounting structures with not less than 80 Microns shall be used for mounting the modules/ panels/arrays. Each structure should have angle of south inclination as per the site conditions to take maximum insolation					
5.0	Net meter		**No**	**1**		
6.0	Test Certificates and reports		**No**	**1**		
7.0	**Any other item which is essential and mandatory as per Scope of work & Technical Specification to complete this project and not mentioned above.** Bidder must read the NIT & Scope of work & Technical Specification carefully. This is a turnkey Project on lumsum basis. Based on the Technical Specification/Scope of work, bidder can add any other essential item in detail in Point No 7 of the BOQ.		**Lot**	**1**		
Final Total Cost inclusive of all taxes, duties, any other charges up to NIAB for supply installation, testing validation, WARRANTY, completion of this Project all-inclusive as per this NIT and scope of work /Technical Specification)						

Bidder must understand the full scope of work/Technical specification and then quote after consideration of all requirement as per scope of work.

No cost escalation will be allowed after award of contract for the specification/scope of work mentioned in this NIT.

Site Visit is mandatory.

Bidders can attend the pre bid meeting for queries if any.

PRICE SCHEDULE 'B' --- WARRANTY & AMC

Please Check Scope of Work & AMC for WARRANTY FOR THIS PROJECT .

AMC AFTER COMPLETION WARRANTY

AMC Without any parts/spares-- ONLY SERVICE/ MAINTENANCE SUPPORT)

(ONLY SERVICE VISIT & PREVENTIVE MAINTENANCE ,VALIDATION / CALIBRATION ETC

AMC After completion of Standard Warranty period / As per NIT	Cost in RS (Incl all taxes)	Remark if any
1st yr of -- AMC		
2nd yr of -- AMC		
3rd yr of -- AMC		

COMPETENT AUTHORITY NAME , SIGN & DATE
WITH STAMP & SEAL OF ORGANIZATION

DECLARATION TO BE SUBMITTED

I /We the undersigned have read and considered all the above points carefully as per Chapter -3 before preparing the bid and noted all the points. The price bid will be prepared considering all the above points. The best possible break up of all the prices unit and total up to delivery and installation of the item in tender up to NIAB premise / location for delivery , standard & Extra Warranty , AMC has been mentioned in price bid. Prices quoted shall remain fixed during the entire period of contract and shall not be subject to variation on any account.

Competent authority sign , date with stamp & seal of organization

IMPORTANT POINT FOR PRICE BID

Firm must submit itemise Quotation on their letterhead & upload it in Cover 2 - Part - 1 (Price Bid = Detail Quotation on firm's Letterhead giving full cost, tax details (all in detail) for the requirement mentioned in NIT in their own format but must give all details including tax etc all cost up to NIAB. BOQ must be submitted in Cover -2 - Part- 2 , after carefully reading all the points mentioned therein in & final price as per your quotation.
The firm must submit both PRICE SCHEDULE 'A' & PRICE SCHEDULE 'B'
The final cost submitted as per BOQ on CPPP- Cover 2 - Part - 2 (.xl format) must be matching with PRICE SCHEDULE 'A' submitted on CPPP -Cover – 2 -- Part -1.(.pdf format)
1. DON'T SUBMIT PRICE DETAILS IN TECHINCAL BID OTHERWISE YOUR BID WILL BE REJECTED. **2. THIS IS TWO BID SYSTEM.** **3. TECHINCAL BID & PRICE BID. BOTH SHOULD BE SUBMITTED IN DIFFERENT COVER ON CPPP AS GIVEN IN THIS NIT.**

CHAPTER – 6

TECHNICAL BID COMPLIANCE FORM
SPECIFICATION, OTHER REQUIREMENTS OF THIS NIT

TECHNICAL BID COMPLIANCE FORM

(MANDATORY TO SUBMIT)

TO BE UPLOADED ON CPPP COVER -1 PART -1

The Director,
National Institute of Animal Biotechnology (NIAB),
Opp. Journalist Colony, Near Gowlidoddy,
Extended Q City Road, Gachibowli, Hyderabad, Telangana, India -32

Sir,

Please find attached technical compliance statement as required vide this Tender No_____dt _____
For the item _____

Compliance Statement- (MANDATORY TO SUBMIT)

SURVEY, DESIGN, FABRICATION, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF 900KWp SOLAR POWER PLANT WITH GRID CONNECTION UNDER NET METERING POLICY, IN NIAB HYDERABAD.		**Proposed Make**	**Compliance (Yes/No)**	**Catalogue / / details of Supporting technical documents / brochure/ Bidder Deviation /Remark if any)**
Point No	**Description**			
1	**SCOPE OF WORK FOR SOLAR POWER GENERATION SYSTEM UNDER NET METERING:** a. Scope of work covers Design, Supply, Installation & Commissioning of Grid Connected SPV Grid Plant of 900 KWp under Net Metering as per the technical specification. b. Wiring up to Distribution Board from the Solar Panel Installation will be in the scope of the successful bidder(s). The cable should be copper armored with suitable current carrying capacity. c. Mounting Structure within the scope of this tender as per the site requirements d. Performance testing of the complete system e. The successful bidder shall undertake to supply spares free of cost for the maintenance of the offered items during the warranty period (5 years). f. A leaflet containing the details of the service center's shall be provided. g. If the operation or use of the system proves to be unsatisfactory during the warranty period (5 years), the installer shall replace the faulty ones or carry out			

	necessary repairs as per the warranty terms and conditions h. The successful bidder shall do necessary coordination with concerned agencies like TSSPDCL, TNREDC Limited and CEIG, as applicable, for procuring necessary approvals on behalf of the NIAB Limited. **i. The SPV Plant has to be installed on the tentative locations i.e, Parking roof top, main building terrace and land or any other specified place in campus. The bidder shall quote accordingly after visiting site.** j. Successful bidder has to coordinate with NREDCAP/TNREDC NREDCAP/TNREDC or MNRE (NEW Delhi) for getting the subsidy. **Note: - The I-sections, MS sheets, Channels, L Angles, MS Structure, Foundation, Scaffolding, painting levelling of ground and concrete work etc. and any other item required is part of the Scope of the work. No extra claim shall be entertained.**			
2.	Scope of work includes Survey of Site, Design, engineering, fabrication, supply, installation and commissioning of the system and evacuating power up to metering panel of respective main building. Necessary cabling along with cable required for the same shall be in the scope of bidder.			
3.	A Grid Tied Solar Rooftop Photo Voltaic (SPV) power plant consists of SPV array, Module Mounting Structure, Power Conditioning Unit (PCU) consisting of Maximum Power Point Tracker (MPPT), Inverter, and Controls & Protections, interconnect cables and switches. PV Array is mounted on a suitable structure, Civil works, Earth Pit, earth strip. Grid tied SPV system is without battery and should be designed with necessary features to supplement the grid power during day time.			
4.	The SPV Rooftop Plant has to be installed at different Locations, including land and roof top, and other place as decided by NIAB, the bidder shall quote accordingly.			
5.	The I-sections, MS sheets, Channels, L Angles, MS Structure, Foundation, Scaffolding, Painting and concrete work etc and any other item required for building shed for installing solar power plant in the substation yard is part of the Scope of the work			
6.	Solar PV Panels as installed at site and output power from the system shall be fed to substation electrical panel. Cabling (including cable) from solar PV system to MCC shall be in the scope of the bidder.			

7.	Subsidy from Government: Bidder shall be responsible to obtain sanction for the subsidy component of the total solar project value as per JNNSM (Jawaharlal Nehru National Solar Mission) or as applicable under any central or state government rules. NIAB will provide all necessary documents and supports as may be required to the vendor to get the subsidy approval and disbursement of the same directly to NIAB. Any application fee, etc. will be paid by NIAB against receipt & submission of proof of documents. Bidder shall be responsible till the release of subsidy from MNRE to NIAB.			
8.	All Civil works and MS works are included in the scope of the Solar power generation and solar fencing, nothing extra shall be paid on account of this.			
9.	**WARRANTY**			
	NIAB will directly contact the successful bidder for carrying the repair work after completion of defect liability period. 1. A) The SPV panel shall carry a warranty of minimum 25 years. B) The SPV panel must be warranted for their output peak watt capacity which shall not be less than 90% at the end of 10 years and 80% at the end of 25 years. C) The PCU/Solar Grid Tie Inverter shall carry a warranty of minimum 5 years.			
	2. The complete SPV rooftop/land systems installed and commissioned shall be under a warranty against any manufacturing or usage defect for a minimum period of 5 years from the date of Commissioning. The mechanical structures, electrical works including power conditioners/inverters/maximum power point tracker unit's/ distribution boards/digital meters/ switchgear etc. and overall workmanship of the SPV rooftop systems must be warranted against any manufacturing/ design/ installation defects for a minimum period of 5 years.			
	3. The warranty will be against malfunctions, non-fulfilment of guaranteed performance and breakdowns due to manufacturing defects or defects that may arise due to improper operation of electrical /electronic components of the system but do not include physical damages by the end users.			
	4. The above warranty shall take effect from the date on which the system is taken over by the NIAB after commissioning.			

