



INDIAN INSTITUTE OF TECHNOLOGY MADRAS

Department of Civil Engineering - CHENNAI – 600 036

Tender No:OEC/KMUR/053/2017

Name of Work: Geotechnical Investigations for the Paradip Port Basin and Approach Channel

For and on behalf of IIT Madras, sealed tenders "Two bid system" are invited under for the following work being executed by IIT Madras:-

1)	Description:	Geotechnical Investigations for the Paradip Port Basin and Approach Channel (Detailed scope of work as mentioned under Section-III)
2)	Specification No.	OE/Paradip Port/2017/7
3)	Earnest Money Deposit:	Rs. 3,60,000/- (Rupees Three lakhs sixty thousand only) in the form of DD in favour of The Registrar IIT Madras Chennai issued by any Nationalized bank. The amount should be given with technical bid only. If it is found with financial bid the tender is summarily rejected.
4)	Last date for Submission of Bid:	16.00 Hrs. IST on 15.02.2018
5)	Pre-Bid Meeting	Nil
6)	Date & Place of Opening of Tender (Techno commercial bid):	16.15 Hrs. IST on 15.02.2018 Rm.005, Ground Floor, Department of Ocean Engineering, IIT Madras, Chennai 600036, Tamil Nadu If the due date happens to be a holiday, the tender will be received & opened on the next working day.
7)	Validity of offer:	90 days from the date of opening.
8)	Method of submission of tender:	Two bid system (Technical and Financial bid)
9)	Technical clarification to be obtained from:	Email.: murali@iitm.ac.in dr.murali.iitm@gmail.com
10)	Cost of Tender specification	Nil
11)	Tender Inviting Authority:	Sri. V. Sathyanarayanan, Senior Manager Project Purchase IC & SR Building 2nd Floor, IIT Madras, Chennai – 600 036, Tamil Nadu

INDEX

Sl.No.	DESCRIPTION	Page No.
1	SECTION - I - INSTRUCTION TO BIDDERS	
1.1.	GENERAL	1
1.2.	SCOPE OF WORK	1
1.3.	EARNEST MONEY DEPOSIT	1
1.4.	SCHEDULE FOR RECEIPT & OPENING OF BID	1
1.5.	SUBMISSION OF TENDER	1
1.6	OPENING OF TENDER	2
1.7	TENDER INVITING AUTHORITY	2
2	SECTION - II - COMMERCIAL TERMS AND CONDITIONS	
2.1.	GENERAL	3
2.2.	LOCATION	3
2.3.	COMPLETENESS OF TENDER	3
2.4.	PRICE	3
2.5.	VALIDITY OF TENDERS	3
2.6.	PAYMENT TERMS	4
2.7.	SCHEDULE & SUBMISSION OF REPORT	4
2.8.	FORCE MAJEURE	4
2.9.	TAXES	5
2.10.	JURISDICTION FOR LEGAL PROCEEDINGS	5
2.11.	ARBITRATION	5
2.12.	SPECIAL CONDITIONS	5


 ii

2.13.	DEVIATIONS OF TENDER	6
2.14.	IC & SR RESERVE THE RIGHT	6
2.15.	EVALUATION AND COMPARISON OF TENDER OFFERS	6
3	SECTION - III - TECHNICAL SPECIFICATION	
3.1.	SCOPE OF SERVICES	7-11
3.2.	BILL OF QUANTITY	12
3.3.	SCHEDULE OF FEES	13
3.4.	ANNEXURE I (UNDERTAKING FOR LEGAL PROCEEDINGS)	14-15



SECTION -I
INSTRUCTION TO BIDDERS

1.1 General:

Separate sealed competitive bid under "Two bid system" is invited for the following works.

"Geotechnical Investigations for the Paradip Port Basin and Approach Channel". (Tender No:OEC/KMUR/053/2017)

1.2 Scope of work:

The scope of the study shall include:

(Detailed scope of work as mentioned under Section-III)

Special Condition:

All Logistical support services is added in the scope of the contractor.

