

NATIONAL INSTITUTE OF SOLAR ENERGY

(An Autonomous Institute under Ministry of New & Renewable Energy, Government of India)



E-tender Document

www.tenderwizard.com/NISE

Expression of Interest (EOI)

for

**Enlistment of Vendors for Fabrication, Supply, Installation and Commissioning of
Solar Dryer cum Space Heating System on Pan India Basis**

EOI No. 08B/05/03/2018-19/EOI.

Last date & time of submission of EOI **30th April 2019 by 13.00 Noon**

Our website: www.tenderwizard.com/NISE.

The Director General
National Institute of Solar Energy
Gurugram-Faridabad Road
Gwal Pahari, Gurugram– 122003, Haryana, INDIA

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Website: www.nise.res.in, www.tenderwizard.com/NISE

**National Institute of Solar Energy
CST Laboratory**

Subject: Enlistment of Vendors for Fabrication, Supply, Installation and Commissioning of Solar Dryer cum Space Heating System on PAN India Basis.

The important dates and information for Tender are given below in the table:

S. No	Description	Details
1	Expression of Interest (EOI) No.	08/B/05/03/2018-19/Ten
2	Tender Type (open/Limited/Auction/EOI/Single)	Expression of Interest (EOI)
3	Tender Category (Services/Goods/works/Supply)	Supply, Installation, Commissioning and AMC of systems
4	Scope of Work	Enlistment of Vendors for Fabrication, Supply, Installation and Commissioning of Solar Dryer cum Space Heating System on Pan India Basis
5.	Qualification Criteria	The bidder/vendor should have achieved average annual turnover of Rs. 2 crore during last 3 year.
6	Place of submission of EOI and address for communication	Online (to website:- www.tenderwizard.com/NISE)
7	Period of validity of Indicative Cost	365 days from the closing date of the EOI
9	Pre-Bid meeting at NISE, Gurugram For discussing about detailed specifications of the system	16th April 2019 at 11:00 AM This is a filed concept of NISE. Those prospective bidders who participate in this pre-bid meeting shall be required to sign a Non-Disclosure Agreement (NDA) with NISE and thereafter NISE will provide the provisional patented design to them for estimation of price. In case any prospective bidder could not attend the pre-bid meeting, she/he can visit NISE at a later date, sign NDA and obtain patented design, as mentioned above.
10	Last date & time of submission of Tender	30th April 2019 by 13.00 Noon 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 . Both Technical Bid and Financial Bid will be

		<p>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.</p> <p>2. All Corrigendum/Amendment/Corrections, if any, will be published on the website http://www.tenderwizard.com/NISE.</p> <p>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 certifying</p> <p>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.</p>
11	Date of Opening of EOI	1st May 2019 at 15:00 Hrs.
12.	Submission of samples	The bidder who qualifies technically will be required to submit one sample of the solar dryer at NISE Gurugram. The sample will be evaluated for its quality and performance. The vendor will be enlisted only after approval of sample. The last date of submission of sample system will be decided on pre-bid meeting
13.	Issuance of empanelment letter	03rd Week of May 2019
14.	Estimated cost of the system (ex-work cost)	Rs.1.5 lakhs
	Note1:	All the documents should be duly signed stamped with all supporting documents/credentials in prescribed format and sealed in envelop super scribed as “EOI for Enlistment of Vendors for Fabrication, Supply, Installation and Commissioning of Solar Dryer cum Space Heating System on Pan India Basis.”
	Note2:	Bidders should comply all parameters given in the EOI. Incomplete/un responsive bids shall be liable to be rejected

INTRODUCTION:

National Institute of Solar Energy, an autonomous institution of Ministry of New and Renewable (MNRE), is the apex National R&D institution in the field Solar Energy. The Government of India has converted 25-year-old Solar Energy Centre (SEC) under MNRE to an autonomous institution in 28th October, 2013 to assist the Ministry in implementing the National Solar Mission and to coordinate research, technology and other related works. The institute is involved in demonstration, standardization, interactive research, training and testing solar technologies and systems. It is an effective interface between the Government and institutions, industry & user organizations for development, promotion and widespread utilization of solar energy in the country.

