

**Request for Proposal (RFP) for supply of  
PHASE MEASURING MICROSCOPE  
(PMM) - Non-contact Portable Optical  
Profilometer**

**September 2017  
India TMT Coordination Center  
Indian Institute of Astrophysics  
Bangalore – 560 034  
INDIA**

## Introduction:

The Thirty Meter Telescope (TMT) International Observatory (TIO) is a joint venture of scientific institutions in Canada, China, India, Japan and the US to build a 30 m diameter optical-infra-red telescope. The TMT project work is scheduled to start shortly on the summit at an altitude of 4200m at Mauna Kea, and the telescope is envisaged to be operational in 2026. As part of India's contribution to TIO, the India-TMT Coordination Centre (ITCC) intends to develop various sub-systems needed for the telescope within the country which can then be delivered to the observatory.

As part of India's contribution to the TMT project, ITCC, in consultation with the TMT Board, intends to deliver a portion of polished primary mirror segments. The TMT project prefers to utilize segment production methods used successfully on segmented mirror telescopes, such as that employed for the Keck telescope primary mirror segments. This process includes full tool polishing of circular mirror blanks followed by hex-cutting, machining, mounting onto a support system, and finally, Ion Beam Figuring (IBF). The full tool polishing technique produces mirror surfaces that are very smooth, so that IBF figuring can take the final finish enabling the telescope to meet science requirements.

ITCC is setting up a polishing facility at CREST Campus at Hoskote, Karnataka, India. Towards metrology of the polished segments, ITCC, through IIA, proposes to acquire Non-contact Portable Optical Profilometer and associated controllers and software from Bidders who are original manufacturers. ITCC also seeks to obtain training of IIA/ITCC personnel in the operation and trouble shooting of the PMM.

In pursuance of the above, the Director, Indian Institute of Astrophysics, Bangalore, on behalf of ITCC, invites proposals for the supply, installation and commissioning of Non-Contact Portable Optical Profilometer together with the required accessories and spares per the specifications for at least 5 years, on-site demonstration of equipment performance and training on the equipment at IIA.

## SECTION A

# PHASE MEASURING MICROSCOPE (PMM) - NON-CONTACT PORTABLE OPTICAL PROFILOMETER

### 1.0 Technical Requirements and Specifications:

The specification covers supply, installation and commissioning of a computer numerically controlled NON-CONTACT PORTABLE OPTICAL PROFILOMETER for surface micro roughness measurements. India TMT is polishing 86 segments for TMT as part of India's in kind contribution. One of the metrology requirement is to measure the high frequency error on polished roundel and Hexed segment during the production process. This measurement needs to be carried out over the polished surface which in turn requires a portable phase measuring microscope PMM). This PMM is to be kept over the polished glass blank of diameter 1520mm and a radius of curvature (ROC) of 60000mm to capture the high frequency surface error data (micro roughness). This instrument should be able to capture the data at least 20mm from the edge of the glass blank. While capturing the data, the instrument should not leave any footmark on the glass blank.

High frequency error to be measured on the optical polished surface is  $<1.5\text{nm}$  RMS over 1.6mm to 0.02mm spatial scale.

### Technical specifications:

#	Description	Specification
1	Measurement technique Type	Coherence scanning interferometry/ phase shifting/ Coherence correlation interferometry PV, Ra 2D profile and 3D maps by non-contact, Portable and vibration insensitive
	Light Source	White light source/ Pulsed LED
	Objective1	Minimum FOV: 5mmX5mm Maximum FOV: 10mmx10mm
	Objective 2	Minimum FOV: 300umX300um

