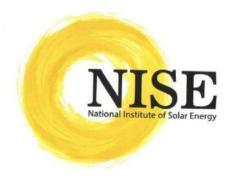
e-Tender Document

for

Supply, Installation and Commissioning of a Solar cell I-V cum LIR tester at the National Institute of Solar Energy on the basis of International Competitive Bidding



NIT NO: Rand D-201/1/2021-SDD Part B

Bids to be submitted online by (IST) 17:00 hours on or before 07th January, 2022

through website: www.tenderwizard.com/nise

NATIONAL INSTITUTE OF SOLAR ENERGY

(An autonomous Institute of Ministry of New & Renewable Energy, Govt. of India) Gurugram-Faridabad Road, Gwalpahari, Gurugram, Haryana-122003, INDIA Contact Telephone No.: +91-124- 2853111/2853002/2853008

Website: www.nise.res.in

National Institute of Solar Energy

(An Autonomous Institute of Ministry of New & Renewable Energy, Govt. of India)

Gurugram-Faridabad Road, Gwal Pahari, Gurugram - 122 003; Haryana

On behalf of the Director General of the National Institute of Solar Energy (NISE), (An Autonomous Institute of Ministry of New & Renewable Energy [MNRE], Govt. of India [GoI]), Gurugram-Faridabad Road, Gwal Pahari, Gurugram - 122003; Haryana, India e-tenders are invited from reputed national and international Manufacturer(s)/ Supplier(s) for Supply, Installation and Commissioning of a Minority Carrier Lifetime Tester as per the specifications mentioned in technical section(s) in the tender document.

Notice Inviting Bid (NIT) No	Rand D-201/1/2021-SDD Part B
Scope of Work	Supply, Installation and Commissioning of a Solar cell I-V cum LIR tester at NISE Campus
Supply, Installation and Commissioning	As per the Technical specification at Annexure 1
Submitting of Tenders	1. The scopes of work to be tendered are available in the complete bid documents which can be viewed /downloaded from e-tender portal of http://www.tenderwizard.com/NISE and Central Procurement Portal (CPP) (i.e. https://eprocure.gov.in). Both Technical Bid and Financial Bid will be submitted concurrently duly digitally signed in the website http://www.tenderwizard.com/NISE . No claim shall be entertained on account of disruptions of internet service being used by bidders. Bidders are advised to upload their bids well in advance to avoid last minute technical snags.
	 2. All Corrigendum/Amendment/Corrections, if any, will be published on the website http://www.tenderwizard.com/NISE. 3. It is mandatory for all the applicants to have Class-III
	Digital Signature Certificate (in the name of person who will sign the bid document) from any of the licensed