1.2.1 Specification No :OE/Paradip Port/2017/7.

1.2.2 Cost of Tender Specification : Waived

1.3 EARNEST MONEY DEPOSIT (EMD) : Rs. 3,60,000/- (Rupees Three lakhs sixty thousand only)in the form of DD in favour of The Registrar IIT Madras Chennai issued by any Nationalized bank. The amount should be given with technical bid only. If it is found with financial bid the tender is summarily rejected.

1.4 Schedules for Receipt and Opening of Bid:

a) Last date and time for receipt of bids: **16.00 Hrs. IST on 15.02.2018**

b) Date and time for opening of bids : **16.15 Hrs. IST on 15.02.2018**

1.5 Submission of Tender:


Tender should be furnished in sealed cover, super-scribed as

"Geotechnical Investigations for the Paradip Port Basin and Approach Channel". (Tender No: OEC/KMUR/053/2017)

The offer should be addressed to:

Sri. V. Sathyanarayanan,
Senior Manager
Project Purchase
IC & SR Building, 2nd Floor,
IIT Madras,
Chennai - 600 036, Tamil Nadu

1.5.1 The Bidders have the option of sending the bid by Registered post, Courier or submitting the bid in person, so as to ensure that the bids are received in the specified office of the Purchaser, by the date and time indicated in the Sl.No.1.5 above. Bids submitted by Telex/ Fax/ Telegram/e-mail etc. will not be accepted.



1.6 Opening of Tender

The tenders will be opened at **16.15 Hrs. IST on 15.02.2018 Rm.005, Ground Floor, Department of Ocean Engineering, IIT Madras** on the due date and time prescribed in the presence of such of those tenderers who may desire to be present. If the due date for tender opening happens to be a holiday, the tenders will be opened on the next working day.

The individuals attending the opening of tenders should be duly authorized by the participating firms in the tender.

If the tenderer has any doubt about the meaning of any portion of this specification, he may address the Tender Inviting authority which should reach at least one week before opening of this tender. Any clarification received after this date will not be entertained.

1.7 Tender Inviting Authority

**Sri. V. Sathyanarayanan,
Senior Manager
Project Purchase
IC & SR Building 2nd Floor,
IIT Madras,
Chennai - 600 036, Tamil Nadu**



SECTION - II
COMMERCIAL AND TECHNICAL CONDITIONS

2.1 GENERAL

The scope of services shall be as detailed in Section - III of this specification.

2.2 LOCATION

The project site is **Paradip Port, Odisha, India.**

2.3 COMPLETENESS OF TENDER

The tender should be complete in all aspects. The tenderer shall furnish all relevant details called for in the specification with supporting documents wherever required for considerations by I.I.T. Madras. The tenders not containing the complete details as requested in the specification are liable for rejection.

2.4 PRICE

Tenderers shall quote price separately for each item in the respective schedule as prescribed in the specification.

2.5 VALIDITY OF TENDER

Tenders should be valid for acceptance for a period of at least **Ninety (90) days** from the date of tender opening. In case any bidder quotes a lower validity period than that called for, his offer shall be liable for rejection. In exceptional circumstances, the purchaser may solicit the bidder's consent to an extension of the period of the validity. The request and response thereto shall be made in writing (including fax or telex).

2.6 PAYMENT TERMS:-

Payment will be made as per the following methods

Sl.No	Description	% Total Consultancy charges
1	Advance payment will be made after successful completion of two boreholes.	30
2	On submission of Draft report duly accepted by IITM Administration.	50
3	On submission of final report duly verified and accepted by IITM Administration.	20


3.1

2.6.1 Payment will be made by Cheque / Bank transfer on any one of the commercial banks or their branches in India as may be decided by IC & SR from time to time.

2.6.2 Offers agreeing to the above terms of payment will be preferred. IC & SR may reject the offers with other terms of payment.

2.7 Schedule of Submission of Report:

Submission of Draft report: One (1) Month from the date of award of work

Submission of Final Report: After Two (2) Weeks from the date of draft report submission.