	Maximum FOV: 750umx750um
Imaging performance	Capable of imaging up to 100 cycles/aperture with both the objectives
Objective Mounting	Single objective dovetail type
Measurement Array	Meet the Imaging performance and FOV requirement
Focus	Motorized focus arrangement with encoder and live display/ Standard mechanism
Minimum Software requirements	Analysis and data acquisition software ( real time and offline) for surface roughness parameters, PV, Ra, 2D profiles and 3D surface maps Reference generation, subtraction, data averaging in standard format. Software should include spatial filtering function for reporting roughness.
Operating System	Free upgrades during warranty period Windows 10 or latest
Vertical Scan Range	≥90nm
Surface Topography	≤0.3 nm RMS .
RMS Repeatability	Better than 0.1nm
Optical Lateral Resolution	Better than 1um for larger FOV objective Better than 10 um for smaller FOV objective
Maximum Data Scan Speed	15 μm/sec or better
Z motion adjustment range	± 20 mm or Larger
Instrument configuration	Instrument needs to be configured such that objective can capture the data at the distance of 20mm or less from the edge of the blank of diameter 1520mm diameter when the instrument is placed over the blank.
Weight	<8Kg with possible off loading provision as an optional entity
Environmental and Utility Requirements	Input Voltage: Capable of operating at both 110VAC @ 60Hz and 210-240V AC@ 50Hz. Temperature: 20-30C, <1C per 15min Humidity: 5 to 95%
Test Part type	Material: Opaque, transparent, coated, uncoated, specular, rough, Surface Type: Plano, Concave, Convex Reflectivity: 0.1% to 100%

### Scope of the item:

**Above mentioned items will be used for surface roughness measurement of I-TMT polished roundel and Hexed segments.**

#### **1.14 Safety:**

- 1) The machine should be provided with all the safety features to protect the machine, control and the operator, while in operation, from the possible damages/injury.
- 2) The machine and its control unit shall be equipped with necessary safety devices for protection of equipment.

#### **1.15 Warranty:**

Entire machine inclusive of all systems / accessories should be warranted for 12 months from the date of installation / commissioning against all the design, material or manufacturing

#### **After Sales Service:**

After sales service by trained Engineers within 48 hours of communication to be provided free of cost during warranty period. Manufacturer should clearly establish their organization capability for the above requirement. Manufacturer should be able to provide spare and service support for the quoted machine for at least 10 years. The supplier should quote for entering into annual maintenance contract (AMC) after warranty period. Decision of availing AMC will be an option for IIA/ITCC.

#### **1.16 Pre-Dispatch Inspection:**

- 1) Vendor should offer the machine for inspection by IIA/ITCC Engineers at its works before dispatch of the same to IIAP works. Vendor should indicate probable duration required for carrying out Pre-Dispatch inspection.
- 2) Note: IIA/ITCC reserves the right for waive off the pre-dispatch inspection in the event of unavoidable circumstances.
- 3) Installation & commissioning:
- 4) The equipment shall be installed and commissioned by the vendor.

#### **1.17 Training:**

Supplier has to provide required training to IIA/ITCC personnel free of cost at IIA site.

#### **1.18 Documentation:**

Three sets of the following documents in English are to be supplied with the machine along with all the data including the relevant software including OS and application tools in CD form and pen drive (soft copy set):

- 1) Operator Manual
- 2) OS and application tools CD
- 3) Setting/Programming Instruction Manual
- 4) Maintenance and spare parts manual .
- 5) Electric & Electronic circuit drawings for control system, DC/AC drives and interface for component level trouble shooting
- 6) Equipment test charts & Calibration certificate .

#### **1.19 General Requirements:**

- 1) Ghost Data Backup (Image Back up) for re-installation in case of Hard Disk failure should be supplied on CD at the end of commissioning.
- 2) List of Companies (preferably Indian) where same system / similar has been supplied earlier
- 3) Demo of the system during technical evaluation shall be asked and vendor shall practically demonstrate compliance to all the technical specifications asked.

## **Section-B**

### **2.0 METHODOLOGY AND SUBMISSION OF THE BIDS**

- 1) Sealed bids are invited from reputed original manufacturers of NON CONTACT PORTABLE OPTICAL PROFILOMETER with proven technical expertise, track record, and experience in manufacturing, testing, assembling, commissioning and imparting training to IIA/ITCC personnel:
- 2) Submission of bids in two parts:
  - (a) Technical Bid: including commercial terms and conditions,
  - (b) Price Bid

### **2.1 Contacts:**

#### **(a) Technical Clarifications:**

Shri S.Sriram,  
Engineer 'E'  
Indian Institute of Astrophysics,  
Bengaluru, India-560034  
([ssr@iiap.res.in](mailto:ssr@iiap.res.in))

#### **(b) Administrative Clarifications:**

K.P.Vishnu Vardhan  
Stores and Purchase Officer  
Indian Institute of Astrophysics  
Koramangala, Bengaluru-560 034  
([Vishnu.vardhan@iiap.res.in](mailto:Vishnu.vardhan@iiap.res.in))

