

Corrigendum 1

SECTION A

GENERAL TERMS & CONDITIONS

1. **Scope:**

The scope of the tender covers supply, installation and commissioning of one number of **6 SPINDLE CNC DRILLING MACHINE** with necessary accessories as per the specification with warranty and AMC support.

Corrected as

1. **Scope:**

The scope of the tender covers supply, installation and commissioning of one number of **Film Stripping, Alkaline Etching and Tin Stripping Machine for multilayer PCBs** with necessary accessories as per the specification with warranty and AMC support.

SECTION- D

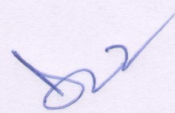
PRICE BID FORMAT

Sl No	Item Description	Qty Nos	Rate	Other charges if any	Tax & Duties	Total
1	Supply of one number 6 SPINDLE CNC DRILLING MACHINE with accessories and two years comprehensive onsite warranty support including spares	1				

Corrected as

Sl No	Item Description	Qty Nos	Rate	Other charges if any	Tax & Duties	Total
1	Supply of one number Film Stripping, Alkaline Etching and Tin Stripping Machine for multilayer PCBs with accessories and two years comprehensive onsite warranty support including spares	1				

The corrected RFQ is also attaching with this.


Vijayakumar B
Chief Manager (MM & TS),
ITI Limited, Kanjikode West,
Palakkad 678 623, Kerala, India



Ref: PB111K006

Date: 09/11/2021

To:

Dear Sirs,

Sub: Request Quote for the
FILM STRIPPING, ALKALINE ETCHING AND TIN STRIPPING MACHINE FOR MULTILAYER PCBs

ITI Limited, Palakkad, invites quotations from reputed Manufacturers or principal of authorized representative registered in India for supply, installation and commissioning of one number of **Film Stripping, Alkaline Etching and Tin Stripping Machine for mulilayer PCBs**, with comprehensive onsite warranty including free supply of spares for 2 years and post warranty non-comprehensive Annual Maintenance Contract excluding cost of spares for 3 years. The RFQ document attached herewith explains the scope of work, specification and requirement of the equipment, terms and conditions, Minimum eligibility criteria for the bidders, instruction to the bidders, price bid format etc.

The RFQ document consists of:

1. This Covering Letter
2. Index
3. Section A - General Terms & Conditions
4. Section B(I) - Technical Specification
5. Section B(II) - Other Requirements
6. Section C - Questionnaire / Compliance / Eligibility – Evaluation Format
7. Section D - Price Bid Format
8. Section E - Performance Bank Guarantee Format
9. Section F - Integrity Pact Format
10. Section G - Certificate Format for Border Sharing Countries

Time Schedule :

- | | | |
|---|---|--|
| 1 | RFQ Release date | - 09-11-2021 |
| 2 | Last date for request for clarifications on the RFQ | - 17-11-2021 |
| 3 | Publication of clarifications or addendum if any | - 22-11-2021 |
| 4 | Due date for submission of quotation | - 02-12-2021 – 14 Hrs |
| 5 | Tender opening (EMD , Eligibility & Techno Com Bid) | - 02-12-2021 – 14.30 Hrs |
| 6 | Price bid opening | - Will be intimated to qualified Bidders |

Tender will be processed on 2 Bid System –1. EMD, Eligibility & Techno Commercial Bid, 2. Price Bid

Please send us your most competitive quotation in the following address in a sealed cover super scribed with our RFQ No. PB111K006 so as to reach us on or before the due date and time i.e **02-12-2021, 14.00 hrs.**

Chief Manager (MM & TS), ITI Limited, Kanjikode West,
Palakkad 678 623, Kerala, India

Thanking you,

Yours faithfully,
For ITI Limited,


Vijayakumar B
Chief Manager (MM & TS), ITI Limited, Kanjikode West,
Palakkad 678 623, Kerala, India
E-mail : vijayakumarb_pkd@itilttd.co.in; pur2_pkd@itilttd.co.in

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SECTION A

GENERAL TERMS & CONDITIONS

1. Scope:

The scope of the tender covers supply, installation and commissioning of one number of **Film Stripping, Alkaline Etching and Tin Stripping Machine** for multilayer PCBs with necessary accessories as per the specification with warranty and AMC support.

2. Definitions

“Purchaser” means ITI Limited, Kanjikode West, Palakkad, Kerala, India, PIN-678623.

“Bidder” means the individual or the firm who participates in the tender and submits the bid.

“Supplier” means the individual or the firm who is the successful bidder supplying and commissioning of the tendered items.

“Letter of Intent” means a letter issued by the Purchaser indicating his intention to place Purchase Order on the successful bidder.

“Purchase Order” means the order placed by the Purchaser on the Supplier for the supply, installation and commissioning and fulfilling other conditions as required in the tender. This shall be deemed as “Contract”.

“Commissioning” means the ACCEPTANCE OF THE SYSTEMS by the Purchaser in writing.

3. Eligible bidders

3.1 The Bidder (manufacturer or principal of authorized representative – hereinafter referred simply as ‘The Bidder’) should have during the last 5 years, supplied and commissioned at least 3 numbers of the same model / brand of the **Film Stripping, Alkaline Etching and Tin Stripping Machine for mulilayer PCBs** (hereinafter referred to as ‘The Equipment’) to Govt/Quasi-Govt./PSUs or renowned private firms.

3.2 The Bidder should be having a Service Infrastructure in India which is operated under the name of the Bidder for the last 5 years. The Service centre must have certified Service Engineers and Spare Parts for the proposed equipment.

3.3 The Bidder shall submit the following documents along with the bid to prove his eligibility in addressing the requirements of this tender:

- a) A list containing Customer Name, address, contact person with contact number, equipment model number and year of supply of the equipment with regard to renowned customers to whom the equipment has been supplied in India by the bidder in the last 5 years.
- b) Purchase Order copies, Invoice etc. of at least 3 customers to substantiate clause 3.1 above.
- c) If the bidder is not an OEM, the manufacturer’s authorization certificate to substantiate his eligibility to quote.
- d) Performance Certificates issued during the past three years from at least two renowned customers in India substantiating satisfactory working of the equipment as well as extent of service support rendered by the bidder.
- e) Detailed organization of the technical support group in India along with extent of availability of spares for maintenance and servicing of the equipment.

3.4 An Agent shall represent for only one OEM and shall submit only one quote.

- 3.5 One bidder can submit quote for only one model of tendered machine.
- 3.6 The bidder should not be black listed / debarred by any Government/ Government agencies/ PSUs.
- 3.7 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. A Certificate in the letter head of the bidder duly signed and stamped by the authorized representative of the bidder to be submitted along with the tender. If the certificate submitted by the bidder whose bid is accepted is found to be false, this would be a ground for immediate termination and further legal action in accordance with law. The format of the certificate is given in Section – G.

4. Earnest Money Deposit (EMD)

- 4.1 The bidder shall make an online transfer of an amount of Rs.6,40,000/ (Rupees Six Lakhs Forty Thousand only) to ITI Limited, Palakkad's Account towards EMD before the bid submission due date. The details of the Bank Account of ITI Limited to which the EMD amount has to be transferred is as follows: -

a	Beneficiary Name	:	ITI LIMITED
b	Beneficiary's Bank	:	STATE ITI LIMITED
c	Beneficiary's Bank Address	:	English Church Road, Palakkad-678001
d	Account Number	:	10620194836
e	IFSC Code	:	SBIN0000893
f	MICR Code	:	678002002

- 4.2 Non submission of EMD will lead to disqualification of the Bid.
- 4.3 Along with the Eligibility and Techno-commercial Bid, UTR Number and date of the EMD amount transferred to ITI's account has to be submitted.
- 4.4 Bidders who are manufacturers of the tendered equipment and belong to the category of Micro and Small Enterprise (MSEs) enlisted with DICs or National Small Industries Corporation or any other body approved by the Ministry of Micro, Small and Medium Enterprises are eligible for the benefits under Public Procurement Policy for Micro & Small Enterprises and are exempted from submission of EMD. Such firms are also eligible for purchase preference as per the relevant rules/acts in vogue. Bidders who are traders/agents/distributors of imported items are not eligible to avail MSEs benefit. Bidders who would like to claim such benefits shall enclose a letter claiming the benefits under the scheme along with justification and necessary certificates to satisfy the eligibility. Bids that do not satisfy the above conditions and submitted without EMD will be summarily rejected.

5. Submission of Bid Documents

- 5.1 The bidder shall submit the quote in a sealed cover superscribed with our RFQ No. and due date by courier for **one number of Film Stripping, Alkaline Etching and Tin Stripping Machine for multilayer PCBs** as per the technical specification at Section B(I), 2 years comprehensive on-site warranty including free supply of spares from the date of successful installation and commissioning and 3 years post warranty non-comprehensive AMC where the cost of spares alone will be borne by ITI.

- 5.2 The bid will be processed on a Two BID SYSTEM.

5.3 The bidder shall submit the following documents along with the bid. The documents consist of the following:

- 1) EMD Details – UTR Number (please refer clause 4 above) & Eligibility and Techno-commercial Bid
- 2) Price Bid Cover

5.4 Eligibility and Techno-commercial Bid

The Eligibility and Techno-commercial Bid shall have the scanned copy of the following documents with sign and seal of duly authorized official of the bidder:

5.4.1 Documents to prove eligibility conditions as per clause 3.3 a), b), c), d) & e).

5.4.2 The duly filled questionnaire/ eligibility/ evaluation format (Section – C)

5.4.3 Clause-wise compliance to Technical Specifications (Section B(I))

5.4.4 Compliance to:

5.4.4.1 General Terms and Conditions (Section A)

5.4.4.2 Other Requirements (Section B(II))

5.4.4.3 Technical clarifications issued by the Purchaser after the release of the tender, if any.

5.4.5 Detailed Technical Literature of the equipment with parametric values including the optional features supported by the system.

5.4.6 A copy of the Price bid enclosed in the “Price Bid”, without showing the price.

5.4.7 Machine dimensions (foot print) and the site requirements for installation / commissioning.

5.4.8 The duly signed Pre-Contract Integrity Pact Format as per Section – F

5.4.9 The duly signed Certificate format for the Works under Rule 144 (xi) in the General Financial Rules (GFRs), 2017 as per Section – G

5.4.10 The bidder should submit a self declaration for not being black listed / debarred by any Government/ Government agencies/ PSUs.

