

**Bid Document
for
Installation, Commissioning and Testing of 24F ADSS & UG OF
cable over 132 KV/ 220 KV transmission lines,1 year performance
warrenty for ADSS and OLTE & MUX project of APTRANSCO**

Tender No: TCIL/052/727/011/11-NT

Issued on : Fenruray 24, 2011

Issued By :

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Telecommunications Consultants India Ltd.

(A Govt. of India Enterprise)

NT Division

TCIL Bhawan, Greater Kailash-I

New Delhi – 110048 (India)



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SECTION-1

**Tender No.: TENDER NO.: TCIL/052/727/011/11-NT
February 24, 2011**

NOTICE INVITING TENDER

Sealed tenders are invited from eligible/experienced bidders/firms/organizations/service providers for Installation, Commissioning and testing (including Integration in the Networks & Training), Performance Warranty 1 year for ADSS and OLTE & MUX projects of APTRANSCO.

Tenders documents shall be available from the office of Group General Manager (NT) 4th Floor, TCIL Bhawan GK-I, New Delhi - 110 048 on payment of non-refundable fee of Rs. 400), by Demand Draft in favour of “**Telecommunications Consultants India Ltd.**”, Payable at New Delhi.

Tenderers requesting tender documents through post should include an additional amount of Rs.50. Mailing of tender will be wholly at the risk of the Tenders.

Last date of sale of tender documents is **March 10, 2011 upto 02:00 pm.**

Complete tender documents are also available on TCIL’s website, address given below:

[http:// www.tcil-india.com](http://www.tcil-india.com)

The documents downloaded by the parties from the website shall be valid for participation in the tender process. **Those making use of the tender documents downloaded from the website shall have to pay the fee of the document, i.e. RS 400, in the form of a demand draft along with the tenders. Tenders received without the requisite fee shall be considered as invalid ab-inito.**

ELIGIBILITY CRITERIA

PHYSICAL :

1. The bidder must have successfully executed at least three 40% or two 50% or one 80% of the tendered quantity of the ADSS optical fibre cable of same/higher grade or OPGW or both with or without transmission lines or higher class indicated in the “schedule of requirement” in one continuous period of 12 months and its financial turnover during any one year of the last five years should have been equal or more than 100% value of the package now quoted.

FINANCIAL:

1. Average Annual Turnover of the bidder should be at least INR 0.45 Crore, during the last three financial years ending 31-03-2011.
(Please submit Audited Account & Annual Report).
2. Bidder should have the experience of having completed similar works, i.e. Installation, testing & Commissioning of ADSS/OPGW type cables or higher grade for a total value of Rs 0.27 crore in single contract, Rs. 0.19 CR.in two contracts and Rs. 0.14 Cr. in three contracts during last seven years ending 20-02-2011.

- (Please submit Completion/Execution Certificate from the Client/Copy of P.O)
3. The bidder should not have been barred/ black-listed/ dis-qualified for similar kind of project by any central government department/state government organization or central / state PSU/ APTRANSCO.

Note:

- i) Bidder **should** provide necessary supporting documents as proof in respect of the eligibility criteria mentioned in the bracket against each clause.
- ii) The Bidder should submit details of methodology proposed to be deployed in executing the projects alongwith the scheduled in bar chart form.
- iii) In case of Consortium, the qualification of the Consortium Partners in a bid will be considered collectively to meet the Eligibility Conditions mentioned above.
- iv) In case of consortium, the bidder has to submit Consortium Agreement identifying the Lead Partner. It must contain a clause that all the Consortium Partners are jointly and severally responsible to execute the contract issued in the name of the Lead Partner.
- v) The bidder must submit the Income Tax Return for last 3 financial years.

Earnest money amounting to Rs. 1,00,000/- (Rupees One Lakh Only) by Demand Draft in favour of “Telecommunications Consultants India Ltd.”/Bank Guarantee in the prescribed format from a scheduled bank from its branch at Delhi/New Delhi shall be submitted along with the tender.

Tenders received without EMD/inadequate EMD, and without the requisite Tender Fee of Rs 400/- for documents downloaded from TCIL website shall be summarily rejected.

Two-part bid system shall be adopted, i.e., Techno-Commercial Offer and Price Offer.

Tender documents fee (when documents are downloaded from website) and EMD shall be part of Techno-Commercial Offer.

The tenders shall be submitted in the Office of Group General Manager (NT), TCIL, 4th Floor, TCIL Bhawan, G.K.-I, New Delhi-110048 on **or before 15:00 hrs., on March 10, 2011.**

In the first stage, the Techno-Commercial Offers shall be **opened at 16:00 hrs., on March 10, 2011** in the presence of Tenderers or their authorized representatives present at the time of tender opening.

The Price Offers of only those parties who qualify in the first stage shall be opened at time and date to be notified separately.

The provision relating to Purchase Preference Policy of Government of India in vogue shall duly be extended to Product and Services of Central Public Sector Enterprise (CPSE).

TCIL reserves the right to accept or reject any or all the tenders without assigning any reason.

(H.K.Verma)
Group General Manager (NT)

-END OF SECTION 1-

SECTION 2

Tender No.: TCIL/052/727/011/11-NT

March 10, 2010

INSTRUCTIONS TO BIDDERS

2.1 INTRODUCTION (DEFINITIONS)

- 2.1.1** “Purchaser” means Telecommunications Consultants India Ltd. (TCIL), its Head Quarter at New Delhi or any other project/branch offices within or outside India.
- 2.1.2** “Bidder” means the individual or firm or corporate body or consortium or association of persons who participates in the tender and submits its bid.
- 2.1.3** “Goods/Products” means all the hardware equipments, instruments, tools, machinery etc., and/or other materials like components/parts/spares including consumables which the Contractor is required to supply to the Purchaser under the Purchase Order.
- 2.1.4** “Letter of Intent (LOI)” means the communication of the intention of the Purchaser to the Bidder to place the Purchase Order for the former’s offered goods/services.
- 2.1.5** “Purchase/Work Order (PO)” means the order placed by the Purchaser on the Contractor duly signed by the Purchaser’s authorized representative to purchase certain goods & services from the vendor/contractor.
- 2.1.6** “Contract Price” means considerations payable to the Contractor/contractor as stipulated in the Purchase or Work Order for performance of specified contractual obligations.

2.2 BIDDER TO BEAR COST OF PURCHASE OF TENDER

The Bidder shall bear all costs associated with the preparation and submission of the bid. The Purchaser in any case will not be responsible or liable for these costs regardless or the conduct of the bidding process.

2.3 BID DOCUMENTS

2.3.1 Bid Documents includes:-

| | |
|-----------|-------------------------|
| Section 1 | Notice Inviting Tender |
| Section 2 | Instructions to Bidders |

| | |
|-----------|---|
| Section 3 | General (Commercial) Conditions of the Contract |
| Section 4 | Special Conditions |
| Section 5 | Bill of Quantity (BOQ) and Price Bid Schedule |
| Section 6 | Scope of Work and Technical Specifications |
| Section 7 | Format of Bid Bond/EMD |
| Section 8 | Format of Performance Bank Guarantee (PBG) |
| Section 9 | Pan-African e-Network architecture diagram |

2.3.2 Any clarification or communications obtained from the Purchaser

2.4 AMENDMENT TO BID DOCUMENTS

2.4.1 At any time, prior to the date of submission of bids, the Purchaser may for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder, modify the bid documents by amendments.

2.4.2 The amendments will be notified in writing or by telex or fax to all prospective bidders who have received the bid documents and these amendments will be binding on them.

2.5 EXTENSION OF TIME

In order to give prospective bidders required time in which to take the amendments into action in preparing their bid, the Purchaser may at its discretion extend the deadline for submission of bid suitably.

2.6 BID PRICE

Unit prices/rates shall be quoted as given in Special Conditions of the tender in Section – 4.

2.7 BIDDERS ELIGIBILITY AND QUALIFICATIONS

Bidder shall furnish as a part of bid documents establishing the bidder's eligibility to provide the services. The bidder shall also submit documentary evidence in the form of literature, drawing, data on the services offered.

2.8 BID SECURITY

2.8.1 The Bidder shall submit, as part of bid security as mentioned in the NIT. The bid security shall be in one of the following forms:-

(a) A Bank Guarantee as per enclosed format issued by a schedule bank in favour Purchaser valid for a period of 180 days from the date of tender opening.

(b) Demand Draft or Pay Order from a Scheduled Bank in favour of M/s Telecommunications Consultants of India Ltd., payable at Delhi.

2.8.2 The bid not secured in accordance with the above shall be rejected by the Purchaser as non-responsive.

- 2.8.3 The bid security of the unsuccessful bidder will be discharged/ returned as promptly as possible but not later than 30 days after expiry of the bid validity period prescribed by the Purchaser.
- 2.8.4 The successful bidder's bid security will be discharged upon the bidder's submission of the Performance Guarantee.
- 2.8.5 The bid security may be forfeited under the following circumstances:-
- a) If a bidder withdraws his bid during the period of bid validity specified by the bidder on the bid form.
 - b) In case of a successful bidder, if he fails to submit the Performance Guarantee within the time prescribed or
 - c) If he fails to supply the material in terms of the project.
- 2.8.6 No interest is payable on EMD.
- 2.8.7 In case of inadequacy or non-submission of prescribed EMD, the tender shall be deemed to be disqualified and shall be summarily rejected in the technical evaluation.

2.9 VALIDITY PERIOD OF BID

Bid shall remain valid for 120 days after the date of bid opening. The bid valid for a shorter period shall be rejected by the Purchaser as non-responsive.

In exceptional circumstances, the purchaser may request the consent of the bidder for an extension to the period of bid validity. The bid security provided under clause 2.8.1 (a) shall also be suitably extended. A bidder accepting the request and granting extension will not be permitted to modify his bid.