	5. The successful bidder shall be liable to make good the loss by replacing the defective product during the warranty period for the entire system free of cost.			
	6. The warranty will cover all the materials and goods involved in the installation and commissioning of SPV rooftop systems and on land by the successful Bidder.			
10.	**SCOPE OF WORK IN DETAIL** **INTRODUCTION** In grid-connected Solar Photo-Voltaic (SPV) systems, solar energy is fed into the building loads that are connected to the public electricity grid through a service connection with surplus energy being fed into the grid and shortfall being drawn from the grid. Production of surplus energy may happen when solar energy produced exceeds building load energy demand. This surplus is fed into the grid. During the night, or when during the day energy demand in the building exceeds solar energy production, energy is drawn from the grid. Grid connected solar PV systems have no battery storage and will not work during grid failure. 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.			
11.	**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 NIAB and its representatives will pay special attention to neatness of work execution and conformity with quality and safety norms. Noncompliance works will have to be redone at the cost of the Installer			
12.	**DEFINITION** A Grid Tied Solar Rooftop Photo Voltaic (SPV) power plant consists of SPV array, Module Mounting Structure, Power Conditioning Unit (PCU) consisting of Maximum Power Point Tracker (MPPT), Inverter, and Controls & Protections, interconnect cables and switches. PV Array is mounted on a suitable structure. Grid tied SPV system is without battery and should be designed with necessary features to supplement the grid power during day time. Components and parts used in the SPV power plants including the PV modules,			

	metallic structures, cables, junction box, switches, PCUs etc., should conform to the BIS or IEC or international specifications, wherever such specifications are available and applicable. **Solar PV system shall consist of following equipment's/components**. ➢ Solar PV modules consisting of required number of Crystalline PV modules ➢ Grid interactive Power Conditioning Unit with Remote Monitoring System **Signature of the Contractor** ➢ Mounting structures ➢ Junction Boxes. ➢ Earthing and lightening protections. ➢ IR/UV protected PVC Cables, pipes and accessories			
13.	**SOLAR PHOTOVOLTAIC MODULES:**			
	1. The PV modules of following makes shall be strictly used in the project. Make-Tata Power Solar/BHEL/BOSCH/Havells or Equivalent.			
	2. The PV modules used must qualify to the latest edition of IEC PV module qualification test or equivalent BIS standards Polycrystalline Silicon Solar Cell Modules IEC 61215/IS14286. In addition, the modules must conform to IEC 61730 Part-2-requirements for construction & Part 2 – requirements for testing, for safety qualification or equivalent IS. A. For the PV modules to be used in a highly corrosive atmosphere throughout their lifetime, they must qualify to IEC 61701/IS 61701 B. The total solar PV array capacity should not be less than allocated capacity (kWp) and should comprise of solar crystalline modules of minimum 250 Wp and above wattage. Module capacity less than minimum 250 watts should not be accepted. C. Protective devices against surges at the PV module shall be provided. Low voltage drop bypass diodes shall be provided. D. PV modules must be tested and approved by one of the IEC authorized test centers. E. The module frame shall be made of corrosion resistant materials, preferably having anodized aluminum. F. The bidder shall carefully design & accommodate requisite numbers of the modules to achieve the rated power in his bid.			

	Bank shall allow only minor changes at the time of execution. G. Other general requirement for the PV modules and subsystems shall be the Following: 1. The rated output power of any supplied module shall have tolerance of +/- 3%. 2. The peak-power point voltage and the peak-power point current of any supplied module and/or any module string (series connected modules) shall not vary by more than 2 (two) per cent from the respective arithmetic means for all modules and/or for all module strings, as the case may be. 3. The module shall be provided with a junction box with either provision of external screw terminal connection or sealed type and with arrangement for provision of by-pass diode. The box shall have hinged, weather proof lid with captive screws and cable gland entry points or may be of sealed type and IP-65 rated. 4. IV curves at STC should be provided by bidder 5. The Efficiency of Solar Modules should not be lesser than 16%			
	3. Modules deployed must use a RF identification tag. The following information must be mentioned in the RFID used on each module (This can be inside or outside the laminate, but must be able to withstand harsh environmental conditions). A. Name of the manufacturer of the PV module B. Name of the manufacturer of Solar Cells. C. Month & year of the manufacture (separate for solar cells and modules) D. Country of origin (separately for solar cells and module) E. I-V curve for the module Wattage, Im, Vm and FF for the module F. Unique Serial No and Model No of the module G. Date and year of obtaining IEC PV module qualification certificate. H. Name of the test lab issuing IEC certificate. I. Other relevant information on traceability of solar cells and module as per ISO 9001 and ISO 14001			
14.	**ARRAY STRUCTURE** a) Hot dip galvanized MS mounting structures with not less than 80 Microns may be used for mounting the modules/ panels/arrays. Each structure should have angle of south inclination as per the site conditions to take maximum insolation. However, to accommodate more			

	capacity the angle inclination may be reduced until the plant meets the specified performance ratio requirements. b) The Mounting structure shall be so designed to withstand the speed for the wind zone of the location where a PV system is proposed to be installed (wind speed of 150 kM/ hour). Suitable fastening arrangement such as grouting and calming should be provided to secure the installation against the specific wind speed. c) The mounting structure steel shall be as per latest IS 2062: 1992 and galvanization of the mounting structure shall be in compliance of latest IS 4759. d) Structural material shall be corrosion resistant and electrolytically compatible with the materials used in the module frame, its fasteners, nuts and bolts. Necessary protection towards rusting need to be provided either by coating or anodization. e) The fasteners used should be made up of stainless steel. The structures shall be designed to allow easy replacement of any module. The array structure shall be so designed that it will occupy minimum space without sacrificing the output from the SPV panels f) Regarding civil structures, the bidder need to take care of the load bearing capacity of the roof and need arrange suitable structures based on the quality of roof. g) The total load of the structure (when installed with PV modules) on the terrace should be less than 60 kg/m2.			
15.	**JUNCTION BOXES (JBs)** A) The junction boxes are to be provided in the PV array for termination of connecting cables. The J. Boxes (JBs) shall be made of GRP/FRP/Powder Coated Aluminium /cast aluminium alloy with full dust, water & vermin proof arrangement. All wires/cables must be terminated through cable lugs. The JBs shall be such that input & output termination can be made through suitable cable glands. B) Copper bus bars/terminal blocks housed in the junction box with suitable termination threads Conforming to IP65 standard and IEC 62208 Hinged door with EPDM rubber gasket to prevent water entry. Single / double compression cable glands. Provision of earthings. It should be placed at 5 feet height or above for ease of accessibility. C) Each Junction Box shall have High quality Suitable capacity Metal Oxide Varistors (MOVs) / SPDs, suitable Reverse Blocking Diodes. The Junction Boxes shall have suitable			

	arrangement monitoring and disconnection for each of the groups. D) Suitable markings shall be provided on the bus bar for easy identification and the cable ferrules must be fitted at the cable termination points for identification			
16.	**DC DISTRIBUTION BOARD** A) DC Distribution panel to receive the DC output from the array field. B) DC DPBs shall have sheet from enclosure of dust & vermin proof conform to IP 65 protection. The bus bars are made of copper of desired size. Suitable capacity MCBs/MCCB shall be provided for controlling the DC power output to the PCU along with necessary surge arrestors.			
17.	**AC DISTRIBUTION PANEL BOARD:** A) AC Distribution Panel Board (DPB) shall control the AC power from PCU/ inverter, and should have necessary surge arrestors. Interconnection from ACDB to mains at LT Bus bar while in grid tied mode. B) All switches and the circuit breakers, connectors should conform to IEC 60947, part I, II and III/ IS60947 part I, II and III. C) The changeover switches, cabling work should be undertaken by the bidder as part of the project. D) All the Panel‟s shall be metal clad, totally enclosed, rigid, floor mounted, air - insulated, cubical type suitable for operation on three phase / single phase,415 or 230 volts, 50 Hz. E) The panels shall be designed for minimum expected ambient temperature of 45 degrees Celsius, 80 percent humidity and dusty weather. F) All indoor panels will have protection of IP54 or better. All outdoor panels will have protection of IP65 or better. G) Should conform to Indian Electricity Act and rules (till last amendment). H) All the 415 AC or 230 volts devices / equipment like bus support insulators, circuit breakers, SPDs, CT,VTs etc., mounted inside the switchgear shall be suitable for continuous operation and satisfactory performance under the following supply conditions Varaition in supply voltage: +/- 10% Varaition in supply frequesncy: +/- 3 HZ			
18.	**PCU/ARRAY SIZE RATIO:** A) The combined wattage of all inverters should not be less than rated capacity of power plant under STC.			