5.5 Price Bid

The Price Bid shall have the Price of the Machine quoted as per the format at Section D.

5.6 The bidder is expected to examine all requirements, terms and conditions of the tender. Failure to furnish required information in every respect or non-submission of necessary proof and relevant document or transfer of EMD amount to ITI LTD Account (UTR Number should be submitted) may lead to rejection of the bid.

5.7 Each page of the bid document shall be signed with seal by the bidder (except the technical manuals associated with the bid where signing of each page is not mandatory).

5.8 The bid documents shall be addressed to the following address:

The Chief Manager (MM&TS)
ITI Limited
Kanjikode West
Palakkad, Kerala, India - PIN 678 623
Phone: +91 491 2566511, +91 491 2564375.

- 5.9 The Purchaser shall not be responsible for any delay in submission of bids due to the reason what so ever. Hence, bidders are advised to submit their bids well in advance to avoid such situations.

6. Clarification on Bid Documents

- 6.1 A prospective bidder, requiring any clarification on the Bid Documents shall notify the Purchaser in writing or by E-mail at the Purchaser's mailing address indicated in the invitation of Bid on or before the stipulated date and time. The Purchaser will respond to any request for the clarification of the Bid Documents received within the schedule date. Copies of the queries (without identifying the source) and clarifications by the Purchaser will be published as a corrigendum in the Purchaser's web site (www.itilttd.in) and Central Public Procurement Portal also.
- 6.3 Notwithstanding the above, prior to the date of submission of the bids, the Purchaser may, for any reason, modify the tender documents. These amendments shall be put on the Purchaser's web site and CPP portal also. In order to afford prospective bidders a reasonable time to prepare the bid, the Purchaser may, at its discretion, extend the date for bid submission. Prospective bidders are therefore requested to check the Purchaser's website prior to submission of the bids.

7. Discharge of Earnest Money Deposit

- 7.1 The EMD of bidders those who are not qualified after evaluating the eligibility criteria in the Eligibility and Techno-commercial bid will be returned within 60 days from the date of bid opening.
- 7.2 The EMD of successful bidder shall be discharged within 45 days after the bidder's acceptance of Purchase Order and submission of Performance Bank Guarantee.
- 7.3 The EMD will be forfeited if the bidder withdraws the bid during the validity of the bid, or, in the case of a successful bidder, the bidder fails to accept the Letter of Intent/ Purchase order or fails to submit the Performance Bank Guarantee.

8 Bid Submission and Period of Validity of Bids

- 8.1 The bids shall be submitted before the time as specified on due date. If this day is declared as holiday on account of any reason, the bid submission period will stand extended up to same time, next working day.
- 8.2 Bids submitted beyond the period specified shall be rejected.
- 8.3 Bids shall remain valid for 120 days from the due date for submission of bids . Bids with lesser validity period will not be considered for evaluation

9 Bid Prices

- 9.1 The price bid format is given in Section D. The offer can be in INR / USD/EUR etc. Terms of Price shall be FOR ITI Ltd. Palakkad. Bids that do not comply with terms of price will not be considered for evaluation.
- 9.2 The price quoted by the bidder shall remain fixed during the entire period of the contract including AMC period (i.e., from the date of bid submission until five years from the date of commissioning).

However, price variation may be permitted beyond a period of six months from the date of bid submission on account for any changes in the statutory duties and taxes during the period between the date of bid submission and the actual delivery date including supply of maintenance consumables/spares/optional modules during warranty and AMC period. Any variation in taxes/ duties beyond a period of six months from the date of bid submission shall be to the account of the Purchaser.

10 Bid opening and Evaluation

- 10.1 The bids will be opened on the due date mentioned. If the due date mentioned happens to be holiday for the purchaser for any reason, the bids will be opened at the same time on the next working day. The Purchaser will open the bids in the presence of the bidders or their authorized representatives who choose to attend the tender opening. The bidder's representatives, who are present, shall sign in an attendance register. Authority letter to this effect shall be submitted by the bidders before they are allowed to participate in the bid opening.
- 10.2 A maximum of two representatives of the bidder shall be permitted to attend the bid opening.
- 10.3 On the day of the bid opening as specified at clause 10 above, the EMD details will be opened first. Eligibility and Techno-commercial bids of those bidders, who are qualified on opening of the EMD Bid as per the terms and conditions of the RFQ, will be opened next. The Purchaser will evaluate the technical bids in order to arrive at the qualified bidders for price bid opening. The Price bids of only those qualified after technical evaluation will be considered for further processing. Price bid opening date will be informed to the qualified bidders separately by the Purchaser.
- 10.4 The evaluation of the price bid for the machine shall be based on the total of the following.
 - a) Cost of supply and Installation & commissioning of one number of **Film Stripping, Alkaline Etching and Tin Stripping Machine for mulilayer PCBs** with necessary accessories to meet the requirements as defined in Section B(I).
 - b) Cost of AMC for 3 years (after two years' warranty)
- 10.5 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 assigning any reason whatsoever and without thereby incurring any liability to the affected bidder or bidders on the grounds of Purchaser's action.

11. Placement of Letter of Intent (LOI) and Purchase Order (PO)

- 11.1 The Purchaser will consider placement of LOI/ PO for supply of machine only on the eligible bidder whose offer has been found technically and commercially acceptable.
- 11.2 Letter of Intent / Purchase Order shall be issued to the successful bidder for the delivery of the equipment.
- 11.3 The successful bidder shall submit LOI /PO acceptance within two weeks of LOI / PO issuance by the Purchaser along with the Performance Bank Guarantee as per clause 12 below
- 11.4 The issue of Purchase order shall constitute the award of contract on the bidder.

12 Performance Bank Guarantee (PBG)

- 12.1** PBG shall be 3% of the P.O. value and shall be submitted within 15 days from the date of LOI after which only firm P.O. will be issued. The PBG will be valid for 30 months from the date of LOI, drawn on any Nationalized/Scheduled Bank. The validity of the PBG, if required has to be extended by the bidder to cover entire period of warranty immediately after successful installation, commissioning and taking over of the equipment.
- 12.2** The proceeds of the Performance Bank Guarantee shall be payable to the Purchaser as compensation due to Supplier's failure to complete his obligations under the contract.
- 12.3** The performance bank guarantee shall be in the form of Bank Guarantee issued by an Indian Nationalized/ Scheduled Bank and in the form provided in this Bid Document (Section – E).
- 12.4** The Performance Bank Guarantee will be discharged by the Purchaser after completion of the Supplier's performance obligations including warranty obligations under the contract and also after the Supplier provides a separate PBG valid for three years for an amount of 10% of total AMC value for three years and three months. If the Purchaser desires not to enter into AMC or withdraws from AMC at any time, the PBG will be released within 90 days from the date of end of warranty period or withdrawal from AMC.

13 Delivery and Commissioning

- 13.1** All items as per the Purchase Order shall be delivered, installed and commissioned at the Purchaser's location (at Kanjikode West, Palakkad, Kerala, India), within 12 Weeks from the date of PO.
- 13.2** Delay by the Supplier in the performance of its delivery and commissioning obligations shall render the Supplier liable to any or all of the following sanctions: forfeiture of EMD, imposition of liquidated damages and/or termination of the contract for default. In the case of liquidated damages, the penalty shall be as per clause 15 in this section.

14 Payment Terms

The payment for the supply of goods and installation and commissioning shall be made as per the terms and conditions given below:

- 14.1** 70 % payment by LC after 45 days from date of LR after ITI presents a certificate in Bank that all items have been received by ITI in good condition.
- 14.2** 20% by LC after 60 days from the date of commissioning & acceptance after ITI presents I & C certificate to Bank
- 14.3** Balance 10% after 90 days by TT from the date of commissioning & acceptance.

Non- compliance of above terms of payment will lead to summary disqualification of the Bid without any further correspondence.

15 Liquidated Damages

Should the Supplier fail to deliver or commission the system as per the delivery/ commissioning schedule, the Purchaser shall be entitled to recover from the Supplier a penalty equivalent to 0.5 % of the value of the Purchase Order of the full system per week for the first four weeks or part thereof and 0.7% per week there after for such delay or part thereof or cancel the purchase order and purchase elsewhere at the risk of the Supplier.

16 Language

The language used in all communication, bid documents, technical manuals, electronic documents; commercial papers etc. shall be English only.

17 Force Majeure

17.1 If, at any time, during the continuance of this contract till the date of commissioning, the performance in whole or in part by either party of any obligation under this contract is prevented or delayed by reasons of any war or hostility, acts of the public enemy, civil commotion, sabotage, fires, floods, explosions, epidemics, quarantine restrictions, strikes, lockouts or act of God (hereinafter referred to as events) provided notice of happenings of any such eventuality is given by either party to the other within 21 days from the date of occurrence thereof, neither party shall by reason of such event be entitled to terminate this contract nor shall either party have any claim for damages against other in respect of such non-performance or delay in performance, and deliveries under the contract shall be resumed as soon as practicable after such an event come to an end or cease to exist, and the decision of the Purchaser as to whether the deliveries have been so resumed or not shall be final and conclusive. Further that if the performance in whole or part of any obligation under this contract is prevented or delayed by reasons of any such event as above for a period exceeding 60 days, either party may, at its option; terminate the contract, without any obligations.

17.2 Force Majeure clause shall be applicable during the tenure of Warranty and Annual Maintenance Contract Period and the decisions during this period shall be based on mutual agreements.

18 Arbitration

18.1 All disputes for differences of any kind, whatsoever, arising out of or in connection with this contract or in discharge of any obligation arising out of this contract, the parties to this contract shall endeavor to settle such disputes and or difference amicably. If both the parties fail to reach such amicable settlement, either party may, within 30 days of such failure, give a written notice to the other party clearly setting out there in the specific dispute and or differences, which require to be arbitrated upon. Such disputes and / or differences shall be referred to a sole arbitrator mutually agreed upon. In the absence of consensus about the single arbitrator, the dispute may be referred to joint arbitrator, one to be nominated by each party and the said arbitrators shall nominate a presiding arbitrator, before commencing the arbitrator proceedings.

18.2 Arbitration proceedings shall be held at Palakkad, in Kerala State, India. The arbitration shall be covered by the provision of the Arbitration and Conciliation Act, 1996 or any statutory modifications or re-enactment thereof and rules framed there under from time to time.

