

# OFFICE OF THE CHIEF ENGINEER/TS, SHAKTI SADAN, THE MALL, PSTCL, PATIALA-147001 COMMUNICATION DESIGN

TELEPHONES: Dy. CE /Plg. & Comm- 0175-2205502(Fax)

Addl. SE/Comm(D)-0175-2220777-83 & 2220888-98

EXTN - 4265

FAX NO. 0175-2301536

E-MAIL ID se-planning@pstcl.org, ase-ts8@pstcl.org

### **SPECIFICATION NO: STQ-8017/2015**

# SPECIFICATION FOR DESIGN, MANUFACTURE, TESTING AND SUPPLY OF 150 OHMS BALANCED HIGH FREQUENCY CABLE

I) LAST DATE FOR DOWNLOADING OF : 06 July, 2015 upto 11.30 Hrs.

SPECIFICATION/TENDER DOCUMENTS

FROM PSTCL WEBSITE

II) LAST DATE OF RECEIPT OF TENDERS : 09 July, 2015 upto 11.00 Hrs.

III) DATE OF OPENING OF TENDERS : 09 July, 2015 at 11.30 Hrs.

Cost of tender documents: ₹ 500/- (₹ Five Hundred only)

Dy. CE/Plg. & Comm., PSTCL, PATIALA.

NOTE: 1) ONLY FIRM PRICES MAY BE QUOTED. BIDDS WITH VARIABLE PRICES SHALL BE REJECTED.

2) Cost of specification i.e. Rs. 500/- in the form of Demand draft in favour of AO/CPC, PSTCL, Patiala is to be submitted in a separate envelope along with the tender failing which tender of the firm shall not be accepted.

#### **INDEX**

## Item/No. PARTICULARS

# Part-I: GENERAL AND COMMERCIAL REQUIREMENTS

- 1. Important Note for Guidance of Bidders
- 2. Check List of Documents
- 3 General Instructions to be observed by bidders
- 4. Prices
- 5 MODVAT
- 6 Completeness of tender
- 7 Validity
- 8 Terms of payment
- 9 Delivery Schedule
- 10 Penalty/Damages for delay in delivery
- 11 Extension in Delivery Period
- 12 Negligence & Default
- 13 Force Majeure
- 14 Earnest Money
- 15 Intimation to Chief Accounts officer (CPC) and Consignee
- 16 Sales Tax & Duties
- 17 Insurance
- 18 Warranty
- 19 Changes
- 20 Octroi Charges
- 21 Despatch Instructions
- 22 Inspection & Test
- 23 Civil Suit
- 24 Arbitration
- 25 Constitution, Experience and Financial standing
- 26 Information regarding list of Bankers
- 27 Security Deposit
- 28 Cancellation
- 29 Contract Agreement
- 30 Order Preference
- 31 Fake Inspection Call
- Works Appraisal
- 33 Submission of Documents for Expeditious Payments

#### **Part 2 TECHNICAL SPECIFICATION**

- 1 Introduction
- 2 Scope of Specification
- 3 Requirement
- 4 Conditions for Operation & Transportation
- 5 Reference to Standards
- 6 Material
- 7 Characteristic Impedance
- 8 Construction
- 9 Electric Tests
- 10 Physical Tests

- 11 Packing & Marking
- 12 Embossing
- Marking of Drums
- 14 Guaranteed technical Particulars
- 15 Desired Delivery & Despatch
- 16 Outline Drawing
- 17 Instruments
- 18 Type Tests
- 19 Experience
- 20 Responsiveness and Acceptance of Specification/ Tender
- 21 Samples

#### Part-III ANNEXURES

- 1 Annexure-A (Schedule of Requirement and Delivery)
- 2 Annexure-B (Proforma for Appraisal of Firm)
- 3 Annexure-C (Schedule of General Information)
- 4 Annexure-D (Undertaking for non payment of commission etc.)
- 5 Annexure-E (General Commercial Particulars)
- 6 Annexure-F Schedule of Financial & Technical Resources of the tenderer
- 7 Annexure-G ("Price Bid" Performa)
- 8 Annexure-H (Guaranteed technical Parameters)
- 9 Annexure-I (Schedule of deviations)
- 10 Annexure-J (Under taking Form for order preference)
- 11 Annexure-K (Contract Agreement form)
- 12 Annexure-L (Bank Guarantee Form)

#### PART-1

# GENERAL AND COMMERCIAL REQUIREMENTS IMPORTANT NOTES FOR GUIDANCE OF BIDDERS

- 1. The detailed breakup of prices as desired in the "Price Bid" Performa (ANNEXURE-G) must invariably be filled in the first instance while submitting the tender. Information as per other Annexures must also be supplied. In the absence of above, the bid is liable to be rejected.
- The bidders will have to give, undertaking that they will not pay commission etc. or engage
  any commission agent or liaison agent for dealing with the PSTCL in any matter including
  purchase of specification etc. This undertaking is required to be supplied along with the
  offer.
- 3. To be technically suitable the bidders should have manufactured and delivered the Coupling Devices to an Electricity Board/ Utility and performance certificates issued by two end users are to be submitted with the tender documents. Though no firm will be refused tender documents but technical qualification conditions and performance criteria shall be considered for the purpose of technical evaluation.
- 4. Tender should be submitted in triplicate. Each copy should be separately tagged and clearly marked as 'Original', 'Duplicate', 'Triplicate'.
- 5. Telegraphic quotations will not be accepted.
- 6. Offers/tenders should be enclosed in double covers. Both the inner and the outer covers should be sealed and super scribed with the tender/offer number together with the date on which the offer/tender is due and items of material covered and should also invariably contain the name of the bidding firm.
- 7. Quantity mentioned in the NIT could be ordered on more than one supplier.
- 8. The firms indicating NIL or concessional rate of CST/VAT in their bids will have to absorb the CST/VAT up to full rate applicable at the time of bidding. The firms who do not agree to this stipulation or indicate CST/VAT as extra without indicating the applicable rate shall be loaded with maximum rate of CST/VAT for evaluation purpose.
- 9. The firms indicating NIL or concessional rate of ED in their bids will have to absorb the ED up to full rate applicable at the time of bidding. The firms who do not agree to this stipulation or indicate ED as extra without indicating the applicable rate shall be loaded with maximum rate of Duty for evaluation purpose.
- 10. The documents submitted should be wholly typed or printed. There should be no erasure/cutting/over-writing. However, any unavoidable cutting/over writing/correction made should be duly signed and authenticated.
- 11. The material offered shall be entirely as per enclosed Technical specification and General terms & conditions. In case of any deviation, the bid shall be rejected without entertaining any correspondence.
- 12. Conditional /Non conforming bids shall not be accepted.
- 13. Bidders should submit their offer in unambiguous wording failing which PSTCL's interpretation will be final.
- 14. All the Annexures to the specification and requisite documents as per requirement of the specification must be duly filled/submitted in the very first instance else the bid shall be rejected.

- 15. Documents to be furnished must bear signatures of a person authorized as per constitution and composition of firm. Authenticating documents to prove authority of signatory (Legal Power of Attorney in favour of signatory) must be attached with the Bid.
- 16. Validity of the offers must be for minimum 120 days from the date of opening of Bids. The bidders revising their offer or withdrawing the same within validity period after opening of bids are liable to be rejected/ black listed.
- 17. The bidder shall supply a list of two authorized person(s) with his/their signatures duly attested on the firm's pad so that he/they may represent on behalf of the firm and participate in the opening process of the bids and the same should be with the authorized person(s), otherwise he/they will not be allowed to participate in the opening of tender.
- 18. a) Earnest Money may be deposited through a Demand Draft drawn in favour of Accounts Officer / CPC, PSTCL, Patiala.

For the instant tender enquiry the required EMD shall be as follows:

S.	Description	Max. EMD, for	Min. EMD,
No.		100% qty.	for 25% qty.
1	150 Ohms Balanced High Frequency	Rs. 22,600/-	Rs. 5,650/-
	Cable		

#### For details, clause no. 14 of Part-I of the specification may be seen.

- b) In case of Permanent Earnest Money Deposit (PEMD) of Rs.10.0 Lac (Rs. Ten Lacs) in the name of Chief Engineer /TS, copy of a valid certificate to this effect, issued by the Accounts Officer/ CPC, PSTCL, Patiala during three months immediately preceding the due date for tender opening and showing the Serial No. / Account no. allotted in the PEMD register, shall be submitted with the bid documents.
- 19. Those firms will not be considered where there is 25% or more default for 9 months or any quantity for more than 15 months in making supplies against earlier purchase orders placed on them.
- 20. Those firms will not be considered with whom business has been suspended, black listed firms and debarred (including their sister concerns).
- 21. Offer of the firms who quote for less than 25% of the NIT quantity are liable to be rejected.
- 22. PSTCL reserves the right to increase or decrease the quantity of material or to reject any or all the bids without assigning any reasons. PSTCL will not be held responsible for this and will not pay any expenses or losses that may be incurred by the bidders in the preparation of the bids.
- 23. The cost of Tender Specifications shall be submitted by the Bidders in form of demand draft in favour of AO/CPC (T), PSTCL, Patiala, upto the last date of tender submission (refer due dates on the cover page of the specification / NIT), in the office of Dy. CE/Plg. & Comm., PSTCL, Patiala. Bids of the firms, which do not submit the Demand Draft towards cost of specifications as mentioned above, shall not be considered. The demand draft towards cost of specifications shall be submitted in an envelope clearly super-scribed with the words "Cost of Specification against tender enquiry No. STQ-8017".
- 24. The prospective bidders are requested to visit the PSTCL website periodically even after down-loading the specification to check for corrigendum issued, if any.