2.8 FORCE MAJEURE

2.8.1 Neither the Contractor nor the Purchaser shall be considered in default in performance of its obligations hereunder if such performance is prevented or delayed for any causes beyond the reasonable control of the party affected, such as war, hostilities, revolution, riot, civil commotion, epidemic, major fires, explosions, floods, earthquakes or because of any law, order, proclamatory regulations or ordinance of Government or because of any act of God, provided notice in writing of such cause with necessary evidence that the obligation under the Contract is thereby affected or prevented or delayed, is given within 14 days from the happening of the event and in any case it is not possible to serve the notice within 14 days period, then within the shortest possible period without delay. In case the force majeure conditions prolong beyond a continuous period of 6 months, the Purchaser shall be entitled to decide the further course of action including revisions in the terms of Contract, if any.

2.8.2 As soon as the cause of Force Majeure has been removed, the party whose ability to perform its obligation has been affected shall notify the other party the actual delay occurred on account of such activities.

2.8.3 Although the time for completion of work shall be suitably extended (not exceeding the period during which the work was stopped on account of Force Majeure clause), such extension shall not result in any financial claim by the Contractor against the Purchaser or any account of such a delay for any other reason whatsoever.



2.9 TAXES

The price quoted shall be firm and shall be inclusive of all statutory levies and taxes including GST. Necessary income tax will be deducted at source on each bill as per the regulations in force. If the Institution is exempted from payment of income tax, the documentary evidence for the same has to be furnished.

2.10 JURISDICTION FOR LEGAL PROCEEDINGS

No suit or any proceedings in regard to any matter arising in any respect under this contract shall be instituted in a Court Save in the City Civil Court of Chennai or the Courts of Small Causes at Chennai. It is agreed that no other courts shall have jurisdiction to entertain any suit or proceedings even though part of the cause of action might arise within their jurisdiction. In case any part of cause of action arises within the jurisdiction of any of the courts in Tamil Nadu and not in the courts in the Chennai City, it is agreed to between the parties that such suits or proceedings shall be instituted in a court within Tamil Nadu and no other court outside Tamil Nadu shall have jurisdiction, even though any part of the cause of action might arise within the jurisdiction of such courts.

The bidders shall furnish an undertaking in a non-judicial stamp paper of value Rs.100/- agreeing to the above condition as per schedule furnished in Annexure-II.

2.11 ARBITRATION

Arbitration is not applicable to this contract.

2.12 SPECIAL CONDITIONS

2.12.1 Special Conditions (Compulsory for eligibility criteria):

- **The indenting tenderers must have completed minimum Three similar nature of works in the proceeding financial/ calendar year.**
- **The intending tenderer must have completed a similar nature of work worth Rs. 1.35 Crores in any one of the three preceding financial / Calendar year. Copy of proof for completing the project duly signed by tender accepting authority has to be attached with the tender.**
- **The bidder shall provided proof of availability of all equipment for immediate mobilization**

2.12.2 Completion period of project: 45 Days

- **The successful tenderer after getting the work order the mobilization of equipment has to be done on or before 22.02.2018.**
- **In view of the fair weather conditions available till February 2018, the strict time limit has to be adhered by the successful tenderer. No extension of date is allowed under any circumstances.**
- **All field investigation shall be completed by 2nd week of March 2018.**



5/1/18

The tenderers should clearly indicate their acceptance or otherwise to the following terms and conditions.

- Specific acceptance of Board's terms of payment.
- Board's terms of Liquidated damages for delay in completion of work.
- Validity of tender.

If no indication is given by the tenderer in his offer, it is presumed that the tenderer is agreeable to the terms and conditions of IC & SR mentioned in the specification.

All information in the bid shall be in ENGLISH only. All corrections, over typing etc. in the tender should be attested.

Tenderers are advised to post sufficiently early so as to ensure that the tenders reach this office in time. Tenders though posted in time but delayed in transit by post will not be considered, if received after the due date and time.