2.10 FORMAT OF SIGNING OF THE BID

- 2.10.1 The bidder shall prepare two copies of the bid clearly marking as one copy as "Original Copy" and the other as "Copy" & also provide softcopy of technical on CD-ROM in MS-Word format.
- 2.10.2 In the event of any discrepancy between them, original shall prevail.
- 2.10.3 The original copy of the bid shall be typed and shall be signed by the bidder or a person duly authorized by the bidder. The Letter of Authorization shall be accompanied by a written Power of Attorney accompanying the bid.
- 2.10.4 All pages of the original bid except printed literature shall be initialed by the person signing the bid.
- 2.10.5 The bid shall contain no interlineations, erasures or overwriting except as necessary to correct errors made by the bidder in which case such corrections shall be initialed by the bidder signing the bid.

2.11 DEADLINE FOR SUBMISSION OF BID

Bid must be received by the Purchaser at the address specified and not later than the date and time specified in the NIT.

2.12 LATE BID

Any bid received late by the Purchaser after the deadline for submission of the bid shall be rejected and returned un-opened to the bidder.

2.13 MODIFICATION AND WITHDRAWAL OF BIDS

2.13.1 The bidder may modify or withdraw his bid provided that written notice of modification or withdrawal is received by the Purchaser prior to the deadline prescribed for submission of bids.

2.13.2 No bidder may modify or be allowed to withdraw bid subsequent to the deadline for submission of bids.

2.14 OPENING OF TECHNO-COMMERCIAL OFFER (PART-1)

2.14.1 The Purchaser shall open the Techno-Commercial Offer (Part-1) in the presence of authorized bidder's representatives who choose to attend at date and time specified in the NIT. The bidder's representative who are present shall sign the Attendance Register.

2.14.2 A maximum of two representatives for any bidder shall be permitted and authorized to attend the bid opening.

2.14.3 The date fixed for opening of bids, if subsequently declared as holiday by the TCIL, the revised date of schedule will be notified. However, in absence of such notification, the bids will be opened on next working day, time and venue remaining unaltered.

2.15 CLARIFICATION OF BIDS

2.15.1 To assist evaluation and comparison of the bids, the Purchaser may at its discretion may ask the bidder for clarification of the bid. The clarification and response from bidder shall be in writing.

2.15.2 The Purchaser does not bind himself to accept the lowest or any tender and reserves to himself the right to accept the whole or any part of the tender and altering the quantities offered and tenderer shall supply the same at the rate quoted.

2.16 EVALUATION OF TENDERS

2.16.1 The Purchaser shall evaluate the bids in respect to the substantive responsiveness of the bid or otherwise. The Purchaser shall carry out detailed evaluation of the substantially responsive bids. The Purchaser shall check the bid to determine whether they are complete, whether any computational errors have been made or required sureties have been furnished.

2.16.2 Arithmetical error shall be rectified on the following basis :-

- a) If there is a discrepancy between the unit price and total price that is obtained multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected by the Purchaser.
- b) In case of discrepancy between words and figures, the amount in words shall prevail.

2.16.3 A bid determined as substantially non-responsive shall be rejected by the Purchaser.

2.16.4 The Purchaser may waive any minor infirmity or non-conformity or irregularity in the bid which does not constitute a material deviation.

2.16.5 The Purchaser shall evaluate in detail and compare the bids which are substantially responsive.

2.16.6 The ranking of techno-commercially compliant bidders will be decided based on the total bid value.

2.17 PURCHASER'S RIGHT TO VARY QUANTITIES

2.17.1 The Purchaser reserves the right at the time of award of the contract to increase the quantity of the services specified in the schedule of requirements without any change in unit price of the ordered quantity.

2.18 PURCHASER'S RIGHT TO ACCEPT ANY BID AND TO REJECT ANY OR ALL BIDS

The Purchaser does not bind himself to accept lowest or any other tender/bid and has the right to cancel the bidding process and reject all bids at any time prior to award of the contract without assigning any reasons whatsoever and without thereby incurring any liability to the affected bidder on the grounds for the Purchaser's action.

2.19 NOTIFICATION OF SUCCESSFUL BIDDER

2.19.1 Prior to the expiration of the bid period, the Purchaser will notify the successful bidder in writing by registered letter or fax, to be confirmed in writing by registered letter that its bid has been accepted.

2.19.2 Upon successful bidder furnishing of Performance Guarantee, the Purchaser will notify each successful bidder and will discharge its bid bond.

2.20 ISSUE OF LETTER OF INTENT

2.20.1 The issue of Letter of Intent shall constitute the intention of the Purchaser to place the Purchase Order with the successful bidder.

2.20.2 The bidder shall within 7 days of issue of Letter of Intent give its acceptance alongwith Performance Guarantee in conformity with the bid documents.

2.21 CANCELLATION OF LETTER OF INTENT

Failure of the successful bidder to comply with the requirement of submission of Performance Guarantee in time shall constitute sufficient ground for the cancellation of

the acceptance of bid and forfeiture of the bid bond, in which case Purchaser may make the offer to any other bidder at the discretion of the Purchaser or call for new bids.

2.22 POST BID CLARIFICATIONS

No post bid clarification at the initiative of the bidders shall be entertained and any effort by the bidders to influence the Purchaser in the Purchaser's bid evaluation, bid comparison or award of the contract shall result in rejection of the bid.

2.23 DELIVERY

Delivery of the services shall be made by the Contractor in accordance with the terms specified by the Purchaser in the Special condition of the contract and Services shall remain at the risk of the Contractor until delivery have been completed in full. The Schedule of delivery shall be the essence of the contract.

2.24 SUBMISSION OF BID

Sealed offer shall be submitted in two separate envelopes.

Envelope 1 superscribed as PART-1 (Techno-Commercial Offer) shall contain the following:

- a) Documentary evidence in respect of the eligibility criteria mentioned in the N.I.T.
- b) EMD/Bid Bond
- c) Demand Draft for Rs. 400/- in favour of "Telecommunications Consultants India Ltd." payable at New Delhi if the tender document is downloaded from the website.
- d) **Technical Offer of the bidder should contain the following:**
 - i) Detail mechanism and methodology proposed to be deployed in organizing Installation, Commissioning, Integration into the Network, Training, Warranty and AMC.
 - ii) Detailed program of performance of the Contract (L2 Network) in the form of the Critical Path Method (CPM), the PERT network.
 - ii) Un-priced bid schedule (which shall not include any price) exactly in the same format as that of the price bid covering the entire BoQ.
- e) A statement showing Clause-by-Clause compliance to all Terms & Conditions of all the Section of the tender.
- f) **The bidder has to submit in his technical bid, un-priced bid schedule (which shall not include any price and warranty percentage) exactly in the same format as that of price bid covering the entire BOQ. In case this is not submitted in the technical bid, the technical bid shall be considered incomplete.**

Envelope 2 superscribed as PART-II (Price Offer) shall contain the Price Bid Schedule as per the format given in Section –5 of the Bid Document. **Soft copy of the price bid in Excel format on CD is to be submitted along with the hard copy in the price bid.**

A single sealed envelope containing both the envelopes (i.e. Envelope 1 & Envelope 2 sealed separately) shall be addressed to the purchaser at the following address:

Group General Manager (NT)
Telecommunications Consultants India Limited,
NT Division,
TCIL Bhawan, Fourth Floor,
Greater Kailash – I,
New Delhi – 110 048.
Tel: +91-11-2624 2415/2620 2403
Fax: +91-11-2624 2266/2624 1847

The envelopes should be superscribed **“Tender No.: TCIL/052/727/011/11-NT dated Feb. 24, 2011** for Installation, Commissioning and Testing of 24F ADSS & UG OF cable over 132 KV/ 220 KV transmission lines, 1 year performance warranty for ADSS and OLTE & MUX project of APTRANSCO and also **“Do not open before March 10, 2011”**.

The tender may be sent by the tenderers by Courier/Speed-post, with the envelope marked as above. Alternatively, tenders may also be deposited by the tenderers in the tender box kept in NT-Division at 4th floor at TCIL Bhawan.

The tender box shall be sealed at the stipulated deadline for submission.

The tender box shall be opened at the stipulated time of opening in the presence of intending bidders.

The names/designations of concerned officers who can be contacted are mentioned below:

(HK Verma)
Group General Manager (NT)
Tele: 26202408

(Subhasis Pal)
Sr. Manager (NT)
Tele: 26202408

- (i) The inner and outer envelopes shall indicate the name and address of the bidders to identify the bid and to enable the bid to be returned unopened in case it is declared ‘late’ or ‘rejected’.
- (ii) **VENUE OF TENDER OPENING:** Tender shall be opened in the O/o. GGM (NT), 4th floor TCIL Bhawan, New Delhi-110048 at the time on the due date mentioned in the N.I.T. If due to administrative reason the venue of Bid opening is changed it will be duly displayed at the Reception Hall of TCIL Bhawan.
- (iii) Offer received through Fax/E-mail or through open letter shall be ignored.

2.25 OPENING OF PRICE OFFER

Price offer of only those bidders will be opened whose Techno-Commercial offers are found to be qualified and acceptable to TCIL. Bidder's representative may attend the Price Offer opening. The qualified parties shall be notified with the date, time & venue of the opening of the Price Offer.

- 2.26** The bidder has to submit in his technical bid with un-priced bid schedule (which shall not include any price and warranty percentage) exactly in the same format as that of price bid covering the entire BOQ. In case this is not submitted in the technical bid, the technical bid shall be considered incomplete. Soft copy of the price bid in Excel format on CD is to be submitted along with the hard copy in the price bid.
- 2.3 After the award of work to the successful bidder and signing of the Agreement, the Employer will promptly notify the other bidders that their Bids have been unsuccessful and their EMD shall be returned accordingly

-END OF SECTION 2-

SECTION - 3

Tender No.: TCIL/052/727/011/11-NT

Feb 24, 2011

GENERAL (COMMERCIAL) CONDITIONS OF THE CONTRACT

3.1 PRICE APPLICABILITY

Prices in the Purchase Order shall remain valid for the period of delivery schedule or extended delivery schedule. In case of delayed supplies, after delivery period, the advantage of reduction of taxes/duties shall be passed onto the Purchaser and no benefit of increase will be permitted to the Contractor.

3.2 STANDARDS

The Services rendered under the contract shall conform to the standards mentioned in the Technical Specifications.

3.3 PATENT RIGHTS

The Contractor shall indemnify the Purchaser against all third party actions/claims of infringement of patent, trademark or industrial design rights arising from the use of goods/services or any part thereof.