4. To participate in the e-tendering submission, it is mandatory for the applicants to get registered their firm/joint venture with the e-tendering portal of http://www.tenderwizard.com/NISE to have user ID & Password from M/s ITI Ltd. Bid Validity Bids shall be valid for at least 180 days from the date of Technical bid opening. However, in case NISE requires further validity extension due to some unforeseen conditions, the same should be extended at the same price, terms & conditions as quoted in the original offers on the request of NISE. Earnest Money Deposit (EMD) ₹ 3,00,000/- (Rupees Three Lakh Only) (refundable to the unsuccessful Bidders without any interest) in the form of account payee Demand Draft/FDR/ Bank Guarantee from a Commercial Bank in India in an acceptable form to NISE, Gurugram with a validity of at least 8 weeks. Bidders can opt for digital payment option while submitting bids. In case of demand draft, the same may be drawn in favor of "National Institute of Solar Energy" payable at Gurugram and may be forwarded/submitted to The Deputy Director General, NISE in after entry of relevant information online or direct payment options via card/net-banking may be opted, as late receipt of draft/BG (i.e. after closing date) to the office of DDG NISE will not be considered In case of Bank Guarantee, the same may be provided as per the format given at Annexure-5 of the Tender Document. Security/ Performance Guarantee The successful bidder within 15 days from the date of receipt of Purchase Order should deposit 10% of contract value in form of Demand Draft / FDR / Bank Guarantee from a commercial bank in India should be provided as Security/ performance Guarantee valid for a period of 60 days beyond the warranty and extended warranty period. Within 16 weeks from the date of LC opening.		certifying
Technical bid opening. However, in case NISE requires further validity extension due to some unforeseen conditions, the same should be extended at the same price, terms & conditions as quoted in the original offers on the request of NISE. Earnest Money Deposit (EMD) ₹ 3,00,000/- (Rupees Three Lakh Only) (refundable to the unsuccessful Bidders without any interest) in the form of account payee Demand Draft/FDR/ Bank Guarantee from a Commercial Bank in India in an acceptable form to NISE, Gurugram with a validity of at least 8 weeks. Bidders can opt for digital payment option while submitting bids. In case of demand draft, the same may be drawn in favor of "National Institute of Solar Energy" payable at Gurugram and may be forwarded/submitted to The Deputy Director General, NISE in after entry of relevant information online or direct payment options via card/net-banking may be opted, as late receipt of draft/BG (i.e. after closing date) to the office of DDG NISE will not be considered In case of Bank Guarantee, the same may be provided as per the format given at Annexure-5 of the Tender Document. Security/ Performance Guarantee The successful bidder within 15 days from the date of receipt of Purchase Order should deposit 10% of contract value in form of Demand Draft / FDR / Bank Guarantee from a commercial bank in India should be provided as Security/ performance Guarantee valid for a period of 60 days beyond the warranty and extended warranty period.		4. To participate in the e-tendering submission, it is mandatory for the applicants to get registered their firm/joint venture with the e-tendering portal of http://www.tenderwizard.com/NISE to have user ID &
the unsuccessful Bidders without any interest) in the form of account payee Demand Draft/FDR/ Bank Guarantee from a Commercial Bank in India in an acceptable form to NISE, Gurugram with a validity of at least 8 weeks. Bidders can opt for digital payment option while submitting bids. In case of demand draft, the same may be drawn in favor of "National Institute of Solar Energy" payable at Gurugram and may be forwarded/submitted to The Deputy Director General, NISE in after entry of relevant information online or direct payment options via card/net-banking may be opted, as late receipt of draft/BG (i.e. after closing date) to the office of DDG NISE will not be considered In case of Bank Guarantee, the same may be provided as per the format given at Annexure-5 of the Tender Document. Security/ Performance Guarantee The successful bidder within 15 days from the date of receipt of Purchase Order should deposit 10% of contract value in form of Demand Draft / FDR / Bank Guarantee from a commercial bank in India should be provided as Security/ performance Guarantee valid for a period of 60 days beyond the warranty and extended warranty period.	Bid Validity	Technical bid opening. However, in case NISE requires further validity extension due to some unforeseen conditions, the same should be extended at the same price, terms & conditions as quoted in the original offers
of "National Institute of Solar Energy" payable at Gurugram and may be forwarded/submitted to The Deputy Director General, NISE in after entry of relevant information online or direct payment options via card/net-banking may be opted, as late receipt of draft/BG (i.e. after closing date) to the office of DDG NISE will not be considered In case of Bank Guarantee, the same may be provided as per the format given at Annexure-5 of the Tender Document. Security/ Performance Guarantee The successful bidder within 15 days from the date of receipt of Purchase Order should deposit 10% of contract value in form of Demand Draft / FDR / Bank Guarantee from a commercial bank in India should be provided as Security/ performance Guarantee valid for a period of 60 days beyond the warranty and extended warranty period.	· ·	the unsuccessful Bidders without any interest) in the form of account payee Demand Draft/FDR/ Bank Guarantee from a Commercial Bank in India in an acceptable form to NISE, Gurugram with a validity of at least 8 weeks. Bidders can opt for digital payment
as per the format given at Annexure-5 of the Tender Document. Security/ Performance Guarantee The successful bidder within 15 days from the date of receipt of Purchase Order should deposit 10% of contract value in form of Demand Draft / FDR / Bank Guarantee from a commercial bank in India should be provided as Security/ performance Guarantee valid for a period of 60 days beyond the warranty and extended warranty period.		of "National Institute of Solar Energy" payable at Gurugram and may be forwarded/submitted to The Deputy Director General, NISE in after entry of relevant information online or direct payment options via card/net-banking may be opted, as late receipt of draft/BG (i.e. after closing date) to the office of DDG
Guarantee receipt of Purchase Order should deposit 10% of contract value in form of Demand Draft / FDR / Bank Guarantee from a commercial bank in India should be provided as Security/ performance Guarantee valid for a period of 60 days beyond the warranty and extended warranty period.		as per the format given at Annexure-5 of the Tender
Delivery time Within 16 weeks from the date of LC opening.	1	receipt of Purchase Order should deposit 10% of contract value in form of Demand Draft / FDR / Bank Guarantee from a commercial bank in India should be provided as Security/ performance Guarantee valid for a period of 60
	Delivery time	Within 16 weeks from the date of LC opening.

Last date for submission of bids	To be submitted online by (time) 17:00 hours Indian Standard Time (IST) on 07th January, 2022 (Note: In case this date is declared as a holiday by NISE or Govt. of India in future, then the next working day shall be the last date for submission of Bids)
Pre-Bid Meeting	To be held on 17.12.2021 online. Bidders may attend the same on the above date for clarification of doubts, if any. Vendors interested in attending the pre-bid meeting shall send their detail contact id and comments on the technical specifications, if any, to duttamrinal@nise.res.in on or before 16.12.2021. Further details of the meeting will be communicated thereafter through e-mail. Based on the discussion during the pre-bid meeting, NISE reserves the right to issue amendment for this tender.
Date of opening of Technical bids	10 th January, 2022at 15:00 Hrs
Opening of Price Bids	The time & date for opening of the price bids will be intimated to the technically qualified Bidders.
Address for Communication	The Deputy Director (Tech.) National Institute of Solar Energy Gurugram - Faridabad Road, Gwal Pahari, Gurugram - 122 003, Haryana, India. Email: duttamrinal@nise.res.in Ph: +91 124-285 3111