	B) Maximum power point tracker shall be integrated in the PCU/inverter to maximize energy drawn from the array.			
19.	**PCU/ Inverter:** As SPV array produce direct current electricity, it is necessary to convert this direct current into alternating current and adjust the voltage levels to match the grid voltage. Conversion shall be achieved using an electronic Inverter and the associated control and protection devices. All these components of the system are termed the "Power Conditioning Unit (PCU)". In addition, the PCU shall also house MPPT (Maximum Power Point Tracker), an interface between Solar PV array & the Inverter, to the power conditioning unit/inverter should also be DG set interactive. If necessary. Inverter output should be compatible with the grid frequency. Typical technical features of the inverter shall be as follows: ➢ Make-Delta/SMA/ABB Only ➢ Switching devices : IGBT/MOSFET ➢ Control : Microprocessor /DSP ➢ Nominal AC output voltage and frequency : 415V, 3 Phase, 50 Hz (In case single phase inverters are offered, suitable arrangement for balancing the phases must be made.) ➢ Output frequency : 50 Hz ➢ Grid Frequency Synchronization range : + 3 Hz or more ➢ Ambient temperature considered : -20o C to 50o C ➢ Humidity : 95 % Non-condensing ➢ Protection of Enclosure : IP-20(Minimum) for indoor. IP-65(Minimum) for outdoor. ➢ Grid Frequency Tolerance range : + 3 or more ➢ Grid Voltage tolerance : - 20% & + 15 % ➢ No-load losses : Less than 1% of rated power ➢ Inverter efficiency(minimum) : >93% (In case of 10kW or above) ➢ Inverter efficiency (minimum) : > 90% (In case of less than 10 kW) THD : < 3% ➢ PF : > 0.9 A) Three phase PCU/ inverter shall be used with each power plant system B) PCU/inverter shall be capable of complete automatic operation including wake-up, synchronization & shutdown.			

	C) The output of power factor of PCU inverter is suitable for all voltage ranges or sink of reactive power, inverter should have internal protection arrangement against any sustainable fault in feeder line and against the lightning on feeder. D) Built-in meter and data logger to monitor plant performance through external computer shall be provided. E) The power conditioning units / inverters should comply with applicable IEC/ equivalent BIS standard for efficiency measurements and environmental tests as per standard codes IEC 61683/IS 61683 and IEC 60068-2(1,2,14,30) /Equivalent BIS Std. F) The charge controller (if any) / MPPT units environmental testing should qualify IEC 60068-2(1, 2, 14, 30)/Equivalent BIS std. The junction boxes/ enclosures should be IP 65(for outdoor)/ IP 54 (indoor) and as per IEC 529 specifications. G) The PCU/ inverters should be tested from the MNRE approved test centres / NABL /BIS /IEC accredited testing- calibration laboratories. In case of imported power conditioning units, these should be approved by international test houses.			
20.	**INTEGRATION OF PV POWER WITH GRID:** The output power from SPV would be fed to the inverters which converts DC produced by SPV array to AC and feeds it into the main electricity grid after synchronization. In case of grid failure, or low or high voltage, solar PV system shall be out of synchronization and shall be disconnected from the grid. Once the DG set comes into service PV system shall again be synchronized with DG supply and load requirement would be met to the extent of availability of power. 4 pole isolation of inverter output with respect to the grid/ DG power connection need to be provided			
21.	**DATA ACQUISITION SYSTEM / PLANT MONITORING** **I.** Data Acquisition System shall be provided for each of the solar PV plant. **II.** Data Logging Provision for plant control and monitoring, time and date stamped system data logs for analysis with the high quality, suitable PC. Metering and Instrumentation for display of systems parameters and status indication to be provided. **III.** Solar Irradiance: An integrating Pyrometer / Solar cell based irradiation sensor (along with calibration certificate) provided, with the sensor mounted in the plane of the array. Readout integrated with data logging system.			

	IV. Temperature: Temperature probes for recording the Solar panel temperature and/or ambient temperature to be provided complete with readouts integrated with the data logging system **V.** The following parameters are accessible via the operating interface display in real time separately for solar power plant. **a)** AC Voltage. **b)** AC Output current. **c)** Output Power **d)** Power factor. **e)** DC Input Voltage. **f)** DC Input Current. **g)** Time Active. **h)** Time disabled. **i)** Time Idle. **j)** Power produced **k)** Protective function limits (Viz-AC Over voltage, AC Under voltage, Over frequency, Under frequency ground fault, PV starting voltage, PV stopping voltage. **VI.** All major parameters available on the digital bus and logging facility for energy auditing through the internal microprocessor and read on the digital front panel at any time) and logging facility (the current values, previous values for up to a month and the average values) should be made available for energy auditing through the internal microprocessor and should be read on the digital front panel. **VII.** PV array energy production: Digital Energy Meters to log the actual value of AC/ DC voltage, Current & Energy generated by the PV system provided. Energy meter along with CT/PT should be of 0.5 accuracy class. **VIII.** Computerized DC String/Array monitoring and AC output monitoring shall be provided as part of the inverter and/or string/array combiner box or separately. **IX.** String and array DC Voltage, Current and Power, Inverter AC output voltage and current (All 3 phases and lines), AC power (Active, Reactive and Apparent), Power Factor and AC energy (All 3 phases and cumulative) and frequency shall be monitored.			

	X. Computerized AC energy monitoring shall be in addition to the digital AC energy meter. **XI.** The data shall be recorded in a common work sheet chronologically date wise. The data file shall be MS Excel compatible. The data shall be represented in both tabular and graphical form. **XII.** All instantaneous data shall be shown on the computer screen. **XIII.** Software shall be provided for USB download and analysis of DC and AC parametric data for individual plant. **XIV.** Provision for Internet monitoring and download of data shall be also incorporated. **XV.** Remote Server and Software for centralized Internet monitoring system shall be also provided for download and analysis of cumulative data of all the plants and the data of the solar radiation and temperature monitoring system. **XVI.** Ambient / Solar PV module back surface temperature shall be also monitored on continuous basis. **XVII.** Simultaneous monitoring of DC and AC electrical voltage, current, power, energy and other data of the plant for correlation with solar and environment data shall be provided. **XVIII.** Remote Monitoring and data acquisition through Remote Monitoring System software at the Bank location with latest software/hardware configuration and service connectivity for online / real time data monitoring/control complete to be supplied and operation and maintenance/control to be ensured by the supplier. Provision for interfacing these data on [NAME OF THE ORGANISATION] server and portal in future shall be kept.			
22.	**TRANSFORMER "IF REQUIRED" & METERING:** a) Oil type relevant kVA, 11kV/415V, 50 Hz Step up along with all protections, switchgears, Vacuum circuit breakers, cables etc. along with required civil work. b) The bidder must take approval/NOC from the Concerned DISCOM for the connectivity, technical feasibility, and synchronization of SPV plant with distribution network and submit the same to TNREDCL (Telangana New and Renewable Energy Development Corporation Limited) before commissioning of SPV plant. c) Reverse power relay shall be provided by bidder (if necessary), as per the local DISCOM requirement.			