SECTION B(I)

TECHNICAL SPECIFICATIONS

FILM STRIPPING, ALKALINE ETCHING AND TIN STRIPPING LINE FOR MULTILAYER PCB APPLICATIONS WITH CONTROL IMPEDANCE.

1.0 PURPOSE OF APPLICATION:

- 1.1 The Stripping, Etching & Stripping (SES) line is intended for processing of Fine-line external layer circuits using Alkaline based chemistry for Film Stripping & Etching process and Acid based chemistry for Tin Stripping process. The system should be compatible for processing unwanted copper during the Manufacturing of High end PCBs (Impedance Controlled PCB).
- 1.2 The Stripping, Etching & Stripping Line should ensure the proper etching of fine pitch / fine line conductor features down to 3 /3 mil lines and spacing on external layers with 35 micron (1-oz /sq.ft.) to 52/70 micron (1 ½/2 -oz / sq.ft) copper thickness.
- 1.3 The Stripping, Etching & Stripping Machine should be operated at 1meter/min rate 35 micron to 45 microns / min or better production speed to achieve Etching up to 70 micron of copper. Suitable spray chamber length to be provided in all process modules of the system to maintain the speed 1.0 meter/min.
- 1.4 Conveyor of Stripping / Etching / Stripping line should operate under common as well as individual control should be given for each line.
- 1.5 The Stripping, Etching & Stripping Line should be modular and self-standing with separate electronic and electrical control panels provided with PLC so that it can be placed at different locations as per the user's requirement.

2.0 SCOPE OF SUPPLY:

- 2.1 To supply of Film Stripping, Alkaline Etching & Tin Stripping Line for Stripping / Etching/Stripping process of outer layer using Alkaline based Stripping/ Ammonia based Etching/ Acid based Stripping chemicals for the fabrication of high-end PCBs for Multilayer applications with fine line, fine pitch conductive features and microvias.
- 2.2 Essential spares for Two years of operation of the system shall be provided free of cost.
- 2.3 Installation & Commissioning of the system shall be done free of cost.
- 2.4 Training for machine operation and maintenance to be provided.
- 2.5 ESD transport should be provided.
- 2.6 Magnetic gears and transport rollers with glass-ceramic ball bearings ensure an absolutely particle free drive in the dryer module to be provided.
- 2.7 Excellent pressure distribution in the etching module with a spray pressure distribution deviation < 2% to be provided.
- 2.8 Machine should be able to control through a tablet connected to a internal WIFI
- 2.9 Thermal insulation for different kinds of modules
 - a. Double-walled front doors
 - b. Insulated etching module lids
 - c. Insulated glass lids of dryer modules should be provided.
- 2.10 Machine should have Low drag out value.

3.0 SYSTEM CONFIGURATION:

3.1 The Stripping Etching Stripping Line should be modular type with the following independent stand-alone modules.

- 3.1.1 Input conveyor module.
- 3.1.2 Strip 1 process module.
- 3.1.3 Strip 2 process module.
- 3.1.4 Strip 3 process module.
- 3.1.5 Four stage cascade water rinse module.
- 3.1.6 Output module.
- 3.1.7 Inspection module.
- 3.1.8 Input conveyor module.
- 3.1.9 Alkaline Etching Module and Auto Dosing system.
- 3.1.10 Intermittent Etching.
- 3.1.11 Fresh Etching Module with three cascades.
- 3.1.12 Three stage Cascade water rinse Module.
- 3.1.13 Fresh Water rinse module.
- 3.1.14 Output module.
- 3.1.15 Inspection module.
- 3.1.16 Input Conveyor module.
- 3.1.17 Tin Strip Module.
- 3.1.18 Tin Strip Module.
- 3.1.19 Four stage Cascade rinse Module.
- 3.1.20 Drying Module with noise protection cover.
- 3.1.21 Output module.
- 3.1.22 Electrical / Electronic control panel.

4.0 GENERAL SYSTEM FEATURE

- 4.1 Stripping, Etching & Stripping Line should be of modular design concept with self-supporting structure, made up of corrosion-proof and high temperature withstanding Chlorinated polyvinyl Chloride (CPVC), Poly Propylene or better material and titanium parts / accessories such as rods, bolts, nuts, shafts, conveyor drives, conveyor guides, fasteners, etc, wherever necessary.
- 4.2 Stripping, Etching & Stripping Line should be provided with Horizontal direct gear driven conveyor mechanism for safe transportation of thin layers down to 4-mils (100-microns) thick.
- 4.3 It should be able to Strip / Etch/Strip the fine line circuits, down to 3 mil lines and spacing on rigid laminates with copper thickness variation of over 10% on a 650mmX 610mm size panel.
- 4.4 Illuminated light is preferred in main Stripping/ Etching/Stripping and intermittent spray / etch adjustment modules.
- 4.5 Top and side lids should be made from chemical resistant and clear transparent material.

5.0 SYSTEM FEATURE DESCRIPTIONS:

- 5.1. System should be designed to have minimum power & water uses with smart / cascade rinse technology etc. All fumes or pungent smelling gases to be extracted right from the tank edges and should not spread in surrounding
- 5.2. The conveyor system should be driven by mechanism with main drive shaft with suitable gears interconnected with individual conveyor roller having suitable gears.

- 5.3. Suitable chemical resistant pair of rollers with rubber squeegee should be provided at the entry as well as at the exit in the main stripping/ etching/stripping module.
- 5.4. Transport roller shaft should be made up of chemical resistant and high temperature [up to 70⁰C] withstanding material.
- 5.5. All the discs in the conveyor shaft should be non-metallic, chemical proof and high temperature with standing [up to 70⁰ C] material. It should not induce any defects during safe and smooth transportation of thin / thick rigid laminates.
- 5.6. Side and top lids of all the modules should be constructed with chemical proof, clear transparent material with double seals. Safety interlock switches should be incorporated.
- 5.7. All filter housings, pumps and electrical accessories should be installed outside of the machine body to enable periodical check up and easy maintenance / repair of the system.
- 5.8. The parts needing preventive maintenance, such as spray bar, nozzles and filter cartridges should be easily accessible with quick disconnect option.
- 5.9. The various parameters of the stripping/ etching /Stripping Line such as conveyor speed adjustment; temperature setting in main etchant chamber should be accomplished with a dedicated external electrical console and thro' PLC also.
- 5.10. Selective pressure regulation should be provided with necessary valves and pressure gauges on pump outlets to upper and lower spray pipe in stripping/ etching/stripping section. Pressure gauges should be placed at an appropriate position for better readability.
- 5.11. The Spray System should be of controlled type to minimize & reduce puddling effect.
- 5.12. Alarm for Low level of stripping, etching/stripping solution with protection for heaters and motors at minimum level should be provided.
- 5.13. The chemistry of the solution in the main stripping/ etching/stripping module should be controlled using a dedicated Auto dosing system.
- 5.14. Titanium Immersion Heaters should be provided 4 KW or better with minimum quantity of 3 no's to Heat the Stripping, Etching and Tin Stripping solution. Titanium Cooling Coil with solenoid valve to be provided in the Etching and Tin Stripping Sump.
- 5.15. The flow of fresh water should be controlled with the help of a solenoid for minimizing the water consumption in the fresh water rinse modules.
- 5.16. Drying module should consist of a blower with filter, suitable manifold with dedicated air knives and necessary heating mechanism, exhaust duct etc. The thin layers should be protected in the drying module with conveyor mechanism and effective drying to ensure complete water removal inside micro via holes.
- 5.17. Drying modules should withstand 80⁰C operating temperature. Suitable Materials of construction should be provided.
- 5.18. The system's specific modular design should enable for the addition of new modules at a later stage, if it calls for.

6. TECHNICAL SPECIFICATION :

SL.NO	DESCRIPTION	SPECIFICATION
I	<u>FILM STRIPPING LINE</u>	
1	Material of Construction	a. All process tanks should be compatible to Alkaline Stripping Chemistry. b.High temperature withstanding PP, CPVC (Chlorinated Polyvinyl Chloride) or Poly Propylene and Titanium or better (wherever necessary).
2	Construction of the equipment structure	Adequate tank welding to withstand high temperatures up to 70 ⁰ Celsius and chemistry used for Stripping process.
3	Temperature accuracy for all the process solutions	± 1 ⁰ Celsius
4	Conveyor width Effective width	750 mm 650 mm
5	PCB size	Min: 150 x 150 mm or less. Max: 650 x 610 mm or more.
6	Board thickness	Min 0.4 - 4.0 mm or above
7	Base material	FR4, High Tg/ Polyimide
8	Stripper	Alkaline based
9	Built-up panel thickness	(75microns+ 2x17.5 microns copper)
10	Etch resist	Tin
11	Min drill dia	0.2 mm
12	Aspect Ratio	8:1
13	Type of PCB	High end up to 18 layers
14	Vias	Standard as well as buried and blind
15	Line width & Spacing	3mil/3mil -Half Oz copper, 4mil/4mil on 1Oz copper
16	Controls	a. Semi automatic. b. In case of failure in semi automatic mode, machine should be capable of running in manual mode.
17	Lighting in Stripping Chamber	Top and Bottom lighting facility should be provided.
18	Conveyor type	a. Horizontal with left to right direction, should support thin core laminate transportation down to 4mm thickness. b. Conveyor of Stripping line should operate under common as well as individual control should be given for each line. c. Conveyor system should be capable of handling soft substrates like Teflon. d. Conveyor should be capable of moving forward and backward direction. e. access to be made to remove the conveyor rollers during maintenance.
19	Conveyor Run out Mode	Conveyor run out mode to remove product to be provided in case of Machine interlock
20	Conveyor working speed	1m/min.