# 2. CHECK LIST OF DOCUMENTS

It is mandatory for the bidders to submit the following documents else the bid shall be considered unresponsive and hence rejected:

Sr. No	DETAILS	PART	REMARKS
1.	Cost of Specification	Part-I	Submit original DD/ valid PEMD certificate in separate envelopes in the o/o Dy. CE/Plg. & Comm., PSTCL, Patiala before the last date & of receipt of
2.	EMD / PEMD		Tenders. (see relevant clauses of Important Notes for Guidance of Bidders)
3.	Annexure –A (Schedule of Delivery & Requirement)		
4.	Annexure –B (Appraisal Form )		
5.	Annexure –C (Schedule of General Information)		
6	Annexure –D ( Undertaking for non-payment of Commission etc)		
7	Annexure –E (General Commercial Particulars)		
8	Annexure –F ( Schedule of Financial & Technical		
	Resources)		
9	Annexure –H ( Guaranteed technical Parameters)	D4 II	
10	Annexure –I (Schedule of Deviations)	Part-II	
11	Income Tax Returns of firm as well as Directors/ Partners/		
	Proprietor of the firm for the latest 3 years.		
12	Duly audited annual financial reports or turnover figures		
	certified by Charted Accountant for latest three years.		SUBMIT COPIES
13	Legally valid Authorization signed by Chairman & other Directors of the firm in case of Limited Companies & by all partners in case of partnership firms authorizing the signatory to sign the tender & deal with PSTCL.		
14	Memorandum & Article of Association for public/ private Ltd firm, Partnership deed for Partnership firms and supporting document for proprietary firm		
15	Copies of PO/performance execution certificates issued by other state utilities		
16	Copies of Type Tests conducted by government/recognized test house as per Part-2 of the specifications.		
17	Any other supporting documents enclosed mentioning the purpose		
18		Part-III	Submit in separate sealed envelope
19	Annexure-J Performa for Order Preference		Submit Original after opening of Part-III

# 3. GENERAL INSTRUCTIONS TO BE OBSERVED BY BIDDERS.

- A. All Bidders must carefully observe the following instructions. Quotations/ Tenders not strictly in accordance with these instructions will be liable to be rejected:
  - i) The bid must be complete in all respects. Every clause should be studied carefully in order to ensure submission of a complete and comprehensive tender. Failure to comply with any of these instructions or to offer brief explanation for non compliance is likely to render effective comparison of the tenders as a whole impossible and may lead to rejection of an otherwise competitively lowest offer.
  - ii) The bid shall comprise of three parts i.e. Part-I, Part-II & Part-III as mentioned below:
    - A) Part-I Earnest Money
    - B) Part-II Technical/Commercial Bids
    - C) Part-III Price Bids.
    - a) Part-I Earnest Money: The first part will consist of earnest money deposit.
    - b) Part-II- Technical /Commercial bids: The second part will consist of technical specification, schedule of deliveries and all other terms and conditions, status of quoted prices i.e. firm or variable, the base date & P.V. formula if the quoted prices are variable except rates. All commercial terms including discount if any, Excise duty, CST, VAT etc. shall be specified in the Part-II of the bid, so that any ambiguities relating to General Terms & Conditions and Technical details can be sorted out before the opening of Part-III i.e. Price Bid.

For the present Tender enquiry, only FIRM prices may be quoted.

#### Bids with variable rates shall be rejected.

c) Part-III: Price Bids: The third part will consist of the quoted prices for each item as well as other related terms like freight, insurance, ED, CST/VAT and other incidental charges relevant to the price. No correspondence/ clarifications shall be entertained after the opening of Part-III.

The following procedure will be adopted for the opening of bids:

Part-I (earnest money) shall be opened/checked first and if the earnest money is found to be as per the requirement of the specifications, only then Part-II shall be opened/checked. The bids without earnest money shall be out rightly rejected.

After opening Part-II of the bids (technical/commercial), the bids will be technically & commercially evaluated by PSTCL.

Part-III of the bids (Price Bid) shall be opened/checked in case of only those firms whose part-II of the bids after evaluation is found to be conforming to the specifications. The date and time for opening Part-III of the bids will be intimated to the qualifying firms & those who fail to qualify will be intimated accordingly.

- iii) The bid will be submitted as per NIT/tender Specification complete in all respects.
- The PSTCL shall accept the permanent earnest money of Rs.10.0 lac Organisation wise (Chief Engineer wise). As such the bidders desirous of having permanent earnest money deposit for Transmission Systems Organisation may submit demand draft for Rs.10.0 lac drawn in favour of Accounts Officer/CPC, PSTCL, Patiala in the envelope for Earnest Money.
- v) The bidders indicating NIL or concessional rate of CST/VAT will have to absorb the CST/VAT upto full rate applicable at the time of bidding. The bidders which do not agree to this stipulation or indicate CST/VAT as extra without indicating the applicable rate shall be loaded with maximum rate of CST/VAT.
- vi) The bidders indicating NIL or concessional rate of ED in their bids will have to absorb E.D upto full rate applicable at the time of bidding. The bidders who do not agree to this stipulation or indicated ED as extra without indicating the applicable rate shall be loaded with maximum rate of ED for evaluation purpose.
- vii) No conditional offers shall be acceptable.
- B) The officer inviting tenders, contracting/purchasing agency/PSTCL (here-in-after referred to as purchaser) reserves the right to modify the schedule of requirements, technical particulars and the specifications at any time and to place the order as a whole or in parts and to reject any or all the tenders received without assigning any reasons. He will not be responsible for and will not pay for expenses or losses that may be incurred by bidder in the preparation of the bid.
- C) The bidders shall submit their bids, complete in all respects, in the office of Dy. CE/Plg. & Comm., PSTCL, Patiala upto the given time of the due date as per the NIT. The bids shall be opened thereafter on the given date & time.
- D) Offers/tenders will be opened on the date and time prescribed in the N.I.T. / Enquiry in the presence of authorized representatives of Tenderers, who actually submitted the tender, if they present themselves at the time of opening of tenders. In case the date of opening of tender falls on a holiday or holiday is subsequently declared on that date, the tenders will be opened on the next working day following the holiday.

#### 4 **PRICES**:

i) The unit rates should be quoted FOR destination at any Railway Station in Punjab/PSTCL Railway siding wherever existing or delivery at PSTCL's Stores, through road transportation which will be treated at par with FOR destination. The tenderer quoting FOR destination rates must give the split up as ex-works prices, freight & insurance charges.

The break up of the FOR destination price should be given as under: -

a) The Ex-works rates inclusive of packing & forwarding part of production cost should be on per unit basis. The cost should indicate the complete cost of raw material, labour, packing & forwarding charges forming part of production

- cost. The ex-works cost should also include taxes and duties payable on raw material but should not include taxes and duties leviable on finished material (if leviable).
- b) Packing cost not forming part of production cost, handling, cartage etc., freight charges and transit risk insurance covered in FOR destination price must be shown separately.
- ii) All taxes and duties leviable on the price of finished goods as per sub clause 4(i)(a) shall be paid extra and the same should be shown separately as prevalent on the date of opening of tenders, to be paid at the rate as may be actually prevalent at the time of supply otherwise these elements shall be deemed to be included in the quoted prices and will not be extra. No taxes and duties will be payable on the element of cost quoted under sub clause-4(i)(b) above.

In addition to the break up of total price i.e. ex-works cost, ED, CST, F&I and packing the bidder should also give split up of Ex-works price. The break up to prices shall be indicated in respective Performa attached with the specification. The filling up of Performa shall be mandatory for tenders. The split up of Ex-works prices shall indicate cost of raw material, Labour component and overhead expenses. Raw material can further be divided into 3-4 parts depending on part of material.

The bidder will not be allowed to indicate overall discount on quoted price for which split up has been given. However, quantity/payment discount can be given by tenderer in the main tender (i.e. part relating to general terms & conditions). Any firm offering discount on the quoted price or after the opening of tender will be out rightly rejected.

- iii) In case of rates ex-works/ex-godown and for imported material, freight charge transit risk insurance, handling and clearance charges, FOB and C.I.F Commission of clearing agents at ports should also be indicated separately.
- iv) Only FIRM prices may be quoted. Bids with Variable rates shall be rejected.
- v) The rates quoted F.O.R. destination or ex-works should be in both figures and words.
- vi) All statutory variations and fresh levy of any tax/ duty will be to PSTCL's account within contractual delivery period. Statutory taxes should be paid after allowing all abatements/discounts/exemptions permissible under the relevant act.

#### **IMPORTANT:**

- a) Those firms who do not give breakup of their rates as per requirement of specification shall not be considered. Rates of E.D. & CST/VAT applicable must be indicated separately. All bidders should note that the price bids not indicating Ex-works including packing and forwarding charges forming cost of production, freight and insurance charges applicable, E.D., C.S.T. or sales tax may be liable for summary rejection.
- b) VAT: The implication and %age (prevalent rate) of VAT levied on the prices may be clearly brought out.