1. <u>INSTRUCTIONS TO BIDDERS</u>

- 1. The following **KEY INSTRUCTIONS** for **BIDDERS** must be assiduously adhered to:
- i) Obtain individual Digital Signing Certificate (DSC or DC) well in advance of your first tender submission deadline on M/s ITI E-tender Site.
- ii) Register your organization on M/s ITI E-tender Site well in advance of your first tender submission deadline on M/s ITI E-tender Site for obtaining credentials by paying Annual registration charges.
- iii) Get your organization's concerned executives trained on M/s ITI E-tender Site well in advance of your first tender submission deadline on M/s ITI E-tender Site.
- iv) Submit your tender well in advance by paying non-refundable Tender Processing Fee (TPF), and relevant documents along with copy of EMD of tender submission deadline on M/s ITI E-tender Site as there could be last minute problems due to internet timeout, breakdown, etc. While the first three

instructions mentioned above are especially relevant to first-time users of M/s ITI E-tender Site, the fourth instruction is relevant at all times.

- v) Vendors Training Programme: Vendors are requested to contact at Tenderwizard Helpdesk HITI Officers for any information regarding E-tendering / training.
- a) For online registration, intended bidders may write to at twheldpesk680@gmail.com or contact no.011-49424365.
- b) For any further query related to Training Session, Tender Uploading/downloading or any other query related to tender, please contact Tenderwizard Helpdesk of M/s. ITI Ltd. Tel no.011-49424365 or write us a mail on Email Id:- eprochelpdesk.nise@gmail.com / Executives Contact Number: 8800112479/8800496476/011-49424365.

2. Eligibility of Bidders

- (i) Only those manufacturers who have adequate exposure and experience in the designing/manufacturing/maintenance/support of such equipment need to quote.
- (ii) Assembled/Refurbished/Prototype versions are not acceptable; only proven machines are to be quoted.
- (iii) If the bid has been made by an Agent (other than the manufacturer), an authorization certificate having full address details from the manufacturer in this connection should be submitted mandatorily along with the technical bid.
- (iv) The Bidders shall provide the details of Service Centers located in India and information on available Service support facilities.
- (v) The Bidder shall be equipped to carry out repair and maintenance on behalf of the Manufacturer and meet the inventory requirements.
- (vi) The bidder should submit about their company details as per the format given at Annexure-2.
- (vii) The bidder should mandatorily provide a list of their existing customer base in India/worldwide (with their full contact details such as name, telephone number, fax and email etc.) for the same system supplied, installed and operational in last 5 years as per the format given at Annexure-3.
- (viii) Bidders should submit their price bid as per format provided at Annexure-4.
- (ix) Bidders who do not meet the criteria given above or make untrue or false representation, statements and attachments submitted in proof of the qualification requirements or have a record of poor performance, do not properly complete the contract, cause inordinate delays in completion or financial failure are subject to disqualification.

- (x) All Bidders will undergo a strict scrutiny process for evaluation. Submission of the bid alone does not guarantee the award of Purchase Order to the Bidder.
- (xi) Annual Maintenance Contract (AMC) /Extended Warranty: To ensure trouble-free operation (and including break down) of the equipment for 2 years after the expiry of the warranty period shall be quoted separately.
- (xii) In case an Indian Counterpart of the foreign manufacturer submits offer on their letter head on behalf of the foreign manufacturer in foreign currency, such offer should essentially contain the specific authorization from the foreign manufacturer authorizing on their behalf that they will execute the order in line with the prices quoted and to terms & conditions agreed by the Indian counterpart.
- (xiii) Bidders to note that offers received from Indian Counterparts (on behalf of manufacturer) in Indian Rupees for the products manufactured by their foreign principal abroad will be rejected outrightly and no further opportunity will be extended for revising such offers.
- (xiv) NISE reserves the right to accept or reject any tender in part or full without assigning any reason whatsoever. NISE also reserve its right not to accept the lowest rates quoted by the tenderers and also to split the order as per our requirement.

(xv) "The bidders to Confirm:

- a) that their company is not engaging child labour and is complying with various legislations as applicable from time to time as per the various labour laws/ statutes of the land applicable to them with regard to engagement of child labour.
- b) Unconditional acceptance that any bidder making a false claim would have its contract terminated forthwith, if detected later."
- (xvi) NISE will not accept any tender documents sent by the post/courier etc. Online submission is mandatory and NISE will not be responsible for delay, loss or non- receipt of tender documents sent by the post/courier etc.
- (xvii) Negotiations will not be conducted with the bidders as a matter of routine. However, NISE reserves the right to conduct negotiations.
- (xviii) Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority (Registration Committee as constituted by Department of Promotion of Industry and Internal Trade) and should submit a valid registration Certificate. (Please refer to Order no.6/18/2019-PPD dated 23 July 2020 and any amendments thereon).
 - "Bidder" (including the term 'tenderer', 'consultant' or 'service provider' in certain contexts) means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial judicial person not falling in any of the descriptions of bidder stated hereinbefore, including any agency branch or Officer controlled by such person, participating in a procurement process.