3.4 PERFORMANCE SECURITY

3.4.1 Within 7 days of the Contractor's receipt of Letter of Intent (LOI)/P.O., the Contractor shall furnish a Performance Security for the amount of 10% of the contract/P.O value.

3.4.2 The proceeds of the Performance Security shall be payable to the Purchaser as compensation for any loss resulting from the Contractor's failure to complete its obligations under the contract.

3.4.3 The Performance Bond shall be in the form of Bank Guarantee issued by a Scheduled Bank situated in India and in the form provided by TCIL.

3.4.4 The Performance Bond will be discharged by the Purchaser after completion of the Contractor's obligations including any warranty obligations under the contract.

3.4.5 As regards validity of PBG, please refer to Special Conditions of the contract (Section-4).

3.5 INSPECTION AND TESTS

The accredited representative of the TCIL will have access to the contractor's work at any time during working hours for the purpose of inspecting the materials during

project execution and testing and may select test samples from the materials going into plant and equipment. The contractor will provide the facilities.

- 3.5.1 As regards Inspecting Authority and other details please refer to Special Condition of the Contract (Section-4).

3.6 TRAINING (WHERE REQUIRED)

- 3.6.1 The Bidder shall provide training for installation and maintenance staff of the Purchaser free of cost, where required.

- 3.6.2 The Bidder shall specify in his bid the number of trainees, quantum of proposed training, pre-training qualifications required of the trainees and the duration of the proposed training required.

- 3.6.3 The Bidder shall provide all training materials and documents and aids.

- 3.6.4 Conduct of training of the Purchaser's personnel shall be at the Contractors' plant and/or on-site in assembly start-up operation, maintenance and/or repair of the supplied goods.

3.7 WARRANTY

- 3.7.1 12 months to be reckoned with the final date of completion of the contract.

3.8 CHANGE ORDERS

- 3.8.1 The Purchaser may at any time by written order given to the Contractor make changes within the general scope of the contract in Services to be provided by the Contractor.

- 3.8.2 If any such change causes an increase or decrease in the cost or the time required for the execution of the contractor, an equitable adjustment shall be made in the contract price and the contract shall accordingly be amended.

3.9 SUB-LETTING

The Bidder cannot assign or transfer and sub-contract its interest/ obligations under the contract.

3.10 LIQUIDATED DAMAGES

- 3.10.1 The time for and the dates for erection mentioned in the contract will be deemed to be the essence of the contract. Subject to force majeure clause, if the contractor fails to perform the Services within the period(s) specified in the Contract, the Purchaser will, without prejudice to its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to 2% per week on the undelivered portion subject to a maximum of 10% of the total value of the contract. Once the maximum is reached the Purchaser may consider termination of the contract.

In case contractor does not achieve a particular milestone(s), amount calculated against the milestone will be withheld to be adjusted against the compensation levied at the

final grant of extension of time. Withholding of this amount on failure of achieving milestone(s) shall be automatically without any notice to the contractor. However, if the contractor catches up with the progress of work or the subsequent milestone(s), the withheld amount shall be released. In case of contractor fails to make up for the delay in subsequent milestone(s), amount mentioned against each milestone, issued subsequently shall also be withheld. However, no interest, whatsoever, shall be payable on such withheld amount.

However, where the LD rate is higher in tender or requirement with main client, the same will be applicable. In such cases, company also reserves the right to cancel the order and forfeit the PBG and also may debar the contractor from future works.

3.10 ARBITRATION

3.10.2 In the event of any dispute arising between TCIL and the contractors in any matter covered by this contract or arising directly or indirectly therefrom or connected or concerned with the said contract in any manner of the implementation of any terms and conditions of the said contract, the matter shall be referred to the Chairman & Managing Director, TCIL who may himself act as sole arbitrator or may name as sole arbitrator an officer of TCIL notwithstanding the fact that such officer has been directly or indirectly associated with this contract and the provisions of the Indian Arbitration Conciliation Act, 1996 shall apply to such arbitration. The Contractor expressly agrees that the arbitration proceedings shall be held at New Delhi.

3.10.3 The proceedings of arbitration shall be in English language:

3.10.4 In case any Contractor wants to take the dispute to a court of law after arbitration award as aforesaid, it is clearly understood that only courts in Delhi shall have the Jurisdiction.

3.10.5 In case of Public Sector Undertaking/Government Departments

In the event of any dispute or difference relating to the interpretation and application of the provisions of the contracts with any Public Sector Undertaking / Government Department, such dispute or difference shall be referred by either party for Arbitration to the sole Arbitrator in the Department of Public Enterprises to be nominated by the Secretary to the Government of India in-charge of the Department of Public Enterprises. The Arbitration and Conciliation Act, 1996 shall not be applicable to arbitration under this clause. The award of the Arbitrator shall be binding upon the parties to the dispute, provided, however, any party aggrieved by such award may make a further reference for setting aside or revision of the award to the Law Secretary, Department of Legal Affairs, Ministry of Law & Justice, Government of India. Upon such reference, the dispute shall be decided by the Law Secretary or the Special Secretary / Additional Secretary, when so authorized by the Law Secretary, whose decision shall bind the Parties finally and conclusively. The Parties to the dispute will share equally the cost of arbitration as intimated by the Arbitrator.

3.12 RISK PURCHASE

3.12.1 In the event of Contractor's failure to execute the contract to the satisfaction of the Purchaser, the Purchaser reserves the right :

- (a) to reject any part of the Contract executed and withhold payment for such portion of the Contract till such time the defects are rectified to the satisfaction of the Purchaser.
- (b) to terminate the Contract by giving 2 weeks notice in writing without assigning any reason and to get the Contract executed by other agency at the risk and cost of the Contractor.

3.13 APPLICABLE LAWS

This contract shall be interpreted, construed and governed by the laws of the Republic of India and the parties hereby submit to the exclusive jurisdiction of the Court and to all Courts having jurisdiction in appeal there from.

Any dispute in relation to the contract shall be submitted to the appropriate Court of the Republic of India for determination. The parties to the contract shall continue to fulfill their respective obligations under the contract during the currency of the contract pending the final decision of the Court.

3.14 GENERAL LIEN

Whenever under this contract any sum of money is recoverable from and payable by the Contractor, the Company shall be entitled to recover such sum by appropriating in part or in whole the security deposit of the Contractor, if a security is taken from the Contractor. In the event of the Security being insufficient or if no security has been taken from the Contractor, the balance or the total sum recoverable, as may be, shall be deducted from any sum due to the Contractor or which at any time thereafter may become due to the Contractor under this or any other contract with the Company. Should this sum be not sufficient to cover the full amount recoverable, the Contractor shall pay to the Company on demand the remaining balance due.

3.15 PACKING AND MARKING

On acceptance of the tender, the successful tenderer shall inform the Project Director/Employer, the name of the person/representative responsible for taking the instructions from the Project Director or his authorized representative.

3.16 REPLACEMENT OF DEFECTIVE PART

- 3.16.1 If any equipment or any part thereof, is found defective or fails to meet the requirements of the contract before it is accepted TCIL shall give the Contractor a notice setting forth details of such defects or failures and the Contractor shall forthwith arrange to set right the defective equipment or replace the same by the good one to make it comply with the requirements of the contract. This in any case shall be completed within a period not exceeding one month from the date of the initial report pointing out the defects. The replacement or rectification shall be made at site by the Contractor free of cost. Should the Contractors fail to do the needful within this stipulated time frame, the purchaser reserves the right to reject the services in full or in part and get it rectified at the cost of the Contractors. The cost of any such replacement made by the Purchaser shall be deducted from the amount payable to the Contractor against this purchase order.

3.17 FORCE MAJEURE

If any time, during the continuance of this contract, the performance in whole or in part by either party under obligation as per this contract is prevented or delayed by reasons of any war or hostility, act of the public enemy, civil commotion, sabotage, fire, flood, explosion, epidemic, quarantine restrictions, strike, lockout or acts of God (hereinafter referred to “eventuality”), provided notice of happening of any such eventuality is given by either party to the other within 21 days of the date of occurrence thereof, neither party shall be reason of such an “eventuality” be entitled to terminate this contract nor shall either party have any claim or damages against the other in respect of such non-performance or delay in performance and deliveries under the contract. The contract shall be resumed as soon as practicable after such “eventuality” has come to an end or ceased to exist. In case of any dispute, the decision of CMD, TCIL, shall be final and conclusive, provided further that if the performance in whole or part of any obligation under this contract is prevented or delayed by reason of any such eventuality for a period exceeding 60 days, either party may at its option, terminate the contract. Provided also that if the contract is terminated under this clause the Purchaser shall be at liberty to take over from the Contractor at a price to be fixed by the Purchaser, which shall be final, all unused, undamaged and acceptable materials, bought out components and other stores in the course of manufacture which may be in the possession of the Contractor at the time of such termination, or such portion thereof as the Purchaser may deem fit except such material, as the Contractor may, with the concurrence of the Purchaser, elect to retain.

3.18 TERMINATION FOR DEFAULT

3.18.1 The Purchaser, may, without prejudice to any other remedy for breach of contract, by written notice of default, sent to the Contractor, terminate this contract in whole or in part.

- a) if the Contractor fails to deliver any or all the goods & services within the time period (s) specified in the contract, or any extension thereof granted by the Purchaser .
- b) if the Contractor fails to perform any other obligation(s) under the contract; and
- c) if the Contractor, in either of the above circumstances, does not remedy his failure within a period of 15 days (or such longer period as the Purchaser may authorize in writing) after receipt of the default notice from the Purchaser.
- d) On a notice period of 30 days.

3.18.2 In the event the Purchaser terminates the contract in whole or in part pursuant to above para the Purchaser may procure, upon such terms and in such manner as it deems appropriate, goods & services similar to those undelivered and the Contractor shall be liable to the Purchaser for any excess cost for such similar goods. However, the Contractor shall continue the performance of the contract to the extent not terminated.

3.19 TERMINATION FOR INSOLVENCY

The Purchaser may at any time terminate the Contract by giving written notice to the Contractor, without compensation to the Contractor if the Contractor becomes bankrupt or otherwise insolvent as declared by the competent court provided that such termination will not prejudice or effect any right of action or remedy which has accrued or will accrue thereafter to the purchaser.