	Range of conveyor speed Conveyor Working direction	0.2 - 6.0m/min or better. Left – Right With Step-less, uniform continuously variable smooth control should be provided.
21	Description Hardware & Software. PLC for process machine control. Visualization for control of machine and visualization of process.	with 17" LCD monitor for machine control according to specification. Graphical display of machine. Control of machine via PC keyboard, Touch Pad and monitor. Realization of messages, warnings or errors. Recording of warnings and errors on printer and hard disk. Weekly timer for programming of Start times, Stop times and Pre-heating times. Program setting. User management with various password levels. Should be provided.
A	<u>STRIP 1 PROCESS</u>	
22	Module type	Rinse process module
23	Material type	PP/SS
24	Spraying top and bottom	a. Access bottom spray pipes – Included. b. Spray process- min 8 Spray pipes standard. c. Pressure control – Adjustable by hand. d. Digital Pressure Gauge – 2 nos or more if required. Should be provided
24 A	Filtration System	A Efficient Filtration system to filter out the Dry Film Residual Flakes from the module after it being stripped off from the PCB panels
B	<u>STRIP 2 PROCESS</u>	
25	Module type	Stripping module
26	Material type	PP/SS
27	General container parts	Sample valve , Dry- run protection, Level measuring via Float switch, Working level measuring points, overflow connection Antifoam overflow Should be provided.
28	Spraying top and bottom	a. Spray type – Normal. b. Spray direction – Slanted. c. Spray process – Standard. d. Digital pressure gauge – 2 nos or more To be provided.
28 A	Filtration System	A Efficient Filtration system to filter out the Dry Film Residual Flakes from the module after it being stripped off from the PCB panels
29	Temperature	a. Cooling – If required. b. Heater – Overheat protection. c. Temperature controls. Should be included.
30	Pumps and Filters	a. Immersion Pump with Spray manifold with

		power 4.0 kW or better. b. Immersion Pump for WSW with power 1.8 kW or better. c. Cyclone filter including transport cart. d. Bail-out Pump with drip-tray. Should include
C	STRIP 3 PROCESS	
31	Module type	Rinse / process module
32	Material type	PP/SS
33	General container module	a. Sample valve. b. Level measuring – Make-up level, Dry-run protection, Filter mesh below spray manifold. c. Overflow connection- Cascade connection. d. Antifoam system. e. Access bottom spray pipes. Should be included.
34	Spraying top and bottom	a. Spray process- min 4 standard spray pipes. b. Pressure control – Adjustable by hand. c. Digital pressure gauge – 2nos or more. d. Cooling coil – min 1 no. e. Heater – min 2 nos 10kW or better. f. Temperature controls with over heat protection. To be provided.
35	Pumps and Filters	Immersion Pump for Spray manifold of Pump power 1.8 kw or better. Soft Starter pump control with 1x10” filter housing and 80 micron mesh size to be provided.
D	DRYING	Dry jet in exhaust zone with one blower input side to be provided
II	<u>ALKALINE ETCHING LINE</u>	
36	Material of Constructions	a. All process tanks should be compatible to Alkaline Etching solution. b. High temperature withstanding CPVC (Chlorinated Polyvinyl Chloride) or Poly Propylene and Titanium (wherever necessary).
37	Construction of the equipment structure	Adequate tank welding to withstand high temperatures up to 70 ° Celsius and chemistry used for Alkaline Etching process.
38	Temperature accuracy for all the process solutions	± 1° Celsius
39	Conveyor width Effective width	750 mm 650 mm
40	PCB size	Min :150 x 150 mm or less. Max : 650 x 610 mm or more.
41	Board thickness	Min 0.4 - 4.0 mm or above
42	Base material	FR4, High Tg/ Polyimide
43	Etchant	Alkaline – Ammonia based
44	Built-up panel thickness	(75microns+ 2x17.5 microns copper)
45	Etch resist	Tin
46	Min drill dia	0.2 mm

47	Aspect Ratio	8:1
48	Type of PCB	High end up to 18 layers
49	Vias	Standard as well as buried and blind
50	Line width & Spacing	3mil/3mil -Half Oz copper, 4mil/4mil on 1Oz copper
51	Controls	a. Semi automatic. b. In case of failure in semi automatic mode, machine should be capable of running in manual mode.
52	Lighting in Etching Chamber	Top and Bottom lighting facility should be provided.
53	Conveyor type	a. Horizontal with left to right direction, should support thin core laminate transportation down to 4mm thickness. b. Conveyor of Alkaline Etching line should operate under common as well as individual control should be given for each line. c. Conveyor system should be capable of handling soft substrates like Teflon. d. Conveyor should be capable of moving forward and backward direction. e. access to be made to remove the conveyor rollers during maintenance.
54	Conveyor Run out Mode	Conveyor run out mode to remove product to be provided in case of Machine interlock
55	Conveyor working speed Range of conveyor speed Conveyor Working direction	1m/min. 0.2 - 6.0m/min or better. Left – Right With Step-less, uniform continuously variable smooth control should be provided.
56	Level measuring	Max., Working level, Included Dry-run protection
57	Overflow connection	provided
58	Exhaust	Included motor throttle valve
59	Cover above sump level	Filter mesh below to be provided
60	Description Hardware & Software. PLC for process machine control. Visualization for control of machine and visualization of process.	a. PC with 17" LCD monitor for machine control according to specification. b. Graphical display of machine. c. Control of machine via PC keyboard, Touch Pad and monitor. d. Visualization of messages, warnings or errors. e. Recording of warnings and errors on printer and harddisk. f. Weekly timer for programming of Start times, Stop times and Pre-heating times. g. Program setting. h. User management with various password levels. provided.

61	Spray manifold transfer of spent etch solution	Via pneumatic
62	Diaphragm pump sliding cover cleaning	Should be provided.
63	Spraying Top and Bottom	<p>a. Oscillation spray manifold- Preset frequency.</p> <p>b. Pressure control – Frequency controlled pump power.</p> <p>c. Spray manifold alignment – diagonally & longitudinally spray manifold half way shut-off via manual valve.</p> <p>d. Single spray pipe control for longitudinal nozzles-Should be controlled by hand pressure gauge.</p> <p>Should be provided</p>
64	Spray Pressure	35-40 psi or better should be adjustable.
65	Pumps & Motors	<p>a. Immersion Pump for spray manifold 5.5 kW frequency control pump, 3x10” Filter housing and 80 micron mesh size for Upper and Lower Manifold to be provided.</p> <p>b. Immersion pump for WS I 1.8 kW frequency control 1x10” filter housing and 80micron mesh size should be provided.</p>
66	Heater and Cooling Coils	The cooling Coils -2 nos and Heaters-3 nos 4 kW should be made of Titanium material. Temperature controls to be provided.
67	Condenser	<p>a. Condensers</p> <p>b. Exhaust connections – 3nos</p> <p>Should be provided.</p>
68	Filter Unit	<p>a. Suitable Filter Units between Spray pumps and manifolds for Upper and Lower Manifolds.</p> <p>b. Filter unit for water Rinse Module and between water suction/delivery should be provided.</p> <p>c. Filter between fresh water inlet and water Rinse module to be provided.</p>
69	Drag- In & Drag- Out Squeegee Rollers	To be provided for all chemical modules and rinse water modules.
70	Auto- Dosing &Regeneration of Etchant	<p>a. To Maintain uniform etch rate with minimum or negligible undercuts and overhangs to achieve perfect etch quality.</p> <p>b. Regeneration based on pH and Density.</p> <p>c. Provision should be made available for manual dosing of chemical, in case of failure of pH and Density control systems online.</p>
71	Chiller unit	Suitable water chiller unit to be provided for both Demister and Cooling coils as mentioned.
72	Design of process tanks constructions	Bottom of all the tanks should be provided with a gradient towards drain valve to facilitate complete emptying of the tank

73	Spray Nozzles and Manifolds	a. Suitable Nozzle design to be provided to achieve fine line/ spacing of 3 mil / 3 mil etching. b. Detachable top and bottom spray manifolds and nozzle system to be provided
74	Safety Features	A. Interlocks for : 1. Door open 2. High & Low fluid level. 3. Including Dry-run protection. 4. Fluid Over-Temperature. 5. Pumps, Oscillation Motor Over Loads. B. Emergency Stop Switch. To be provided.
75	Panel entry, Water and Power saving sensors	a. Suitable Panel entry and Exit sensors to be provided. b. Water saving sensors, water flow meter and solenoid valve to be provided at all water rinse stages. c. System should be designed to have minimum power & water uses with smart / cascade rinse technology etc. All fumes or pungent smelling gases to be extracted right from the tank edges and should not spread in surrounding.
76	Tank level indicator	All the tanks should be provided with the transparent level indicator.
77	Piping/Plumping/Pumps	a. All necessary piping/Plumping to be provided where ever necessary. b. Two no of separate portable Pumps for sludge removal to be supplied.
A.	INTERMITTENT ETCHING	
78	Module type	Rinse / Process module with intermittent spraying
79	Material type	PP/TI
80	Spray system	4 Intermittent spray system
81	Pressure Gauge	1 digital
B	FRESH ETCH MODULE	
82	Module type	Replenisher module
83	No of cascades	03
84	Material type	PP/TI
85	General container parts	a. Dry – run protection b. Exhaust including motor flap To be provided
86	Spraying	Min 2 spray pipes per cascade
87	Pump	0.125 kW each cascade
C	DRYING	Dry jet in exhaust zone with one blower input side to be provided
III	<u>TIN STRIPPING LINE</u>	
88	Material of Construction	a. All process tanks should be compatible to Tin Stripping solution. b. High temperature withstanding CPVC (Chlorinated Polyvinyl Chloride) or Poly Propylene

		and Titanium (wherever necessary). c. Conveyor should be made of Carbon Fiber rod with PVDF gears or better. Should be provided.
89	Conveyor width Effective width	750 mm 650 mm
90	PCB size	Min :150 x 150 mm Max : 650 x 610 mm
91	Board thickness	Min 0.4 - 4.0 mm or above
92	Base material	FR4, High Tg/ Polyimide
93	Etch resist	Tin
94	Min drill dia	0.2 mm
95	Aspect Ratio	8:1
96	Type of PCB	High end up to 18 layers
97	Vias	Standard as well as buried and blind
98	Min Line width/ Spacing	3mil/3mil technology on 1oz copper
99	Controls	a. Semi automatic. b. In case of failure in semi automatic mode, machine should be capable of running in manual mode.
100	Conveyor type	a. Horizontal with left to right direction, should support thin core laminate transportation down to 4mm or above thickness. b. Conveyor of Stripping line should operate under common as well as individual control should be given for each line. c. Conveyor system should be capable of handling soft substrates like Teflon. d. Conveyor should be capable of moving forward and backward direction. e. access to be made to remove the conveyor rollers during maintenance.
101	Conveyor Run out Mode	Conveyor run out mode to remove product to be provided in case of Machine interlock.
102	Conveyor working speed	a. Conveyor working speed 1m/min. b. Range of conveyor 0.2 - 6.0m/min c. Conveyor Working direction Left – Right
103	Digital Display and Control	Digital display and Control of conveyor speed, Temperature, Density, Dosing and pH of the Tin Stripping solution to be provided.
104	Spray system	a. To Etch / Strip the circuit with 3-mil traces / 3 mil spacing Adjustable in Main Etch / Strip Module. b. Controlled type Spray to minimize & reduce puddling effect should be provided.
105	Spray Pressure	35-40 psi or better and adjustable
106	Filter Unit	Suitable Filter Unit between Spray pumps and manifolds for Upper and Lower Manifolds.
107	Design of process tanks constructions	Bottom of all the tanks should be provided with a