"Bidder from a country which shares a land border with India" for the purpose of this order means:

- I. An entity incorporated, established or registered in such a country; or
- II. A subsidiary of an entity incorporated, established or registered in such a country; or
- III. An entity substantially controlled through entities incorporated, established or registered in such a country; or
- IV. An entity whose beneficial owner is situated in such a country; or
- V. An Indian (or other) agent of such an entity; or
- VI. A natural person who is a citizen of such a country; or
- VII. A consortium or joint venture where any member of the consortium or joint venture fails under any of the above
- VIII. The beneficial owner for the purpose of above will be as under
 - a. In case of a company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more judicial person, has a controlling owner ship interest or who exercise control through other means.

Explanation -

a) "Controlling ownership interest" means ownership of a or entitlement to more than twenty-five percent of shares or capital or profits of the company.

Self-certification should be submitted as per the Order no.6/18/2019-PPD dated 23 July 2020. A model certificate format is attached in Annexure 7.

2) Technical Specifications

Please refer Annexure –1 for Technical Specifications of **Supply**, **Installation and Commissioning of a Solar cell I-V cum LIR tester** In case of any deviation, please spell them out in your bid under the heading "Deviation to Technical Specifications".

3) GENERAL CONDITIONS OF CONTRACT

- 1. **Pre-dispatch inspection:** The Purchaser may depute its scientists/ engineers at its own cost to the Manufacturer premises for carrying out the factory acceptance test using calibrated samples of the equipment prior to its dispatch to the Purchaser's premises.
- Certificate: The Bidder shall furnish, at its own cost, test certificate for standard material. Such certificate shall be from the Manufacturer for the particular consignment and shall be duly authenticated.
- 3. Packing: The Manufacturer/ Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination as indicated in the Contract. The packing shall be sufficient to with stand, 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.
- 4. Delivery and Documentation: Delivery of the goods at National Institute of Solar Energy, Gurugram-Faridabad Road, Gwal Pahari, Gurugram 122 003, Haryana, India should be made within 16 weeks from date of opening of LC. The Manufacturer/ Supplier shall mail the following documents to the purchaser with copy to the insurance company within 24 hours of shipment:
 - i) Copies of the Manufacturer/Supplier's invoice showing contract number, goods' description, quantity, unit price and total amount;
 - ii) Acknowledgment of receipt of goods from the consignee(s) by the transporters;
 - iii) Insurance certificate, if any.
 - iv) Manufacturer's warranty certificate;
 - v) Inspection Certificate issued by the Competent Authority, and the Manufacturer/Supplier's factory inspection report; and Certificate of Country Origin before shipping of the equipment.
 - vi) Two copies of the packing list identifying the contents of each package.
- 5. Insurance: For delivery of goods at the purchaser's premises, the insurance shall be obtained by the Manufacturer/Supplier to an amount equal to 110% of the value of the goods from "warehouse to warehouse" (final destination i.e. NISE, Gurugram) on "All Risks" basis including War Risks and Strikes.
- 6. Transportation: The Manufacturer/Supplier is required under the Contract to transport the Goods from "warehouse to warehouse" (final destination i.e. NISE, Gurugram) and the related cost including insurance shall be included in the Contract Price. [Foreign Manufacturers should indicate the FOB (Freight on Board) price & CIF (Cost, Insurance and Freight) price to New Delhi (Indira Gandhi International Airport)/Tughlakabad (Dry Port) separately in their offer].
- 7. Warranty: The Bidder must provide full comprehensive warranty for a period of 12 months post installation, including its integration with the existing facility at project site. During this period, they should provide all spare parts required for repair and maintenance. Commissioning certificate would be jointly signed by the purchaser and the Manufacturer/Supplier. During this period, they should provide all spare parts required for repair and maintenance including visit by the engineer(s) of the Manufacturer/Supplier to project site and expenditure for boarding and lodging during such visit, if required. Along with repair maintenance service within 12 hours of communication of such services, warranty of 01 year from the date of commissioning against manufacturing defects shall

be provided. Warranty should be provided by the original Manufacturer.