3.20 ADD ON/REDUCE ORDER

TCIL reserves the right to place Add on/Reduce order for additional quantity upto 50% of the original quantity at the same rate and terms & conditions of the purchase order within six months from the date of issue of purchase order.

3.21 PATENTS, SUCCESSFUL BIDDER'S LIABILITY & COMPLIANCE OF REGULATIONS

- 3.21.1 Successful Bidder shall protect and fully indemnify the TCIL from any claims for infringement of patents, copyright, trademark or industrial design rights arising from the use of the Services or any part thereof.
- 3.21.2 Successful Bidder shall also protect and fully indemnify the TCIL from any claims from successful Bidder's workmen/employees, their heirs, dependance, representatives etc or from any other person(s) or bodies/companies etc. for any act of commission or omission while executing the order.
- 3.21.3 Successful Bidder shall be responsible for compliance with requirements under the laws and shall protect and indemnify completely the TCIL from any claims/penalties arising out of any infringements.

- END OF SECTION 3 -

SECTION – 4

Tender No.: TCIL/052/727/011/11-NT

Feb.24 , 2011

SPECIAL CONDITIONS

4.1 Scope of Work

The work involves Survey, Installation, Carriage of materials at respective sites from APTRANSCO stores ,Commissioning & Testing of ADSS & UG OF Cable over 220 KV/ 132 KV transmission lines under live line condition including Integration into the Network & Training, Warranty for 1 Year as per details given.

4.2 Price Basis

Rate is to be quoted separately for following Services required in African Countries:

- Installation & Commissioning, including integration into the Network & Training, Warranty for 1 Year

The unit prices shall remain firm and fixed for a period of 12 months from the date of first Purchase Order for services or till completion of all the tendered services, whichever is later.

The prices indicated in the Price Bid Schedule shall be inclusive of all taxes, duties and levies. However the details of taxes included to be shown separately by Indian Bidders as per format.

The Warranty shall be for a period of 1 Year from the overall completion date of the project.

NOTE FOR INDIAN CONTRACTORS

1. **Please provide copy of PAN Card.**
2. **Please furnish ST TIN Number/Registration Number of respective states from where the supply will be made.**

4.3 Payment Terms

The payment shall be on back to back basis after realization from APTRANSCO which are as under:

Surver, Installation, Testing & Commissioning and Warranty for 1 year

- Ninety percent (90%) payments of the bills for erection works will be made on completion of the erection works link-wise (both cable & terminal equipment) on certification from the concerned Divisional Engineer/ Telecom and payment of performance security by the supplier.
- Out of the balance 10% amounts, 5% payments will be released after completion of all works & submission of certification by the concerned field engineer.
- Balance (final) 5% will be paid after completion of one year performance guarantee period reckoned from the date of completion of all the works as per contract or after all the balance materials left over after completion of works are handed over to APTransco whichever is later. The date of commissioning/ energizing the equipment will not be considered for reckoning the performance guarantee period and the date of completion of all the works will only be considered as start date of guarantee period.
- However the balance 5% amount will be released well before the completion of the performance guarantee period against a bank guarantee for equal amount, which shall be valid for the performance guarantee period providing two months claim period.

Payment to Indian Contractors shall be made in INR through Bank Transfer/ cheque.

4.4 Period of Warranty

The bidder shall have to provide onsite performance warranty service for 1 year after commissioning of entire project and hand over to APTRANSCO.

4.6 Performance Bank Guarantee (PBG)

The Bidder shall be required to furnish PBG for a value equivalent to 10% of the LOI value within 10 days of issue of Letter of Intent (LOI) and valid for the period of 16 months from the date of issue of LOI in the prescribed TCIL format from a scheduled bank in India for Indian Contractors and from a reputed first class international bank for foreign Contractors from the branch of bank in Delhi /National Capital Region.

4.7.1 Project Schedule

Within twenty-eight (12) days after the date of Notification of Award, the Contractor shall prepare and submit to the Project Manager a detailed program of performance of the Contract (L2 Network) in the form of the Critical Path Method (CPM), the PERT network, or other internationally used programs and showing the sequence in which it proposes to design, manufacture, transport, assemble, install and pre-commissioning the Facilities, as well as the date by which the Contractor reasonably requires that the Employer shall have fulfilled its obligations under the Contract so as to enable the Contractor to execute the Contract in accordance with the program and to achieve Completion, Commissioning and Acceptance of the Facilities in accordance with the Contract. The program so submitted by the Contractor shall accord with the Time Schedule included in prescribed format to the Contract Agreement and any other dates and periods specified in the Contract. The Contractor shall update and revise the program as and when appropriate or when required by the Project Manager, but without modification in the Times for Completion and any extension granted in accordance with Clause, and shall submit all such revisions to TCIL.

4.7.2 Progress Performance

If at any time the Contractor's actual progress falls behind the program referred to or it becomes apparent that it will so fall behind, the Contractor shall, at the request of the Employer or the Project Manager, prepare and submit to the Project Manager a revised program, taking into account the prevailing circumstances, and shall notify the Project Manager of the steps being taken to expedite progress so as to attain Completion of the Facilities within the Time for Completion under prevailing, or any extended period as may otherwise be agreed upon between the Employer and the Contractor.

4.8 Quantity Variation

- i) TCIL reserves the right to vary the ordered quantity under this tender by +/- 50% depending on the actual requirements, at the same rate, terms and conditions agreed initially.

4.9 General

- a) TCIL reserves the right not to accept lowest price or to reject any or all the offers without assigning any reason.
- b) The successful bidder is required to closely interact and coordinate with all concerned including Computer Hardware/Network elements/Telecom equipment vendors for integration of the medical equipments with the network for successful Tele-medicine services.
- c) TCIL reserves the right to distribute the works to more than one Contractor.
- d) TCIL reserves the right to increase/decrease the number of countries depending upon requirements.
- f) Successful bidder shall have to provide at least one set of manuals for each site for (i) installation and commissioning, (ii) operation and maintenance of the equipment in hard as well as soft copy form.

4.11 Training

The vendor shall provide free of cost onsite training to the selected staff of TCIL & APTRANSCO officials, at each patient end location, during installation and commissioning of equipments at respective sites. The training should be thorough and effective so that the trainees get adequate knowledge of installation, operations, maintenance and management of the equipments.

4.7 PROJECT DIRECTORS AND PROJECT DIRECTOR'S REPRESENTATIVE

4.7.1 Project Director's Duties and Authority

Project Director appointed by TCIL reserves the right in checking / tests checking of the operation of the contract in respect of quality, testing, and measurement of Works either directly or through a separate agency or both.

- (a) The Project Director may exercise the authority specified in or necessarily to be implied from the Contract and is not required to obtain the specific approval of the Employer before exercising any such authority. Provided further that any requisite approval shall be deemed to have been given

by the Employer for any such authority exercised by the Project Director.

4.7.2 Project Director's Representative

The Project Director's Representative shall be appointed by and be responsible to the Project Director and shall carry out such duties and exercise such authority as may be delegated to him by the Project Director under Sub-Clause 2.3.

4.7.3 Project Director's Authority to Delegate

The Project Director may from time to time delegate to his Representative any/all of the duties and authorities vested in the Project Director and he may at any time revoke such delegation. Any such delegation or revocation shall be in writing and shall not take effect until a copy thereof has been delivered to the Contractor.

Any communication given by Project Director's Representative to the Contractor in accordance with such delegation shall have the same effect as though it had been given by the Project Director, provided that;

- (a) any failure of the Project Director's Representative to disapprove any work, materials or Plant shall not prejudice the authority of the Project Director to disapprove such work, materials or Plant and to give instructions for the rectification thereof; and
- (b) if the Contractor questions any communication of the Project Director's Representative he may refer the matter to the Project Director who shall confirm, reverse or vary the contents of such communication.

4.7.4 Appointment of Assistants

The Project Director or his Representative may appoint any number of persons to assist him in carrying out of his duties. He shall notify to the Contractor the names and duties of such persons. Such assistants shall have no authority to issue any instructions to the Contractor save in so far as such instructions may be necessary to enable them to carry out their duties and to secure their acceptance of materials, Plant or workmanship as being in accordance with the Contract, and any instructions given by any of them for those purposes shall be deemed to have been given by the Project Director's Representative.

4.7.5 Instructions in Writing

Instructions given by the Project Director shall be in writing, provided that if for any reason the Project Director considers it necessary to give any such instruction orally, the Contractor shall comply with such instruction. Confirmation in writing of such oral instruction given by the Project Director, whether before or after carrying out of the instruction, shall be deemed to be an instruction within the meaning of this Sub-Clause. Provided further that if the Contractor, within 5 days, confirms in writing to the Project Director any oral instruction of the Project Director and such confirmation is not contradicted in writing within 7 days by the Project Director, it shall be deemed to be an instruction of the Project Director.

The provisions of this Sub-Clause shall equally apply to instructions given by the Project Director's Representative and any Assistant of the Project Director or the Project Director's Representative appointed pursuant to Sub-Clause 2.4.

4.7.6 Project Director to Act Impartially

Wherever, under the Contract, the Project Director is required to exercise his discretion by;

- (a) giving his decision, opinion or consent, or
- (b) expressing his satisfaction or approval, or
- (c) determining value, or
- (d) otherwise taking action, which may affect the rights and obligations of the Employer or the Contractor,

He shall exercise such discretion impartially within the terms of the Contract and having regard to all the circumstances. Any such decision, opinion, consent, expression of satisfaction, approval, determination of value or action may be opened up, reviewed or revised as provided.

4.7.7 Project Director at Liberty to Object

The Project Director shall be at liberty to object to and require the Contractor to remove forthwith from the Works any person provided by the Contractor who, in the opinion of the Employer / Project Director, misconducts or is incompetent or negligent in the proper performance of his duties, or whose presence on Site is otherwise considered by the Project Director to be undesirable, and such person shall not be again allowed upon the Works without the consent of the Project Director. Any person so removed from the Works shall be replaced as soon as possible and no claim whatsoever shall be entertained on this account.