	d) CEIG approval from concerned authorities is to be obtained and installer can quote separately for the same.			
23.	**POWER CONSUMPTION:** a) Regarding the generated power consumption, priority need to give for internal consumption first and thereafter any excess power can be exported to grid. Finalization of tariff is not under the purview of NREDCAP/TNREDC or MNRE. Decisions of appropriate authority like DISCOM, state regulator may be followed.			
24.	**PROTECTIONS** The system should be provided with all necessary protections like earthing, Lightning, and grid islanding as follows **1. LIGHTNING PROTECTION** The SPV power plants shall be provided with lightning &overvoltage protection. The main aim in this protection shall be to reduce the over voltage to a tolerable value before it reaches the PV or other sub system components. The source of over voltage can be lightning, atmosphere disturbances etc The entire space occupying the SPV array shall be suitably protected against Lightning by deploying required number of Lightning Arrestors. Lightning protection should be provided as per IEC 62305standard. The protection against induced high-voltages shall be provided by the use of metal oxide varistors (MOVs) and suitable earthing such that induced transients find an alternate route to earth. **2. SURGE PROTECTION** Internal surge protection shall consist of three MOV type surge-arrestors connected from +ve and –ve terminals to earth (via Y arrangement) **3. EARTHING PROTECTION** I. Each array structure of the PV yard should be grounded/ earthed properly as per IS:3043-1987. In addition, the lighting arrester/masts should also be earthed inside the array field. Earth Resistance shall be tested in presence of the representative of Bank engineer as and when required after earthing by calibrated earth tester. PCU, ACDB and DCDB should also be earthed properly. II. Earth resistance shall not be more than 5 ohms. It shall be ensured that all the earthing points are bonded together to make them at the same potential			
25.	**GRID ISLANDING:**			

	I. In the event of a power failure on the electric grid, it is required that any independent power- producing inverters attached to the grid turn off in a short period of time. This prevents the DC- to-AC inverters from continuing to feed power into small sections of the grid, known as "islands." Powered islands present a risk to workers who may expect the area to be unpowered, and they may also damage grid-tied equipment. The Rooftop PV system shall be equipped with islanding protection. In addition to disconnection from the grid (due to islanding protection) disconnection due to under and over voltage conditions shall also be provided. II. A manual disconnect 4pole isolation switch beside automatic disconnection to grid would have to be provided at utility end to isolate the grid connection by the utility personnel to carry out any maintenance. This switch shall be locked by the utility personnel			
26.	**CABLES** Cables of appropriate size to be used in the system shall have the following characteristics: I. Shall meet IEC 60227/IS 694, IEC 60502/IS1554 standards II. Temp. Range: –10oC to +80oC. III. Voltage rating 660/1000V IV. Excellent resistance to heat, cold, water, oil, abrasion, UV radiation V. Flexible VI. Sizes of cables between array interconnections, array to junction boxes, junction boxes to Inverter etc. shall be so selected to keep the voltage drop (power loss) of the entire solar system to the minimum. The cables (as per IS) should be insulated with a special grade PVC compound formulated for outdoor use. VII. Cable Routing/ Marking: All cable/wires are to be routed in a GI cable tray and suitably tagged and marked with proper manner by good quality ferule or by other means so that the cable easily identified. VIII. The Cable should be so selected that it should be compatible up to the life of the solar PV panels i.e. 25years. IX. The ratings given are approximate. Bidder to indicate size and length as per system design requirement. All the cables required for the plant provided by the bidder. Any change in cabling sizes if desired by the bidder/approved after citing appropriate reasons. All cable			

	schedules/layout drawings approved prior to installation. X. Multi Strand, annealed high conductivity copper conductor PVC type „A" pressure extruded insulation or XLPE insulation. Overall PVC/XLPE insulation for UV protection Armored cable for underground laying. All cable trays including covers to be provided. All cables conform to latest edition of IEC/ equivalent BIS Standards as specified below: BoS item / component Standard Description Standard Number Cables General Test and Measuring Methods, PVC/XLPE insulated cables for working Voltage up to and including 1100 V ,UV resistant for outdoor installation IS /IEC 69947. XI. The size of each type of DC cable selected shall be based on minimum voltage drop however; the maximum drop shall be limited to 1%. XII. The size of each type of AC cable selected shall be based on minimum voltage drop however; the maximum drop shall be limited to 2 %.			
27.	**CONNECTIVITY** The maximum capacity for interconnection with the grid at a specific voltage level shall be as specified in the Distribution Code/Supply Code of the State and amended from time to time. In this case Supplier has to connect the solar generation to the sat LT Panel provided			
28.	**DRAWINGS & MANUALS:** **I.** Two sets of Engineering, electrical drawings and Installation and O&M manuals are to be supplied. Bidders shall provide complete technical data sheets for each equipment giving details of the specifications along with make/makes in their bid along with basic design of the power plant and power evacuation, synchronization along with protection equipment. II. Approved ISI and reputed makes for equipment be used. III. For complete electro-mechanical works, bidders shall supply complete design, details and drawings for approval to Bank before progressing with the installation work			
29.	**PLANNING AND DESIGNING:** I. The bidder should carry out Shadow Analysis at the site and accordingly design strings & arrays layout considering optimal usage of space, material and labour. The bidder should submit the array layout drawings along with Energy generation Estimate to NIAB for Approval			

	II. NIAB reserves the right to modify the PCC design, Layout and specification of sub-systems and components at any stage as per local site conditions/requirements. III. The bidder shall submit preliminary drawing for approval & based on any modification or recommendation, if any. The bidder submit three sets and soft copy in CD of final drawing for formal approval to proceed with construction work.			
30.	**DRAWINGS TO BE FURNISHED BY BIDDER AFTER AWARD OF CONTRACT** I. The Contractor shall furnish the following drawings Award/Intent and obtain approval II. General arrangement and dimensioned layout III. Schematic drawing showing the requirement of SV panel, Power conditioning Unit(s)/ inverter, Junction Boxes, AC and DC Distribution Boards, meters etc. iv. Structural drawing along with foundation details for the structure. IV. Itemized bill of material for complete SV plant covering all the components and associated accessories. V. Layout of solar Power Array and Energy Generation Estimate			
31.	**SOLAR PV SYSTEM SHOULD MEET THE ANNUAL ENERGY REQUIREMENT** The Solar PV system on the rooftop of the selected Roof will be installed for meeting up to 30% of the annual energy requirements			
32.	**SAFETY MEASURES:** The bidder shall take entire responsibility for electrical safety of the installation(s) including connectivity with the grid and follow all the safety rules & regulations applicable as per Electricity Act, 2003 and CEA guidelines etc.			
33.	**TEST CERTIFICATES AND REPORTS TO BE FURNISHED** 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 inverter to provide evidence of compliance with standards as specified by Ministry of New and Renewable Energy (MNRE). reserves the right to ask for additional test certificates or (random) tests to establish compliance with the specified			

	standards.			
34.	**CONFIRMATION TO MNRE TECHNICAL SPECIFICATIONS AND STANDARDS** The Tenderer should ensure that all components and systems used under this Scheme shall strictly adhere to the Technical Specifications and Guidelines issued by MNRE , and as amended from time to time.			

******** Please note following very important points ********

An item-by-item commentary on the Purchaser's Technical Specifications demonstrating substantial responsiveness of the goods and services to those specifications or a statement of deviations and exceptions to the provisions of the Technical Specifications must be provided. If any deviation is proposed by the Bidder, the same must be clearly indicated and enclosed as deviation as per given format. Compliance/Deviation statement comparing the specifications of the quoted model to the required specifications should also give the page number(s) of the technical literature where the relevant specification is mentioned. Bids must have supporting documents (technical literature or copies of relevant pages from the service manual or factory test data) for all the points of specification, failing this will result in rejection of bid. The technical committee can ask for demo in NIAB (if required at the time of technical evaluation). If bid participating firm fails to arrange for demo, it will result in rejection of the bid. In case of demo is to be arranged at different place other than NIAB, all the incidental expenses of this arrangement has to borne by the bid participating firm. No Queries will be entertained for waive off for demo as it is in utmost interest of the organization to make correct procurement as per end user requirement and use public fund in correct manner with avoid of risk of purchase of substandard material. As specification is essence of this purchase no comprise will be made in ascertaining the right quality of product as per requirement for NIAB. Your Bid will be summarily rejected if this TECHNICAL BID COMPLIANCE FORM along with supporting technical documents are not submitted.