2.13 DEVIATIONS IN TENDER

Offers which conform to the specification without any deviation will be preferred. If the tenderer wants to deviate from any of the terms and conditions, the same shall be mentioned clearly.

2.14 I.I.T. MADRAS RESERVES THE RIGHT

- I.I.T. Madras has the right to accept the whole or any part of the Tender or portion of the quantity offered or reject it in full without assigning any reason.
- To relax or waive any of the conditions stipulated in the tender specification as deemed necessary in the best interest of the project for good and sufficient reasons.
- To revise the quantum of works/completion period of work of any or all the items covered by this enquiry during the pendency of contract and to terminate the contract in between the agreed stipulated period.

2.15 EVALUATION AND COMPARISON OF TENDER OFFERS

- The evaluation of the Tender will be done as per IIT Madras guidelines
- The evaluation shall include contract value of works with applicable sales/service tax, etc.,
- In case of discrepancy between the prices quoted in words and in figures, the lower of the two shall be considered.



SECTION - III

TECHNICAL SPECIFICATION

SCOPE OF SERVICE

3.1. TITLE OF THE PROJECT WORK

“Geotechnical Investigations for the Paradip Port Basin and Approach Channel”

3.1.1 Introduction

Department of Ocean Engineering, IIT Madras, Chennai intends to conduct field study for the Geotechnical Investigations of the Paradip Port Basin and Navigational Channel including the approach channel and entrance channel.

3.1.2 Objectives & Scope

The project scope is to conduct Geotechnical investigations of Paradip Port (Fig 1) Basin and Approach channel.