# 5. <u>MODVAT/CENVAT:</u>

The rates should be quoted after taking into account the MODVAT/CENVAT benefit accruing to the bidder, which will be retrained by him. However, the extent of MODVAT/CENVAT benefit available which has been taken into account while quoting the prices must be indicated. Any increase or decrease in this benefit due to change in policy of Govt. shall be passed on to the purchaser or borne by it.

## **6.** COMPLETENESS OF TENDER:

The tender must be complete in all respects. The tenderer in his own interest should submit complete tender, offering his comments against each clause of the specification. Incomplete tender may prove disadvantageous to the tenderer and liable to be rejected. The silence of tenderer on any terms of this specification shall be taken as acceptance of the specified terms of provision made there under. In the event of placement of order the provision will be made as per specification against which tenderer observed silence.

#### 7. <u>VALIDITY:</u>

The offer should be unconditionally valid for at least a period of 120 days from the date of opening of the tender. Withdrawal or modification of the offer shall not be permitted. Tenders with validity less than 120 days shall not be considered and rejected out rightly. Any bidder revising the offer within validity period is likely to be blacklisted.

## 8. <u>TERMS OF PAYMENT</u>:

100% payment of the contract value pro-rata for each consignment after approval of Inspecting Authority/Test Certificate etc. alongwith 100% Sales Tax, Excise Duty and other statutory levies as per contract shall be paid within 30 days against receipted challans, subject to furnishing a Bank Guarantee of 5% of the amount valid for a period of three months after receipt of material against that consignment of complete items:

In case 5% BG towards 100% payment is not submitted in time as per P.O., 5% payment in lieu thereof shall be withheld from the presented bill. The BG for 5% amount (or the 5% amount withheld in lieu of 5% BG) shall be released on satisfactory adjustment of Goods Receipt Note to be issued by consignee within the validity period of the said B.G.

## 9. **DELIVERY SCHEDULE:**

The offer should clearly indicate monthly/quarterly schedule of deliveries date of commencement and completion of supplies against that indicated in the NIT/Specification (refer Annexure–A) which should normally cover period of entire job of manufacture, testing, inspection and supply after acceptance and shall be reckoned from the date of despatch in case of Rail transport and receipted challan/goods receipt in case of Road transportation by goods carriers. Purchase order shall be placed strictly on the above stated understanding. Ex-stock and quicker deliveries may be some times preferred keeping in view the requirement of works.

The firm shall give FIRM delivery schedule while quoting. If the firm fails to supply the material within committed delivery schedule then it will be likely to be not considered for subsequent orders.

The purchaser reserves the right to divide the tendered quantity to have material as per specification. In case the order is placed on more than one firm, the delivery may be changed on pro-rata basis.

### 10. PENALTY/DAMAGES FOR DELAY IN DELIVERY:

If the supplier fails to deliver the material/equipment within the stipulated delivery period of the Purchase Order/Contract, the same is liable to be rejected and if accepted, the supplier shall be liable to pay as penalty charges, a sum of 0.5% (half of one percent) of the cost of undelivered supply/incomplete equipment per month of delay or part thereof, not exceeding maximum limit of 5% of the cost of complete unit of undelivered equipment so delayed. There will be a slack of one month that will not entail any penalty and will not involve any additional financial implication. Delay beyond slack period will attract penalty for the period of delay including slack period. However there will be no penalty/liquidated, damages in respect of purchase of proprietary items.

#### 11. EXTENSION IN DELIVERY PERIOD:

If completion of supplies is likely to be delayed due to reasons beyond your control, you shall without any delay inform this office in writing of your claim for extension of time. This office on receipt of such information may agree to amend the delivery schedule as may be reasonable but without prejudice to other terms and conditions of the contract.

Any genuine delay in approval of technical details, drawing, samples, issuance of amendment to purchase order, conducting inspection and approval of test report/test certificate for allowing dispatches etc. will count towards extension of the delivery period by corresponding period other than that admissible under 'Force Majeure' conditions, if any, substantiated by the supplier, and duly accepted by the purchaser. The arrangement of required raw material such as steel/zinc is the responsibility of the supplier. Any non-availability of raw material will not be considered as a valid reason for extension in delivery period. No extension in delivery shall be granted in case of delay in payment. However, for delayed payments beyond stipulated period as per terms of payment clause, compensation shall be credited @ 0.5% of the payment so delayed, per month or part there of to be adjusted against penalties levied or leviable due to delay in deliveries under the contract.

# 12. <u>NEGLIGENCE AND DEFAULT</u>:

In case of negligence on the part of supplier/contractor to execute the order/contract with due diligence and expedition and to comply with any reasonable orders given in writing by the Purchaser in connection with the Purchase Order/Contract or any contravention in the provisions of the Purchase order/contract, the Purchaser may give 21 days notice in writing to the supplier/contractor to make good the failure or neglect or contravention and if the supplier/contractor fails to comply with the notice within time considered to be reasonable by the purchaser, he will suspend/terminate business dealings with the supplier/contractor for a specific period apart from claiming reasonable compensation/damage, forfeiture of security

etc. The action taken under this clause will be notified to all the purchasing agencies & other State Transmission Corporations/Utilities.

### **13. FORCE MAJEURE**:

During the pendency of the contract/purchase order, if the performance in whole/part by either party or any obligation there under, is prevented/delayed by causes arising out of any war, hostility, civil commotion, acts of the public enemy, sabotage, fire, floods, explosions, epidemics or non-availability of Government controlled raw-material under order/Instructions of Central/State Government regulations, strikes, lockouts, embargo, acts of Civil /Military authorities or any other cases beyond their reasonable control, neither of the two parties shall be made liable for loss or damages due to delay or failure to perform the contract during the currency of Force Majeure conditions, provided that the happening is notified in writing (with documentary proof) within 30 days from the date of the occurrence.

The supplies shall be resumed under the contract as soon as practicable after the happening (event) ceases to exist.

#### 14. **EARNEST MONEY:**

i) In case of open and limited tenders, the bidders shall be required to submit Earnest Money at the following rates in the form of Punjab State Transmission Corporation Ltd. Cash Receipt/Bank draft alongwith the tenders: -

S.	Description	Max. EMD, for	Min. EMD,
No.		100% qty.	for 25% qty.
1	150 Ohms Balanced High Frequency	Rs. 22,600/-	Rs. 5,650/-
	Cable		

ii) The following shall be exempted from depositing Earnest Money:

Suppliers having permanent Earnest Money of deposit Rs. 10.0 Lac with the TS organization of PSTCL. A certificate to this effect issued by the concerned Accounts Officer of the PSTCL during three month immediately preceding the due date of tender opening and showing the Serial number/Account number allotted in the Permanent Earnest Money deposit register shall be submitted by the Bidders in the envelope for Earnest Money.

Permanent earnest money deposit of Rs. 10 lac shall be deposited by the Bidder/Suppliers Organization wise with only CE/TS, PSTCL i.e. Transmission System Organization of PSTCL irrespective of the fact whether they have PEMD already deposited with other purchase organization of the PSTCL or PSTCL itself. A certificate to this effect issued by the AO/CPC, PSTCL, Patiala of the PSTCL under TS Organization during three months immediately proceeding the due date for tender opening and showing the serial Number/account Number allocated in the PEMD Register shall be submitted by the Bidder in the envelope for Earnest Money, for seeking exemption thereof.

iii) a) In case of tenders not accompanied by full amount of Earnest Money for the items tendered but not less than 25% of the amount due, the order/contract, shall be awarded only for part of material/equipment services limited to a value corresponding to the actual amount of Earnest Money submitted with the

- tenders provided the placing of such part order is otherwise feasible and is in the interest of the PSTCL otherwise such tender shall be ignored.
- b) Earnest Money shall be forfeited in case of withdrawal/Modification of an offer within the validity period as required in NIT/Tender Specification after opening of tenders.
- c) In case of successful Bidders Earnest Money shall be converted as Security deposit and shortfall, if any shall be got deposited for faithful execution of Purchase Order/Contract.
- d) In case of tenders not accepted, the earnest money shall be refunded within 30 days of the award of order/contract to the un-successful tenderers.
- e) Earnest Money may be deposited through a Demand draft drawn in favour of Accounts Officer/CPC, PSTCL, Patiala.

#### 15. <u>INTIMATION TO CHIEF ACCOUNTS OFFICER AND CONSIGNEES:</u>

The supplier will have to intimate the probable date of dispatch followed by telegraphic advance intimation regarding the actual date of R.R. to Financial Advisor/Centralized payment Cell, Punjab State Transmission Corporation Ltd., Patiala, to enable him to arrange payment failing which demurrage/wharfage etc. will be to supplier's account. A copy of such intimation should be sent to the consignees and Chief Engineer/TS, (Communication Design), Shakti Sadan, The Mall, PSTCL, Patiala also for reference immediately.

#### 16. SALE TAX & DUTIES:

- **A) <u>VAT</u>**: The VAT as applicable if inclusive in prices shall be paid against documentary proof on submission of following certificates:-
- i) Certified that the transaction on which tax has been claimed has been/will be included in the return submitted/to be submitted to the Sales tax authorities for the assessment of the tax and the amount claimed from the PSTCL has been/shall be paid for the Sales Tax Authorities.
- ii) Certified that the goods on which tax has been charged have not been exempted under the rules made there-under and charges on account of the Sales tax on these goods are correct under the provisions of the relevant act or rules made there-under.
- iii) Certified that we shall indemnify the PSTCL in case it is found at a later stage, that wrong or incorrect payment had been made on account of tax paid by us.
- iv) Certified that we are registered dealer & our Regn. No. is

### **B)** Central Sales Tax:

The PSTCL has been registered as a dealer under the Central Sales Tax Act.

i) When the Central Sales Tax is to be paid by the PSTCL, a declaration certificate in Form 'C' will be issued by the Chief Controller Finance/Centralized Payment Cell, PSTCL, Patiala on receipt of material.