C.H.Basavaraju  
Consultant, Administration,  
Indian Institute of Astrophysics/ITCC,  
Koramangala, Bengaluru, India-560 034  
([basavaraju@iiap.res.in](mailto:basavaraju@iiap.res.in))

## 2.2 Schedule:

Sl.No.	Description	Due Date
1.	Date of announcement	05.10.2017
3.	Last date for receipt of bids	07.11.2017
4.	Opening of technical bids	07.11.2017
5.	Opening of price bids	21.11.2017
6,	Award of contract/issue of Purchase Order	05.12.2017
7.	Delivery of PMM	3 Months
8.	Demonstration/Training	

## 3.0 Technical Bid should contain the following:-

- 1) Profile of the company;
  - 2) Details of manufacturing plants and equipment of the company;
  - 3) Company's Quality Policy and Programme, organizational set up for quality surveillance and quality assurance, quality audit programme, non-conformity control and reporting and testing and inspection facilities;
  - 4) The Company should have a minimum average annual turnover of INR 5 crores or equivalent during the last five years and should be of sound financial status (supporting documents must be included);
  - 5) Delivery time schedule for the project and shipping;
  - 6) Commissioning, Demonstration and Training plan;
  - 7) Details of support required from IIA/ITCC for installation and commissioning;
  - 8) Documentation;
  - 9) Name of the Indian companies where PMM supplied in the last Five years;



- 10) Audited balance sheets for the last three years;
- 11) Copy of Registration, LST/CST/WCT No., PAN No. and TIN No. allotted by concerned authorities.
- 12) Appreciation/Reward letters from clients
- 13) Details of the resources, infrastructure or data expected to be provided by IIA/ITCC to the successful bidder for undertaking the project.
- 14) Risk identification and mitigation plans.
- 15) Commercial terms and conditions.
- 16) Acceptance criteria and test plan
- 17) A copy of the Price Bid without indicating the quoted Price
- 18) Any other information relevant to the bid
- 19) Earnest Money Deposit for Rs.5.00 lakhs INR (Rupees Five Lakhs) by way of demand draft/bank guarantee drawn on a Nationalized/Scheduled Banks in favour of Director, IIA
- 20) Details of the resources, infrastructure or data expected to be provided by IIA/ITCC to the successful bidder for undertaking the project.

### **3.1 Price Bid should contain the following**

- 1) The quote should be complete to indicate that all products and services asked for are quoted.
- 2) A separate quotation for essential spare parts and accessories is to be submitted.
- 3) Quote for entering into annual maintenance contract after the warranty period.
- 4) Price bids shall be valid for a period of 180 days from the date of opening of bids. IIA/ITCC may ask for the bidder's consent to extend the period of validity. Such request and the response shall be made in writing only. A bidder agreeing to the request of IIA/ITCC for extension of the bid will not be permitted to modify the bid.

**The envelopes must bear the following: "Supply, Installation and Commissioning of PMM"; name and address of the vendor and it shall be addressed to:**

The Director  
Indian Institute of Astrophysics

Koramangala, Bengaluru-560 034, India

### 3.2 Submission of Technical and Price Bids – Part 1: General Terms

- 1) The Bidder shall prepare original and a copy of the Bid, clearly marking each as "Original Bid" and "Copy of Bid," as appropriate. In the event of any discrepancy between them, the Original shall govern.
- 2) Either the Original or the Copies of the Bid shall be signed by the Bidder or a person or persons duly authorized by the Bidder. The latter's authorization shall be indicated by written Power of Attorney accompanying the Bid.
- 3) The bid must be submitted in an organized and structured manner. No brochures/leaflets etc. should be submitted in loose form. Please indicate page nos. on your quotations. For e.g., if the quotation is containing 25 pages, please indicate as 1/25, 2/25, 3/25,.... 25/25.
- 4) The contents must be clearly typed without any cancellation/corrections or overwriting. Each page of the bid and cutting/corrections (if any) shall be duly signed and stamped by the bidder. Failure to comply with this requirement may result in the bid being rejected.
- 5) All pages of the Bid (except for un-amended printed literature) shall be initialed by the person or persons signing the Bid. The Bidder's name stated on the proposal shall be the exact legal name of the firm.
- 6) The Technical and Price Bids shall be sealed in separate envelopes. The envelopes shall bear the following: "Supply, Installation, and Commissioning of PMM", and "Technical Bid" or "Price Bid" as appropriate.
- 7) Both the envelopes shall bear the name and address of the vendor.
- 8) The two sealed envelopes shall be enclosed in a third sealed envelope. The envelopes shall bear the following: "Supply, Installation, and Commissioning of PMM", Technical and Price Bids", bear the name and address of the vendor, and shall be addressed to:

THE DIRECTOR,  
INDIAN INSTITUTE OF ASTROPHYSICS  
KORAMANGALA, BENGALURU-560 034

- 9) If the envelopes are not sealed and marked as required, IIA/ITCC will not take any responsibility for the bid's misplacement or premature opening, whatsoever the reason may be.
- 10) The bidder has the option of sending the bid by registered post or submitting the bid in person so as to reach IIA/ITCC by the date and time indicated. IIA/ITCC will not be responsible for late, delayed bids and loss of bids in transit, whatsoever the reason may be.
- 11) IIA/ITCC reserves the right to accept/reject any or all bids without assigning any reasons.
- 12) Any other condition or guideline for submission of the bids shall be notified by IIA/ITCC, if it finds necessary.
- 13) IIA/ITCC may, at its discretion, extend the deadline for the submission of bids by amending the Bidding Documents, in which case all rights and obligations of IIA/ITCC and Bidder previously subject to the deadline will thereafter be subject to the deadline as extended.
- 14) At any time prior to the deadline for submission of Bids, IIA/ITCC may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder, notify changes in the bidding documents through an amendment.
- 15) In order to allow reasonable time for the prospective bidders for taking the amendment into account in preparation of their bids, IIA/ITCC may, at its discretion, extend the deadline for the submission of the bids.
- 16) The amendments, if any, shall be notified in writing at IIA/ITCC website and the amendments shall be binding on all the bidders. Hence the bidders shall view the notification in complete before submitting their bids.
- 17) The company responding to announcement shall be deemed to have read and understood the documents in complete. Where counter terms and conditions have been offered by the company, the same shall not be deemed to have been accepted by IIA/ITCC, unless a specific written acceptance thereof is obtained.
- 18) Any effort by a bidder to influence IIA/ITCC in the bid Evaluation, bid Comparison or contract award decisions may result in the rejection of their bid.
- 19) Any clarifications pertaining to this document may be obtained from IIA/ITCC by the bidders by writing at the following address at least fifteen days prior to the due date for submission of bids.
- 20) IIA/ITCC may organize a pre-bid meeting; approximately two weeks prior to the last date of submission of the bids. All the parties who

have submitted the bids may attend the meeting and obtain clarifications regarding the technical/commercial and price bid terms and conditions.

- 21) Technical Bid shall be opened on the date specified by IIA/ITCC. Bidders or their authorized agents may be present at their own interest when the Bids are being opened.
- 22) The Technical Bids shall be evaluated by an Expert Committee and the shortlisted Bidders may have to make presentations on their detailed proposals to the Committee.
- 23) To assist in the evaluation of bids, IIA/ITCC may at its discretion ask the bidder for a clarification of its bid. IIA/ITCC may call for meetings with bidders to seek clarification at appropriate times in its premises in Bengaluru. The bidders shall attend the meeting at their own cost. The request for clarification and the response shall be in writing.
- 24) Following the evaluation of technical bids, the price bids of qualified bidders shall be opened to choose the bidder to execute the work.
- 25) During the assessment of the bids, specific weight age will be given to the bidders for innovative suggestions on cost optimization and schedule control. Selection of the successful bidder will be mainly based on optimization from an integrated point of view, involving optimization schedule and cost. Prior experience with similar projects, commitment and risk evaluation will also play an important role in the selection process.

### 3.3 Eligibility Criteria and Qualification Process

The technical bids will be evaluated by an Expert Committee considering all technical requirements and specifications indicated and also comply with the requirements indicated at clause .The statement furnished should have supporting documents, wherever required.

#### 3.4 Technical criteria:

- a) **The PMM should meet all the technical requirements and specifications as indicated in clause 1.0 of Section A.**

#### 3.5 Price Criteria

Following the evaluation of technical bids, the price bids of technically qualified bidders shall be opened to choose the bidder to supply the PMM. Bidders should be advised that, price bid will be opened only in respect of technically qualified bids. And, the lowest price bid (L1) shall be chosen to supply the PMM.