		gradient towards drain valve to facilitate complete emptying of the tank
108	Safety Features	A. Interlocks for : 1. Door open 2. High and Low fluid level. 3. Fluid Over-Temperature. 4. Pumps, Oscillation Motor Over Loads. B. Emergency Stop Switch.
109	Panel entry, Water and Power saving sensors	a. Suitable Panel entry and Exit sensors to be provided. b. Water saving sensors, water flow meter and solenoid valve to be provided at all water rinse stages. c. System should be designed to have minimum power & water uses with smart / cascade rinse technology etc. All fumes or pungent smelling gases to be extracted right from the tank edges and should not spread in surrounding.
110	Tank level indicator	All the tanks should be provided with the transparent level indicator.
111	Piping/Plumping/Pumps	a. All necessary piping/Plumping to be provided where ever necessary. b. Two nos of separate portable Pumps for sludge removal to be supplied.
A	TIN STRIP PROCESS	
112	Module type	Rinse /Process module
113	Material type	PVC/TI
114	General container part	a. Working level measuring b. Dry – run protection c. Filter mesh below spray manifold d. Overflow connection e. Access bottom spray pipes To be provided.
115	Spraying top and Bottom	a. Spray process should be combination of 16 spray pipes fine line. 8 impact spray pipes. b. Pressure controller adjustable by hand. c. Digital pressure gauges- 2nos d. Cooling coils- 2 nos e. Heaters- two nos of 4kW over heat protection included f. Cooling coil 2 nos g. Temperature controls. To be provided
B	TIN STRIP PROCESS	
116	Module type	Rinse / Process module
117	Material type	PVC/TI
118	Level measuring	Working level, included Dry-run protection

119	Overflow / Connection	Overflow + cascade con., regulated by manual valve
120	Exhaust connection	Including damper should be provided
121	Access bottom spray pipes	Included
122	spray process	Combination of 8 spray pipes Fine line & 4 high impact spray pipes to be provided
C	DRYING	Dry jet in exhaust zone with one blower input side to be provided
123	Preferable makes	1.SCHMID 2.POLA E MASSA 3.WISE 4.LUMIPLAS S.L
124	Essential Spares	Should be provided for Two years of trouble free operation of the machine
125	Production speed	1 meter/ min to Strip 10-12/min microns of Tin.
126	Nominal power supply	3 – phase AC, 415 volts and 50 Hz
127	Finish	Aesthetically good, suitable color.
128	Language	English Mandatory
129	Recommended Spares List & Accessories	Should be provided along with their cost separately
130	24 Months warranty for parts and service	To be provided from date of commissioning
131	AMC support	AMC support should be available after warranty period for 3 years.

7. DESCRIPTION OF THE INDIVIDUAL MODULES:

7.1 Input conveyor module:-

- 6.1.1 Effective length of input conveyor module with horizontal conveyor type drive.
- 6.1.2 Suitable Chemical resistant pair of rollers with rubber squeegee should be provided at the exit and entrance.

7.2 Main Stripping, Etching and Tin Stripping module :-

- 7.2.1 Effective working length of the stripping, etching & stripping module should be provided to achieve the required etch rate.
- 7.2.3 Stainless Steel heaters and cooling coil with solenoid valve should be provided for heating and cooling respectively.
- 7.2.4 Chemical resistant, leak proof Seal less pumps should be provided.
- 7.2.5 A pair of squeegee rollers both at the inlet and outlet should be provided.
- 7.2.6 To avoid the sludge build up in spray frame, suitable filter unit should be provided before the pump input.
- 7.2.7. Fume exhaust duct with damper at outlet should be provided.
- 7.2.8. Valves with pressure gauges should be provided for each spray tube in main stripping module.

7.3 Two- Stage Replenisher / Anti-Pollution module:-

- 7.3.1. Effective working length of the Replenisher / Anti- pollution module should be provided.

7.3.2 Suitable tank capacity with 10 to 15 – degree bottom slope with drain valve to be

provided.

7.3.3. A pair of Squeegee rollers both at the inlet and outlet should be provided.

7.3.4. A chemical resistant Seal less fluid pump with suitable filters mesh should be provided at the inlet.

7.3.5 Isolation module of sufficient length should be given.

7.4 Two-Stage cascade water spray rinse for SES module:-

7.4.1. Effective working length of each stage should be suitable volume of water tank to be provided.

7.4.2. Inlet water should be filtered with 10micron or better cartridge before reaching the spray manifold.

7.4.3. Seal less centrifugal fluid pump or better with removable mesh filter unit on pump inlet should be provided.

7.4.4. A pair of squeegee rollers at the inlet and outlet should be provided with interlock switches.

7.4.5. Sufficient number of spray manifolds with suitable nozzles on top and bottom should be provided.

7.4.6. Individual cascade rinse water Modules should also have provision to connect fresh water inlet with ball valve control.

7.5 Fresh water rinse module:

7.5.1. Effective Working length of the Rinse module should be provided.

7.5.2. Main inlet water should be filtered before reaching the spray manifold.

7.5.3. Fresh water Inlet should be controlled through solenoid valves and regulator valves

7.5.4. The rinsed water should flow into the nearby cascade spray module.

7.5.5 Isolation module should be given.

7.6 Hot Air Drying module:-

7.6.1 High performance Hot Air Blower of 3 H.P or better with 9 KW or better Heater with safety thermostat should be provided to remove the moisture from the board. Suitable Filter to be provided at Air- Intake. Material of construction of dryer should withstand temperature of 80⁰ centigrade. Effective working length for Hot Air Drying module should be provided.

7.6.2. Air Blower Motor overload, over- temperature interlock to be provided. Noise level should be less than 75 db.

7.6.3. Dedicated air knives with suitable exhaust duct should be provided.

7.6.4. Variable temperature and bypass controls should be provided.

7.6.5. Suitable manifold and air knives with heating mechanism should be provided for effective drying.

7.6.6. PCB's should be safely transported in the drying module without incurring any physical damages.

7.7. Exit Conveyor module:-

7.7.1. Effective Working length should be provided.

7.7.2. It should enable for attachment of further assemblies with similar type modules.

7.8. Electrical / Electronic control panel:-

7.8.1. Electrical wiring should be as per NEMA or equivalent standards and the same should be mentioned in the quote.

7.8.2. The electrical / Electronic control panel should be compact, simple and easy to operate.

7.8.3. The system operation parameters should be controlled by programmable logic

controller (PLC).

7.8.4. Every module should be equipped with safety switches for shutting down the system, if opened during operation.

7.8.5. Suitable visual / digital indicators should be provided for conveyor speed, temperatures, interlocks, emergency stops, phase failure, ELCB trip etc with audible alarms wherever necessary.

7.8.6. The user interface should be easy for operation with necessary Man-Machine-Interface (MMI).

7.8.7. Various run time process parameters such as conveyor speed, solution temperatures, Specific gravity, pH readings etc, should be digitally displayed separately and individually

7.9. Auto – dosing & Regeneration of chemicals.

7.9.1 Auto dosing & regeneration of the chemicals of the etchant viz, Replenisher to maintain uniform etch rate with minimum or negligible undercuts and overhangs, to achieve perfect etch quality. The system should control the pH and Density / Specific gravity to keep the constant set value.

7.9.2 System Configuration of Auto- dosing module for regeneration of ES

The regeneration module should be compact and simple to operate and easy to maintain. Suitable quantities of replenisher in Liquid form are to be added to the etching solution. A Densitometer and pH meter to measuring Unit together with a system of tanks, pumps and valves to help in maintaining chemical characteristics of the etchant. pH, Specific Gravity readings, should be digitally displayed.

7.10 Spent etchant/ Bleed out:

7.10. Activated via high fluid level switch/solenoid valve in each chamber.

8 SAFETY FEATURES (MANDATORY) FOR THE STRIPPING, ALKALINE ETCHING AND TIN STRIPING MACHINE:

8.1 All the modules of the Stripping, Alkaline etching& Stripping line should be chemically, mechanically and electrically safe.

8.2. Multiple emergency switches should be provided at different locations.

8.3. Suitable protection including earth leakage relay for heaters and MCBs should be provided.

8.4. In case of Panel jamming in the modules suitable sensor to raise the Alarm / Interlock to be provided.

8.5. It is mandatory that all the materials used for the manufacture of the complete equipment should be flame-retardant / fire-proof / combustion-proof.

8.6. Each and every system should be fitted with fire / smoke detecting sensors and an audible hooter / blinker should be provided with battery back up to alert the concerned personnel.

8.7. The complete equipment should meet the international/ Indian safety regulations in all respects.

9. OTHER TERMS AND CONDITIONS:

9.1 Installation and Commission of the system should be done at free of cost by OEM at our work premises.

9.2 The Supplier should also assist to position the machine at the exact location during installation free of cost.

9.5 Separate illustrative drawings & schematics of the Stripping, Etching and Stripping Line

- should be enclosed, highlighting each and every part of the equipment in detail.
- 9.6 Complete information should be enclosed to describe every part and mechanisms including optional items offered.
- 9.7 The Supplied Machine shall be Brand New Machine.**
- 9.8 Original catalogues (in English only) & photographs of the system shall be enclosed. A DVD illustrating the actual working and maintenance part of Stripping, Etching & Stripping Line should be sent along with the offer.
- 9.9 This offer should be complete with compliance statement for each of our specifications, offering features, safety features and optional items. Indicating merely 'Yes', 'No' Or 'Okay' in the compliance statement will not be considered. Appropriate parameter (numerical) values should be specified wherever necessary.
- 9.10 The figures mentioned in the enquiry like length of input conveyor module, main stripping, etching& stripping module, replenish module, two stage cascade water spray rinse module, fresh water rinse module, Hot air Drying module, exit conveyor module, electrical / electronic control panel etc; are indicative only. Exact design figures should be indicated in the compliance statement and the drawing supplied along with the quote.
- 9.11 The offer should be complete in all respects and the details of the price break up for all the items offered including options and accessories to meet our specifications completely should be provided.
- 9.12 The offer should include supply of all modules, options and accessories indicating the prices separately to meet complete specifications highlighted above.
- 9.13 Detailed catalogs, mechanical, electrical, electronic schematics, drawings, instruction manuals (in English only) and other details must be supplied for all individual modules, accessories used on the system for installation, operation, trouble-shooting, maintenance & service.
- 9.14 Technical demonstration of the Stripping, Etching & Stripping Line shall be arranged by authorized personnel, if sought.
- 9.15 The offer should include electronic / electrical spares, spray bars, nozzles, conveyor special parts, filters, special gadgets, plumbing connections & other relevant items for two years of operation.
- 9.16 Provide the customer list both in India and Abroad who are using the Stripping, Alkaline Etching & Stripping equipment for manufacturing Multilayer PCB Applications.
- 9.17 Critical spares for operation of machine should be supported by OEM for the period of 3 years after warranty period.
- 9.18 Technical data sheet and calibration certificate to be provided for measuring & monitoring instruments, controller & indicators.
- 9.19 Positioning of the machine to the required location/place is responsibility of the vendor.
- 9.20 Document proof of each parameter should be provided by the vendor.