- 8. **Security/ Performance Guarantee**: The successful bidder within 15 days from the date of receipt of Purchase Order should deposit 10% of contract value in form of Demand Draft/bank guarantee from a commercial bank in India as Security/ performance Guarantee valid for a period of 60 days beyond the warranty period as per the format given at **Annexure-6**. The Performance Bank Guarantee shall be submitted by the successful bidder within 15 days from the date of receipt of Purchase Order.
- 9. **Extended Warranty (optional)**: The Bidder must quote the extended warranty for 02 years. This extended warranty will start after completion of 01 year regular warranty period from the date of commissioning of the equipment. During this period they should provide all spare parts required for repair and maintenance. **The Bidders who do not quote for Extended Warranty shall not be considered for bid evaluation.**
- 10. Payment: 90% through Letter of Credit against bank documents. All expenses towards this outside India will be in the scope of the Bidder. Remaining 10% shall be payable after testing & commissioning and acceptance of the system /equipment to the entire satisfaction of the Purchaser and on production of Performance Guarantee of the amount of 10% of the Contract Value.
 - i. Original Invoice shall be submitted at the time of delivery of goods. Please note that the supplier must mention NISE GST No. and NISE address in their Invoice.
 - ii. Shipping Documents.
 - iii. Photographs of Shipping of the system.
 - iv. Pre-dispatch inspection report from both (supplier and buyer).
 - v. Submission of all Guarantee / Warranty of the complete system.
 - vi. Calibration certificates where ever applicable as per tender document.
 - vii. Packing list identifying the contents of each package.
 - viii. Copy of Insurance certificate.
 - ix. Any other document requested by buyer.
- 11. Taxes and Duties: Manufacturer/Supplier shall be entirely responsible for all taxes, GST, license fees, Custom duty (NISE shall provide only Customs duty exemption and concessional GST exemption certificate), all other duties, demurrage charges (if any), road permits, etc., incurred until delivery of the contracted Goods at the Purchaser's premises i.e. NISE, Gurugram. In this respect, the bidders must ascertain all their doubts, if any, from NISE before submission of their bid.
- 12. **Customs Duties and clearing charges**: Applicable as per Notification No.51/96- customs dated 23rd July 1996 (as amended by Notification No. 28/2003 dated 01.03.2003 &

Notification No. 43/2017 dated 30.06.2017) and as amended from time to time for research purpose only. NISE is entitled to availing Customs Duty exemption as well as concessional GST at present, as per NISE Registration with Department of Scientific and Industrial Research (DSIR) of Govt of India; Regn No. TU/V/RG-CDE (1096) /2017 dated 23.8.2018 valid upto 31.08.2022, wherever applicable. The said certified DSIR certificate issued to NISE as well as other necessary certificates shall be provided as per rules at an appropriate time. The bare minimum Customs Duty (if any) shall be reimbursed or paid by NISE as per actuals. However, all customs clearance charges (including Agent charges) shall be part of the price bid.

- 13. **Liquidated Damage:** If the Manufacturer/Supplier fails to deliver the Goods or to perform the Services within the period(s) specified in the Contract, the Purchaser shall, without prejudice to its other remedies under the Contract, deduct half percent of contract price per week of delay subject to a ceiling of 5% of final contract price.
- 14. **Applicable Law:** The Contract shall be interpreted according to the laws of the Union of India and all disputes shall be subject to the place of jurisdiction in Gurugram, Haryana.
- 15. **FREE MAINTENANCE AND DEFECT LIABILITY PERIOD DURING WARRANTY:** The Bidder/ Original Equipment Manufacturer (OEM) shall ensure the following free maintenance services during the warranty period.
 - i. Emergency call back service
 - ii. Inspect, clean, where necessary
 - iii. Adjustment of machinery
 - iv. Replacement of any defective parts
 - v. Any other necessary works for equipment functional operation.
- 16. Evaluation of Tenders: Each point in the technical compliance statement must be adequately supported by technical documentary proof. Mere statement of "complied with" without proper reference shall not be acceptable. Financial bid shall be evaluated based on CIF, NISE, Gurugram inclusive of all charges mentioned at serial no. 5, 6 & 11 of GENERAL CONDITIONS OF CONTRACT along with the charges for Annual Maintenance Contract (EXTENDED WARRANTY) for a 2 year period after the regular warranty period of 12 months.
- 17. Domestic manufacturer/Vendor/Supplier are also encouraged to participate in this etender subject to fulfilling all the Terms and Conditions laid down in the tender document.
- 18. **Amendment:** NISE reserves the right, without being liable for any damages or obligation to inform the applicant, to amend the scope and requirements to reject any or all of the applications without assigning any reasons.
- 19. Rejection of Tender: Incomplete, conditional, fax, late tenders and tenders without EMD

will be rejected summarily. Director General, National Institute of Solar Energy reserves the right to reject any or all the tenders at his discretion without assigning any reason thereafter.