## **Section C**

### **4.0 Terms and Conditions (Part-I)**

The successful Vendor who is awarded the contract shall be subjected to the following terms and conditions, which are part of the contract:-

#### **4.1 Subcontracts**

- 1) The contractor is an independent and original manufacturer of PMM
- 2) The contractor shall provide as an independent contractor and provide all necessary personnel, materials, equipment and facilities to Supply of PMM, Commissioning, Demonstration and imparting training.
- 3) The Vendor shall not assign its rights or obligations to a third party without the prior written approval of IIA/ITCC.
- 4) Notwithstanding any subcontract under this Agreement, whether approved by IIA/ITCC or not, the Contractor shall remain fully liable and responsible for the satisfactory and timely completion of the Work.

#### **4.2 Payment**

- 1) IIA/ITCC shall pay the Contractor the price in accordance with a milestone schedule.
- 2) Upon completion of each milestone, the contractor shall submit to IIA/ITCC an Invoice for the amount corresponding to that milestone in Schedule.
- 3) The contractor shall submit reasonable documentary evidence, including but not limited to inspection reports, photographs and illustrations, as verification of completion of each Milestone. IIA/ITCC may at its own discretion verify and substantiate that the milestone has indeed been performed or completed as

invoiced by the contractor. Such verification may require contractor to submit to IIA/ITCC, additional documentation with regard to quality control normally expected during process of inspection, by IIA/ITCC representatives. Any request for substantiation under this clause shall be made by IIA/ITCC within fourteen (14) days of its receipt of the corresponding Invoice.

### 4.3 Testing and documentation

Vendor should offer the machine for inspection by IIA/ITCC Engineers at its works before dispatch of the same to IIA/ITCC works. Vendor should indicate probable duration required for carrying out Pre-Dispatch inspection.

**Note:** IIA/ITCC reserves the right for waive off the pre-dispatch inspection if it decide to do so.

- 1) The equipment should be commissioned by the vendor/manufacturer.
- 2) Ghost Data Back up (Image Back up) for re-installation in case of Hard Disk failure should be supplied on CD at the end of commissioning.
- 3) The documentation to be carried out/furnished as indicated at Section-A

### 4.4 Packaging, Transportation and Insurance

- 1) The packing of the product for shipment shall be appropriate depending upon the nature of transportation and handling hazards. The stores shall be packed securely to avoid any damage to the consignment in transit, unloading and storage. The package shall contain a packing note quoting contract number and date, copy of shipping release and one set of test certificates. The package shall be marked with name and address of the contractor, lifting points and special handling instructions, if any.
- 2) The Vendor is responsible for its delivery at IIA/ITCC Crest Facility at Hosakote, Bangalore, India including transportation charges and transit insurance.

#### 4.5 Access to work

- 1) Work in progress and data and documentation related to work/supply it may be necessary to present to understand the ability of the work to meet the specifications are subject to examination, evaluation, and inspection by IIA/ITCC, on behalf of TMT-India, at reasonable times and with reasonable notice to the Vendor.
- 2) The Contractor shall provide IIA/ITCC, access to such documentation and to those of its premises where work on or in connection with the subject of this contract is being performed during normal business hours and subject to prior arrangement.
- 3) IIA/ITCC may depute Engineers/Scientists of its choice from time to time who will be allowed by the Contractor to participate in the process in respect of the disciplines in which they are specialized.

#### 4.6 Vesting of Title and Assumption of risk

- 1) On each item to be delivered by the Contractor, including an item of work in progress, in respect of which payments have been made, ITCC shall have a security interest in such items which shall be deemed to be released only at the time when the applicable deliverable Item is finally accepted by ITCC/ and delivered at Indian Institute of Astrophysics/India TMT Co-Ordination Centre, Koramangala, Bengaluru.
- 2) Risk for loss or damage to deliverable inspected Items provided by the manufacturer shall rest with the Contractor, until final acceptance by IIA/ITCC and delivery to manufacturers place.
- 3) Title to all deliverable inspected Items provided by the Contractor shall pass from the Contractor to IIA//ITCC upon final acceptance or the final payment, whichever last occurs.
- 4) IIA/ITCC shall not accept any liability for the Contractor and its subcontractors, their subsidiaries and/or their officers, employees or agents, servants, and assignees, or any of them or for their property. The Contractor shall indemnify and keep harmless IIA/ITCC, its officers, employees consultants, servants, agents and assignees, or any of them, against any loss or liability, costs or claims, action or proceedings which they or any of them may incur by reasons of