SECTION B(II)
OTHER REQUIREMENTS

1. Environment

The Bidder shall indicate the environmental requirements in the technical bid. The Supplier shall furnish the machine dimensions (foot print) and the site requirements for installation/ commissioning also in the technical bid.

2. Installation & Commissioning

2.1 The supply, Installation and Commissioning shall be carried out at ITI Limited, Palakkad. The bidder shall give the details of installation requirements in the bid.

2.2 If the machine fails to meet any of the specifications, the Supplier shall carry out required modifications at no cost to the Purchaser. However, if the Supplier fails to meet the specifications within a period of four more weeks from the scheduled date of commissioning, the Purchaser reserves the right to accept the machine with penalties, as decided by the Purchaser, or outright rejection of the machine. Delayed supply or commissioning of the machine shall attract liquidated damages as per relevant clauses of RFQ. In case the machine is rejected due to failure to meet the specifications, the equipment shall be taken back by the Supplier within a period of two weeks from the premises of the Purchaser. All expenditure to take back the equipment shall be borne by the Supplier. The Supplier shall also be liable for full refund of the payment already made within one month from the date of rejection of the machine. The performance bank guarantee will be forfeited if the equipment is rejected fully.

2.3 All expenditure related to the Supplier's experts for the services related to installation and commissioning shall be borne by the Supplier.

2.4 Completion of the acceptance testing to the satisfaction of the Purchaser and issuance of a certificate in this regard by the Purchaser shall be considered as commissioning and the date of issuance of such certificate shall be considered as date of commissioning.

2.5 Installation and training to be carried out by factory trained OEM authorized engineers

3. Warranty

3.1 The Supplier shall provide comprehensive onsite warranty including free supply of spares for all the hardware and software supplied for a period of two years after the system has been declared commissioned.

3.2. The supplier shall extend a minimum of two preventive maintenance visits annually and unlimited number of breakdown call visits as per requirement, during warranty. During the period, the Supplier shall diagnose the hardware, system software and application software faults (which ever applicable) as and when they occur, Rectify the hardware, system software and application software faults detected, Repair and replace the faulty component, Provide application/system software related fixes / patches and/or work around to resolve the application/system related faults.

- 3.3 The Supplier shall warrant that the stores supplied shall be new and free from all defects and faults in materials used, workmanship and manufacture and shall be of the highest grade and consistent with the established and generally accepted standards for materials of the type ordered and shall perform in full conformity with the specifications and drawings. The Supplier shall be responsible for any defect that may develop under the conditions provided by the contract and under proper use, arising from faulty material, design or workmanship, inadequate quantity of material to meet equipment requirements, inadequate contact protection, deficiencies in circuit design and/or otherwise and shall remedy such defects at his own cost when called upon to do so by the Purchaser who shall state in writing in what respect the stores are faulty. The Supplier shall make good all the deficiencies free of cost.
- 3.4 The terms and conditions of the Annual Maintenance Contract including penalty (see clause 4 below) shall be applicable during the warranty period. However, there will not be any payment for the warranty service. Any penalty during the warranty period will be deducted from the next payment(s) due to the Supplier for the supply of equipments / service / or adjusted with PBG.

4. Annual Maintenance Contract (AMC)

- 4.1 If the Purchaser desires, the Supplier shall provide Annual Maintenance Contract support excluding cost of spares for a period of three years. The AMC shall begin after the end of warranty period on issue of a P.O. by the Purchaser. One month before the end of warranty period, the Supplier shall provide a separate PBG valid for three years and three months for an amount of 10% of total AMC PO value for three years.
- 4.2 Bidder shall quote Year-wise AMC price in the price bid.
- 4.3 The supplier shall extend a minimum of two preventive maintenance visits annually and unlimited number of breakdown call visits as per requirement, during AMC. During the period of AMC the Supplier shall diagnose the hardware, system software and application software faults (which ever applicable) as and when they occur, Rectify the hardware, system software and application software faults detected, Repair and replace the faulty component, Provide application/system software related fixes / patches and/or work around to resolve the application/system related faults.
- 4.4 The cost of spare parts replaced during AMC period will be borne by the purchaser. However, the Supplier shall warrant that the stores so supplied shall be genuine, new and free from all defects and faults in materials used, workmanship and manufacture and shall be of the highest grade and consistent with the established and generally accepted standards for materials of the type ordered and shall perform in full conformity with the specifications and drawings.
- 4.5 All the faults shall be attended within a day of a call/mail from the Purchaser and rectified within 2 days through remote assistance. If the problem is not resolved through remote assistance, then the same needs to be resolved through on-site visit within 7 days of original reporting of the problem.
- 4.6 If the Supplier fails to rectify the fault within the time limit specified in clause 4.5 above, a penalty of 0.25% of the annual AMC charges shall be applicable for every day of delay.
- 4.7 The Supplier shall also give an up-time commitment of 75% for the equipment, calculated quarterly. If the supplier fails to provide 75% uptime quarterly, a penalty of 7.5% of the annual AMC charges will be applied as penalty for the quarter.
- 4.8 The penalties as per clause 4.6 and 4.7 above will be applied separately and

cumulatively. However, the cumulative penalty applicable for any quarter as per clause 4.6 and 4.7 will be limited to a maximum of quarterly AMC Charges.

- 4.9 No charges for AMC will be paid in advance under any circumstances. Bills will be paid on quarterly basis on submission of bills by the Supplier, on satisfactory working report from the Purchaser. Penalties for the failure of the system as per clauses 4.6 and 4.7 will be calculated on quarterly basis and will be deducted from the next supplier bill towards supply/service or PBG.
- 4.10 Extension of this Agreement shall be negotiable for a second term of three years depending on the performance of the Supplier during the period of the initial term.
- 4.11 Notwithstanding the above, the Purchaser reserves the right to enter into AMC with the Supplier, or withdraw from AMC at any time without assigning any reasons. However, after entering into AMC, if the Purchaser wishes to withdraw from AMC, the Purchaser will give a notice on withdrawal from AMC one month in advance. The PBG for the AMC service will be released by the Purchaser within 90 days from the end of AMC agreement.
- 4.12 All conditions of AMC on performance and the penalties as detailed in Clauses 4.6, 4.7 & 4.8 above will be applicable to the Warranty period also. However, there will not be any payment for service during warranty. The penalties during the warranty will be calculated based on the AMC cost for the first year of AMC. Any penalty during the warranty period will be deducted from the next payment(s) due to the Supplier for the supply of equipments/ services or from the PBG.
- 4.13 The quality of service and uptime of the equipment is the very essence of this RFQ. Hence, bids that do not comply to the penalty clauses during warranty and AMC will be summarily rejected.

SECTION C

QUESTIONNAIRE / COMPLIANCE / ELIGIBILITY – EVALUATION SHEET

(To be filled by the bidder)

- 1 Name and address of the Bidder : _____
- 2 Whether the bidder himself is the OEM (Original Equipment Manufacturer)? : Yes/ No
- 3 Whether supporting documents as required in clauses 3 and 5.3 of Section A enclosed to the Eligibility cum Techno-commercial bid? : Yes/No
- 4 Details of Earnest Money Deposit (UTR no., Date, value , Bank name) : Yes / No
- 5 Validity of Bid document (120 days from the due date of bid submission) : Yes / No
- 6 Whether Clause-wise compliance to Section A, Section B, and Clarifications given by the Purchaser, if any, enclosed to the Eligibility cum Techno-commercial bid?: Yes/ No

We undertake that we fulfill the Minimum Eligibility Criteria, as per Clause 3 in Section A. We agree to abide by this bid, for the bid validity period and it shall remain binding upon us and may be accepted at any time before the expiry of that period. Until a formal contract is prepared and executed, this bid, together with your written acceptance thereof and your notification of the award shall constitute a binding contract between us.

Dated this.....day of.....2021.

.....
(Signature in the capacity of duly authorized to sign and on behalf of)

SECTION- D
PRICE BID FORMAT

SI No	Item Description	Qty Nos	Rate	Other charges if any	Tax & Duties	Total
1	Supply of one number Film Stripping, Alkaline Etching and Tin Stripping Machine for multilayer PCBs with accessories and two years comprehensive onsite warranty support including spares	1				
2	Installation and commissioning	1				
3	Non-Comprehensive on site AMC Charges excluding spares for First year after Two years of comprehensive onsite warranty	1				
4	Non-Comprehensive on site AMC Charges excluding spares for Second year after Two years of comprehensive onsite warranty	1				
5	Non-Comprehensive on site AMC Charges excluding spares for Third year after Two years of comprehensive onsite warranty	1				
Total						

Note:

- 1) L1 Status will be evaluated based on sum of all the cost (SI. No. 1 to 5)
- 2) Initially purchase Order will be placed only for SI. No. 1 and 2. The AMC Rates will be fixed as per the Quote / PO, however firm PO for AMC shall be released only if Purchaser desires to go for AMC after the completion of Warranty Period.
- 3) Unit Rate will be in US \$ /European € /Japanese Yen ¥ /UK Pound £ /Indian Rupees.
- 4) The Rates should be on DOOR DELIVERY AT ITI PALAKKAD basis including Loading & unloading and other incidental expenses.
- 5) Indigenous suppliers quote will be in Indian currency only.