4.8 Safety, Security and Protection of the Environment

The Contractor shall, throughout the performance and completion of the Works and the remedying of any defects therein;

- (a) have full regard for the safety of all persons entitled to be upon the Site and keep the Site (so far as the same is under his control) and the Works (so far as the same are not completed or occupied by the Employer) in an orderly state appropriate to the avoidance of danger to such persons, and
- (b) provide and maintain at his own cost all lights, guards, fencing, warning signs and watching, when and where necessary or required by the Project Director or by any duly constituted authority, for the protection of the Works or for the safety and convenience of the public or others, and
- (c) take all reasonable steps to protect the environment on and off the Site and to avoid damage or nuisance to persons or to property of the public or others resulting from pollution, noise or other causes arising as a consequence of his methods or operation.

In case of the failure on the part of the Contractor on above accounts, the consequences of the same shall be borne by the Contractor. Alternatively, the Project Director may take reasonable steps to comply with the above at the risk and cost of the Contractor.

4.8.2 Responsibility to Rectify Loss or Damage

If any loss or damage happens to the Works, or any part thereof, or materials or Plant for incorporation therein, during the period for which the Contractor is responsible for the care thereof, from any cause whatsoever, other than the risks as defined, the Contractor shall at his own cost, rectify such loss or damage so that the Works conform in every respect with the provision of the Contract to the satisfaction of the Project Director. The Contractor shall also be liable for any loss or damage to the Works occurred by him in the course of any operation carried out by him for the purpose of complying with his obligations.

4.9 Contractor to Keep Site Clear

During the performance of the Works, the Contractor shall keep the Site reasonably free from all unnecessary obstructions and shall store or dispose of any Contractor's equipment and surplus materials and clear away and remove from the Site any wreckage, rubbish or temporary Works no longer required.

4.10 Clearance of Site on Completion

Before the issue of any Taking - Over Certificate, the Contractor shall clear away and remove from that part of the Site to which such Taking-Over Certificate relates all Contractor's equipment, surplus material, rubbish and temporary Works of every kind, and leave such part of the Site and Works clean and in a workmanlike condition to the satisfaction of the Owner / Project Director, provided that the Contractor shall be entitled to retain on Site, until the end of the Defects Liability Period, such materials, Contractor's Equipment, and temporary Works as are required by him for the purpose of fulfilling his obligations during the Defects Liability Period.

4.11 Labour

The Contractor shall make his own arrangements for the engagement of all labour, local or other.

The Contractor shall, if required by the Project Director, deliver to the Project Director's representative, or at his office, a return in detail in such form and at such intervals as the Project Director may prescribe showing the supervisory staff and the number of the several classes of labour from time to time employed by the Contractor on the Site and such information respecting constructional Plant as the Project Director's Representative may require.

The Contractor shall file all labour returns in detail to the respective authorities / statutory bodies as prescribed under law applicable at the work Site and inform the Employer / Project Director with copies of such returns directly filed.

The Contractor shall abide by the local laws and regulations governing labour applicable from time to time. During continuance of the Contract, the Contractor shall

abide at all times by all existing labour enactments and rules made there under, regulations, notifications and by-laws of State or Central Government or local authority, and any other labour law (including rules), regulations, by-laws that may be passed or notification that may be issued under any labour law in future either by the State or the Central Government or the local authority. Salient features of some of the major labour laws that are applicable to construction industry are given hereafter. The Contractor shall keep the Employer indemnified in case any action is taken against the Employer by the competent authority on account of the contravention of any of the provisions of any Act or rules made there under, regulations or notifications including amendments. If the Employer is caused to pay or reimburse, such amounts as may be necessary to cause or observe, or for non observance of the provisions stipulated in the notifications in the amendments / by- laws / acts / rules / regulations / including amendments, if any, on the part of the Contractor, the Project Director / Employer shall have the right to deduct any amount due to the Contractor. The Employer / Project Director shall also have right to recover from the Contractor any sum required or estimated to be required for making good the loss or damage suffered/likely to be suffered by the Employer.

The employees of the Contractor and the Sub - Contractors in no case shall be treated as the Employees of the Employer at any point of time.

Salient features of some of the major labour laws applicable to establishments engaged in building and other construction Works are as given below:

(a) Workmen Compensation Act, 1923

The Act provides for compensation in case of injury by accident arising out of and during the course of employment.

(b) Payment of Gratuity Act, 1972

Gratuity is payable to the employee under the Act on satisfaction of certain conditions on separation if an employee has completed 5 years service or more or on death at the rate of 15 days wages for every completed year of service. The Act is applicable to all establishments employing 10 or more employees.

(c) Employees P. F. and Miscellaneous Provision Act, 1952

The Act provides for monthly contributions by the Employer plus workers @ 10% or 8.33%. The benefits payable under the Act are:

- i) Pension or family pension on retirement or death as the case may be.
- ii) Deposit linked insurance on the death in harness of the worker.
- iii) Payment of P. F. accumulation on retirement /death etc.

(d) Maternity Benefit Act, 1951

The Act provides for leave and some other benefits to women employees in case of confinement or miscarriage etc.

(e) Contract Labour (Regulation & Abolition) Act, 1970

The Act provides for certain welfare measures to be provided by the Contractor to contract labour and in case the Contractor fails to provide, the same are required to be provided by the Principal Employer by Law. The Principal Employer is required to take certificate of registration and the Contractor is required to take a license from the designated Officer. The Act is applicable to the establishments or Contractor of Principal Employer if the employer employs 20 or more contract labour.

(f) Minimum Wages Act, 1948

The Employer is supposed to pay not less than the Minimum Wages fixed by appropriate Government as per provision of the Act if the employment is a scheduled employment. Construction of Buildings, Roads, Runways are scheduled employments.

(g) Payment of Wages Act, 1936

It lays down as to by what date the wages are to be paid, when it will be paid, and what deductions can be made from the wages of the workers.

(h) Equal Remuneration Act, 1979

The Act provides for payment of equal wages for work of equal nature to Male and Female workers and for not making discrimination against Female employees in the matters of transfers, training and promotions etc.

(i) Payment of Bonus Act, 1965

The Act is applicable to all establishments employing 20 or more workmen. The Act provides for payment of annual bonus subject to a minimum of 8.33% of the wages and maximum of 20% of wages to employees Drawing Rs 3500/- P.M. or less. The Bonus to be paid to employees getting Rs 2500/- P.M. or above upto Rs. 3500/- P.M. shall be worked out by taking wages as Rs 2500/- per month only. The Act does not apply to certain establishments. The newly setup establishments are exempt for five years in certain circumstances. Some of the State Governments have reduced the employment size from 20 to 10 for the purpose of applicability of the Act.

(j) Industrial Disputes Act, 1947

The Act lays down the machinery and procedure for resolution of industrial disputes, in what situations a strike or lock out becomes illegal and what are the requirements for laying off or retrenching the Employees or closing down the establishment.

(k) Industrial Employment (Standing Orders) Act, 1946

It is applicable to all establishments employing 100 or more workmen (employment size reduced by some of the States and Central Government to 50). The Act provides for laying down rules governing the conditions of employment

by the Employer on matters provided in the Act and get the same certified by the designated Authority.

(l) Trade Unions Act, 1926

The Act lays down the procedure for registration of trade unions of workmen and Employers. The trade unions registered under the Act have been given certain immunities from civil and criminal liabilities.

(m) Child Labour (Prohibition & Regulation) Act, 1986

The Act prohibits employment of children below 14 years of age in certain occupations and processes and provides for regulation of employment of children in all other occupations and processes. Employment of Child Labour is prohibited in Building and Construction Industry.

(n) Inter - State Migrant Workmen's (Regulation of Employment & Conditions of Service) Act, 1979

The Act is applicable to an establishment which employs 5 or more inter - state migrant workmen through an intermediary (who has recruited workmen in one state for employment in the establishment in another state). The inter - state migrant workmen, in an establishment to which this act becomes applicable, are required to be provided certain facilities such as housing, medical aid, traveling expenses from home upto the establishment and back, etc.

(o) The Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act 1996 and the Cess Act, 1996

All the establishments who carry on any building or other construction work and employs 10 or more workers are covered under this Act. All such establishments are required to pay cess at rate not exceeding 2% of the cost of construction as may be notified by the Government. The Employer of the establishment is required to provide safety measures at the building or construction work and other welfare measures, such as Canteens, First - aid facilities, Ambulance, Housing accommodation for workers etc. The employer to whom the Act applies has to obtain a registration certificate from the Registering officer appointed by the Government.

However the Contractor shall follow various acts with latest amendments.

4.12 Details to be Confidential

The Contractor shall treat the details of the Contract as private and confidential, save insofar as may be necessary for the purposes thereof, and shall not publish or disclose the same or any particulars thereof in any trade or technical paper or elsewhere without the previous consent in writing of the Employer or the Project Director. If any dispute arises as to the necessity of any publication or disclosure for the purpose of the Contract the same shall be referred to the decision of the Employer whose award shall be final.

4.13 Drawings and Photographs of the Works

The Contractor shall not disclose details of Drawings furnished to him and Works on which he is engaged without the prior approval of the Project Director in writing. No photographs of the Works or any part thereof or Plant employed thereon shall be taken or permitted by the Contractor to be taken by any of his employees without the prior approval of the Project Director in writing and no such photographs shall be published or otherwise circulated without the approval of the Project Director in writing.

4.14 The Apprentices Act, 1961

The Contractor shall duly comply with the provisions of the latest Apprentices Act, the rules made there under and the orders that may be issued from time to time under the said Act and the said rules and on his failure or neglect to do so, he shall be subject to all liabilities and penalties provided by the said Act and the said rules.

4.15 Inspection of Operations

The Employer/Project Director, and any person authorized by him, shall at all reasonable times have access to the Site and to all Workshops and places where materials or Plant are being manufactured, fabricated or prepared for the Works and the Contractor shall afford every facility for and every assistance in obtaining the right to such access.

4.16 SUSPENSION OF WORK

4.16.1 Suspension of Work

The Contractor shall, on the instructions of Project Director suspend the progress of the Works or any part thereof for such time and in such manner as the Project Director may consider necessary and shall, during such suspension, properly protect and secure the Works or such part thereof so far as is necessary in the opinion of the Project Director. Unless such suspension is:

- (a) otherwise provided for in the Contract, or
- (b) necessary by reason of some default of or breach of Contract by the Contractor for which he is responsible, or
- (c) necessary for the proper performance of the Works or for the safety of the Works or any part thereof save to the extent that such necessity arises from any act or default by the Project Director or the Employer or from any of the risks defined in referenced clauses will apply.