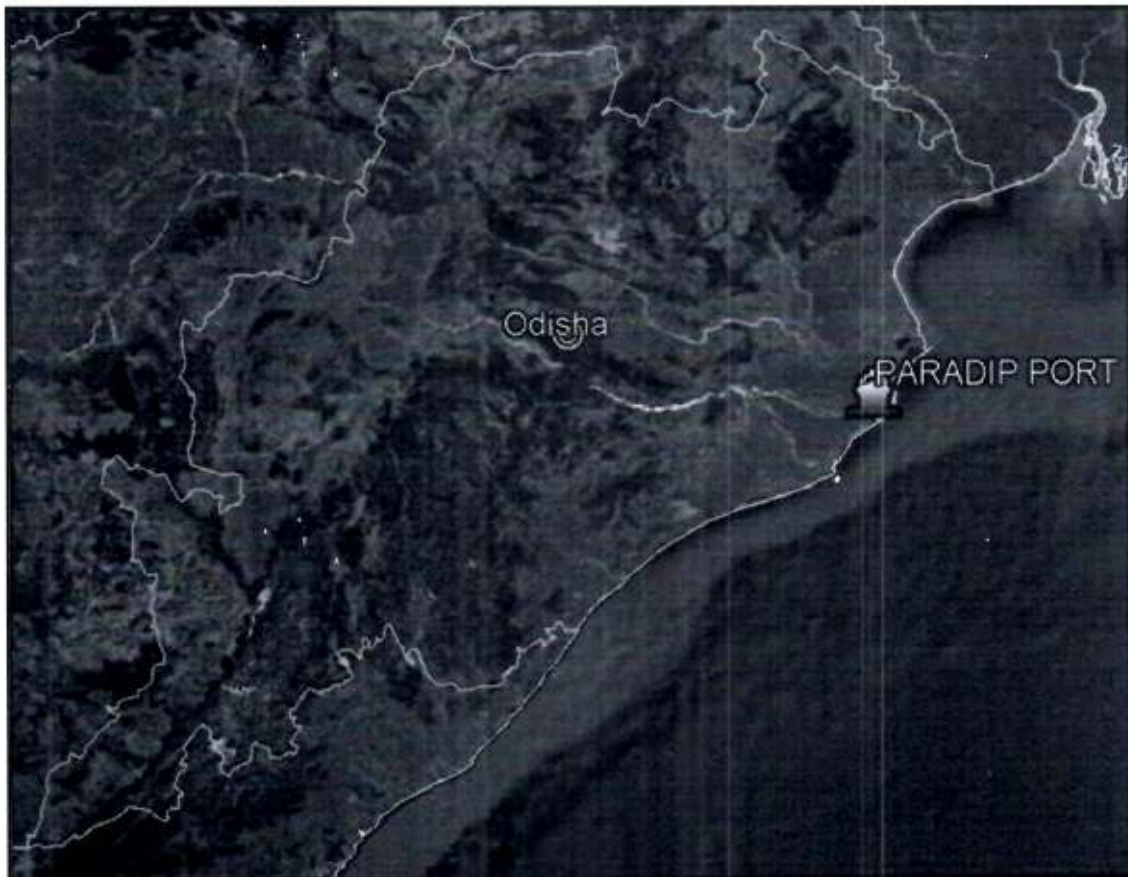


Fig 1. Location map of Paradip Port, Odisha

3.1.3 Scope of Work

Geotechnical Investigation of the Paradip Port Basin and Navigational Channel is to identify the sub bottom layers seabed, soil and rock types, determining the in-situ physical and mechanical properties of the materials and sampling of materials for laboratory tests. The Paradip port Basin and Navigational Channel boundary shown in figure.2 covering an area of approximately 14km. into the sea with approximately 300m wide. The total tentative borehole number is 46 within the Port Basin (approximately 10nos) and Navigational Channel (approximately 36nos). The envisaged borehole locations will be less than (-) 25 m water depth w.r.t CD.

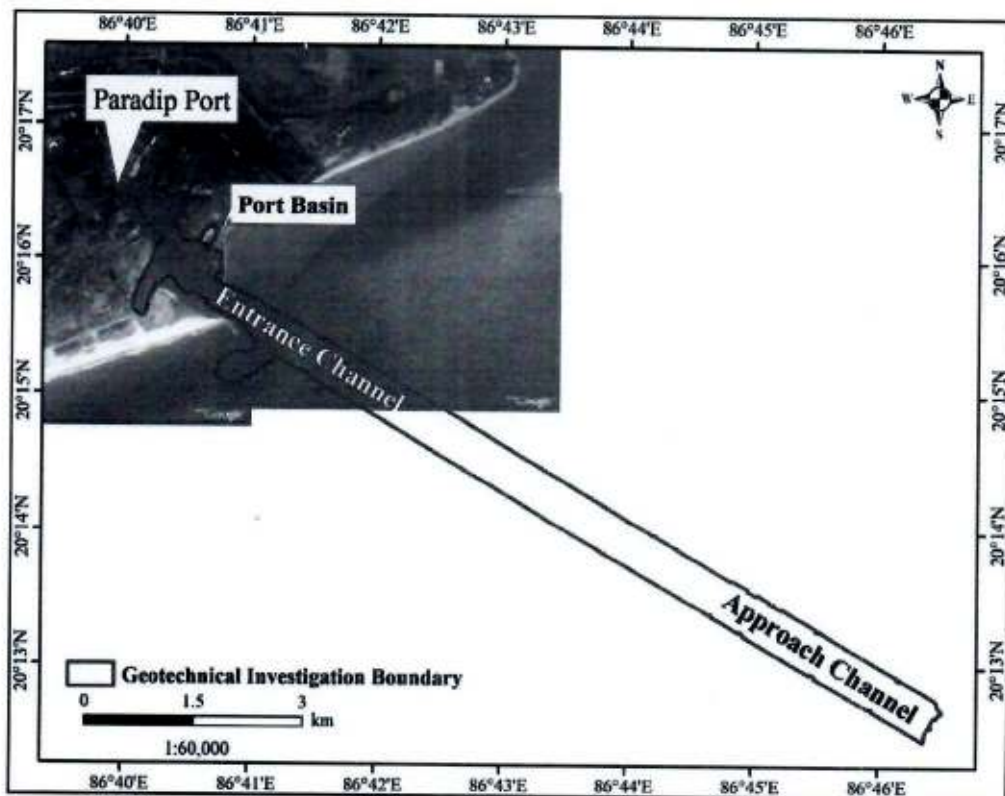


Fig 2. Geotechnical Investigation Boundary for Paradip Port

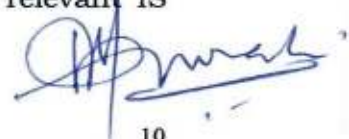
The Detailed Geotechnical Investigations along with the followings:

- To carry out subsoil investigation by drilling 150 mm dia boreholes.
- All boreholes shall be terminated at -8 m depth from the prevailing bed level of navigational channel/basin.
- Standard testing will be upto 5 m deep, sample test will in 1 m interval and after 5m test will be 1.5 m interval.
- Undisturbed samples will be collected if clay layer encountered.
- When the change in strata, additional samples will be collected.

- During the course of investigation additional samples may require to collect.
- To conduct the test as indicated and any other that may be found necessary during the execution of the project.
- The identification of the materials, soil, rock, hard surface materials along with their types, formation and details (locations, extent, classification, properties, etc)
- Identification of sub bottom layers of seabed
- In-situ Physical and Mechanical properties of the seabed materials
- Sampling of Materials for Laboratory tests
- Investigation techniques includes:
 - Wide range of the sampling
 - Grab Sampler
 - SPT
 - UDS
 - Drilling
 - Coring
 - Testing techniques
 - Vibro-Coring
- Classification of soil as per Indian Standard IS:1498-1970
- PIANC Soil Classification
- Borehole Investigations includes:
 - Particle Size Analysis and Atterberg Limits
 - Density & Moisture content
 - Shear Strength
 - Cohesion
 - Bulk Density
 - SPT/N-Value
- Borehole arranged entire profile area in staggered
- Intermediate borehole may planned whenever intricacies
- Vertical accuracy is critical and tides have to be correctly accounted to boring depths.
- Number of boreholes in rocky area will/may be decided later by the port.



- The number, locations and the depth of boreholes and the test on core samples collected may be varied depending upon the material found during the progress of investigation.
- Hard Strata & Rocky region the followings also to be assessed
 - a. Compressive/Tensile Strength
 - b. Density and Porosity
 - c. Hardness and Abrasiveness
 - d. Core Recovery and Rock Quality Designation (RQD)
 - e. Logging and Fracture state
- Report including the equipments used for marine sampling, laboratory, positioning, datum, water depth measurements, boring logs, full laboratory test descriptions and results and field and lab notes.
- A detailed draft and final report comprising the output of all the above-mentioned tests and analysis shall be submitted as laid down in these specifications.
- The Geotechnical investigation shall be carried out in marine environment by mobilizing suitable marine spread to conduct soil investigations, borehole, etc. The marine spread shall be in the form of jack-up rigs, staging platform or any other system to suit the marine conditions. The mobilized system shall be capable of handling men, equipment and machinery of drilling requirement and it shall have sufficient space for drilling operation. The working platform shall provide a stationery work place such that the boring operation is smooth. The written approval prior to mobilize the appropriate marine spread along with detailed methodology of exploration to satisfy the environmental conditions at the proposed site.
- The necessary arrangements to transport the personnel and officials visiting the site by means of suitable boats from land to offshore investigation location and back whenever required during investigations. Suitable care shall be taken during investigation in the offshore by providing life jackets, lifeboats and any other safety devices/emergency devices to prevent any accident.
- The chart adopting should be in UTM projections showing Northing & Easting and global grids (latitude & longitude) on each.
- Laboratory Results of all tests shall be submitted as per relevant IS Codes.



- All samples shall be identified with date, borehole number, depth of sample etc. Standard Penetration Test shall be carried out at the termination depth and recorded
- Sufficient number of soil samples shall be collected (Disturbed soil samples & Undisturbed samples)
- To carry out all associated works like removal and disposal of debris, setting up and removal and temporary facilities at no extra cost.
- Use suitable positioning system for fixing the position of boreholes in geo-technical investigation. The bidder shall clearly indicate the methodology for maintaining the horizontal / vertical control in the proposal/write up.
- If rock is encountered, the borehole may be terminated 1 m into the rock and after taking core of 50mm sample.