TECHNICAL SPECIFICATION AS PER CHAPTAR -6

Name of the Work / Project: - SURVEY, DESIGN, FABRICATION, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF 900KWp SOLAR POWER PLANT WITH GRID CONNECTION UNDER NET METERING POLICY, IN NIAB HYDERABAD.

Please read following details and this NIT terms carefully and submit your bid item wise in two bid system.

SURVEY, DESIGN, FABRICATION, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF 900KWp SOLAR POWER PLANT WITH GRID CONNECTION UNDER NET METERING POLICY, IN NIAB HYDERABAD.	
Point No	**Description**
1	**SCOPE OF WORK FOR SOLAR POWER GENERATION SYSTEM UNDER NET METERING: -** a. Scope of work covers Design, Supply, Installation & Commissioning of Grid Connected SPV Grid Plant of 900 KWp under Net Metering as per the technical specification. b. Wiring up to Distribution Board from the Solar Panel Installation will be in the scope of the successful bidder(s). The cable should be copper armored with suitable current carrying capacity. c. Mounting Structure within the scope of this tender as per the site requirements d. Performance testing of the complete system e. The successful bidder shall undertake to supply spares free of cost for the maintenance of the offered items during the warranty period (5 years). f. A leaflet containing the details of the service center's shall be provided. g. If the operation or use of the system proves to be unsatisfactory during the warranty period (5 years), the installer shall replace the faulty ones or carry out necessary repairs as per the warranty terms and conditions h. The successful bidder shall do necessary coordination with concerned agencies like TSSPDCL, TNREDC Limited and CEIG, as applicable, for procuring necessary approvals on behalf of the NIAB Limited. **i. The SPV Plant has to be installed on the tentative locations i.e, Parking roof top, main building terrace and land or any other specified place in campus. The bidder shall quote accordingly after visiting site.** j. Successful bidder has to coordinate with NREDCAP/TNREDC NREDCAP/TNREDC or MNRE (NEW Delhi) for getting the subsidy. **Note: - The I-sections, MS sheets, Channels, L Angles, MS Structure, Foundation, Scaffolding, painting levelling of ground and concrete work etc. and any other item required is part of the Scope of the work. No extra claim shall be entertained.**
2.	Scope of work includes Survey of Site, Design, engineering, fabrication, supply, installation and commissioning of the system and evacuating power up to metering panel of respective main building. Necessary cabling along with cable required for the same shall be in the scope of bidder.
3.	A Grid Tied Solar Rooftop Photo Voltaic (SPV) power plant consists of SPV array, Module Mounting Structure, Power Conditioning Unit (PCU) consisting of Maximum Power Point Tracker (MPPT), Inverter, and Controls & Protections, interconnect cables and switches. PV Array is mounted on a suitable structure, Civil works, Earth Pit, earth strip. Grid tied SPV system is without battery and should be designed with necessary features to supplement the grid power during day time.
4.	The SPV Rooftop Plant has to be installed at different Locations, including land and roof top, and other place as decided by NIAB, the bidder shall quote accordingly.
5.	The I-sections, MS sheets, Channels, L Angles, MS Structure, Foundation, Scaffolding, Painting and concrete work etc and any other item required for building shed for installing solar power plant in the substation yard is part of the Scope of the work

6.	Solar PV Panels as installed at site and output power from the system shall be fed to substation electrical panel. Cabling (including cable) from solar PV system to MCC shall be in the scope of the bidder.
7.	Subsidy from Government: Bidder shall be responsible to obtain sanction for the subsidy component of the total solar project value as per JNNSM (Jawaharlal Nehru National Solar Mission) or as applicable under any central or state government rules. NIAB will provide all necessary documents and supports as may be required to the vendor to get the subsidy approval and disbursement of the same directly to NIAB. Any application fee, etc. will be paid by NIAB against receipt & submission of proof of documents. Bidder shall be responsible till the release of subsidy from MNRE to NIAB.
8.	All Civil works and MS works are included in the scope of the Solar power generation and solar fencing, nothing extra shall be paid on account of this.
9.	**WARRANTY**
	NIAB will directly contact the successful bidder for carrying the repair work after completion of defect liability period. 7. A) The SPV panel shall carry a warranty of minimum 25 years. B) The SPV panel must be warranted for their output peak watt capacity which shall not be less than 90% at the end of 10 years and 80% at the end of 25 years. C) The PCU/Solar Grid Tie Inverter shall carry a warranty of minimum 5 years.
	8. The complete SPV rooftop/land systems installed and commissioned shall be under a warranty against any manufacturing or usage defect for a minimum period of 5 years from the date of Commissioning. The mechanical structures, electrical works including power conditioners/inverters/maximum power point tracker unit's/ distribution boards/digital meters/ switchgear etc. and overall workmanship of the SPV rooftop systems must be warranted against any manufacturing/ design/ installation defects for a minimum period of 5 years.
	9. The warranty will be against malfunctions, non-fulfilment of guaranteed performance and breakdowns due to manufacturing defects or defects that may arise due to improper operation of electrical /electronic components of the system but do not include physical damages by the end users.
	10. The above warranty shall take effect from the date on which the system is taken over by the NIAB after commissioning.
	11. The successful bidder shall be liable to make good the loss by replacing the defective product during the warranty period for the entire system free of cost.
	12. The warranty will cover all the materials and goods involved in the installation and commissioning of SPV rooftop systems and on land by the successful Bidder.

10.	**SCOPE OF WORK IN DETAIL** **INTRODUCTION** In grid-connected Solar Photo-Voltaic (SPV) systems, solar energy is fed into the building loads that are connected to the public electricity grid through a service connection with surplus energy being fed into the grid and shortfall being drawn from the grid. Production of surplus energy may happen when solar energy produced exceeds building load energy demand. This surplus is fed into the grid. During the night, or when during the day energy demand in the building exceeds solar energy production, energy is drawn from the grid. Grid connected solar PV systems have no battery storage and will not work during grid failure. 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.
11.	**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 NIAB and its representatives will pay special attention to neatness of work execution and conformity with quality and safety norms. Noncompliance works will have to be redone at the cost of the Installer
12.	**DEFINITION** A Grid Tied Solar Rooftop Photo Voltaic (SPV) power plant consists of SPV array, Module Mounting Structure, Power Conditioning Unit (PCU) consisting of Maximum Power Point Tracker (MPPT), Inverter, and Controls & Protections, interconnect cables and switches. PV Array is mounted on a suitable structure. Grid tied SPV system is without battery and should be designed with necessary features to supplement the grid power during day time. Components and parts used in the SPV power plants including the PV modules, metallic structures, cables, junction box, switches, PCUs etc., should conform to the BIS or IEC or international specifications, wherever such specifications are available and applicable. **Solar PV system shall consist of following equipment's/components**. ➢ Solar PV modules consisting of required number of Crystalline PV modules ➢ Grid interactive Power Conditioning Unit with Remote Monitoring System **Signature of the Contractor** ➢ Mounting structures ➢ Junction Boxes. ➢ Earthing and lightening protections. ➢ IR/UV protected PVC Cables, pipes and accessories
13.	**SOLAR PHOTOVOLTAIC MODULES:**
	4. The PV modules of following makes shall be strictly used in the project. Make-Tata Power Solar/BHEL/BOSCH/Havells or Equivalent.
	5. The PV modules used must qualify to the latest edition of IEC PV module qualification test or equivalent BIS standards Polycrystalline Silicon Solar Cell Modules IEC 61215/IS14286. In addition, the modules must conform to IEC 61730 Part-2-requirements for construction & Part 2 – requirements for testing, for safety qualification or equivalent IS. A. For the PV modules to be used in a highly corrosive atmosphere throughout their lifetime, they must qualify to IEC 61701/IS 61701 B. The total solar PV array capacity should not be less than allocated capacity (kWp) and should comprise of solar crystalline modules of minimum 250 Wp and above wattage. Module capacity less than minimum 250 watts should not be accepted. C. Protective devices against surges at the PV module shall be provided. Low voltage drop bypass diodes shall be provided.