4.16.2 Project Director's Determination Following Suspension

Where, pursuant to Sub-Clause 6.1, this Sub-Clause applies, the Project Director shall, after due consultation with the owner and the Contractor, determine any extension of time to which the Contractor is entitled under Sub – Clause 7.4.

4.17 COMMENCEMENT AND DELAYS

4.17.1 Commencement of Works

The Contractor shall commence the Works within the period specified in the tender after the receipt by him of an order in writing to this effect from the Project Director and shall proceed with the Works with due expedition and without delay except as may be expressly sanctioned or ordered by the Project Director or be wholly beyond the Contractor's control.

4.17.2 Possession of Site

The project Director will give to the Contractor possession of so much of the Site as may be required to enable the Contractor to commence and proceed with the construction of the Works in accordance with the programme if any, and otherwise in accordance with such reasonable proposals of the Contractor as he shall by giving notice in writing to the Project Director. The Project Director will from time to time as the Works proceed, give to the Contractor possession of such further portions of the Site as may be required to enable the Contractor to proceed with the performance of the Works with due dispatch in accordance with the said programme or proposals, as the case may be.

If the Contractor suffers delay from failure on the part of the Employer to give possession in accordance with the terms of this Clause the Project Director shall on the request of the Contractor grant an extension of time for the completion of the Works after taking due approval from the Employer.

4.17.3 Time for Completion

The whole of the Works and, if applicable, any Section required to be completed within a particular time as stated in the Bid, shall be completed within the time stated for completion of the whole of the Works or the Section, calculated from the Commencement Date, or such extended time as may be allowed

4.18 MOBILISATION PERIOD AND PERIOD OF COMPLETION

A mobilization period of 7 days (Seven) shall be given for the mobilization of men, machinery/ equipments and materials at site, to be reckoned from the date of issue of Letter of Acceptance (LOA) to start the work. The Works are to be performed within a 3 months after considering the mobilization period to proceed with the works.

4.19 MOBILISATION OF RESOURCES

The contractor shall provide all labour, machinery, equipments/ machineries, tools & plants and any other equipments to carry out the work in workmanlike manner and complete the same, accommodation, stores. No expenses for mobilization and demobilization at the completion of work in all respects shall be paid and are deemed to be included in the rates quoted.

It shall be your responsibility to get the approvals sanctioned prior to performance from TCIL/local authority for any modification/revision. Nothing extra shall be paid for getting them sanctioned and for carrying out the same.

4.20 SITE MEETING & PROJECT PROGRESS REVIEW

Weekly Site meeting, to be attended by representatives of the Project Director and Contractor shall be held every Wednesday for progress monitoring and other issues. In the event of Wednesday being a holiday, the meeting will be held on the next working day.

4.21 Operating and Maintenance Manuals

4.21.1 If "as built" Drawings and/or operating and maintenance manuals are required, the Contractor shall supply them by the dates stated in the document .

4.21.2 If the Contractor does not supply the Drawings and/or manuals by the dates stated in the Contract Data, or they do not receive the Engineer's approval, the Engineer shall withhold the amount stated in the Contract Data from payments due to the Contractor.

- END OF SECTION 4 -

SECTION – 5

BILL OF QUANTITY (BOQ) AND PRICE BID SCHEDULE

Tender No.: TCIL/052/727/011/11-NT

Feb24 2011

5.1 **Bill of Quantity (BOQ) for Installation, Commissioning and Testing of 24F ADSS & UG OF cable over 132 KV/ 220 KV transmission lines,1 year performance warrenty for ADSS and OLTE & MUX project of APTRANSCO**

| S. No. | Description of items | Qty | Erection Schedule |
|--------|---|---------|--|
| 1 | Site survey, laying, splicing & termination with suitable patch cord of ADSS OF Cable | 447 KMs | 2 months from the date of issuance of PO |
| 2 | Site survey, laying, splicing & termination with suitable patch cord of UG OF Cable | 50 Kms | 2 months from the date of issuance of PO |

5.2 PRICE BID SCHEDULE

The bidder has to submit in his technical bid, un-priced bid schedule (which shall not include any price and warranty percentage) exactly in the same format as that of price bid covering the entire BOQ. In case this is not submitted in the technical bid, the Technical Bid shall be considered incomplete. Soft copy of the price bid in Excel Format on CD is to be submitted along with the Hard Copy in the price bid.

5.2.1 PRICE SUMMARY SHEET FOR ERECTION AGENGCY

| S. No. | Equipment Description as per BOQ | Qty. in Kms. | Unit Price for Installation & Commissioning, Warranty for 1 Year | Taxes, if any | Total Unit Cost | Total Value |
|------------------------|---|--------------------|---|----------------|--------------------|---------------|
| (1) | (2) | (3) | (4) | (5) | (6) = (4+ 5) | (7) = (6 X 3) |
| | | | Value (INR) | Value (INR) | (INR) | (INR) |
| 1 | Site survey, laying, splicing & termination with suitable patch cord of ADSS OF Cable | 447 | | | | |
| 2 | Site survey, laying, splicing & termination with suitable patch cord of UG OF Cable | 48 | | | | |
| Total Bid Value | | | | | | |

- END OF SECTION 5 -

SECTION – 6

Tender No.: TCIL/052/727/011/11-NT

Feb 24, 2011

SCOPE OF WORK AND TECHNICAL SPECIFICATIONS

6.1 INTRODUCTION

Supply, erection , commissioning & testing of ADSS type Fibre Optic cable and OLTE & MUX Equipments for APTRANSCO.

6.2 Purpose

This Tender document includes requirement in respect of description/Specification of items and their quantity, delivery & support services. The purpose of the Tender document as detailed in various sections is to Install, test and Commission & Maintain for 1 year the ADSS OF Network. The proposed network will connect 24 SubStation asper Annexure- X'.

6.3 Standards

All techniques and workmanship shall be in accordance with the highest accepted international standards for this type of equipment and as per indicated standard in this tender.

The Bidder shall also state, where applicable, the National or other International Standard(s) to which the whole, or any specific part, of the equipment or system complies.

The material shall conform to the following Indian / International Standards, specified UNDER AND published unless otherwise specified in this specifications.

| REFERENCE ABBREVIATION | NAME & ADDRESSES |
|------------------------|---|
| BS | British Standards, British Standards Institution, 101, Pentonville Road, N-190-ND, UK |
| IEC/CISPR | INTERNATIONAL ELECTROTECHNICAL COMMISSION, BUREU CENTRAL DE LA COMMISSION, ELECTRO TECHNIQUE INTERNATIONALE, 1 RUE DE VEREMBE, GENEVA, SWITZERLAND. |
| IS | INDIAN STANDARD INSTITUTION, MANAK BHAVAN, 9, BAHADUR SHAH ZAFAR MARG, NEW DELHI – 110 001, INDIA |
| ISO | INTERNATIONAL ORGANIZATION FOR STANDARDIZATION, DANISH BOARD OF STANDARDIZATION DANISH STANDARDIZATION STREET, AUREHOEGVEJ –12 DK – 2900, HEELEPRUP, DENMARK. |
| | NATIONAL ELECTRIC MANUFACTURE |

| | |
|----------|--|
| NEMA | ASSOCIATION, 155 EAST 44TH STREET. NEW YORK, NY 10017, USA. |
| CSA | CANADIAN STANDARD ASSOCIATION 178, Raxdale Boulevard, Raxdale Ontario, Canada M9W IR |
| IEEE | IEEE, 347 EAST 47TH STREET NEW YORK, NY 10017A USA |
| EIA/ TIA | GLOBAL ENGINEERING DOCUMENT 15, INVERNESS WAY EAST ENDLEWOOD, COLORADO 80112 –5704 USA. |
| NEC | NATIONAL FIRE PROTECTION ASSOCIATION 1 BATTERY MARCH PARK QUINCY, MASSACHUSETTS 02269-0059 USA. |
| JIS | JAPANESE STANDARDS INDUSTRIAL 1024 AKASAKA 4- CHOME MINATO – KU TOKYO, JAPAN. |

INDIAN / INTERNATIONAL STANDARDS

| S. No. | INDIAN STANDARD | TITLE | INTERNATIONAL STANDARDS |
|--------|-----------------|--|-------------------------|
| 1. | | THE INTERNATIONAL TELECOMMUNICATION UNION (ITU-T) RECOMMENDATIONS | G.652D, G.530 |
| 2. | | INTERNATIONAL ELECTRO TECHNICAL COMMISSION (IEC) VOCABULARY | IEC:50 – 1975 |
| 3. | | OPTICAL FIBRES. PART 1: GENERIC SPECIFICATION | IEC: 793-1 |
| 4. | | OPTICAL FIBRE CABLES PART 1: GENERIC SPECIFICATION | IEC: 794-1 |
| 5. | | ALUMINIUM ALLOY REDRAW RODS | IEC: 104-1987 |
| 6. | | ALUMINIUM –CLAD STEEL WIRES FOR ELECTRICAL PURPOSES | IEC:1232-1993 |
| 7. | | FIBRE OPTIC TEST PROCEDURE SERIES | EIA-TIA-445 (FOTP.S) |
| 8. | IS: 2121 | SPECIFICATION FOR CONDUCTOR AND EARTH WIRE ACCESSORIES FOR OVERHEAD POWER LINES | |
| 9. | | IEEE STANDARD CONSTRUCTION OF COMPOSITE FIBRE OPTIC OVERHEAD GROUND WIRE (OPGW) FOR USE ON ELECTRIC UTILITY POWER LINES. | IEEE: 1138-1994 |
| 10. | IS: 398 | STANDARD CONDUCTOR FOR OVERHEAD LINES | IEC: 1089-1993 |
| 11. | | IEEE STANDARD FOR ALL DIELECTRIC | IEEE: P1222-1995 |

| | | | |
|-----|--|---|----------------|
| | | SELF-SUPPORTING FIBRE OPTIC CABLE (ADSS) FOR USE ON OVERHEAD UTILITY LINES. | |
| 12. | | STANDARD COLORS FOR COLOR IDENTIFICATION AND CODING | IEEE: 359A |
| 13. | | COLOR CODING FOR FIBRE OPTIC CABLES | IEEE: 598 |
| 14. | | ANSI/IEEE Standard for Aerial ADSS Fibre – Optic Cable | ANSI/IEEE: 524 |
| 15. | | NFPA National Electric Code or Plenum Fibre – Optic Cable | NEC: 770 |