BACKGROUND:

Many of the world's most important crops need to be dried to remove moisture as part of the production process. Removing the moisture from crops such a coffee beans, tea leaves, cocoa, nuts, fruit, rice, spices, corn, chips, etc. is an essential process that helps transform the raw goods into the final product. It is also extremely resource intensive when using mechanical drying methods that rely on wood, propane or oil. In more traditional drying operations, it is common for produce to be passively air-dried in the sun, which takes significantly longer than mechanical drying and can lead to a higher rate of spoilage, mycotoxins and uneven moisture levels. Agricultural and agri-food operators consume tremendous quantities of energy which present a sizable proportion of their total input costs. Rising energy prices has been putting downward pressure on agricultural income in countries around the world, which is why solar energy represents a tremendous opportunity for the agricultural sector. Incorporating solar into a drying operation produces a double-benefit in terms of improving both the process of drying and the final product.

1. Invitation for EOI:

National Institute of Solar Energy, Gurugram EOI invites from technically and financially capable manufacturers for **“Enlistment of Vendors for Fabrication, Supply, Installation and Commissioning of Solar Dryer cum Space Heating System on Pan India Basis”**.

2. Instructions to Manufacturer:

- (i) The Bidder/Vendor should be a reputed manufacturer having GST and income tax registration. Copy of PAN Card and GST Registration should accompany the tender.
- (ii) The Bidder/Vendor should have own manufacturing facility either of solar thermal systems or drier or PUF chamber and machining work so as to manufacture the system as per the design provided by NISE. The Bidder/Vendor should have sufficient number of technical personnel and staff to carry out the work.
- (iii) The bidder who qualifies technically will be required to submit one sample at NISE Gurugram. The sample will be evaluated for its quality and performance. The bidder will be enlisted only after approval of sample.

- (iv) The Bidder/Vendor shall be equipped and able to carry out the Client's maintenance, repairs and Spare parts, stocking obligations prescribed by the conditions of the contract
 - (a) That the adequate and specialized expertise is already available or will be made available following the execution of the contract in the beneficiary city, to ensure that the support services are responsive and adequate.
 - (b) That the Bidder will assume total responsibility for the fault-free operation of equipment / items and Maintenance during the warranty period and provide necessary maintenance services for two years after end of warranty period.
- (v) Bidder/Vendor may be needed to establish one service Centre in each of the districts of respective Work Orders. The service Centre should have at-least **one technician and should be equipped with proper tools and sufficient spares**. The Address of service station, details of technician and service helpline number & email id is need to provide to the NISE, Gurugram.

3. Terms and Conditions:

- a) This tender document contains detailed bill of material (BOM) of complete solar dryer to give vendors an idea of product requirement. Interested vendors may come to pre-bid meeting and NISE shall share the detailed design of the Solar Dryer upon signing the non-discloser agreement (NDA) between NISE and the vendor.
- b) Technical Specifications and BOM of the system are also placed at **Annexure-1**.
- c) The evaluation of the bidder/vendor will be based on the evaluation criteria and their weightages listed in **Annexure 2**. The top five bidder/vendor getting highest marks will be considered for sample submission and enlistment.

Note: NISE, Gurugram reserves the right for the modifications in the specifications system as and when required based on project requirements.

4. General Conditions of Enlistment applicable at the time of project implementation:

- a) **Work Order:** NISE is in the process of drawing a panel of reputed manufacturer who have technical capability and spare production capability to manufacture and deliver NISE designed and developed solar dryer systems. The financial quote on case to case/Project to project basis with the details of system cost, transportation cost, taxes, AMC charges etc, will be requested among the final enlisted bidder and L1 price will be considered. If situation so demands like emergency supplies, bulk order or substantial changes in technical specification (or) in case where new manufacturer have also started manufacturing similar equipment, NISE reserves Right to place work/purchase order on manufacturer other than enlisted ones.
- b) **Copyright of Design:** NISE has filed a patent for Solar Drier cum Space Heating System under "Intellectual Property Right". Indian Patent (Application No.: 201811013091). The design cannot be reproduced without the consent of NISE, Gurugram (Haryana). Any change i.e., major/minor modification in

design/methodologies suggested by manufacturer/vendor during the contract tenure will come under the rights of NISE.