damage to property or injury, including death, caused to the employees of the Contractor, its subsidiaries and/or their officers, employees or agents, servants and assignees, or any of them in connection with the performance of Work under this Agreement, and caused by an act of commission or omission by the Contractor, its subsidiaries and/or their officers, employees or agents, servants and assignees, or all or any of them.

#### **4.7 Deliverable documentation and Standards**

The Deliverable Documentation shall include a complete inspection reports, Testing procedures, (both in-process and final. All documentation shall be written in clear and concise English language. The author should also adhere to consistent terminology and use acronyms that are well defined in the document.

#### **4.8 Progress reports**

The Contractor shall provide IIA/ITCC with detailed reports on progress of the Work and notify any deviations on the schedule, at least monthly highlights and bi-monthly detailed reports on the progress of the work, up to the delivery date.

#### **4.9 Warranty**

Entire machine inclusive of all systems / accessories should be warranted for 12 months from the date of installation / commissioning against all the design, material or manufacturing

- 1) All deliverable Items that are inspected by the Vendor or its subcontractors shall conform in grade and quality to all the requirements of the contract; where the grade or quality is not specifically defined therein; they shall be of a grade or quality suitable for their intended use;
- 2) All workmanship employed in the inspection of deliverable Items shall be of good quality, free from faults and defects, and shall conform to the relevant specifications applicable to the said inspection; and



- 3) All deliverable Items shall be free from defects arising out of the use of inspection that would result in a total or partial failure of any deliverable item or which would render a deliverable item unsafe for its intended use.

#### 4.10 Performance guarantee

IIA/ITCC shall withhold 5% part of each Milestone Payment towards performance guarantee during the period of the contract and pay the total sum on completion of contract/warranty period.

### 5.0 Other Terms and Conditions (Part-II)

The successful Vendor who is awarded the contract shall be subjected to the Terms and Conditions that include, but not limited to the following. A detailed Contract Agreement will be drawn and signed by both the parties before the award of the contract.

#### 5.1 Intellectual Property rights

- 1) All Intellectual Property Rights existing in a party prior to the Contract (“**Existing Intellectual Property Rights**”) shall remain with that party. Except to the extent necessary to complete the Work or expressly stated otherwise, neither party grants any rights in its Existing Intellectual Property Rights to the other party.
- 2) All Intellectual Property Rights arising directly from the Work (“**Work Intellectual Property Rights**”) shall, upon completion of the Work, vest in IIA/ITCC and TMT project.

#### 5.2 Confidential Information

- 1) The Receiving Party shall protect the confidential information and keep it secure, and shall not at any time (except with the prior written consent of the disclosing Party):

- 2) Directly or indirectly disclose or distribute the confidential information to a representative, employee, agent or advisor of the receiving party except where such disclosure is necessary for the purpose of the Work.
- 3) Use or copy the confidential information except for the purpose of the work.
- 4) Where the receiving party discloses confidential information to a representative, employee, agent or advisor, the receiving party shall ensure that such person is aware of the confidential nature of that confidential information and is bound by suitable obligations of confidentiality to ensure that that person protects and keeps secure that confidential information and does not use the confidential information for any reason other than the purpose of the Work.
- 5) The receiving party shall, on demand by the disclosing party, or where the purpose of this agreement has been served, promptly return to the disclosing party all confidential information (including copies or reproductions of the same) which is reasonably capable of being returned which is in the possession or control of the receiving party.
- 6) This agreement is not intended to restrict the use or disclosure of confidential information by the receiving party to the extent that it is required to be disclosed by law provided that the receiving party has taken such steps as are available under law (but not the institution of legal action) to protect such confidential information and notifies the disclosing party hereunder of its obligation to make such disclosure prior to the time such disclosure is made.
- 7) The provisions of this Clause 5.2(1) are subject to the provisions of Clause 5.2 (4).