6.4 **SCOPE OF WORK:**

6.4.1 Survey, installation, commissioning & testing of ADSS type OF cable, UG OF cable, Splicing & termination at FODP with necessary connectors. ADSS cable will be laid over 220 KV/ 132 KV transmission lines under live/ off line conditions. Detail of locations of equipments is as under :

| Sl.no. | Name of the station | OLTE | MUX | Digital Tele Protection system |
|--------|---------------------|------------------|-----|--------------------------------|
| 1 | Wanaparthi | 1No.Long Haul | 1 | 2 |
| 2 | Narnur | 2Nos. Short Haul | 2 | 2 |
| 3 | Brahmana Kothkur | 1LH+1SH | 2 | 3 |
| 4 | Malyala | 1No Short Haul | 1 | 2 |
| 5 | Muchmarri | 1No Short Haul | 1 | 1 |
| 6 | Nanasurala | 1No Short Haul | 1 | 1 |
| 7 | Lakkasagaram-1 | 1No Short Haul | 1 | 2 |
| 8 | Lakkasagaram-2 | 1No Short Haul | 1 | 2 |
| 9 | Dhone | 1LH+1SH | 2 | 3 |
| 10 | Krishna Nagari | 1No Short Haul | 1 | 2 |
| 11 | Settipalli | 1No Short Haul | 1 | 1 |
| 12 | Somayajualapalli | 1No Long Haul | 1 | 1 |
| 13 | Gooty | 2Nos. Long Haul | 2 | 2 |
| 14 | Raagulapadu | 1No Long Haul | 1 | 1 |
| 15 | Ananthapur | 2Nos Long Haul | 2 | 4 |

| | | | | |
|----|-----------------|-------------------------------|----|----|
| 16 | Ankampally | 1NH+1SH | 2 | - |
| 17 | Kalyanadurg | 1No Short haul | 1 | 1 |
| 18 | Timmapuram | 1LH+1SH | 2 | 4 |
| 19 | Kondapuram | 1Nos short haul | 1 | 1 |
| 20 | GKLS-1 | 1No Short Haul | 1 | - |
| 21 | Yellanur | 1No Short Haul | 1 | 2 |
| 22 | Gaddamvaripalli | 1No Short Haul | 1 | 2 |
| 23 | Goddumarri | 1No Short Haul | 1 | 1 |
| 24 | RTPP | - | 1 | 2 |
| | Total | 11 Long haul 19 Short haul | 31 | 42 |

6.4.2 Details of line diagrams as attached at Annexure: Y'

6.4.3 Installation

6.4.3.1 ADSS cable shall be attached to the tower's body so that the minimum specified ground clearance is maintained on each span under worst case conditions. also, under any loading conditions, the optical cable shall not sag below the lowest conductor. At the same time, tower loading shall be minimized, considering the cable as low as practicable within the main body of the tower. All ADSS cable installations shall meet the requirements of ANSI /IEEE Standard 524, Aerial ADSS Fibre-Optic Cable, (a) Installation and (b) Calculations of Structure Loads.

6.4.3.2 Terminal and suspension clamps shall be designed to prevent damage to the cable under the most expected severe loading. Suspension clamps shall allow a limited amount of slip if there is a significant amount of differential loading.

6.4.3.3 Proprietary lightweight helical dampers shall be provided to counteract aeolian vibration.

6.4.3.4 Cable length, on DRUMS, shall be such so as to avoid making joint when used in a 220 kV / 132 kV transmission line of 5 km length. Actual cable lengths to be delivered shall be determined by the Bidder's evaluation of the network configuration.

6.4.3.5 Fibre splicing shall cause a minimum increase in attenuation. The fibre splicing shall be carried out using arc fusion welding techniques. Each splice shall be inspected and tested, after installation, within the splice housing but before the housing is closed and sealed. Fusion splice optical losses shall average 0.1 dB per splices. No single splice loss shall exceed 0.15 dB.

6.4.3.6 Installation of approach cable

Installation in cable trenches and on cable trays. Each OFAC shall be pulled in HDPE pipe of 40 mm diameter and required thickness (mm) placed in cable trench (separate trays for OFAC's). There shall be spare HDPE pipes for the OFAC's to be decided by the Purchaser. The pulling instructions and minimum-bending radius shall be indicated by the bidder. The route for laying the OFAC shall be decided by the contractor in consultation with the Purchaser. The supply of the HDPE pipe is the OFAC contractor's responsibility.

Burial:

In the case of direct burial the OFAC shall be installed in HDPE pipe of 40 mm diameter and required thickness (mm) to a depth of 1.0 m. The pipe shall be embedded in M 15 concrete with cover of 37.5 mm (150 mm overall) and the trench filled with excavated material and hand compacted. The route for laying the OFAC shall be decided by the contractor in consultation with the Purchaser. The supply and burial of the HDPE pipe is the responsibility of the contractor.

An approach cable is defined as the cable installed between the final splice box, forming the termination of the ADSS fibre cable in the power line and Fibre Distribution Panel (FDP) installed within the terminal building, or the cable traversing a site and terminated in splice boxes located in separate buildings. FDP shall be of dust and vermin proof construction and shall be provided with degree of protection IP 52 as per IS 2147. The panel shall be supplied with base frame made of structural steel sections. All necessary hardware required for welding the frame to the insert plate shall be supplied by the contractor. Purchaser would provide insert plates in the concrete floor.

The approach cable shall be entirely of non-metallic construction and shall be suitable for direct burial in the ground and for installation within cable ducts and on cable trays. The cable shall comprise a tensile strength member, fibre support / bedding structure, core wrap / bedding, armoring and overall impervious jacket.

No intermediate splices shall be permitted in any approach cable between its two termination points.

Cable markers shall be provided and installed to mark the location and route of buried cables.

The approach cables shall enter the buildings through cable ducts and within each building; the cable shall be run upon cable trays or racks. The Contractor may utilize existing ducts, trays, racks, etc., where appropriate, but shall supply these where trays, racks etc don't presently exist. The cables shall be affixed to cable supports using approved ties, clips or cleats at regular intervals. Whether laid underground or in cable ducts the OFAC shall be laid in a conduit of HDPE pipe of suitable diameter specified by the bidder in the bid.

On short runs of cable, for which cable supports are not provided, the Contractor shall fix the cable to the structure of the building using approved fixings and cable cleats.

The Contractor shall be responsible for forming holes through walls and floors for the installation of these cables. Caution shall be taken to ensure existing equipment is protected from hole – drilling dust. The holes shall be neatly drilled and neatly furnished for protection from moisture, dust, and vermin intrusion. Cables exiting from the ground

or passing through floors shall be protected against mechanical damage for a distance of 450 mm above finished ground or floor level.

6.4.4 Maintenance:

6.4.4.1 Maintenance of the ADSS FIBRE cables shall be carried out only in fault conditions or for special needs. To facilitate cable maintenance, the following shall be provided:

- a. The exact route descriptions, location of splices and repeaters shall be provided, both to Headquarters' office (purchaser) and to the terminal sub-stations.
- b. The documentation and the marking of the individual fibres and connectors shall be provided, both centrally and to the particular stations.
- c. Documentation in the terminal sub-stations must include the commissioning test values to help the maintenance staff in comparing the measurement values with the original ones.

6.4.4.2 The Bidder shall propose the method for temporary and permanent repair procedures. The proposal shall include the material needed for fibre cable maintenance (ADSS and OFAC). Spares as indicated in Schedule shall be quoted and shall be considered in evaluation of bid.

6.4.4.3 The Bidder shall provide a list of any additional tools and test equipment (common and specialized) with recommended quantities necessary to install, operate and maintain all equipment to be supplied in this procurement. In addition, sources and list of prices are required for equipment not manufactured by the Bidder. This shall not be considered in evaluation of the bid.

6.4.4.4 The Bidder shall describe his own maintenance support capabilities and facilities in India.

12.0 Splices and connectors

12.1 Splices (614 nos.):

All fibre splices shall be of the fusion type, except where demountable connectors are specified. Fusion splicing shall be carried by trained personnel using automatic fusion splicing equipment designed for the fibre type.

The accurate alignment of fibre cores, prior to splicing, shall be verified using a technique that monitors the optical power transmitted across the splice interface.

Fusion splice optical losses shall average 0.1db per splice. No single splice loss shall exceed 0.15 db. Splices shall be mechanically strengthened and protected from the environment by means of splice sleeves or enclosures. The finished splice shall be supported within the spliced box by means of suitable clips or restraints. It shall be possible to remove and replace the splice in the support device without risk of damage to the splice or fibre. Each fusion splice shall have a spare length of fibre of approximately 1 m associated with it. This excess fibre shall be coiled neatly and clipped (or otherwise retained) within the splice box.

The splicing shall be performed at ground level. Splice boxes conforming to IP 55 of IS-2147 shall be mounted into the towers at least 5 meters above the ground. The cable shall be fastened into the tower structure. In each splicing location at least 15 meters of free cable must be included for future splicing at ground level.

A single splice box conforming to IP 55 of IS-2147 shall be provided on each sub-station gantry with capacity for two cable terminations. It shall accommodate all individual fibre splices between any of the four possible cables. It shall be fitted with suitable cable clamping glands at its base for cable strain relief. The four cable entries shall be located on the underside of the splice box and shall be easily removable to ground level. All cable entries used or unused, shall be weather proof and sealed but still accessible for future use and weatherproof sealing. The box shall be suitably dimensioned to accommodate the excess loops of optical fibre associated with each splice. Easily removable splice tray assemblies shall be used to provide mechanical support for the supplies and to afford a means of neatly retaining the excess fibre. Then splice box shall be of steel construction, finished internally and externally using a durable paint system. Access to the box shall be by means of a bolted front panel. The splice box shall be fitted with an approved identity label (e.g. engraved laminated).