3.2 Bill of Quantity

Item Description	Unit	Quantity	
Mobilizing and demobilizing of boring equipment, personnel and all other necessary machinery for boring works including jack-up / floating pontoon, hydraulic rigs, transportation, shifting of equipments from location to location for boreholes, etc and all complete	LS		
a. Navigational channel Boreholes		1	
b. Paradip Port Basin Boreholes		1	
Moving the boring equipment and position at the location of each borehole including accurate positioning erection/dismantling of rigs etc			
a. Boreholes in the Navigational Channel	Nos	- 36	
b. Boreholes at the entrance and basin	Nos	- 10	
Boring through all types of soils and weathered rock including conducting field tests such as Standard Penetration Tests (SPT), Collecting, packing and transporting disturbed and undisturbed soil samples including ground water samples as per technical specification and all as per relevant IS compete and as directed by IITM			



SCHEDULE OF FEES - I

3.3 SPECIFICATION NO. OE/Paradip Port/2017/7

Name of the Work: "Geotechnical investigations for the Paradip Port basin and approach Channel".

Sl.No	Description	% Total Consultancy charges
1	Advance payment will be made after successful completion of two boreholes.	30
2	On submission of Draft report duly accepted by IITM Administration.	50
3	On submission of final report duly verified and accepted by IITM Administration.	20

- The successful tenderer after getting the work order the mobilization of equipment has to be done on or before 22.02.2018.
- In view of the fair weather conditions available till February 2018, the strict time limit has to be adhered by the successful tenderer. No extension of date is allowed under any circumstances.
- All filed investigation shall be completed by 2nd week of March 2018.

SIGNATURE :
NAME :
DESIGNATION :
DATE :
PLACE :
SEAL :



ANNEXURE-I

(This should be given after giving the work order - This is applicable for selected L1 bidder)

3.4 UNDERTAKING TOWARDS JURISDICTION FOR LEGAL PROCEEDINGS (NON JUDICIAL STAMP PAPER VALUE RS.100/-)

This undertaking executed at..... on this..... (Date)..... (Month) Two thousand and by M/s Registered under Companies Act, 1956 having its registered office at hereinafter called the contractor (which expression shall where the context so admits mean and include its successors in office) and in favour of Indian Institute of Technology Madras, Chennai- 36. hereinafter called the purchaser (which expression shall where the context so admits means and includes its successors if Office and assigns).

WHEREAS a contract for the supply ofhas been awarded in favour of the contractor under the Purchase order No.....dated.....

AND WHEREAS in accordance with the terms of the above Purchase order, the contractor has to furnish un undertaking to the effect that no suit or any proceedings in regard to any matter arising in any respect under this contract shall be instituted in any matter in any respect under this contract shall be instituted in any court other than in the High Court, Madras of District court at or Sub-court ator at the District Munsiff court at as the case may be.

IN CONSIDERATION of the Board having agreed to accept the undertaking the contractor hereby undertakes that no suit or any proceedings in regard to any matter arising in respect of this contract shall be instituted in any court, save in the High court, Madras or District court at.....or sub court at or at the District Munsiff court atas the case may be it is agreed that no other court shall have jurisdiction to entertain any suit or proceedings, even though, part of the cause of action might arise within their jurisdiction. In case any part of the cause of action



might arise within the jurisdiction of any other Courts in Tamil Nadu and rest within the jurisdiction of Courts outside the State of Tamil Nadu, then it is agreed to between the parties that such suits on proceedings shall be instituted in a court within the State of Tamil Nadu and no other Court outside the State of Tamil Nadu shall have jurisdiction.

IN WITNESS WHEREOF Thiru.....of
M/s hereby put his hand and seal for due observance of the
undertaking in the presence of the following witnesses.

COMPANY SEAL		SIGNATURE	:
DESIGNATION	:		
COMPANY	:		
DATE	:		

WITNESSES:

- 1)
- 2)