- ii) When the tax is to be paid by the Supplier, a declaration certificate in Form will be issued by the Chief Controller Finance/ Centralized Payment Cell, PSTCL, Patiala, subject to submission of the following certificates:
- a) Certified that the transaction on which tax has been claimed has been/will be included in the return submitted/to be submitted to the Sales Tax Authorities for assessment of the sales tax and the amount claimed from PSTCL has been paid to the sales tax authorities.
- b) Certified that the goods, on which Sales Tax has been charged have not been exempted under Central Sales Tax Act or the Rules made thereunder and the charges on account of the sale tax on these goods are correct under the provision of the relevant Act or rules made thereunder.
- c) Certified that we shall indemnify the PSTCL in case it is found at a later stage, that wrong/incorrect payment had been made on account of Sales Tax paid by us.
- d) Certified that we are registered dealers under the Central State Sales Tax Act and our Registration No. is \_\_\_\_\_\_.
- e) Certified that payment has been made under protest. The bills for the Sales Tax and insurance charges, if any, should be submitted separately.
- iii) The firm indicating NIL or Concessional rate of CST will have to absorb the CST upto full rate applicable at the time of tendering. Firm who do not agree to this stipulation or indicate CST as extra without indicating the applicable rate shall be loaded with maximum rate for evaluation purpose.

# C) Central Excise duty:

- a) Central Excise Duty, if and where-ever applicable and quoted to be charged extra will be payable at the rate prevailing during the scheduled delivery, subject to the production of the following three certificates by the Manager/Senior administrative officer of the firm: -
- i) Certified that the transaction on which the Central Excise Duty is claimed has been/shall be included in the return submitted/to be submitted to the Central Excise Authorities and the amount claimed from the PSTCL has been/shall be paid to Central Excise Authorities.
- ii) Certified that the goods on which ED has been charged have not been exempted under the Central Excise Act of the rules there under and the amount charged on account of ED on these goods is not additional than what is payable under the provisions of relevant act or the rules made thereunder.
- iii) Certified that we shall indemnify the PSTCL in case it is found at a later stage that wrong or incorrect payment has been recovered on A/C of ED paid by us. Further in case, an exemption for ED paid is agreed by Excise Authorities and ED amount is refunded to us, then equal amount shall be paid by us to the PSTCL.

In case the Excise Duty is applicable and is require to be paid extra as referred to in (a) above, the bidder should clearly indicate the present rate (in percent) applicable to their company.

The maximum rate (in percent) upto which the E.D. may be come leviable/payable under the prevailing Rules & Regulations applicable to their company should also be clearly indicated in their tender.

In case the Excise Duty is applicable/payable, necessary certificate of Excise Duty/Excise Gate Pass, duly authenticated by the authorized representative of Central Excise Department, shall however be furnished by the supplier alongwith each consignment. The supplier should therefore clearly indicate in their tender that whether Excise Duty Gate Passes/Certificates shall be furnished by them or not.

The firms indicating nil or concessional rate of Excise Duty in their tender will have to absorb E.D. upto full rate applicable at the time of tendering. The firms who do not agree to this stipulation or indicating E.D. as extra without indicating the applicable rate shall be loaded with Maximum rate of duty for evaluation purposes.

#### 17. INSURANCE:

- i) The rates are required to be quoted on FOR destination basis and it is the responsibility of the supplier to deliver the goods in sound condition FOR destination and for that purpose the supplier may at his option insure the material against all risks at his own cost during transit for full delivered value of the material upto destination. All works in connection with making and settling of claims, if any, with Railway Authorities and or Insurance Company shall be carried out by the Contractor for which no extra payment shall be made by the PSTCL. However, necessary assistance required in connection with making and settling of such claims, if any, shall be provided by the consignees.
- ii) All damages and/or shortages during transit as covered by the insurance shall be made good immediately on receipt of such information from the consignees without waiting for settlement of claim. However, in case of apparent damages and/or shortages, the consignee shall obtain the loss/damage certificate from the Road Transport/Railway authority and send the same to the Contractors within a period of thirty days from the date of receipt of material. The Supplier/Contractors shall submit a certificate with each bill to the effect that the material has been duly insured.
- iii) The consignees shall report losses and damages to the firm within 30 days of arrival of the equipment at the site. It will, however, be supplier's responsibility to prefer timely claims on the insurance underwriters and to arrange replacement thereof to the consignees.
- iv) The suppliers shall be wholly responsible for the loss, shortages, and damages etc. during transit. Such shortages and damages etc. will have to be replaced/repaired by supplier/ contractor free of cost immediately without waiting for maturing of the Supplier's/Contractor's claims with the Road Transport/Railway Authorities.
- v) In case replacement/repair of defective material is not carried out within six months of intimation of damages, supplier shall have to pay interest at the rate of 12% per annum on the advance payments made by the Punjab State Transmission Corporation Ltd. from the date of its payment upto the date of the re-

commissioning of the equipment after replacement/repair or to the date the default is made good.

vi) In case replacement/repair of short/defective material is not made good within one month from the date of receipt of intimation from the consignee in this regard, the purchaser shall have to the option to get short/damaged material fabricated from some other source and in that case, the recovery at double the cost provided in the P.O./ Specification shall be made from supplier.

#### 18. **WARRANTY**:

The supplier/Contractor shall be responsible to replace free of cost, with no transportation and insurance expenses to the purchaser upto the destination of material/equipment, the whole or any part of the material, which under normal and proper use and maintenance, proves defective in material or workmanship within 12 months from the date it is taken over by the purchaser, or 18 months from the date of despatch in respect of indigenous material, 24 months from date of shipment of imported material, whichever expires earlier, provided the Purchaser gives prompt written notice of such defects to the supplier/contractor.

Such replacement shall be effected by the Supplier/Contractor, within a reasonable time not exceeding 6 months of the intimation of defects. Supplier's /Contractor's responsibility arising out of supply of material or its use whether on warranties or otherwise shall not in any case exceed the cost of correcting the defects or replacing the defective part/material and upon the expiry of the warranty period stipulated above, all such liabilities shall terminate.

The above provision shall equally apply to the material so replaced/repaired by the supplier/contractor under this clause in case the same is again found to be defective within 12 months of its replacement/ repair.

In case replacement/repair of defective material is not carried out within six months of intimation of defects, the supplier/contractor shall have to pay interest @ 12% per annum on the value of each complete operational unit of equipment beginning from the date of becoming defective upto date of its re-commissioning after replacement/repairs.

#### 19. CHANGES:

No variation or modification or waiver of any of the terms and provisions shall be deemed valid unless mutually agreed upon in writing by both the Purchaser and the Supplier.

#### **20. OCTROI CHARGES:**

Octroi charges shall be paid extra on actual basis if applicable.

# **21.** <u>DESPATCH INSTRUCTIONS</u>:

The material will be required to be dispatched as per the dispatch instructions issued by the Punjab State Transmission corporation Ltd. either according to purchase order cum contract or as intimated separately afterwards/ during the pendency of contract.

# 22. <u>INSPECTION AND TEST</u>:

The PSTCL shall inspect, examine and test equipment/material through its officials and/or through an outside agency nominated by PSTCL at the manufacturer's/supplier's work, during or after the manufacture of goods prior to despatch, on receipt of a clear notice of minimum two weeks in advance, to be reckoned from the date of receipt by purchaser. The supplier/contractor shall provide all facilities as may be required to carry out the tests in accordance with approved standards, free of cost. If the purchaser or the nominee representative desires to have one or all the tests to be got done through independent lab or test house, the charges of such lab/test house shall be borne by the supplier.

In case the inspection is waived off by the PSTCL, the supplier shall be required to submit test certificates in triplicate for approval. No material shall be dispatched without inspection and/or approval of test certificates unless so directed. Any material consumed during testing/ inspection shall be to supplier's account.

Random testing of material on receipt in the stores irrespective of the fact whether or not it was inspected before despatch shall be carried out by PSTCL and in case of any failure the entire lot shall be rejected at the risk and loss of supplier. The supplier/contractor shall be required to furnish to the purchaser office/consignees wherever necessary the following documents alongwith the consignment:-

i) Printed pamphlets catalogues 2 copies

ii) Instruction book 2 copies

iii) Drawings 2 copies

iv) Any other relevant information (to be 2 copies

Incorporated at the time of placing the P.O.)

In case the goods have not been inspected/tested at the manufactures works by a representative of the PSTCL, the supplier/contractor shall furnish the following certificates alongwith consignment for facility of the consignee.

- a) Type test certificate
- b) Routine test certificate (if applicable)

## 23. CIVIL SUIT/JURISDICTION:

All legal proceedings in connection with this purchase order/contract shall be subject to the territorial Jurisdiction of the local civil courts at Patiala only.