- c) **Changes/Improvements in the design:** NISE reserves the right to modification in the specification of the system based on project to project requirements. The enlisted party have to carry out the changes as per the requirement in consultation with NISE.
- d) **Development charges to NISE:** The enlisted party shall pay 5% of the sales price on all the Solar Dryer system sold as 'development charges' to NISE.
- e) **Transportation/ Packing:** All the charges like transporting/shipping, packing, insurance, unpacking, loading, unloading, labors, managerial works etc. shall be borne by the bidder and the related cost shall be included in the contract price in respective work order. The Supplier shall provide such packing of the Goods to prevent the damage or deterioration during transit to their final destination as indicated in the Contract. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures 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. The details of packaging with proper demarcation of boxes and bill of material should be submitted to NISE before delivery of goods.
- f) **Delivery and Documents:** Delivery of the goods and completion of works should be made within the time as specified under "**Time of Supply, Installation & Commissioning**" from the date of placement of respective work order.

Within 24 hours of shipment, the supplier shall notify the purchaser and the insurance company by email/telephone the full details of the shipment including contract number, railway receipt number/ AWB etc. and date, description of goods, quantity, name of the consignee, invoice etc. The Supplier shall mail the following documents to the purchaser with copy to the insurance company:

- i. Copies of the Supplier invoice showing contract number, goods' description, quantity, and price, total amount;
- ii. Acknowledgment of receipt of goods from the consignee(s) by the transporters;
- iii. Insurance certificate,
- iv. Manufacturer's/Supplier's warranty certificate;
- v. Inspection Certificate issued by the Competent Authority deputed by NISE, to ensure the quality, specification and standard of the product before dispatch.
- vi. Two copies of the packing list identifying the contents of each package.

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.

- g) **Insurance:** For delivery of goods at the purchaser's premises, the insurance shall be obtained by the Supplier to 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.

- h) Transportation:** Supplier is required to transport the Goods to the specified place of destination including insurance, and the related cost shall be decided as per the market benchmark at the time of placement of order.
- i) Service Centre:** Bidder/Vendor may be needed to establish one service Centre in each of the districts as per the respective work orders. The service Centre should have at-least one technician and should be equipped with proper tools and sufficient spares. The Address of service station, details of technician and service helpline number & email id is need to be provided to the NISE, Gurugram.
- j) Warranty:** The vendors must provide full comprehensive warranty for a period of 12 months (one year) and shall be responsible for the equipment to be operational. During this period, they shall provide all spare parts required for repair and maintenance and repair maintenance service within 48 hrs. of complaint
- k) Performance Security:** Performance security in form of Bank Guarantee (BG) or Fixed Deposit (FD) or Demand Draft (DD) shall be provided by bidder/vendor with 15 days after issuing of work order for 5 % of contract value. The performance security shall be valid until 60 days beyond commissioning of the systems.
- l) Performance Guarantee:** Performance guarantee to the extent of 10 % of contract value (excluding taxes) shall be provided up to 60 days beyond warranty period. Performance guarantee shall be issued upon commissioning of system.
- m) AMC:** The vendors may be required to provide AMC for a period of 24 months (two year) after the warranty period and shall be responsible for the equipment to be operational. The AMC shall include the following:
- i. The vendors should have adequate spare parts required for repair and maintenance in stock during AMC period.
 - ii. The spare part/equipment shall be provided to beneficiary on chargeable basis under AMC. However, the service/visit charges shall be included in the AMC cost provided to NISE.
 - iii. The repair maintenance service should be carried within 48 hrs. of communication.
 - iv. Bidder/Vendor shall be needed to establish service Centre in each of the districts/ states as per the respective work orders during AMC period.

n) Payment

The broad Payment terms shall be as indicated in the below table, however the actual payment terms shall be depend on case to case basis and will be indicated in the work/purchase order.