The Director General National Institute of Solar Energy Gurugram-Faridabad Road Gwal Pahari, Gurugram – 122 003 Haryana, India

Annexure- 1

Technical Specifications of the Solar cell I-V cum LIR tester to be Supplied, Installed and Commissioned at NISE Gurugram

S. No	Item		Sub-item	Details
NO				
1	Basic function(s)			 i) Light and dark I-V testing of 192 mm x 192 mm c-Si solar cells ii) Light I-V testing of 20 cm x 20 cm single cell modules iii) Testing of light induced degradation and regeneration of c-Si solar cells.
2	Solar Simulator	a	Lamp type	Ozone-free, Xe short arc lamp, continuous illumination
	Simulator	С	Min. area of uniform illumination (mm x mm)	208 x 208
		d	Wavelength range (nm)	300 – 1800
		e	Spectral match (%)	Within +/- 15 % of AM1.5 G spectrum or as per the latest IEC 60904 standard
		f	Half angle of collimation	< ± 3°
		g	Filters	Suitable for AM1.5 G spectrum
		h	Spatial non- uniformity of irradiance	< ± 2% (at 1 SUN)
			irradiance	
		i	Temporal instability for STI / LTI	$\pm 0.5 \% / \pm 2 \%$.
		j	Max. intensity (Suns)	1.5
		k	Input power for lamp supply	Single phase, 230 VAC, 50 Hz
		1	Air Cooling System	Lamp cooling fan , Propeller exhaust fan
		m	Shutter control	Manual
3	Vacuum chuck	a	Size (mm x mm)	210 x 210 (inclusive of the space for a 20 x 20 mm monitor cell)
		b	Material of	High grade Al with Ni and Au plating on the top surface

			construction	
		С	Vacuum holding	Grooved top surface for vacuum holding of various cell
			arrangement	sizes
		d	Port for vacuum	1/4 " port or suitable for vacuum pump integrated with the
			pump	chuck
		f	Heating arrangement	A Peltier and thermoelectric based or a heater-chiller based
				temperature-controlled chuck with an accuracy of \pm 1 °C.
		g	Temperature range for the chuck (°C)	15 − 180 with an accuracy of ± 1 °C
		h	Temperature sensor	Pt-100 RTD sensor inserted close to the top surface with a
				valid calibration certificate of temperature sensor
				traceable to S. I. unit
		i	Monitor cell	Shall be fitted on to a portion of the chuck having a Z
		-		movement of 10 mm
4	I-V test	a	Measurement	Four-wire measurement scheme
'	fixture	u	scheme	Tour who measurement seneme
	Tixtuic		Scheme	
		b	Number of front bus	2-6
			bars of the DUT	
		c	Front contacting	Au tipped round-bottomed, spring-loaded, telescopic pins.
			current and voltage	
			pins	
			<u> </u>	
		d	Rear contacting	Multi-point, Au-tipped, spring-loaded, electrically
			voltage pins	insulated, telescopic pins
		e	Pin movement	Pneumatic
			control	Thoumatio
			control	
		f	Rear current contact	The chuck body
				•
5	Light and	a	Source meter range	±20A, ±20V (max) with micro/ nano range accuracy and
	dark I-V			valid calibration certificate.
	testing of	1	T 1 1 / T X7 /	A. 100 . 11.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1
	solar cells	b	Light I-V testing	At different light intensities (minimum intensity 100
	and single			W/m2), temperatures & for forward and reverse bias
	cell			conditions
	modules together		I-V curve	To be provided as per IEC 60904 and other standards
			normalization at 1	10 be provided as per the 00704 and other standards
	with			
	lifelong		Sun and STC	
	licensing	d	Dark I-V testing	For forward and reverse bias conditions and at different
	for the	_		temperatures
				<u></u>
-				

	software	e	Light I-V testing for hysteresis	For forward and reverse voltage sweeps. Should have option for changing voltage slew rate for hysteresis measurements
			Other control parameters for light I-V test	Pulse width, voltage sweep range, voltage step, frequency and bias voltage
		g	Live updates to be provided	Of Voc and Isc
		h	Parameters for display on the monitor after each light I-V measurement	Isc, Voc, Imp, Vmp, FF, Pm, Efficiency, light intensity, cell temperature, Rs and Rsh
		i	Arrangement for I-V testing of single cell modules	4-wire cable with LEMO connector at one end and banana plugs at the other for connecting to the source meter unit directly
6	Custom software with lifelong licensing for light induced degradation	a	Parameters to be set and controlled (either manually or through the monitor) in isolation or in combination through a script programme	Light intensity, chuck temperature, voltage bias (till Voc) and their duration
	/ regeneratio	b	Light I-V testing during LID/LIR test	Only as per the script programme or on external command
	n (LID/LIR) test	С	Features of the software (script) programme	Enabling LID/ LIR test cycle as per the script, intermittent I-V testing and plotting of I-V parameters with time for the duration of the test cycle
7	Reference	a	Size	2 cm x 2 cm (as per WPVS norms)
	solar cell	b	Material	c-Si
		С	Accreditation	From NREL/PTB/AIST/Fraunhofer
8	Computer terminal	a	Laptop with 15 inch screen	With 4 GB RAM and 1 TB Hard disk, compatible with Windows 10
10	Operating	a	Relative Humidity	50 ± 5 %

	conditions	b	Ambient	25 ± 2 °C
			temperature	
11	Warranty period	a	Normal	12 months after commissioning
	r	b	Extended	2 years post normal warranty
12	Operation manual	a	Hard copy and soft copy	2 hard copies to be provided along with a CD for soft copy