## 24. <u>ARBITRATION</u>:

a) If at any time, any question, dispute or difference, whatsoever, shall arise between the purchaser/PSTCL and the contractor/supplier, upon or in relation to or in connection with the P.O. /contract, either party may forthwith give to other, notice in writing of the existence of such question dispute or difference and the same shall be referred for sole arbitration of a nominee of the purchaser/PSTCL who shall give a reasoned/speaking award. The award of the sole arbitrator shall be final and

binding on the parties under the provision of the Indian Arbitration Act, 1940 and of the rules there-under. Any statutory amendment, modification or re-enactment thereof for the time-being in force, shall be deemed to apply to and be incorporated in contract/P.O. It will not be objectionable if the sole arbitrator is an officer of the PSTCL and he has expressed his views on all or any of the matters in question of dispute or difference.

- b) Upon every or any such reference, the cost of and incidental to the reference and award respectively, shall be the discretion of the Sole Arbitrator so appointed who may determine the amount thereof or direct the same to be taxed as between solicitor and client or as between party and party and shall direct by whom and to whom and in what manner the same is to be borne and paid.
- c) The work under the contract shall, if reasonably possible, continue during the arbitration proceeding and no payments due or payable by the purchaser/ PSTCL shall be withheld on account of such proceedings.

#### 25. CONSTITUTION EXPERIENCE AND FINANCIAL STANDING:

The bidders should invariably supply the following information with the tenders on relevant Annexure:

- a) Constitution and composition of the firms
  - i) If a Joint Stock company, copy of its Memorandum and articles of Association and other particular.
  - ii) If a partnership, a copy of the partnership deed, particulars of partners.
  - iii) If a proprietary concern, the standing of the proprietor and if registered with the Register of Companies/Firms, their registration No.
- b. Experience & standing in the market.
- c. Particulars of purchase order/contracts executed with the PSTCL & other Board's/government departments.
- d. Financial position;
  - i) Balance sheet for the last three years, including Trading, Manufacturing, profit and Loss Account.
  - ii) Bank references.

# 26. <u>INFORMATION REGARDING LIST OF BANKERS THE PURCHASE</u> DEALS WITH:

- 1. The Railway Receipt/Goods Receipt and invoices etc. should be sent to the authorities to be specified in the Purchase Order.
- 2. Any demurrage occurring as a result of sending Railway goods Receipt through a Bank other than the one with which the accounts of the Purchaser are operated will be to the account of the Supplier/Contractor.
- 3. No goods will be accepted by the consignees unless accompanied by challan or invoices.
- 4. The Punjab State Transmission Corporation Ltd. deals with the State Bank of Patiala, The Mall, Patiala.

The G.R./R.R. and invoice should, therefore, be sent to Financial Advisor, Centralized Payment Cell, PSTCL, Patiala through any of these banks at Patiala. Any demurrage occurring as a result of sending RR/GR through a bank other than one with which the accounts of the PSTCL are operated will be to the a/c of the supplier.

# 27. <u>SECURITY DEPOSIT</u>:

- a. The successful bidders shall be required to submit security deposit for faithful execution of the purchase order/contract at the rate of two percent (2%) of ordered value rounded off to a multiply of Rs. 10/-on the higher side.
- b. Ordinarily, in the case of successful bidders, the Earnest Money received with the tender shall be converted into security deposit. If the amount of earnest money received with tender falls short, the contractor/supplier shall be required to deposit the additional amount and in case of earnest money received with the tender is more than the amount of the security deposit required for purchase order/contract, the balance shall be refunded.
- c. The bidders, having permanent deposit of Rs. 10 lacs with CE/TS, PSTCL and hence exempted from depositing earnest money with tender, shall also be required to submit security deposit @ 2% of the ordered value in the form of cash/demand draft/Bank Guarantee (Annexure –L) within 30 days from the award of order/contract.
- d. The following shall be exempted from depositing security against order/contract awarded to them:
  - Manufacturers/suppliers of proprietary items.
- e. On faithful execution of purchase order/contract in respects, including warranty period, the security deposit of the contractor/supplier shall be released by the purchaser. The refund shall be made within 15 days from the issue of release order.
- f. In the event of default on the part of the contractor/supplier in the faithful execution of purchase order/contract, his security deposit shall be forfeited. The forfeiture of security deposit shall however, be without prejudice to any other rights arising or accruing to the PSTCL under relevant provisions of the purchase order/contract like penalty/damages for delay in delivery including suspension of business dealings with PSTCL for a specific period.

#### 28. <u>CANCELLATION:</u>

The purchaser reserves the right to cancel the purchase order as a whole or in part at any time or in the event of default on the part of the supplier prior to the receipt of information regarding taking in hand of the manufacture of material against the Purchase order/despatch of material to the consignee.

# 29. <u>CONTRACT AGREEMENT:</u>

The detailed order issued in accordance with agreed terms & conditions accepted/acknowledged by the firm shall itself form valid contract along with subsequent amendment, if any, and shall be construed and operated as such in terms for of Indian Contract Act-1872 as amended up to date.

It will be obligatory on the part of the successful Bidder to execute within 30 days of the receipt of the detailed order, a legal Contract agreement on non-judicial stamp paper of Rs. 15/- only according to stamp act. The signatory on behalf of the successful tender shall also supply the power of attorney in his favour

duly attested by Notary Public. Two copies of contract will be executed between the supplier & purchaser. One copy duly executed will be returned to the supplier.

After execution of contract, contractor shall supply if required sufficient number or extra copies of contract, specification drawing/drawings, technical literature, bill of material, as finally approved by the purchaser. The cost of these items shall be deemed to have been included in the tender price and the tenderers will not be entitled to any extra payment on this account.

The tenderer in the interest of execution of contract within stipulated time must offer his comments against each and every clause of this specification to which he does not agree so that decision could be taken by competent authority to all deviations. The clause against which no comments are offered, shall be considered to have been agreed to by the tenderer and shall have to be included in the contract agreement to be executed/signed by the successful tenderer.

# **30.** ORDER PREFERENCE:

The PSTCL would allow an order preference to such Bidder whose works are situated within the State of Punjab as per the procedure laid down as under:

- a. The rate of Punjab firms would be de-escalated by 15% for all the Units. Their position in the comparative statement shall be shown accordingly for the purpose of comparative statement.
- b. The zone of consideration for placing of purchase order/contract would there after be demarcated taking into account the quantity of material required as per NIT and the quantities offered by the different bidders subject to the condition that for Punjab based firms upto 20% of the total quantity will be reserved provided they fall in the consideration zone after application of price differential. However, where the Punjab firm qualify amongst the lowest bidder on the quoted rate, they shall from part of the original quoted list for purpose of placing orders.
- c. The purchase on the Punjab firm claiming order preference and falling within this zone would be placed on lowest rate of the firm not claiming order preference within the zone of consideration or on the concerned Punjab firms own quoted rate whichever may be lower.
- d. In the event of zone of consideration ending at the de-escalated rate tendered by a firm claiming order preference, the rate to be allowed to such firms shall be the next quoted rate by the firm not claiming order preference or the concerned firm's own quoted rates, whichever may be lower.
- e. The Punjab based firms claiming order preference shall be required to furnish an undertaking in prescribed form (Annexure-J) on a non-judicial stamp paper of appropriate value to the effect that they shall execute the order if placed on them under 'Order preference' as per tender specification. Such undertaking should be submitted by the Punjab based tendering firms latest by the close of the day of opening of the tenders. In case no such undertaking is furnished by the Punjab based firms who are otherwise eligible for claiming 'Order Preference' as per the tender specification, their tender shall not be considered for placement of any order under order preference. In the event of refusal by

the Punjab based firms to execute the purchase order/contract at their quoted rates or offers made under order preference as per 'c' and 'd' above as the case may be, after having furnished the above undertaking their Earnest Money shall be forfeited apart from initiating further administrative action, such as suspending business dealings, blacklisting etc.

#### 31. FAKE INSPECTION CALL:

If the firm does not get the material inspected when the inspecting officer visits their works after receipt of inspection call on one pretext or the other or the material fails during inspection, it will have to bear TA/DA for the journey performed by such an inspecting officer which shall be Rs. 15,000/- (outside Punjab) & Rs. 5000/- (within Punjab) per visit of each officer. Besides the recovery against each fake call, a letter of warning shall be issued and it shall be counted towards firm's performance for all intents and purposes.

# 32. WORKS APPRAISAL:

If some new firm submits tender which has never supplied the tendered item to PSTCL earlier, its works appraisal shall be carried out before opening of Part-III (Price Bid) to ascertain whether the offer of the firm is technically/commercially acceptable or not. The cost of the works appraisal shall be born by the firm and the same shall be deposited by the firm within seven days from the issue of notice in this regard failing which the offer of the firm shall not be processed further. The charges of Rs. 50,000/- (for firms located outside Punjab) and Rs. 25,000/- (for firms located inside Punjab) shall be levied for the purpose. In case the report is negative, these charges will be repeated. The above charges are non-refundable, and works appraisal of the firm does not entitle the firm for placement of order

#### 33. SUBMISSION OF DOCUMENTS FOR EXPEDITIOUS PAYMENTS

In order to ensure expeditious payment of bills, the following may be followed:

- I) The bills alongwith a copy of receipted challan must be submitted in the office of AO/CPC and this office simultaneously within a period of seven days from the date of receipt of the material
- II) The following documents / information should also be supplied directly to AO/CPC in addition to this office.
  - i) Copy of Bank Guarantee
  - ii) Copy of Inspection Call letter.
  - iii) Inspection report / waiver reference if any.
  - iv) Dispatch Instructions if separately given.