Advance against Bank Guarantee obtained from a Scheduled Bank in an acceptable form to NISE, Gurugram	20%
Supply of system at Destination upon submission of E-way bill, Insurance copy and upon Inspection by NISE representative or customer representative, or any other third party / person deputed by NISE. (Note: Incase if the Vendor doesn't avail 20% advance against BG, 70% can be released at this stage)	50 %
Upon Installation and Commissioning of the Systems	20%

Upon completion of performance guarantee period (However, the Vendor, if desires, can avail this final 10% (excluding tax) against BG upon Installation and Commissioning of the Systems)	10%
Payments for AMC will be done on biannually basis on successful reporting of AMC work	Biannually

- o) **Taxes:** Suppliers shall be entirely responsible for all taxes, duties, GST, license fees, road permits, etc., incurred until delivery of the contracted Goods to the Purchaser.
- p) **Penalty Clause:** If the 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, recover, as penalty half percent of contract price per week of delay subject to a ceiling of 5% of final contract price.
- q) **Applicable Law:** The Contract shall be interpreted in accordance with the laws of the Union of India and all disputes shall be subject to jurisdiction in Gurugram, Haryana.
- r) **Rejection Terms:** Incomplete, conditional, late Tender received after due date 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 whatsoever.
- s) **Relaxation of Norms for Start-Ups and Micro & Small Enterprises in Public Procurement:** Based on Public Procurement Policy for Micro and Small Enterprises (MSEs), suitable relaxation on EMD, turnover and experience with respect to Micro and Small Enterprises and Start Up Companies recognized by DIPP/ MSME ministry shall be provided subject to meeting of the quality and the technical specifications.

Note:

- a) NISE, Gurugram will evaluate all the options and activities mentioned above and reserve the right to award the contract for the most feasible and cost-effective option and activities.
- b) The broad terms and conditions has been indicated above, however the final terms and conditions shall depend on case to case basis and will be indicated in the work/purchase order.
- c) The invitation to EOI with annexures and all attachments will be considered to have been read, understood and accepted by the tenderers unless otherwise specifically stated by them in writing well before the schedule opening of the tender.
- d) The terms and conditions as embodied in the EOI shall be final and any other terms mentioned in the suppliers bid will not be considered.

The Director General
National Institute of Solar Energy,
Gurugram-Faridabad Road,

GwalPahari, Gurugram
122 003, Haryana,India.

The bidder/vendor shall submit the following documents:

S. No	Check-list	Please tick in the boxes (√)
a.	Bidder/ Vendor Data (Annexure-04)	
b.	Audited Financial Statement stating the turnover of the firm/company for last three financial years. (Mark as Annexure-05)	
c.	Details of the facilities, machines, equipment and manpower available to carry out the required work (Mark as Annexure-06)	
d.	Work Order/Completion certificate clearly stating about the product/technology (if any) (Mark as Annexure-07)	
e.	Work Order/Completion certificate clearly stating the region where projects has been done (if any) (Mark as Annexure-08)	
f.	Estimated Cost (Annexure-03)	

Annexure-1

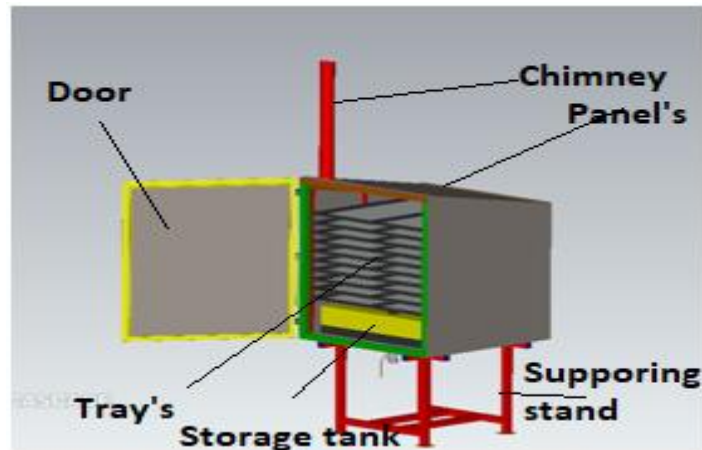
Technical Specifications and BOM of the system for Enlistment of Vendors for Fabrication, Supply, Installation and Commissioning of Solar Dryer cum Space Heating System on PAN India Basis