	D. PV modules must be tested and approved by one of the IEC authorized test centers. E. The module frame shall be made of corrosion resistant materials, preferably having anodized aluminum. F. The bidder shall carefully design & accommodate requisite numbers of the modules to achieve the rated power in his bid. Bank shall allow only minor changes at the time of execution. G. Other general requirement for the PV modules and subsystems shall be the Following: 1. The rated output power of any supplied module shall have tolerance of +/- 3%. 2. The peak-power point voltage and the peak-power point current of any supplied module and/or any module string (series connected modules) shall not vary by more than 2 (two) per cent from the respective arithmetic means for all modules and/or for all module strings, as the case may be. 3. The module shall be provided with a junction box with either provision of external screw terminal connection or sealed type and with arrangement for provision of by-pass diode. The box shall have hinged, weather proof lid with captive screws and cable gland entry points or may be of sealed type and IP-65 rated. 4. IV curves at STC should be provided by bidder 5. The Efficiency of Solar Modules should not be lesser than 16%
	6. Modules deployed must use a RF identification tag. The following information must be mentioned in the RFID used on each module (This can be inside or outside the laminate, but must be able to withstand harsh environmental conditions). A. Name of the manufacturer of the PV module B. Name of the manufacturer of Solar Cells. C. Month & year of the manufacture (separate for solar cells and modules) D. Country of origin (separately for solar cells and module) E. I-V curve for the module Wattage, Im, Vm and FF for the module F. Unique Serial No and Model No of the module G. Date and year of obtaining IEC PV module qualification certificate. H. Name of the test lab issuing IEC certificate. I. Other relevant information on traceability of solar cells and module as per ISO 9001 and ISO 14001
14.	**ARRAY STRUCTURE** h) Hot dip galvanized MS mounting structures with not less than 80 Microns may be used for mounting the modules/ panels/arrays. Each structure should have angle of south inclination as per the site conditions to take maximum insolation. However, to accommodate more capacity the angle inclination may be reduced until the plant meets the specified performance ratio requirements. i) The Mounting structure shall be so designed to withstand the speed for the wind zone of the location where a PV system is proposed to be installed (wind speed of 150 kM/ hour). Suitable fastening arrangement such as grouting and calming should be provided to secure the installation against the specific wind speed. j) The mounting structure steel shall be as per latest IS 2062: 1992 and galvanization of the mounting structure shall be in compliance of latest IS 4759. k) Structural material shall be corrosion resistant and electrolytically compatible with the materials used in the module frame, its fasteners, nuts and bolts. Necessary protection towards rusting need to be provided either by coating or anodization. l) The fasteners used should be made up of stainless steel. The structures shall be designed to allow easy replacement of any module. The array structure shall be so designed that it will occupy minimum space without sacrificing the output from the SPV panels m) Regarding civil structures, the bidder need to take care of the load bearing capacity of the roof and need arrange suitable structures based on the quality of roof. n) The total load of the structure (when installed with PV modules) on the terrace should be less than 60 kg/m2.
15.	**JUNCTION BOXES (JBs)**

E) The junction boxes are to be provided in the PV array for termination of connecting cables. The J. Boxes (JBs) shall be made of GRP/FRP/Powder Coated Aluminium /cast aluminium alloy with full dust, water & vermin proof arrangement. All wires/cables must be terminated through cable lugs. The JBs shall be such that input & output termination can be made through suitable cable glands.

F) Copper bus bars/terminal blocks housed in the junction box with suitable termination threads Conforming to IP65 standard and IEC 62208 Hinged door with EPDM rubber gasket to prevent water entry. Single / double compression cable glands. Provision of earthings. It should be placed at 5 feet height or above for ease of accessibility.

G) Each Junction Box shall have High quality Suitable capacity Metal Oxide Varistors (MOVs) / SPDs, suitable Reverse Blocking Diodes. The Junction Boxes shall have suitable arrangement monitoring and disconnection for each of the groups.

H) Suitable markings shall be provided on the bus bar for easy identification and the cable ferrules must be fitted at the cable termination points for identification

16. **DC DISTRIBUTION BOARD**

C) DC Distribution panel to receive the DC output from the array field.

D) DC DPBs shall have sheet from enclosure of dust & vermin proof conform to IP 65 protection. The bus bars are made of copper of desired size. Suitable capacity MCBs/MCCB shall be provided for controlling the DC power output to the PCU along with necessary surge arrestors.

17. **AC DISTRIBUTION PANEL BOARD:**

I) AC Distribution Panel Board (DPB) shall control the AC power from PCU/ inverter, and should have necessary surge arrestors. Interconnection from ACDB to mains at LT Bus bar while in grid tied mode.

J) All switches and the circuit breakers, connectors should conform to IEC 60947, part I, II and III/ IS60947 part I, II and III.

K) The changeover switches, cabling work should be undertaken by the bidder as part of the project.

L) All the Panel"s shall be metal clad, totally enclosed, rigid, floor mounted, air -insulated, cubical type suitable for operation on three phase / single phase,415 or 230 volts, 50 Hz.

M) The panels shall be designed for minimum expected ambient temperature of 45 degrees Celsius, 80 percent humidity and dusty weather.

N) All indoor panels will have protection of IP54 or better. All outdoor panels will have protection of IP65 or better.

O) Should conform to Indian Electricity Act and rules (till last amendment).

P) All the 415 AC or 230 volts devices / equipment like bus support insulators, circuit breakers, SPDs, CT,VTs etc., mounted inside the switchgear shall be suitable for continuous operation and satisfactory performance under the following supply conditions

Varaition in supply voltage	+/- 10%
Varaition in supply frequesncy	+/- 3 HZ

18. **PCU/ARRAY SIZE RATIO:**

A) The combined wattage of all inverters should not be less than rated capacity of power plant under STC.

B) Maximum power point tracker shall be integrated in the PCU/inverter to maximize energy drawn from the array.

19. **PCU/ Inverter:**

As SPV array produce direct current electricity, it is necessary to convert this direct current into alternating current and adjust the voltage levels to match the grid voltage. Conversion shall be achieved using an electronic Inverter and the associated control and protection devices. All these components of the system are termed the "Power Conditioning Unit (PCU)". In addition, the PCU shall also house MPPT (Maximum Power Point Tracker), an interface between Solar PV array & the Inverter, to the power conditioning unit/inverter should also be DG set interactive. If necessary. Inverter output should be compatible with the grid frequency. Typical technical features of the inverter shall be as follows:

	➢ Make-Delta/SMA/ABB Only ➢ Switching devices : IGBT/MOSFET ➢ Control : Microprocessor /DSP ➢ Nominal AC output voltage and frequency : 415V, 3 Phase, 50 Hz (In case single phase inverters are offered, suitable arrangement for balancing the phases must be made.) ➢ Output frequency : 50 Hz ➢ Grid Frequency Synchronization range : + 3 Hz or more ➢ Ambient temperature considered : -20o C to 50o C ➢ Humidity : 95 % Non-condensing ➢ Protection of Enclosure : IP-20(Minimum) for indoor. IP-65(Minimum) for outdoor. ➢ Grid Frequency Tolerance range : + 3 or more ➢ Grid Voltage tolerance : - 20% & + 15 % ➢ No-load losses : Less than 1% of rated power ➢ Inverter efficiency(minimum) : >93% (In case of 10kW or above) ➢ Inverter efficiency (minimum) : > 90% (In case of less than 10 kW) THD : < 3% ➢ PF : > 0.9 A) Three phase PCU/ inverter shall be used with each power plant system B) PCU/inverter shall be capable of complete automatic operation including wake-up, synchronization & shutdown. C) The output of power factor of PCU inverter is suitable for all voltage ranges or sink of reactive power, inverter should have internal protection arrangement against any sustainable fault in feeder line and against the lightning on feeder. D) Built-in meter and data logger to monitor plant performance through external computer shall be provided. E) The power conditioning units / inverters should comply with applicable IEC/ equivalent BIS standard for efficiency measurements and environmental tests as per standard codes IEC 61683/IS 61683 and IEC 60068-2(1,2,14,30) /Equivalent BIS Std. F) The charge controller (if any) / MPPT units environmental testing should qualify IEC 60068-2(1, 2, 14, 30)/Equivalent BIS std. The junction boxes/ enclosures should be IP 65(for outdoor)/ IP 54 (indoor) and as per IEC 529 specifications. G) The PCU/ inverters should be tested from the MNRE approved test centres / NABL /BIS /IEC accredited testing- calibration laboratories. In case of imported power conditioning units, these should be approved by international test houses.
20.	**INTEGRATION OF PV POWER WITH GRID:** The output power from SPV would be fed to the inverters which converts DC produced by SPV array to AC and feeds it into the main electricity grid after synchronization. In case of grid failure, or low or high voltage, solar PV system shall be out of synchronization and shall be disconnected from the grid. Once the DG set comes into service PV system shall again be synchronized with DG supply and load requirement would be met to the extent of availability of power. 4 pole isolation of inverter output with respect to the grid/ DG power connection need to be provided
21.	**DATA ACQUISITION SYSTEM / PLANT MONITORING** **I.** Data Acquisition System shall be provided for each of the solar PV plant. **II.** Data Logging Provision for plant control and monitoring, time and date stamped system data logs for analysis with the high quality, suitable PC. Metering and Instrumentation for display of systems parameters and status indication to be provided. **III.** Solar Irradiance: An integrating Pyrometer / Solar cell based irradiation sensor (along with calibration certificate) provided, with the sensor mounted in the plane of the array. Readout integrated with data logging system. **IV.** Temperature: Temperature probes for recording the Solar panel temperature and/or ambient temperature to be provided complete with readouts integrated with the data logging system