Dy. CE/Plg. & Comm., PSTCL, PATIALA.

#### PART-2

#### TECHNICAL SPECIFICATIONS

#### 1. INTRODUCTION

Punjab State Transmission Corporation Limited is operating a vast Power Line Carrier (PLC) Communication Network for the effective control of power system. High frequency (HF) cable is required in the PLC Communication system at all generating stations/sub-stations. This cable is used for connecting in door PLC Terminals with outdoor PLC equipment i.e. Line matching Unit/coupling device in the switch yard. The H.F. cable carries signaling current in the frequency range of 40-500 KHz.

#### 2. SCOPE OF SPECIFICATION

This specification governs the design, manufacture, constructional requirements, Electrical & H.F. characteristics, testing at manufacturer's works, delivery FOR destination and rectification/replacements during warranty period of 2 core 150 Ohms (balanced) HF cable as per technical particulars given in the specification.

#### 3. REQUIREMENT

a) Max temperature of air

The requirement of HF cable is as as per Annexure-A (Schedule of Requirement and Delivery).

#### 4. CONDITIONS FOR OPERATION & TRANSPORTATION

The cable shall be suitable for being laid directly in the ground or indoor and outdoor trenches & ducts and shall operate satisfactorily under the following tropical climatic conditions without any adverse effects on its performance for short or long time periods:-

55 °C

α)	wax. temperature of an		<i>33</i> C
b)	Min. temperature of air		-5 °C
c)	Max variation between day & ni	ight temperatu	re
	,	winter	20 °C
	:	summer	25 °C
d)	Max. relative humidity		100%

e) Altitude above mean sea level upto 1000 mtrs. f) Max wind pressure 150 Kg/mm²

g) Earthquake incidence sites susceptible to earthquakes

During shipment and storage, the cable should be able to withstand extreme climatic conditions of -10 °C to +60 °C without any damage or deterioration occurring / developing in the cable.

# 5. REFERENCE TO STANDARDS

This specification makes reference to the following standard specifications. When standard is quoted by its number only, it mean its latest issue of that specification or amendment thereto as available on the date of tender opening shall be referred to:-

1) IS-2982 : Specification for copper conductor in insulated cables and cores.
2) BS-6234 : Spec. for Polyethylene insulation and sheath of electric cables.

3) IS-6474 : -do-

4) ITD-S/WT-108 : Cable Drums.

5) IS-5831 : Specification for PVC Insulation & sheath of electric cables.

6) BS-2746 : -do- (Colour Coding)

7) IS-5026(Part-I) : Specification for General Requirements & Tests for Radio

frequency cables

8) IS-11967 : Specification for Radio frequency (Part 2/Sec. 3) coaxial cables.

#### 6. MATERIAL

#### 6.1 CONDUCTORS

i) The inner conductors shall be hard drawn plain high conductivity, bare solid copper wire which shall be annealed after hard drawing each with a diameter of 1.4mm  $\pm$  .016mm circular in cross section, uniform in physical, electrical and mechanical properties and free from spills, split, sharp edges and other defects. The conductor resistance shall be 11.54  $\Omega$ /Km at 20 °C. The surface of conductor shall be smooth and untarnished. The quality of copper shall conform to IS-2982 and its weight per km of length shall be 13.68 Kg.

- ii) A sample of the conductor 250mm long taken from the complete cable shall, when steadily and slowly stretched shall give a minimum elongation of 22.5% before breaking/fracture.
- iii) The joints in the conductors shall be kept to a minimum and shall be made in such a manner that tensile strength of a length of 250mm of a conductor containing a joint shall not be less than 90% of that of a similar sample of the conductor not containing a joint.
- iv) The electrical resistance of length of 250mm conductor containing a joint shall not be greater than 104% of that of a similar conductor not containing a joint.
- v) Not more than two joints shall be allowed in any one of the single wire forming every complete length of conductor and no joint shall be within 300mm of any other joint.

#### 6.2 DIELECTRIC CORES

The tube and thread shall be of solid dielectric insulation of medium density polyethylene type 03 natural as per BS-6234. The tube thickness shall be  $1.0\text{mm} \pm 0.2\text{mm}$  and thread shall be  $0.9\text{mm} \pm 0.1\text{mm}$ .

#### 6.3 INNER SHEATH

Inner Sheath shall be of Polyethylene conforming to grade 03 as per BS-6234/IS-6474. Nominal thickness of Inner Sheath shall be 1.0mm with tolerance of  $\pm 0.2$ mm. Inner sheath shall be light grey or natural in colour.

#### 6.4 NON-MAGNETIC SHIELD/COPPER BRAIDING

The non-magnetic shield shall consist of 0.2 mm dia  $\pm 0.003 \text{mm}$  annealed tinned copper wire with same specifications as of inner conductor material i.e. same qualities, parameters, flexibility, conductivity and ability to withstand extreme condition of temperature shock and vibration.

#### 6.5 ARMOUR WIRE

Galvanized Iron/Steel Wire of  $0.3 \text{mm} \pm 0.005$  dia fully galvanized (HOT DIP METHOD) with medium coating having uniform physical, electrical and mechanical properties shall be used for braid armouring. The zinc coating shall be smooth and continuous free from flaws and other imperfections. Thickness of zinc coating shall be determined in accordance with IS-2633-1964/IS-4826-1979).

The joints in the armour wire shall be made by brazing or welding and surface irregularities shall be removed. A joint in any wire shall be at least 300mm away from the nearest joint in any other wire.

#### 6.6 OUTER SHEATH

The outermost sheath shall be of PVC conforming to hard grade of IS-5831 for PVC cables and shall be of light grey or cream colour. Nominal thickness of outer sheath shall be 2.0 mm with a tolerance of  $\pm 0.2 \text{mm}$ .

The colour shall conform as nearly as practicable to the standard colour of BS-2746/IS-5831 and shall comply with provisions and tests of BS-2746/IS-5831 and shall suffer no degradation when the covered cable is subjected to heat test.

#### 7.0 CHARACTERISTIC IMPEDANCE

The characteristic impedance of the HF cable shall be 150 ohm  $\pm$  2% balanced so as to match with the out put impedance of the PLC equipment and line matching unit/coupling device.

#### 8.0 CONSTRUCTION

#### 8.1 CORE FORMATION

In order to have low losses the conductors shall be helically wrapped with one or more threads of dielectric material. The wrapped conductors should be covered with polyethylene tubes of thickness  $1 \text{mm} \pm 0.2 \text{mm}$  such that the inner conductor is less than 10% off center from the core and offer uniform capacitance. The capacitance shall be low so as to minimize attenuation at the frequency range of 40 to 500 KHz.

#### 8.2 TWINING

The two cores shall be twisted together with uniform lay to form a pair. The length of lay shall be chosen so as to have minimum dielectric losses. The difference in lengths of two conductors must be kept to an absolute minimum to achieve minimum capacitance unbalance/required degree of transmission balance.

#### 8.3 TAPING

The pair thus formed shall be stranded into a compact symmetrical round cable and tightly lapped with polyester tape of 0.025mm thickness with 50% overlap. Polythene strings / tubes of required diameter may be used as fillers for proper circular cable formation. The tape shall be easily removable during any stripping operation being carried out on the completed cable.

## 8.4 SCREENING

To prevent external energy fields from entering and interfering and to prevent leakage of carrier signal as a result of radial propagation of energy through the conductor, a non-magnetic shield consisting of annealed tinned copper braid of 0.2mm dia with a minimum coverage of 90% shall be provided on the unit so formed, which shall ride tightly, evenly and smoothly without piling on the periphery and without being depressed into dielectric material. To prevent leakage due to finite openings at the braids, the wire braiding shall be tightly woven. Braid angle shall be 45 °C. There will be no joint in the complete braid.

#### 8.5 INNER SHEATH

An inner sheath of polyethylene conforming to grade 03 as per BS-6234 shall be extruded over the braided core to provide physical separation between screen and armour.

The nominal thickness of this sheath shall be 1.0mm  $\pm 0.2$ mm. Reclaimed material shall not be used.

The complete sheathing shall be spark tested at 6 KV RMS AC and there shall be no spark over.

#### 8.6 ARMOURING

In order to improve the effectiveness of the shielding material in containing the wave reflections and to further reduce the attenuation, G.I wire/steel wire braid armouring thickness  $0.3 \pm 0.005$ mm as per IS-3975 shall be provided with minimum 70% covering and shall ride tightly, evenly and smoothly without piling on the periphery and without being depressed into the inner-sheath. For proper effectiveness the G.I./Steel Wire braiding shall be tightly woven. Braid angle shall be 45°. There will be no joint in the complete braid.

#### 8.7 OUTER SHEATH

A tape with 0.025mm thickness and 30% overlap shall be tightly lapped before the final outer PVC sheath of light grey or cream colour is provided. The sheath shall be uniformly and tightly extruded to a thickness of  $2.0 \text{mm} \pm 0.2 \text{mm}$ .

The composite sheathing shall be spark tested at 8 KV RMS A.C. and there shall be no spark over.

8.8 All the sheaths i.e. inner sheath and outer sheath shall be annular and must fit tightly on the core. It shall be smooth and free from defects and shall satisfy the requirements of pressure tests.

#### 9. ELECTRICAL TESTS

The H.F. Cable should withstand all the tests as per IS-5026 and IS-11967.