FORMAT FOR SUBMISSION OF BIDDERS DETAILS

1.	Name of supplier	
2.	Registered Address	
2.	Phone No	
	Fax No	
	Name of proprietor/CEO/ Chairman	
	Phone no/Mobile No	
	Email ID	
3.	Factory Address	
	Phone no	
	Fax no	
	Email ID	
4.	Delhi/NCR Address if any	
	Phone no	
	Fax no	
	Email ID	
5.	Correspondence Address	
6.	Name of contact Person	
	Designation	
	Phone no / Mobile No	
	Fax no	
	Email ID	
7.	Website	

8.	Bank related information
	Bank name
	Branch name
	Bank address
	Bank phone no.
	Bank fax no.
	Bank MICR Code (9 digit)
	RTGS-IFC Code
	Account type
	Account no
9.	PAN NO
10	GST , PAN/TAN & TIN number of firm

I certify that the information given herein is correct to the best of my knowledge and belief.

Signature of Proprietor/CEO/Chairman Seal of the company/concern.

Performance Statement Form of supplied Solar cell I-V cum LIR tester.

Order No. & Date	Client	Client Contact person/ Phone	Description & quantities of	Value of order	f Date of completion		Satisfactory completion
			ordered items		As per contract	Actual	
		mentary evid mum 3 Custo	ence (client's lette omers	er or certificate) i	n support of	satisfactor	y completion

Price Bid Format

(On Company's Letterhead)

Ref No		PRICE BID	Date:	/	/ 2021	
Nationa Gurugra Gwal Pa Haryana Subjec		y 003 Solar cell I-V cum LIR teste	r at NISE Campus –	Reg		
S No	ltem	CIF, NISE Gurugram inclusive of all charges as mentioned as sl. no. 5, 6 & 11	Extended warranty post warranty inclusive of all taxes for 2 Years	Tot	tal	
# Extend	ded warranty period starts	after one year of warranty perio	od.			
	ons. The bids shall be e	not quote for extended warra valuated considering both CIF,				
Amoun	t (in words)					
Signature:						
Name of the Representative Submitting the Bid:						
Designa	Designation:					
Compai	Company Seal					

Bank Guarantee Format for EMD Bank Guarantee No. Bank Guarantee Amount: ₹ /-Bank Guarantee Cover from: / / 2021 to / / 2022 Last Date of lodgment of Claim: / 2022 **FINANCIAL BANK GUARANTEE** To The Director General National Institute of Solar Energy Gurugram - Faridabad Road Gwal Pahari; Gurugram - 122 003 Haryana Subject: Tender Document for Supply, Installation and Commissioning of a Solar cell I-V cum LIR tester at National Institute of Solar Gurugram, Energy, Haryana (NIT No:....) Dear Sir / Madam, Whereas M/s (hereinafter called the "Tenderer") has submitted their offer dated for the Supply, Installation and Commissioning of a Solar cell I-V cum LIR tester at National Institute of Solar Energy, Gurugram (hereinafter called the "Tender") against the Purchaser's Tender enquiry No.....,KNOW ALL MEN by these presents that WE of having our registered office at...... bound to M/s National Institute of Solar Energy, Gurugram (hereinafter called the "Purchaser") the sum of ₹....../- (RupeesOnly) for which payment will and truly to be made to the said Purchaser, the Bank binds itself, its successors and assigns by these presents. Sealed with the Common Seal of the said Bank this day of 2021.

THE CONDITIONS OF THIS OBLIGATION ARE:

- 1) If the tenderer withdraws or amends, impairs or derogates from the tender in any respect within the period of validity of this tender.
- 2) If the tenderer having been notified of the acceptance of his tender by the Purchaser during the period of its validity:-

- a) If the tenderer fails to furnish the security/performance guarantee for the due performance of the contract.
- b) Fails or refuses to accept/execute the contract.

We undertake to pay the Purchaser up to the above amount upon receipt of its first written demand, without the Purchaser having to substantiate its demand, provided that in its demand the Purchaser will note that the amount claimed by it is due to it owing the occurrence of one or both the two conditions, specifying the occurred condition or conditions. This guarantee will remain in force up to and including 45 days after the period of tender validity and any demand in respect thereof should reach the bank not later than the above date. Signature of the authorized officer of the bank's name and designation of the officer Seal, name and address of the Bank and address of the Branch.