V. The following parameters are accessible via the operating interface display in real time separately for solar power plant.

a) AC Voltage.

b) AC Output current.

c) Output Power

d) Power factor.

e) DC Input Voltage.

f) DC Input Current.

g) Time Active.

h) Time disabled.

i) Time Idle.

j) Power produced

k) Protective function limits (Viz-AC Over voltage, AC Under voltage, Over frequency, Under frequency ground fault, PV starting voltage, PV stopping voltage.

VI. All major parameters available on the digital bus and logging facility for energy auditing through the internal microprocessor and read on the digital front panel at any time) and logging facility (the current values, previous values for up to a month and the average values) should be made available for energy auditing through the internal microprocessor and should be read on the digital front panel.

VII. PV array energy production: Digital Energy Meters to log the actual value of AC/ DC voltage, Current & Energy generated by the PV system provided. Energy meter along with CT/PT should be of 0.5 accuracy class.

VIII. Computerized DC String/Array monitoring and AC output monitoring shall be provided as part of the inverter and/or string/array combiner box or separately.

IX. String and array DC Voltage, Current and Power, Inverter AC output voltage and current (All 3 phases and lines), AC power (Active, Reactive and Apparent), Power Factor and AC energy (All 3 phases and cumulative) and frequency shall be monitored.

X. Computerized AC energy monitoring shall be in addition to the digital AC energy meter.

XI. The data shall be recorded in a common work sheet chronologically date wise. The data file shall be MS Excel compatible. The data shall be represented in both tabular and graphical form.

XII. All instantaneous data shall be shown on the computer screen.

XIII. Software shall be provided for USB download and analysis of DC and AC parametric data for individual plant.

XIV. Provision for Internet monitoring and download of data shall be also incorporated.

XV. Remote Server and Software for centralized Internet monitoring system shall be also provided for download and analysis of cumulative data of all the plants and the data of the solar radiation and temperature monitoring system.

XVI. Ambient / Solar PV module back surface temperature shall be also monitored on continuous basis.

XVII. Simultaneous monitoring of DC and AC electrical voltage, current, power, energy and other data of the plant for correlation with solar and environment data shall be provided.

XVIII. Remote Monitoring and data acquisition through Remote Monitoring System software at the Bank location with latest software/hardware configuration and service connectivity for online / real time data monitoring/control complete to be supplied and operation and maintenance/control to be ensured by the supplier. Provision for interfacing these data on [NAME OF THE ORGANISATION] server and portal in future shall be kept.

22.	**TRANSFORMER "IF REQUIRED" & METERING:** a) Oil type relevant kVA, 11kV/415V, 50 Hz Step up along with all protections, switchgears, Vacuum circuit breakers, cables etc. along with required civil work. b) The bidder must take approval/NOC from the Concerned DISCOM for the connectivity, technical feasibility, and synchronization of SPV plant with distribution network and submit the same to TNREDCL (Telangana New and Renewable Energy Development Corporation Limited) before commissioning of SPV plant. c) Reverse power relay shall be provided by bidder (if necessary), as per the local DISCOM requirement. d) CEIG approval from concerned authorities is to be obtained and installer can quote separately for the same.
23.	**POWER CONSUMPTION:** a) Regarding the generated power consumption, priority need to give for internal consumption first and thereafter any excess power can be exported to grid. Finalization of tariff is not under the purview of NREDCAP/TNREDC or MNRE. Decisions of appropriate authority like DISCOM, state regulator may be followed.
24.	**PROTECTIONS** The system should be provided with all necessary protections like earthing, Lightning, and grid islanding as follows **1. LIGHTNING PROTECTION** The SPV power plants shall be provided with lightning &overvoltage protection. The main aim in this protection shall be to reduce the over voltage to a tolerable value before it reaches the PV or other sub system components. The source of over voltage can be lightning, atmosphere disturbances etc The entire space occupying the SPV array shall be suitably protected against Lightning by deploying required number of Lightning Arrestors. Lightning protection should be provided as per IEC 62305standard. The protection against induced high-voltages shall be provided by the use of metal oxide varistors (MOVs) and suitable earthing such that induced transients find an alternate route to earth. **2. SURGE PROTECTION** Internal surge protection shall consist of three MOV type surge-arrestors connected from +ve and –ve terminals to earth (via Y arrangement) **3. EARTHING PROTECTION** I. Each array structure of the PV yard should be grounded/ earthed properly as per IS:3043-1987. In addition, the lighting arrester/masts should also be earthed inside the array field. Earth Resistance shall be tested in presence of the representative of Bank engineer as and when required after earthing by calibrated earth tester. PCU, ACDB and DCDB should also be earthed properly. II. Earth resistance shall not be more than 5 ohms. It shall be ensured that all the earthing points are bonded together to make them at the same potential
25.	**GRID ISLANDING:** I. In the event of a power failure on the electric grid, it is required that any independent power-producing inverters attached to the grid turn off in a short period of time. This prevents the DC- to-AC inverters from continuing to feed power into small sections of the grid, known as "islands." Powered islands present a risk to workers who may expect the area to be unpowered, and they may also damage grid-tied equipment. The Rooftop PV system shall be equipped with islanding protection. In addition to disconnection from the grid (due to islanding protection) disconnection due to under and over voltage conditions shall also be provided.

	II. A manual disconnect 4pole isolation switch beside automatic disconnection to grid would have to be provided at utility end to isolate the grid connection by the utility personnel to carry out any maintenance. This switch shall be locked by the utility personnel
26.	**CABLES** Cables of appropriate size to be used in the system shall have the following characteristics: I. Shall meet IEC 60227/IS 694, IEC 60502/IS1554 standards II. Temp. Range: –10oC to +80oC. III. Voltage rating 660/1000V IV. Excellent resistance to heat, cold, water, oil, abrasion, UV radiation V. Flexible VI. Sizes of cables between array interconnections, array to junction boxes, junction boxes to Inverter etc. shall be so selected to keep the voltage drop (power loss) of the entire solar system to the minimum. The cables (as per IS) should be insulated with a special grade PVC compound formulated for outdoor use. VII. Cable Routing/ Marking: All cable/wires are to be routed in a GI cable tray and suitably tagged and marked with proper manner by good quality ferule or by other means so that the cable easily identified. VIII. The Cable should be so selected that it should be compatible up to the life of the solar PV panels i.e. 25years. IX. The ratings given are approximate. Bidder to indicate size and length as per system design requirement. All the cables required for the plant provided by the bidder. Any change in cabling sizes if desired by the bidder/approved after citing appropriate reasons. All cable schedules/layout drawings approved prior to installation. X. Multi Strand, annealed high conductivity copper conductor PVC type „A" pressure extruded insulation or XLPE insulation. Overall PVC/XLPE insulation for UV protection Armored cable for underground laying. All cable trays including covers to be provided. All cables conform to latest edition of IEC/ equivalent BIS Standards as specified below: BoS item / component Standard Description Standard Number Cables General Test and Measuring Methods, PVC/XLPE insulated cables for working Voltage up to and including 1100 V ,UV resistant for outdoor installation IS /IEC 69947. XI. The size of each type of DC cable selected shall be based on minimum voltage drop however; the maximum drop shall be limited to 1%. XII. The size of each type of AC cable selected shall be based on minimum voltage drop however; the maximum drop shall be limited to 2 %.
27.	**CONNECTIVITY** The maximum capacity for interconnection with the grid at a specific voltage level shall be as specified in the Distribution Code/Supply Code of the State and amended from time to time. In this case Supplier has to connect the solar generation to the sat LT Panel provided
28.	**DRAWINGS & MANUALS:** **I.** Two sets of Engineering, electrical drawings and Installation and O&M manuals are to be supplied. Bidders shall provide complete technical data sheets for each equipment giving details of the specifications along with make/makes in their bid along with basic design of the power plant and power evacuation, synchronization along with protection equipment. II. Approved ISI and reputed makes for equipment be used. III. For complete electro-mechanical works, bidders shall supply complete design, details and drawings for approval to Bank before progressing with the installation work
29.	**PLANNING AND DESIGNING:** I. The bidder should carry out Shadow Analysis at the site and accordingly design strings & arrays layout considering optimal usage of space, material and labour. The bidder should