#### i) CONTINUITY TESTS

Conductors in the completed cable shall be tested for continuity.

#### ii) CONDUCTOR RESISTANCE TEST

The conductor resistance shall meet the requirement of  $11.54\Omega$ /km at  $20^{\circ}$ C with tolerance as per relevant ISS.

#### iii) DIELECTRIC STRENGTH

The dielectric between each conductor and conductors or screen of the cable shall withstand an alternating voltage of 4 KV with out breakdown for one minute.

#### iv) INSULATION RESISTANCE

The insulation resistance measurement shall be made with 500V DC after steady electrification for one minute.

The insulation resistance i) between conductor to conductor ii) between each conductor in the cable with other conductors & screen connected to earth shall not be less than 10,000 mega  $\Omega$ /km at 27°C.

#### v) SHEATH PRESSURE TEST

The sheath shall withstand without leakage an internal air pressure of 9.3 Kg/cm² for 3 hours after equalization of pressure throughout the cable.

## vi) CAPACITANCE

The capacitance between the two inner conductors shall be 30 pF/metre (max.) at 800-1000 Hz as per IS-5026.

#### vii) CAPACITANCE UNBALANCE

The capacitance unbalance of cable shall be in accordance with IS-5026.

# viii) VELOCITY RATIO

The velocity ratio shall be determined with accuracy of  $\pm$  0.5% at a frequency of approximately 200 MHz or at other frequencies as per IS-5026.

#### ix) MEAN CHARACTERISTIC IMPEDANCE

The characteristic impedance shall be determined at approx. 200 MHz or at other frequencies as per IS-5026.

# x) UNIFORMITY OF EFFECTIVE CHARACTERISTIC IMPEDANCE

The effective characteristic impedance shall be measured for a frequency of 40-550 KHz as per IS-5026. The impedance accuracy shall be 150  $\Omega \pm 2\%$ .

#### xi) ATTENUATION

Attenuation per KM of cable at various carrier frequencies in the range of 40 kHz to 500 kHz shall be as follows:-

Sr. No.	Frequency	Max. Attenuation (db/Km)			
 1.	10 kHz	1.0 db/Km			
2.	60 kHz	1.6 db/Km			
3.	300 kHz	3.6 db/Km			
4.	500 kHz	5.0 db/Km			

#### xii) INFLAMMABILITY FIRE RESISTANCE TEST

This test should be performed on a sample taken from completed cable and should conform to test as per IS-5831.

# xiii) SPARK TEST FOR OUTER SHEATH

The Sheath of cable shall be spark tested.

a) Dielectric = 6 KV (rms) b) Sheath = 3 KV (rms)

## xiv) HOT DEFORMATION TEST

The insulation or sheath shall be sufficiently resistant to pressure at high temperatures to which it may be exposed in normal use. This test should be carried out in accordance with IS-5831.

#### xv) SHRINKAGE TEST

This test should be carried out as per IS-5831.

#### 10. PHYSICAL TESTS

#### a) ELONGATION TEST ON CONDUCTORS

A sample of the conductor 250 mm long taken from the completed cable shall when steadily and slowly stretched give elongation of 22.5% before fracture. The joints in the conductors shall be kept to a min. and shall be made in a manner that tensile strength of a length of 250 mm of a conductor containing a joint shall not be less than 90% of that of a similar sample of the conductor not containing a joint.

# b) BEND TEST

The cable shall be coiled to a diameter of the 12 D for at least one complete turn, D being the diameter of the cable under test. The sheath shall not ripple. There shall be no damage to the sheath. This test shall be carried out at the discretion of the inspecting officer on an unarmoured cable sample.

#### c) THICKNESS OF INSULATION AND SHEATH

Determination of the thickness shall be made as a representative sample of wire of cable 30 mm long taken not less than 80 mm from the end of factory length. The measurement shall be made at a number of equidistant points both around the periphery of the insulated conductor or the sheath along the length of the sample.

#### d) TESTS ON JACKETS/INNER SHEATH/OUTER SHEATH

The polyethylene jacket of conductor and inner sheath shall conform to British Standard BS: 6234 and outer sheath PVC shall conform to IS-5831 with regard to tensile strength, elongation at break, aging test, shrinkage test, hot deformation test, spark test as per IS-5026 and IS-5608.

#### e) TENSILE STRENGTH AND ELONGATION

#### i) INSULATION & INNER SHEATH (POLYETHYLENE MATERIAL)

The insulation and inner sheath should withstand a tensile strength of minimum 10 N/mm<sup>2</sup> and min. elongation at break (300%).

#### ii) OUTER SHEATH (PVC MATERIAL)

The outer sheath should withstand a tensile strength of min. 12.5 N/mm² and minimum elongation at break 150%.

#### iii) G.I. WIRE/STEEL WIRE

For G.I./Steel Wire tensile strength shall not be less than 30 Kg/mm<sup>2</sup> and not more than 50 Kg/mm<sup>2</sup> and also min. elongation of 12% when load is gradually increased at uniform rate.

#### 11. PACKING & MARKING

#### a) SEALING AND MARKING OF GOODS

- i) After testing, the ends of each length of cable shall be effectively sealed against the ingress of moisture during transit and storage.
- ii) The ends of each cable length should be marked by a durable coloured adhesive plastic tape. Red colour shall be used to indicate clockwise ends and green for the anti clockwise end.

#### b) PACKING & SUPPLY

- i) The cable shall be delivered in the standard lengths of 500/1000 mtrs. with tolerance  $\pm 10\%$ . However, there can be a variation of  $\pm 5\%$  in supply of total ordered quantity.
- ii) Not more than one continuous length shall be wound on one drum.
- iii) At least 30 cm length of the inner end of the cable or a drum or real shall be brought out and securely fastened to the side to facilitate testing. The position of outer end shall be clearly marked. The ends should be securely covered with proper caps to avoid ingress of moisture inside the cable.
- iv) The drum shall be fitted with iron plates leaving circular holes to take a 4 cm spindle. The drum shall be tagged with stout closely fitting battens.
- v) Each coil or reel shall be closely wrapped with covers or brown paper applied with a suitable overlap.
- vi) The coils/reels shall be securely packed in wooden cases to prevent damage during
- vii) The non standard lengths of any order shall be restricted to 5% of the supply and any such single length shall not be less than 200 mtrs.

#### 12. EMBOSSING

Brand name of cable, PSTCL sequential length markings and sign H.F. Cable shall be embossed at a distance of 1 mtr. on the outermost sheath of the cable. Every meter of the cable shall be sequentially marked regarding its length. Firm shall be fully responsible for the length of cable even if detected at a later date/anytime.

#### 13. MARKING OF DRUMS

The following markings shall be indelibly printed on each drum:-

- 1. H.F. Cable
- 2. Type number or Trade Mark or both.
- 3. Manufacturer name or trade mark or both.
- 4. Year of manufacture.
- 5. Lot Number.
- 6. Nominal cross-sectional area of the conductor/cable.
- 7. Length of the cable on drum.
- 8. Gross weight.
- 9. Embossing.
- 10. Rolling Mark.

#### 14. GUARANTEED TECHNICAL PARTICULARS

Guaranteed technical particulars as called for in Appendix-B shall be supplied with the tender for each item. A tender wherein the requisite particulars are not given is likely to be rejected out right. The length of the cable used for the purpose of testing as per relevant IS will be to suppliers account and no payment for this length will be made. Payment for actual length after deduction of length used for testing shall be billed for payment.

#### 15. DESIRED DELIVERY & DESPATCH

The delivery of Cable should commence within two months from the date of receipt of the order and shall be completed in six months thereafter. The cable is to be consigned to the AEE/CO&C Store Sub-Division, 66 KV Sub-Station, G.T. Road, Punjab State Transmission Corporation Limited, Ludhiana (RAILHEAD: LUDHIANA NORTHERN RAILWAY).

#### 16. OUTLINE DRAWING

Tenderer is required to submit outline drawing with proper labeling of different parts of the offered H.F cable along with the tender.

#### 17. INSTRUMENTS

The tenderer is required to furnish list of testing instruments available with him indicating calibration date.

#### 18. TYPE TESTS

The tenderer is required to furnish recent (not earlier than Year 2004) type test report of the HF cable conducted by recognised /Govt. approved Test House along with the tender, failing which the tender of the firm will be rejected out rightly.

#### 19. EXPERIENCE

The tenderer is required to furnish list of purchase orders executed by it for HF cable along with satisfactory performance certificate of the same from any power utility.

#### 20. RESPONSIVENESS AND ACCEPTANCE OF SPECIFICATION/ TENDER

This specification will form the basis for evaluation and acceptance of tenders. Tenderer should therefore endeavor to submit fully responsive offers for equipment meeting the requirements of this specification. Any modification required for their standard equipments to fall in line with this specification must be included.

Any deviation from this specification fully explained in the tenders, if found acceptable will be confirmed in writing by the purchaser prior to the placement of the order. Acceptance of this specification without comments should be taken to indicate that the tenderer agrees to comply with the requirements & conditions contained herein.

The purchaser will have the right to reject all or any equipment/material which does not conform to the requirements and conditions laid down in this specification.

The purchaser also reserves the right to accept or reject any offer without assigning any reasons.

#### 21. SAMPLES

Tenderers are required to submit one meter long sample of H.F. Cable along with the tenders.