"Not withstanding anything contained herein;

Place:

•	Our liability under this Bank Guarantee shall not exceed ₹/- (RupeesOnly).
•	This Bank Guarantee shall be valid up to / / 20
•	We are liable to pay the guarantee amount or any part thereof under this Bank Guarantee only if you serve upon us a written claim or demand on a before / / 2022 (date of expiry of Guarantee). "
	Banker's Authorized Representative(s)
Date:	

Bank Guarantee Format

SECURITY/PERFORMANCE BANK GUARANTEE

National institute of Solar Energy	
Gurugram - Faridabad Road	
Gwal Pahari	Bank Guarantee No.
Gurugram – 122 003, Haryana	Dated:
(Write Bank n	on the day of (write name of the month), 20 ame which is giving Bank Guarantee), having branch office ach Office address), (hereinafter called "the Bank"), which expressi
and assignees and National Insti Gwal Pahari, Gurugram – 122	text and meaning thereof includes its legal representatives, successor ute of Solar Energy, having their office at Gurugram - Faridabad Roo 2003, Haryana (hereinafter called "the NISE") which expression sh and meaning thereof includes its legal representatives, successors a
	oply contract bearing No (Purchase Order or Work Order N
having their Registered office address), (hereinafter referred a	(Write the Manufacturer/ Supplier Company Name here the Late of the Manufacturer/ Supplier") for (Write the Manufacturer/ Supplier") for (Write the Manufacturer) as per the said order.
	Supplier has agreed to submit a Security/ Performance in the form Only) to the NISE as per the Contra
of the said order. In case, the M	e agreed to perform or fulfill the contract as per terms and condition anufacturer/ Supplier fails to perform or fulfill the contract as per teled to demand an amount equal to Rs (Rupe the Manufacturer/ Supplier.
	Bank Name), do hereby undertake and Guarantee to make payment
fails as per the said order	(Rupees only) in case the Manufacturer/ Suppl

Whereas,	Bank's	liability	under	this Banl	k Guarantee	e is	restrict	ed to	Rs		(Rupees	
		_ only)	and it	will remair	n valid till	/	/ 20	. Ur	nless a c	laim or d	emand in	
writing is n	nade aga	ainst us	under th	is Guarant	tee before th	at d	ate, all r	ights o	f the NI	SE under	this Bank	
Guarantee	shall be	forfeite	d and th	e Bank sha	all be relieved	d and	d dischai	ged fro	om all lia	ability the	re under.	
This guara	antee sh	nall auto	omatical	lly stand	cancelled a	fter	the da	te of	expiry	as state	ed above	
notwithsta	nding th	e fact th	at the or	riginal guai	rantee docur	nent	is returi	ned to	us by yo	u or not.		
NOTWITHSTANDING ANYTHING CONTAINED HERE IN:-												
a)	Our lia	ability u	nder th	is Bank G	Guarantee sh	nall	not exc	eed to	Rs		(Rupees	
			or	nly).								
b)	This Ba	nk Guara	antee sh	all be valic	l up to /	/2	20 .					
c)	The Ba	The Bank is liable to pay the Guarantee amount or any part thereof under this Bank Guarantee only and only if you serve upon a written claim or demand on or before / /										
	Guaran											
	20 .											
Place							Signa	ture				
Date						Bank	Seal					
								Bank	Code No) .		

Model Certificate for Tenders (for transitional cases as stated in para 3 of Order F. No. 6/18/2019-PPD dated 23rd July, 2020)

"I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I hereby certify that this bidder is not from such a country and is eligible to be considered."

Model Certificate for Tenders

"I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I certify that this bidder is not from such a country or, if from such a country, has been registered with the Competent Authority. I hereby certify that this bidder fulfills all requirements in this regard and is eligible to be considered. [Where applicable, evidence of valid registration by the Competent Authority shall be attached]"

Model Certificate for Tenders for Works involving possibility of sub-contracting

"I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India and on sub-contracting to contractors from such countries; I certify that this bidder is not from such a country or, if from such a country, has been registered with the Competent Authority and will not sub-contract any work to a contractor from such countries unless such contractor is registered with the Competent Authority. I hereby certify that this bidder fulfills all requirements in this regard and is eligible to be considered. [Where applicable, evidence of valid registration by the Competent Authority shall be attached.]"

Bank Details for the Purpose of issuing EMD in the form of FDR / BG

Account Holder Name: National Institute of Solar Energy (NISE)

Gurugram - Faridabad Highway, Gwal Pahari

Gurugram - 122 003, Haryana Tel: +91 124 285 3056; 3060

Bank Name: State Bank of India

Branch: State Bank of India – Sector 56, Gurugram

Address: 45-49 Centum Plaza, Sector 53

Gurugram - 122 002, Haryana

SB Account No. **33843408697**

IFSC Code: **SBIN0011443**MICR Code: 110002460
SWIFT Code: SBININBB
Branch Code: 11443

NISE GST Details

NISE full address is:

National Institute of Solar Energy

Gurugram – Faridabad Road

Gwal Pahari; Gurugram - 122 003, Haryana

NISE GST No is **06AAAJN0939P1ZR**.

State Code: 06