Technical Specifications of Solar Collector and Accessories:


S. No	Components	Component Description
1.	Solar Air heater	EVACUATED TUBE BASED SOLAR THERMAL AIR HEATER Number of Evacuated Tubes (ETC): 50-60 ETC (Outer Diameter): 58 mm ETC (Inner Diameter): 47 mm ETC (Length of Tube): 1800 mm ETC Centre to Centre distance: 90 mm Aperture area: 5-6 m ² Header Insulation: Minimum 20 mm PUF Stand: Galvanized Iron Heat output: minimum 15 kWh/day @ 5 kWh/m².day GTI
2.	DC Centrifugal Blower	1. Air Flow:> 150 CFM 2. Voltage: 12/24 Volts 3. Outlet Dia of Fan/Blower: less than 4 inches 4. The blower must have IP 54 protection
3.	Piping Connections	1.Silicone Tube (3 inch) based piping with Insulation from collector to chamber 3. Two leak-proof, high temperature (200 degree Celsius) valves


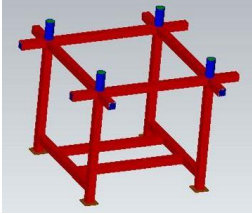
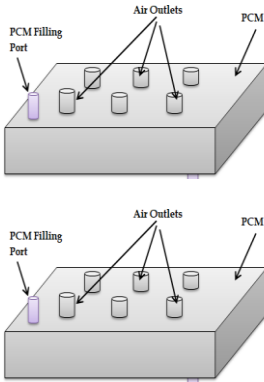
Technical Specifications of Solar Drying Cabinet and Accessories:

Detailed Specification of Drying cabinet



Bill of Material

S.NO	Component Description	Materials	Dimension	Remarks	Qty
1	Cabinet Panel (5 sides with one Door in front) 	Panel wall: i. Panel Outside material: MS (18 gauge) Sheet with powder coating, ii. Insulation: 60mm PUF Insulation with proper sealing iii. Panel Inside material: Stainless Steel 304 Cabinet Door: i. Panel Outside material: MS Sheet with powder coating, ii. Insulation: 60 mm PUF Insulation with proper sealing iii. Panel Inside material: Stainless Steel with airtight beading at the corners. iv. Chrome plated/Wooden Handle. v. Chrome plated/SS material good quality Lock vi. Door should be hinged with good quality hinges	Inside Dimension of Dryer Cabinet is 1*1*1 meter Panel 1: (Bottom) Panel 2. (left) Include sliding rail for 7 no of trays +1 for guide tray Panel 3. (Right) Include sliding rail for 7 no of trays + 1 for guide tray Panel 4. (Back) Inlet 3" hole position Panel 5. (Top) with two holes for exhaust and recirculation 3" each Panel 6. (Door) (Include Handle & Hinge Position)	Holes should be made at the specified area	1 Box

2.	<p>Mesh Trays</p> 	<p>Tray Material: i. Mesh type trays of food grade SS 304/Aluminum material ii. Mesh size of not more than 15 mm</p>		<p>7 nos. Proper Grooves or sliding rails should be made in inside chamber on Panel 2 & 3 and one for guide tray</p>	<p>7 Mesh Trays with side cut</p>
3.	<p>Support Stand</p> 	<p>MS hollow 1.5-inch square pipes with powder coating.</p>	<p>Length: 1000mm Breadth: 1000mm Height: 500mm</p>	<p>Stand should be made detachable with Bolt & Nut fasteners.</p>	<p>1</p>
4.	<p>Storage Tank</p> 	<p><u>Two tanks of Aluminum able to store 60 kg of PCM in each tank</u></p> <p><u>Tank Body</u> Aluminum sheet metal</p> <p><u>Pass Holes</u> 6 pass holes in each tank of size 1 inch</p> <p><u>Inlet Pipes</u> Aluminum 1 Inch Pipe</p> <p><u>Handle</u> Tanks should be provided with 2 handles</p> <p><u>Tank Stand</u> Stand for keeping the storage tanks</p> <p><u>Storage Material capacity</u></p>	<p>Dimension of each tank Length: 0.87 m Breadth: 0.42 m Height: 0.2'' Thickness: 2.5 mm</p> <p>Length: 0.9 m Breadth: 0.9 m Height: 5'' Collector Inlet: Left 3'' Hole</p> <p>PCM - 120Kg/system 60 Kg in each tank</p>	<p>PCM to be filled in the storage tanks by manufacturer is to be disclosed in the NDA</p>	<p>2</p>
6.	<p>Chimney</p>	<p>4 Inch PVC Pipe with elbow & cage (to avoid bird entry) at Chimney outlet</p>			<p>1</p>
7.	<p>Recirculation System</p>	<p>1. 24 V DC blower/axial fan for recirculation of air from top of chamber to bottom of chamber. 2. Ducting of high temp. Resistant silicon/ nylon</p>	<p>1. Air Flow > 5 m³/min or 175 CFM 2. Voltage: 24 Volts</p>		<p>1</p>