.....
(Authorized signatory of the bidder with date and seal)

SECTION - E

PERFORMANCE BANK GUARANTEE FORMAT

In consideration of (*the Purchaser's name and address*) (herein after called as Company) we,
.....Bank executed this Performance Guarantee Bond as surety to the cost of
..... supplied by (hereinafter called as the Supplier) as per the Purchase
Order no. dated, of the Company.

1. At the instance of failure by the Supplier to perform to the satisfaction of the Company, up to.....or before the expiry of this guarantee, or within the agreed period whichever is earlier, we.....Bank hereby undertake to pay to (*The Purchaser's name and address*) an amount not exceeding Rs. (*10% of total purchase order value*).
2. We.....Bank agrees to pay for the value up to a limit of Rs. and interest thereon from the date of notice till the date of payment at % per annum without any demur, merely on a demand notice from the Company stating that the Company has suffered loss due to non-performance of the equipment supplied by the Supplier. Any such demand made on the bank shall be conclusive as regards the amount due and payable by the bank under this guarantee.
3. We undertake to pay to the Company any money as demanded notwithstanding any dispute or disputes raised by the Supplier in any suit or proceedings pending before any court or tribunal relating thereto our liability under this guarantee being absolute and unequivocal. The payment so made by us under this bond shall be a valid discharge of our liability for payment there under and the Supplier shall have no claim against us for making such payment.
4. We..... Bank, further agree with the Company that the Company shall have the fullest liberty without our consent and without affecting in any manner, our obligation hereunder to vary any of the terms and conditions of the said agreement or to extend time of performance by the said Supplier from time to time or to postpone for any time or from time to time any of the powers exercisable by the Company against the Supplier and to forbear or enforce of the terms and conditions relating to the said Purchase Order and we shall not be relieved from our liability by reason of any such variation or extension being granted to the said supplier or for any forbearance act or omission on the part of the Company or any indulgence by the Company to the Supplier or by any such manner or thing whatsoever, which, under the law relating to sureties would, but for this provision, have effect of so relieving us.
5. This guarantee will not be discharged due to the change in the constitution of the Bank or the Supplier.
6. We.....Bank, further agrees that the guarantee herein contained shall remain in force till..... We.....Bank undertake not to revoke this guarantee during its currency except with the previous consent of the Company by writing.

Dated the.....day.....

Witnesses

For Bank

- 1.
- 2.

SECTION-F

ENCLOSURE TO PURCHASE ENQUIRY/ ORDER No DATED
PRE CONTRACT INTEGRITY PACT

PURCHASE ENQUIRY REF PB111K006, DATED

THIS Integrity Pact is made on.....day of20 .

BETWEEN:

ITI Limited having its Registered & Corporate Office at ITI Bhavan, Dooravaninagar, Bangalore – 560 016 and established under the Ministry of Communications, Government of India (hereinafter called the Principal), which term shall unless excluded by or is repugnant to the context, be deemed to include its Chairman & Managing Director, Directors, Officers or any of them specified by the Chairman & Managing Director in this behalf and shall also include its successors and assigns) ON THE ONE PART

AND:

..... represented by
Chief Executive Officer (hereinafter called the Contractor(s), which term shall unless excluded by or is repugnant to the context be deemed to include its heirs, representatives, successors and assigns of the bidder/contract ON THE SECOND PART.

Preamble

WHEREAS the Principal intends to award, under laid down organizational procedures, contract for acting as (name of the Stores/equipments/items). The Principal, values full compliance with all relevant laws of the land, regulations, economic use of resources and of fairness/ transparency in its relations with its Bidder(s)/ Contractor(s).

In order to achieve these goals, the Principal has appointed an Independent External Monitor (IEM), who will **monitor** the tender process and the execution of the contract for compliance with the principles as mentioned herein this agreement.

WHEREAS, to meet the purpose aforesaid, both the parties have agreed to enter into this Integrity Pact the terms and conditions of which shall also be read as integral part and parcel of the Tender Documents and contract between the parties.

NOW THEREFORE, IN CONSIDERATION OF MUTUAL COVENANTS STIPULATED IN THIS PACT THE PARTIES HEREBY AGREE AS FOLLOWS AND THIS PACT WITNESSETH AS UNDER:

SECTION 1 – COMMITMENTS OF THE PRINCIPAL

- 1.1 The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles:
- a. No employee of the Principal, personally or through family members, will in connection with the tender for or the execution of the contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the personal is not legally entitled to.
 - b. The Principal will, during the tender process treat all bidder(s) with equity and reason. The Principal will in particular, before and during the tender process, provide to all bidder(s) the same information and will not provide to any bidder(s) confidential/additional information through which the bidder(s) could obtain an advantage in relation to the tender process or the contract execution.
 - c. The Principal will exclude from the process all known prejudiced persons.
- 1.2 If the Principal obtains information on the conduct of any of its employee, which is a criminal offence under IPC/PC Actor if there be a substantive suspicion in this regard, the Principal will inform the Chief Vigilance Officer and in addition can initiate disciplinary action as per its internal laid down Rules/ Regulations.

SECTION 2 – COMMITMENTS OF THE BIDDER/CONTRACTOR

- 2.1 The Bidder(s)/Contractor(s) commits himself to take all measures necessary to prevent corruption. He commits himself observe the following principles during the participation in the tender process and during the execution of the contract.
- a. The bidder(s)/contractor(s) will not, directly or through any other person or firm offer, promise or give to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person any material or other benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.
 - b. The bidder(s)/contractor(s) will not enter with other bidders/contractors into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.
 - c. The bidder(s)/contractor(s) will not commit any offence under IPC/PC Act, further the bidder(s)/contractor(s) will not use improperly, for purposes of competition of personal gain, or pass onto others, any information or document provided by the Principal as part of the business relationship,

regarding plans, technical proposals and business details, including information contained or transmitted electronically.

- d. The Bidder(s)/Contractor(s) of foreign origin shall disclose the name and address of the agents/representatives in India, if any. Similarly, the Bidder(s)/Contractor(s) of Indian Nationality shall furnish the name and address of the foreign principals, if any.
- e. The Bidder(s)/Contractor(s) will, when presenting the bid, disclose any and all payments made, are committed to or intend to make to agents, brokers or any other intermediaries in connection with the award of the contract.
- f. The Bidder(s)/Contractor(s) will not bring any outside influence and Govt bodies directly or indirectly on the bidding process in furtherance to his bid.
- g. The Bidder(s)/Contractor(s) will not instigate third persons to commit offences outlined above or to be an accessory to such offences.

SECTION 3 – DISQUALIFICATION FROM TENDER PROCESS & EXCLUSION FROM FUTURE CONTRACTS

- 3.1 If the Bidder(s)/Contractor(s), during tender process or before the award of the contract or during execution has committed a transgression in violation of Section 2, above or in any other form such as to put his reliability or credibility in question the Principal is entitled to disqualify Bidder(s)/ Contractor(s) from the tender process.
- 3.2 If the Bidder(s)/Contractor(s), has committed a transgression through a violation of Section 2 of the above, such as to put his reliability or credibility into question, the Principal shall be entitled to exclude including blacklisting for future tender/contract award process. The imposition and duration of the exclusion will be determined by the severity of the transgression. The severity will be determined by the Principal taking into consideration the full facts and circumstances of each case, particularly taking into account the number of transgression, the position of the transgressor within the company hierarchy of the Bidder(s)/Contractor(s) and the amount of the damage. The exclusion will be imposed for a period of minimum one year.
- 3.3 The Bidder(s)/Contractor(s) with its free consent and without any influence agrees and undertakes to respect and uphold the Principal's absolute right to resort to and impose such exclusion and further accepts and undertakes not to challenge or question such exclusion on any ground including the lack of any hearing before the decision to resort to such exclusion is taken. The undertaking is given freely and after obtaining independent legal advice.
- 3.4 A transgression is considered to have occurred if the Principal after due consideration of the available evidence concludes that on the basis of facts available there are no material doubts.
- 3.5 The decision of the Principal to the effect that breach of the provisions of this

Integrity Pact has been committed by the Bidder(s)/ Contractor(s) shall be final and binding on the Bidder(s)/ Contractor(s), however the Bidder(s)/ Contractor(s) can approach IEM(s) appointed for the purpose of this Pact.

- 3.6 On occurrence of any sanctions/ disqualifications etc arising out from violation of integrity pact Bidder(s)/ Contractor(s) shall not entitled for any compensation on this account.

3.8 subject to full satisfaction of the Principal, the exclusion of the Bidder(s)/ Contractor(s) could be revoked by the Principal if the Bidder(s)/ Contractor(s) can prove that he has restored/ recouped the damage caused by him and has installed a suitable corruption preventative system in his organization.

SECTION 4 – PREVIOUS TRANSGRESSION

- 4.1 The Bidder(s)/ Contractor(s) declares that no previous transgression occurred in the last 3 years immediately before signing of this Integrity Pact with any other company in any country conforming to the anti-corruption/ transparency International (TI) approach or with any other Public Sector Enterprises/ Undertaking in India of any Government Department in India that could justify his exclusion from the tender process.
- 4.2 If the Bidder(s)/ Contractor(s) makes incorrect statement on this subject, he can be disqualified from the tender process or action for his exclusion can be taken as mentioned under Section-3 of the above for transgressions of Section-2 of the above and shall be liable for compensation for damages as per Section-5 of this Pact.

SECTION 5 – COMPENSATION FOR DAMAGE

- 5.1 If the Principal has disqualified the Bidder(s)/Contractor(s) from the tender process prior to the award according to Section 3 the Principal is entitled to forfeit the Earnest Money Deposit/Bid Security/ or demand and recover the damages equitant to Earnest Money Deposit/Bid Security apart from any other legal that may have accrued to the Principal.
- 5.2 In addition to 5.1 above the Principal shall be entitled to take recourse to the relevant provision of the contract related to termination of Contract due to Contractor default. In such case, the Principal shall be entitled to forfeit the Performance Bank Guarantee of the Contractor or demand and recover liquidate and all damages as per the provisions of the contract agreement against termination.