### **5.3 Settlement of disputes**

- 1) All disputes arising in connection with the interpretation or implementation of the contract shall be amicably settled by IIA/ITCC and the Vendor, by direct discussion.
- 2) If IIA/ITCC and the Vendor are unable to resolve a dispute within 30 working days of the dispute being referred to them in accordance with Clause 5.3 (1), the parties may agree to refer the dispute to mediation.
- 3) ITCC and the Vendor appoint a mediation committee comprising of two nominees by IIA/ITCC and two nominees by the Vendor. IIA/ITCC and

the Vendor will seek the opinion of this mediation committee to amicably settle the disputes.

- 4) In the event of a dispute or difference which cannot be resolved by mediation, the same shall be referred to an Arbitration Tribunal consisting of three members. Either party shall give notice to the other regarding its decision to refer the matter to arbitration. Within 30 days of such notice, one Arbitrator shall be nominated by each party and the third Arbitrator shall be nominated by agreement between the parties to this agreement. The venue of the arbitration will be Bengaluru, India. Subject to the aforesaid, the Indian Arbitration and Conciliation Act, 1996 and the rules there under and any statutory modification thereof for the time being in force shall be deemed to apply to the Arbitration proceedings.

#### **5.4 Force Majeure:**

- 1) Neither party shall be held responsible for any losses, if the fulfilment of any terms and conditions of this contract are delayed or prevented by acts of lawful Government, revolutions and other disorders, wars (declared or undeclared), acts of enemies, strikes, fires, floods, acts of God and, without limiting the foregoing, any other cause not within the control of the party whose performance is interfered with and which, by the exercise of reasonable diligence, they are unable to prevent.
- 2) Each party will promptly notify the other in writing when condition of Force Majeure described in Clause 5.4 (a) arises. Neither party will be liable for any failure to perform its obligations hereunder if prevented from doing so by reason of Force Majeure, provided that it will have used all reasonable endeavors to perform its obligations notwithstanding such situation or event.
- 3) As soon as practicable after the lodging of such notice the Vendor and IIA/ITCC shall jointly determine whether the situation constitutes Force Majeure and if so the appropriate measures to meet the situation. Either party shall not be liable for any penalty or damage resulting in delays to perform its obligations as a consequence of Force Majeure.

#### **5.5 Termination**

- 1) IIA/ITCC may terminate the Work with sixty (60) days prior written notice any time without assigning any reason or cause by notifying the Vendor in writing. In the event that the Work is so terminated by IIA/ITCC then ITCC shall pay the Vendor total amount of the costs and liabilities incurred by the Vendor up to the date of termination.
- 2) IIA/ITCC may at any time terminate the contract by giving written notice with immediate effect in any of the following cases.
- 3) If the Contractor is adjudged insolvent or if its financial position is such that within the framework of its national law, legal action leading towards bankruptcy is taken against it by its creditors or its Government, or
- 4) If it is determined through appropriate proceedings that the Contractor has resorted to fraudulent or corrupt practices in connection with its securing or implementation of this Agreement.

## **5.5 Patents, Copyrights and other Proprietary rights**

The Contractor warrants that any deliverable Item provided to IIA/ITCC shall to the best of its knowledge and belief be free of any rightful claim of any third party for infringement of patent, copyright, or other proprietary right.

## **5.6 Liquidated damages:**

- 1) If the party fails to deliver, as per Delivery schedule, within the stipulated time specified or any extension thereof, there will no liability for the first 30 (thirty) days of delay. Thereafter, for each completed calendar month of such failure, the IIA/ITCC will be entitled to claim from the party as liquidated damages, a sum of one-half of one per cent (0.5%) per week of the contract price relating to that portion of the delay up to a maximum value of ten per cent (10%) of the contract price of the portion of delay. The work or part thereof will be deemed to have been delivered/completed only when all its component parts are accepted by IIA/ITCC.
- 2) The detailed statement of liquidated damages will be notified to the party who will be entitled to submit the reasons against levy of

liquidated damages to IIA/ITCC within 30 (thirty) days from the date of notification of the statement. Beyond this thirty (30) days period, the party is deemed to have accepted the liquidated damages claimed to have to be paid. This clause is not applicable when the delay is due to a failure on the part of the IIA/ITCC.

## **6.0 Governing law**

The Agreement shall be governed by, and construed in accordance with, the law for the time being in force in India.