Where an existing optical fibre link is being relocated and its present termination cable's splice box is no longer required at its present location, that splice box and its associated terminal cable may be relocated to the link's new terminal location.

Connectors (50 nos.):

The individual fibres of termination cables, terminal equipment optical connection tail and optical patch cords shall be terminated by demountable connectors at the Fibre Distribution Panel (FDP). The connectors shall be of FC type. Each connector shall be properly labeled.

The connectors shall be factory assembled in strict accordance with the manufacturer's instructions.

Demountable connectors shall be protected against contamination and mechanical damage during shipment and installation of the associated cable.

12.3 FIBRE DISTRIBUTION PANNELS:

The Fibre Distribution Frame shall have a capacity for termination of 72 fibres and entry for two nos. of OFC cables each having capacity of 24F. Auxiliary fibres should be provided to facilitate testing & maintenance of the fibers. The spare fibre should be properly terminated. Additional 2 Nos. of trays with a 24 F capacity shall be provided as spare for each direction.

| | | |
|---------------------------|---|--|
| Connector Adaptors | : | |
| Type of Connector Adaptor | : | FC/PC to FC/PC |
| Capacity of bay frame | : | 0.5 dB |
| Capacity of bay frame: | | |
| (i) Line side | : | Maximum capacity to terminate 24 pigtails or patch cord through 24 different suitable inlets. Each cable |

inlet shall cater for 24Nos. of FC/PC type connector pigtails or patch cords each having diameter of 3 mm.

ii) Equipment side: - do -

FDPs shall be provided in which fixed couplers are provided to mount each termination cable's demountable (i.e the termination ends of each fibre of each optical fibre link and the demountable connectors of all patch cords that interconnect FDPs within the same building.

Each FDP shall also have spare space where 24 additional fixed couplers to prevent dust ingress to the couplers of unused fibres.

OPTICAL CONNECTION TAILS, GENERALLY CONFIRMING TO THE REQUIREMENTS ABOVE FOR TERMINATION CABLES, SHALL BE PROVIDED TO CONNECT EACH ITEM OF OPTICAL TERMINAL EQUIPMENT TO THE OPTICAL FIBRE LINK CONNECTORS IN ITS RESPECTIVE FDP.

Optical patch cords shall be provided to enable the patching of any item of optical terminal equipment to any fibre in any link terminated at the building in which the equipment is housed. This shall include cords for use within FDPs and cords permanently installed between FDPs to enable the through connection of any fibre terminating in one FDP to any other FDP in the same building.

FDPs may be stand - alone cabinets, be provided as an integral part of terminal equipment, or designed to incorporate the fibre splice boxes. In the latter case, physical segregation shall be provided between the splice box and distribution panel sections.

13.0 PIGTAIL CORDS.

The pigtail cords will be used for the interconnections of the approach cables with the respective optical terminal equipment. The optical fibres of the pigtail cords and approach cable shall be fusion spliced and protected in an approved type terminal box.

On the optical equipment side, FC-PC type optical connectors shall be used. Insertion loss shall not exceed 0.5 d B and return loss shall not be less than 35 d B. The pigtail cords with optical connectors, terminal boxes and flexible corrugated tubes are an integral part of the scope of supply of the ADSS/OFAC manufacturer. The technical specifications of the pigtail cord with a connector, terminal box and of the tubing offered shall be provided with the bid.

14. Installation Associated Hardware and Accessories:

The scope of supply of the optical cable includes the assessment and supply and installation of required fittings and hardware. The Bidder shall provide documentation justifying the adequacy and suitability of the hardware used. The exact requirements of these accessories to ensure satisfactory performance shall be determined by the contractor.

The fittings and accessories described herein indicative of installation hardware typically used for ADSS cable installations and shall not necessarily be limited to the following.

- a) **Materials:** All suspension clamps dead end clamp and pipe holding clamps assemblies shall be fabricated from aluminum or ALUMINUM ALLOY proposed exceptions shall be submitted with supporting documentation for prior approval of APTRANSCO.
- b) **Suspension Clamp Assembly preformed Armour GAP SUSPENSION** clamps and aluminum alloy armour rods shall be used. The suspension clamp assembly shall be designed to carry the maximum vertical load and shall have SLIP strength of not less than 25 KN not greater than 35 KN. Terminal and suspension clamps shall be designed to prevent damage to the cable under the most expected severe loading. Suspension clamps shall allow a limited amount of slip if there is a significant amount of differential loading.
- c) **Dead End Clamp Assembles:** Tension gaps constructed from preformed wire installed over preformed rods shall be used dead end clamp assemblies shall allow the ADSS to be continuous pass through without cutting the ADSS. The slip strength shall be not less than 95% the rated tensile strength of the ADSS.
- d) **Pipe Holding Clamp Assembles:** Clamp assemblies shall hold the down pipe with a force greater than 10% and shall withstand a strength load of 10 NM WITHOUT becoming loose from the tower structure. The clamp assemblies shall locate the down pipe on the inside of the tower whenever possible. The clamp assemblies shall be installed at intervals of two (2) meters or less and shall be attached directly to the tower leg cross members without drilling or any other structural modifications.
- e) **Vibration Dampers:** Vibration dampers type 4R stock bridge type or equivalent having four (4) different frequencies spread within the Aeolian frequency bandwidth shall be used for suspension and tension points on each span of ADSS installed on transmission lines of 130 k V and above.

The contractor shall have the responsibilities for determining the exact placement of vibration dampers. Vibration damper clamps shall be made of aluminum or aluminum alloy shall support the dampers during installation and shall maintain the dampers in position without damage to the ADSS cable and without causing fatigue. Armour or patch rods made of aluminum or aluminum alloy shall be provided as required to reduce clamping stress on the ADSS cable. The vibration damper body shall be hot-dip galvanized mild steel / cast iron or shall be permanent mould case zinc alloy. Proprietary lightweight helical dampers shall be provided to counteract Aeolian vibration.

- f) **Clamp Assembly Earthing Wire:** Earthing wire consisting of a 1500 mm length of aluminum or aluminum alloy conductor equivalent in size to the ADSS shall be used to earth suspension and dead end clamp assemblies to the tower structure. The earthing wire shall be permanently fitted with lugs with each end. The lugs shall be attached to the clamp assembly at one end and the tower structure at the other. All cable accessories suspensions and dead end hardware,

vibration damper hardware and other clamps shall be designed for the type and size of the cable as detailed below.

- END OF SECTION 6 -

SECTION - 7

Tender No.: TCIL/052/727/011/11-NT

Feb 24, 2011

FORMAT OF BID BOND (EMD)

Whereas (hereinafter called “the Bidder”) has submitted its bid dated For the supply of Vide Tender No. dated KNOW ALL MEN by these presents that WE OF Having our registered office at (hereinafter called “the Bank”) are bound unto Telecommunications Consultants India Limited (hereinafter called “the Purchaser”) in the sum of Rs. for which payment will and truly to be made of the said Purchaser, the Bank binds itself, its successors and assigns by these present.

THE CONDITIONS of the obligation are:

1. If the Bidder withdraws his bid during the period of bid validity specified by the Bidder on the Bid form or
2. If the Bidder, having been notified of the acceptance of his bid by the Purchaser during the period of bid validity
 - (a) **fails or refuses to execute the Contract, if required; or**
 - (b) **fails or refuses to furnish the Performance Security, in accordance with the instructions to Bidders.**

We undertake to pay to the Purchaser up to the above amount upon receipt of its first written demand, without the purchaser having to substantiate its demand, provided that in its demand, the

purchaser will note that the amount claimed by it is due to it owing to the occurrence of one or both of the two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force upto and including THIRTY (30) days after the Period of bid validity and any demand in respect thereof should reach the Bank not later than the specified date/dates.

Signature of the Bank Authority.

Name

Signed in Capacity of

Name & Signature of witness

Full address of Branch

Address of witness

Tel No. of Branch

Fax No. of Branch

- END OF SECTION 7 -

SECTION - 8

Tender No.: TCIL/052/727/011/11-NT

Feb 24, 2011

FORMAT OF PERFORMANCE BANK GUARANTEE (PBG)

**M/s Telecommunications Consultants India Ltd.,
TCIL Bhawan, Greater Kailash-I
New Delhi – 110 048 (INDIA)**

(With due stamp duty if applicable)

OUR LETTER OF GUARANTEE No. : _____

In consideration of TELECOMMUNICATIONS CONSULTANTS INDIA LIMITED, having its office at TCIL Bhawan, Greater Kailash-I, New Delhi – 110 048 (INDIA) (hereinafter referred to as "TCIL" which expression shall unless repugnant to the content or meaning thereof include all its successors, administrators and executors) and having entered into an agreement dated _____/issued Purchase Order No. _____ dated _____ with/on M/s _____ (hereinafter referred to as "The Contractor" which expression unless repugnant to the content or meaning thereof, shall include all the successors, administrators, and executors).

WHEREAS the Contractor having unequivocally accepted to supply the materials as per terms and conditions given in the Agreement dated _____ /Purchase Order No. _____ dated _____ and TCIL having agreed that the Contractor shall furnish to TCIL a Performance Guarantee for the faithful performance of the

entire contract, to the extent of 10% (ten percent) of the value of the Purchase Order i.e. for _____.

We, _____ ("The Bank") which shall include OUR successors, administrators and executors herewith establish an irrevocable Letter of Guarantee No. _____ in your favour for account of _____ (The Contractor) in cover of performance guarantee in accordance with the terms and conditions of the Agreement/Purchase Order.

Hereby, we undertake to pay upto but not exceeding _____ (say _____ only) upon receipt by us of your first written demand accompanied by your declaration stating that the amount claimed is due by reason of the Contractor having failed to perform the Agreement and despite any contestation on the part of above named Contractor.

This Letter of Guarantee will expire on _____ including 30 days of claim period and any claims made hereunder must be received by us on or before expiry date after which date this Letter of Guarantee will become of no effect whatsoever whether returned to us or not.

Authorized Signature
Manager
Seal of Bank

- END OF SECTION 8 -