SECTION 6 – EQUAL TREATMENT OF ALL BIDDERS/ CONTRACTORS

- 6.1 The Principal will enter into Integrity Pact on all identical terms with all bidders and contractors for identical cases.
- 6.2 The Bidder(s)/Contractor(s) undertakes to get this Pact signed by its sub-

contractor(s)/sub-vendor(s)/associate(s), if any, and to submit the same to the Principal along with the tender document/contract before signing the contract. The Bidder(s)/Contractor(s) shall be responsible for any violation(s) of the provisions laid down in the Integrity Pact Agreement by any of its sub-contractors/sub-vendors/associates.

- 6.3 The Principal will disqualify from the tender process all bidders who do not sign this Integrity Pact or violate its provisions.

SECTION 7 – CRIMINAL CHARGES AGAINST VIOLATING BIDDER(S)/ CONTRACTOR(S)

- 7.1 If the Principal receives any information of conduct of a Bidder(s)/Contractor(s) or sub-contractor/sub-vendor/associates of the Bidder(s)/Contractor(s) which constitutes corruption or if the Principal has substantive suspicion in this regard, the Principal will inform the same to the Chief Vigilance Officer of the Principal for appropriate action.

SECTION 8 – INDEPENDENT EXTERNAL MONITOR(S)

- 8.1 The Principal appoints competent and credible Independent External Monitor(s) for this Pact. The task of the Monitor is to review independently and objectively, whether and to what extent the parties comply with the obligations under this pact.
- 8.2 The Monitor is not subject to any instructions by the representatives of the parties and performs his functions neutrally and independently. He will report to the Chairman and Managing Director of the Principal.
- 8.3 The Bidder(s)/Contractor(s) accepts that the Monitor has the right to access without restriction to all product documentation of the Principal including that provided by the Bidder(s)/Contractor(s). The Bidder(s)/Contractor(s) will also grant the Monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his project documentation. The Monitor is under contractual obligation to treat the information and documents Bidder(s)/Contractor(s) with confidentiality.
- 8.4 The Principal will provide to the Monitor sufficient information about all meetings among the parties related to the project provided such meeting could have an impact on the contractual relations between the Principal and the Bidder(s)/Contractor(s). As soon as the Monitor notices, or believes to notice, a violation of this agreement, he will so inform the Management of the Principal and request the Management to discontinue or take corrective action, or to take other relevant action. The monitor can in this regard submit non-binding recommendations. Beyond this, the Monitor has no right to demand from the parties that they act in specific manner, refrain from action or tolerate action.
- 8.5 The Monitor will submit a written report to the Chairman & Managing Director of the Principal within _____ to _____ weeks from the date of reference or intimation to him by the principal and, should the occasion arise, submit proposals for correcting problematic situations.

- 8.6 If the Monitor has reported to the Chairman & Managing Director of the Principal a substantiated suspicion of an offence under relevant IPC/PC Act, and the Chairman & Managing Director of the Principal has not, within the reasonable time taken visible action to proceed against such offence or reported it to the Chief Vigilance Officer, the Monitor may also transmit this information directly to the Central Vigilance Commissioner.
- 8.7 The word '**Monitor**' would include both singular and plural.
- 8.8 Details of the IEM appointed by the principal at present is furnished below:-
Shri Javeed Ahmad, IPS(Retd.)
M-1101, Shalimar Gallant Apartment,
Vigyanpuri ,Mahanagar,Lucknow-226006

SECTION 9 – FACILITATION OF INVESTIGATION

- 9.1 In case of any allegation of violation of any provisions of this Pact or payment of commission, the Principal or its agencies shall be entitled to examine all the documents including the Books of Accounts of the Bidder(s)/Contractor(s) and the Bidder(s)/Contractor(s) shall provide necessary information and documents in English and shall extend all help to the Principal for the purpose of verification of the documents.

SECTION 10 – LAW AND JURISDICTION

- 10.1 The Pact is subject to the Law as applicable in Indian Territory. The place of performance and jurisdiction shall be the seat of the Principal.
- 10.2 The actions stipulated in this Pact are without prejudice to any other legal action that may follow in accordance with the provisions of the extant law in force relating to any civil or criminal proceedings.

SECTION 11 – PACT DURATION

- 11.1 This Pact begins when both the parties have legally signed it. It expires after 12 months on completion of the warranty/guarantee period of the project / work awarded, to the fullest satisfaction of the Principal.
- 11.2 If the Bidder(s)/Contractor(s) is unsuccessful, the Pact will automatically become invalid after three months on evidence of failure on the part of the Bidder(s)/Contractor(s).
- 11.3 If any claim is lodged/made during the validity of the Pact, the same shall be binding and continue to be valid despite the lapse of the Pact unless it is discharged/determined by the Chairman and Managing Director of the Principal.

SECTION 12 – OTHER PROVISIONS

- 12.1 This pact is subject to Indian Law, place of performance and jurisdiction is the

Registered & Corporate Office of the Principal at Bengaluru.

- 12.2 Changes and supplements as well as termination notices need to be made in writing by both the parties. Side agreements have not been made.
- 12.3 If the Bidder(s)/Contractor(s) or a partnership, the pact must be signed by all consortium members and partners.
- 12.4 Should one or several provisions of this pact turn out to be invalid, the remainder of this pact remains valid. In this case, the parties will strive to come to an agreement to their original intentions.
- 12.3 Any disputes/ difference arising between the parties with regard to term of this Pact, any action taken by the Principal in accordance with this Pact or interpretation thereof shall not be subject to any Arbitration.
- 12.4 The action stipulates in this Integrity Pact are without prejudice to any other legal action that may follow in accordance with the provisions of the extant law in force relating to any civil or criminal proceedings.

In witness whereof the parties have signed and executed this Pact at the place and date first done mentioned in the presence of the witnesses:

For PRINCIPAL

For BIDDER(S)/CONTRACTOR(S)

.....
(Name & Designation)

.....
(Name & Designation)

Witness

Witness

1)

1).....

2)

2).....

SECTION – G

CERTIFICATE

(Works under Rule 144 (xi) in the General Financial Rules (GFRs), 2017)

To:

ITI Limited, .
Kanjikode West, Palakkad – 678623.

Dear Sir,

RFQ Ref No. dated

Bidder Name:.....

We, M/s ----- are a private/public limited company/LLP/Firm having our registered office at -----
------(referred to as the “Bidder”) are desirous of participating in the Tender Process in response to your captioned RFQ and in this connection we hereby declare, confirm and agree as under:

a) We, the Bidder have read and understood the contents of the Office Memorandum & the Order (Public Procurement No.1) both bearing no. F.No.6/18/2019/PPD of 23rd July 2020 issued by Ministry of Finance, Government of India on insertion of Rule 144 (xi) in the General Financial Rules (GFRs) 2017 and the amendments & clarifications thereto, regarding restrictions on availing/procurement of goods and services, of any Bidder from a country which shares a land border with India and / or sub-contracting to contractors from such countries.

b) In terms of the above and after having gone through the said amendments including in particular the words defined therein (which shall have the same meaning for the purpose of this Declaration cum Undertaking), we the Bidder hereby declare and confirm that:

* We, the Bidder are not from such a country which shares a land border with India, in terms of the said amendments to GFR, 2017.

or

*We, the Bidder are from such a country and has been registered with the Competent Authority i.e the Registration Committee constituted by the Department for Promotion of Industry and Internal Trade, as stated under Section I to the said Office Memorandum / Order and we submit the proof of registration herewith.

*(*Delete whichever is not applicable)*

c) We, the Bidders agree and undertake that if the contract is awarded to us, we will not sub-contract or outsource the contract and / or any part thereof unless such subcontract/ outsourcing is permitted by ITI Limited in writing, in which case we shall not sub-contract or outsource the work to a contractor from such countries, unless such contractor is registered with the Competent Authority and proof of same is obtained.

3. We, the Bidders hereby confirm that we fulfill all the eligibility criteria as per RFQ and are not ineligible from participating in the Tender in view of the above Office Memorandum and Order. We also agree and accept that if our declaration and confirmation is found to be false at any point of time including after awarding the contract, ITI Limited shall be within its right to forthwith terminate the contract/ bid without notice to us and initiate such action including legal action against us. ITI

Limited, shall also be within its right to forfeit the security deposits provided by us and also recover from us the loss and damages sustained by the on account of the above.

3. This declaration cum undertaking is executed by us through our Authorized signatory/ies after having read and understood the Office Memorandum and Order (Public Procurement No.1) both bearing F.No.6/18/2019/PPD of 23rd July 2020 of Ministry of Finance, Department of Expenditure, Public Procurement Division, Government of India including the words defined in the said order (reproduced hereunder) which shall have the same meaning for the purpose of this Declaration cum Undertaking.

" Definitions

"Bidder" for the purpose of this Order (including the term 'tenderer', 'consultant' `vendor' 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 juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency, branch or office controlled by such person, participating in a procurement process.

"Tender" for the purpose of this Order will include other forms of procurement, except where the context requires otherwise.

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

- a) An entity incorporated, established or registered in such a country; or*
- b) A subsidiary of an entity incorporated, established or registered in such a country; or*
- c) An entity substantially controlled through entities incorporated, established or registered in such a country; or*
- d) An entity whose beneficial owner is situated in such a country; or*
- e) An Indian (or other) agent of such an entity; or*
- f) A natural person who is a citizen of such a country; or*
- g) A consortium or joint venture where any member of the consortium or joint venture falls under any of the above*

"Beneficial owner" for the purpose of above will be as under:

- i) 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 juridical person(s), has a controlling ownership interest or who exercises control through other means.*

Explanation—

a. "Controlling ownership interest" means ownership of, or entitlement to, more than twenty-five per cent of shares or capital or profits of the company;

b. "Control" shall include the right to appoint the majority of the directors or to control the management or policy decisions, including by virtue of their shareholding or management rights or shareholders agreements or voting agreements;

(ii) In case of a partnership firm, the beneficial owner is the natural person(s)who, whether acting alone or together, or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership;

(iii) In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has

ownership of or entitlement to more than fifteen percent of the property or capital or profits of such association or body of individuals;

(iv) Where no natural person is identified under (i) or (ii) or (iii) above, the beneficial owner is the relevant natural person who holds the position of senior managing official;

(v) In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.

"Agent" for the purpose of this Order is a person employed to do any act for another, or to represent another in dealings with third persons."

Executed at..... On this the ...day of

Authorised Signatory

M/s-----

Signature and Name

Seal of the Bidder

**Note: Where applicable, evidence of valid registration by the Competent Authority shall be attach*