	submit the array layout drawings along with Energy generation Estimate to NIAB for Approval II. NIAB reserves the right to modify the PCC design, Layout and specification of sub-systems and components at any stage as per local site conditions/requirements. III. The bidder shall submit preliminary drawing for approval & based on any modification or recommendation, if any. The bidder submit three sets and soft copy in CD of final drawing for formal approval to proceed with construction work.
30.	**DRAWINGS TO BE FURNISHED BY BIDDER AFTER AWARD OF CONTRACT** I. The Contractor shall furnish the following drawings Award/Intent and obtain approval II. General arrangement and dimensioned layout III. Schematic drawing showing the requirement of SV panel, Power conditioning Unit(s)/ inverter, Junction Boxes, AC and DC Distribution Boards, meters etc. iv. Structural drawing along with foundation details for the structure. IV. Itemized bill of material for complete SV plant covering all the components and associated accessories. V. Layout of solar Power Array and Energy Generation Estimate
31.	**SOLAR PV SYSTEM SHOULD MEET THE ANNUAL ENERGY REQUIREMENT** The Solar PV system on the rooftop of the selected Roof will be installed for meeting up to 30% of the annual energy requirements
32.	**SAFETY MEASURES:** The bidder shall take entire responsibility for electrical safety of the installation(s) including connectivity with the grid and follow all the safety rules & regulations applicable as per Electricity Act, 2003 and CEA guidelines etc.
33.	**TEST CERTIFICATES AND REPORTS TO BE FURNISHED** 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 inverter to provide evidence of compliance with standards as specified by Ministry of New and Renewable Energy (MNRE). reserves the right to ask for additional test certificates or (random) tests to establish compliance with the specified standards.
34.	**CONFIRMATION TO MNRE TECHNICAL SPECIFICATIONS AND STANDARDS** The Tenderer should ensure that all components and systems used under this Scheme shall strictly adhere to the Technical Specifications and Guidelines issued by MNRE , and as amended from time to time.

1. **Final Total Cost inclusive of all taxes, duties, any other charges up to NIAB for supply installation, testing validation, completion of this Project all-inclusive as per this NIT) must be quoted.**

2. **Note: Bidder can quote separately any other optional item suitable/suggested after site visit which is not mentioned in BOQ/NIT and which is not mandatory essential for functional completion of this project as per Scope of work of this project as per NIT. It may add up value but not mandatory .Consideration of any such item will be decided by competent authority of NIAB. This optional suggestion will not be part of any evaluation.**

OTHER IMPORTANT REQUIREMENTS WITH SPECIFICATION	
1	**PLEASE SUBMIT ALL THE CERTIFICATE/UNDERTAKING/ FORMS AS PER NIT FAILING WHICH YOUR BID CAN BE REJECTED AS PER COMPETENT AUTHORITY DECISION**
2	**BID PRICE MUST BE IN** CURRENCY: - INR (THE INDIAN RUPEE) ONLY . In addition to PRICE SCHEDULE 'A', Firm must submit itemise Quotation on their letterhead & upload it in Cover 2 - Part - 1 (Price Bid = Detail Quotation on firm's Letterhead giving full cost, tax details (all in detail) for the requirement mentioned in NIT in their own format but must give all details including tax etc all cost up to NIAB. BOQ must be submitted in Cover -2 - Part- 2 , after carefully reading all the points mentioned therein in & final price as per your quotation. The BOQ final cost must be matching with your Quotation/Price Bid & PRICE SCHEDULE 'A' as per NIT submitted in Cover 2 - Part - 2 .
3	Please Quote your price in INR (THE INDIAN RUPEE) after considering following information about GST/Custom Duty Exemption. Necessary certificate will be provided by NIAB in this regard. National Institute of Animal Biotechnology is registered with the Department of Scientific and Industrial Research (DSIR) Vide Reg. No. TUN/RG-CDE (1175)/2020 dt 28-08-2020 valid up to 31.08.2025 for purposes of availing Customs Duty , GST exemptions in terms of Notfn. No. 51/96- Customs dt. 23 .07.1996, Notfn. No. 28/2003• Customs dt. 01.03 .2003, Notfn. No. 43/2017- Customs dt. 30.06.2017 & Notfu. No. 47/2017- Integrated Tax (Rate) dt. 14.11.2017, Notfn. No. 10/2018-Integrated Tax (Rate) dt. 25.0l.2018 and Notfn. No. 45/2017- Central Tax (Rate) dt. 14.11.2017, Notfu. No. 45/2017- Union Territory Tax (Rate) dt. 14.11.2017 & Notfn. No. 9/2018- Central Tax (Rate) dt. 25 .0l.2018, Notfn. No. 9/2018- Union Territory Tax (Rate) dt. 25.01.2018, as amended from time to time for research purposes only. Bidders Must CHECK & Quote CORRECT Applicable GST & Custom bonded warehouse price (if any) Duty Free/Concessional Duty as applicable as per rules/Notification as amended from time to time.
4	Only competent firm who can supply the material as per required specification should submit the Bid with supporting technical documents as the specification is essence of this procurement. Technical Bid Compliance Form and information/ important points mentioned therein as per tender document along with supporting documents, product brochure / technical literature/Catalogue / product website details (if any) must be submitted along with Bid. If this is not submitted as per format mentioned in this tender document, the bid will be rejected with the reason (Failing compliance of Specification/Tender important requirements) and no correspondence will be made to firm in this regard & No queries will be entertained in this regard from firm. Simply mentioning complied/yes without supporting documents will result in rejection of Bid and blacklisting of firm from future participation of NIAB tenders.
5	All the items required as per specification must be quoted as main offer. No hidden cost should be mentioned as optional accessories. Optional accessories (if any) which is not related with specification should be quoted separately. That will not be part of financial evaluation.
6	Local Service Support in Hyderabad (if any) with contact details & details of installations completed in Hyderabad of the similar model should be submitted along with your bid. Prompt after sales service should be available.
7	Extended Comprehensive Warranty (with spares& Service) for 3 years and AMC (without spares only service support) for 2 years should be quoted separately by the firm as per format given of price Bid as per Price Schedule B mentioned in this NIT.
8	If any brand name is mentioned in the specification it means that brand or substantially equivalent/ reputed brand can be quoted/ will be considered.
9	Few of the conditions/ forms in this document may not be applicable for Service/Work /Non-Scientific items requirement as per this tender. Write "NA" in any of the form wherever it is suitable/applicable as per bid submitting firm considering the requirement in tender.

(How to find NIAB tenders in CPPP website.)

You can find our tenders on CPPP website under following link and selection mentioned below Go to website https://eprocure.gov.in/eprocure/app then click Tenders by Organisation and then click Organisation Name --- **Department of Biotechnology**-- you will find NIAB Tenders.	Also Tender link is available on NIAB website. Go to http://www.niab.org.in/Default.aspx then click (Tenders) then click (The following tenders may be viewed on the website of **Central Public Procurement Portal**)

TENDER PROCESSSING CHARGES Rs 1500 /- is mandatory for all firms and not exempted to any firm. This Tender document is free of cost and no tender fees is applicable. EMD exemption is as rules mentioned herein. Please read tender document carefully to avoid rejection of bid. No queries will be entertained for rejection of Bid due to non-following of terms and conditions of NIT.

PLEASE CHECK REQUIRED FORMS AS PER CHAPTER- 5 AND KEEP IT READY ON SCAN PDF COPY ON YOUR LETTERHEAD /STAMP SEAL OF ORGANISATION TO UPLOAD ON CPPP.

For any queries you can send E mail to us

santosh@niab.org.in, spm@niab.org.in