		pipe for recirculation of air.			
8.	PV Panel (Multi crystalline)	1. Capacity: 200 Watt 2. Voltage: 24 volts		To be put on the top of Drying Chamber	1
9.	Charge Controller	1. DC-DC charge controller		Output voltage: 24 Volts	1
10.	PV Stand	1. GI Stand	Tilt angle of approx. 30 Degrees		1
11.	Temperature and Humidity Sensor				1

Note: NISE, Gurugram reserves the right for the minor modifications in the specifications system as and when required based on feedbacks.

Annexure- 2
Evaluation Sheet

S. No	Evaluation Criteria	Documents to be attached with technical bid as a proof	Max. Marks
1.	Work Experience in project of solar thermal products/technologies.	Work Order/Completion certificate clearly stating about the product/technology	20
2.	Work Experience in projects of dryer technologies.	Work Order/Completion certificate clearly stating about the product/technology	20
3.	Experience of working in high-altitude/mountain regions like J&K, North East etc.	Work Order/Completion certificate clearly stating the region where projects has been done	10
4.	Estimated cost of system	Estimated cost sheet	50
Total			100

Annexure 3

(On Company's Letterhead)

Ref No.

Date:

Indicative Cost

The Deputy Director General (Admin)
National Institute of Solar Energy (NISE)
Gurugram – Faridabad Highway
GwalPahari; Gurugram – 122 003, INDIA

Sub: Enlistment of Vendors for Fabrication, Supply, Installation and Commissioning of Solar Dryer cum Space Heating System on Pan India Basis No. 08B/05/03/2018-19/EOI.

The indicative price to be quoted here is for the fabrication cost of the system.

S. No.	Item	Fabrication cost of 1 system (in ₹)	Fabrication cost of 100 system (in ₹)	Fabrication cost of 500 system (in ₹)
1.	Solar Air heater with piping arrangement			
2.	DC Blower			
3.	PV panel with stand and dc-dc convertor			
4.	Drying Chamber with trays and recirculation system			
5.	Thermal storage system			
	Total			

Note:

1. The price are indicative only. The final prices will depend on project to project basis.
2. The vendor has to fill this price format on the company letter head
3. Please clearly indicate deviations, if any

Signature:

Name of the Representative Submitting the Bid:

Designation:

Company Seal

Format for submission of Bidder/ Vendor Data

Company/Firm Contact Details	
Name of Company/Firm :	
Type of Registration of the company/firm:	
Date of Registration/ Establishment of company/firm: (Copy of registration document to be enclosed).	
PAN No./ GST No.:(Copy of certificate to be enclosed).	
Registered address for the Company/Firm:	
Website of the Company/Firm:	
Contact Address of the Company/Firm:	
Telephone of the Company/Firm :	
Authorized Contact Person for the Company/Firm :	
Mobile No. the Company/Firm:	
Fax for the Company/Firm :	
Email for the Company/Firm :	
MSME Reg. No. (if Small Scale Industrial UEOI)	
Bank related information	
Bank Name Branch Name Bank address Bank MICR Code (9 digit) RTGS-IFC Code Account type Account no. Swift Code	

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