Dy. CE/Plg. & Comm., PSTCL, Patiala.

#### SCHEDULE OF REQUIREMENT& DELIVERY

#### 1) REQUIREMENT:

The estimated requirement is as under:-

2 core 150 Ohms (balanced) HF cable as per technical particulars given in the specification: -8,500 mtrs.

#### 2) DELIVERY:

"Ordered quantity shall be supplied in two consignments as under:-

Description	Within 2 months of date of issue of PO	Within 4 months thereafter
150 ohms HF Cable	50%	50%

Drawings shall be submitted for approval within 15 days of receipt of PO."

Any delay beyond 15 days in submission of the drawings shall be to the firm's account. The tenderers should confirm their agreement to schedule the manufacture and delivery of different items to meet actual requirements in the field to reschedule their deliveries if so required by the purchaser later on.

However, the Purchaser reserves the right to divide the tendered quantity to have material as per requirement. In case the order is placed on more than one firm, the delivery period shall be changed on pro-rata basis.

NOTE: Early supply may be taken keeping in view the requirement of works.

#### ANNEXURE – B

# PERFORMA FOR ELICITING INFORMATION FOR APPRAISAL OF FIRM'S CAPABILITY AND CAPACITY TO MANUFACTURE ITEM(S) EQUIPMENT AS PER REQUIREMENTS OF PSTCL TENDER.

# 1. A) NAME OF THE TENDERING FIRM:

- i. Complete Address of the office:
- ii. Telegraphic Address
- iii. Telephone Number
- iv. E-mail
- v. Fax Number

#### B) NAME OF THE TWO RESPONSIBLE PERSONS:

- i. Officer with Designation (Managing Director/Partner/Chief Engineer/Works Engineer etc.) alongwith their address, Income Tax Permanent Account No.
- ii. Day on which weekly holiday is observed in the office

#### C) COMPLETE ADDRESS OF THE WORKS:

- i) Telegraphic Address
- ii) Telephone Number
- iii) E-mail & Fax No.
- iv) Name of the two Responsible Persons with Designation (Managing Director/

Partner/Chief Engineer/Works Engineer etc.)

v) Day on which weekly holiday is observed

# D) NAME, ADDRESS & TELEPHONE NO. OF TWO REFERENCE HAVING FACILITIES OF P&T TELEPHONE

i) Name

i) Name

ii) Address

ii) Address

iii) Telephone No.

iii) Telephone No.

- 2. YEAR OF ESTABLISHMENT.
- 3. CONSTITUTION OF THE FIRM:
  - i) Private or Public Ltd.
  - ii) Registered under the Companies Act or any other act, giving registration No. & date
  - iii) Year of establishment

#### 4. FINANCIAL POSITION

- i) Land (Area & Value)
- ii) Building(Cover & Value)
- iii) Plant & Machinery
- iv) Total Drawing Limit from Bank
- v) Annual Financial Turn Over (duly Audited for the last three years)
- vi) Latest Income Tax Clearance Certificates
- 5. MAN POWER
  - i) Graduate Engineer(s)
  - ii) Diploma Holders
  - iii) Skilled Workers
  - iv) Unskilled works

#### 6. Production assessment:

- i) Detail of Plant & machinery installed (Please attach separate sheet, if necessary)
- ii) Detail of Raw Material

- iii) Stock in Hand
- iv) Source of Raw Material
- v) In case, any Raw Material are required to be imported, indicate arrangement for procurement
- vi) Quality Control exercise in procurement of raw material
- 7. a) Detail of manufacturing process
  - b) Scheme of quality control
  - i) During manufacturing
  - ii) At the finish stage
  - c) Whether any record is being maintained in respect of Quality Control exercised.
- 8. Details of testing facilities available with the firm(Information may be supplied in the enclosed performa)
- 9. Detail of order executed/ under execution during the last three years
  - a. With PSTCL
  - b. Other State Electricity Boards/State Govt./ Govt. of India and their institutions/undertakings
  - c. Other important customers.
- 10. a) Whether the firm is licensed to use ISI mark or any other Govt. quality mark (copies of latest test certificates issued by Govt. laboratories and recognized test houses be attached)
  - b) Whether items offered conform to ISS or any other internationally recognized standards, if so give reference
- 11. (a) Manufacturing capacity of the firm per month (Nos)
  - (b) Current commitments / order booking of the firm with other SEBs/ State utilities / Pvt. Concerns (Nos)
  - (c) Spare monthly capacity available for the instant Tender Enquiry of PSTCL (Nos)

Signature of authorized Signatory of the firm with stamp

- Note: 1. Please attach additional sheets bearing Authorised signatory's signatures & stamp where required.
  - 2. Copies of documents attached / submitted with the Performa should be attested by firm's authorized person with stamp mark of the firm.
  - 3. Detail of documents submitted shall be marked with page no. and index may be submitted accordingly.

# ANNEXURE- C

# SCHEDULE OF GENERAL INFORMATION (TO BE FILLED BY THE BIDDER)

1.	Name, address & telephone Nos. of manufacture/ Principals.	f
2.	PAN No.& proof of filling Income Tax return	 1
	for last 3 years of manufacturer/principals.	•
3.	Name & address of supplier/ firm./company.	
4.	PAN No.& Income Tax return for last 3 years	<u> </u>
	of supplier/firm/company.	
5.	Name address & telephone no. of	f
	Director/Partners/proprietors.	
6.	PAN No.& proof of filling income tax return	1
	for last 3 years of Director/ Partner/Prop.	
7.	Telegraphic address.	
8.	Turnover of the firm for the last 3 years.	
9.	Bank references.	
10.	Testing facilities available at works for	r
	routine and acceptance tests (furnish details of	f
	testing equipment).	
11.	Name of Works Manager/Managing Director.	
12.	Telephone No. of the office at manufacture	
	works/supplier to whom reference should be	
	made for expeditious technical co-ordination.	
13.	Whether holding BIS marking license, if yes	,
	enclose scanned copy.	
14.	Whether the material carries State Quality	7
	Mark, if yes, enclose scanned copy.	
15.	Memorandum and Article of Association of	
	private Ltd., or Public Ltd.,	,
	company/partnership deed in case of	f
	partnership firm (To be Submitted).	
	~~	COLLEGE OF PURPLE
		GNATURE OF BIDDER
	N.	AME

Dated:

**DESIGNATION** 

SEAL OF FIRM/COMPANY.

# **ANNEXURE-D** UNDERTAKING FOR NON PAYMENT OF COMMISSION ETC.

- i) We will not pay any commission etc. or engage any commission agent for dealing with PSTCL in any matter including purchase of equipment etc
- ii) That no officer/official of the PSTCL will deal with any person who claims to be a commission agent or liaison agent of any company and that the officers/officials of the PSTCL must deal only with persons directly employed by the us.

SIGNATURE OF BIDDER	
NAME	
DESIGNATION	
SEAL OF FIRM/COMPANY	í

Dated: SEAL OF FIRM/COMPANY.

# **ANNEXURE-E**

# GENERAL COMMERCIAL PARTICULARS (Following information must be submitted by the bidders)

1	Excise Duty	
i)	Rate considered in quoted prices	@
ii)	In case Nil / Concessional rate of ED is applicable then	
	maximum rate of ED applicable at the time of	
	tendering will be absorbed by the bidder (Yes/No)	
2.	CST / VAT	
i)	Rate considered in quoted prices	@
ii)	In case Nil / Concessional rate of CST/ VAT is	
	applicable then maximum rate of CST/VAT	
	applicable at the time of tendering will be absorbed by	
	the bidder (Yes/No)	
3	Entry Tax (if applicable)	@
4	Validity of offer (min. 120 days)	
5	Whether Schedule of delivery as per specification (Yes/No)	
6	Whether Terms of Payment as per specification (Yes/No)	
7	Nature of Price	Firm
8	Any other information to be mentioned by the bidders	

# SCHEDULE OF FINANCIAL & TECHNICAL RESOURCES OF THE TENDERER

- 1. Financial status and experience.
  - (a) Annual business turnover for the last 5 years.
  - (b) A list of purchase orders for the manufacture of 150 Ohms Balanced HF Cable executed/obtained during the period giving purchase order no. Qty. & name of authorities any may be attached.
  - (c) A list of orders in hand with quantity and their delivery schedule.
  - (d) Last year's production month wise.

#### 2. Technical.

- (a) Location of plant.
- (b) Brief details of Plant and machinery available.
- (c) List of testing instruments.
- (d) ISO/others certifications, if any

Signature of tenderer.

# **ANNEXURE- G**

# "PRICE BID" PERFORMA

Tender Enquiry No.:			Validity :					
							•	
Sr.	Description	NIT	Offered	Ex-Works	ED+	CST	F & I	Unit FOR
10.	•	Qty.	Qty.	Prices	Cess @	@ %		Destination
		(* )	/		0/			ъ.

Sr.	Description	NIT	Offered	Ex-Works	ED+	CST	F&I	Unit FOR
no		Qty.	Qty.	Prices	Cess @	@ %		Destination
		(in meters)	(per met	(per meter	%			Price
								(per meter)
1	150 ohms Balanced	8,500						
	HF Cable							
		•	•					

#### **ANNEXURE-H**

# GUARANTEED TECHNICAL PARTICULARS OF 2 CORE BALANCED H.F. CABLE (150 OHM) TO BE SUPPLIED BY BIDDER ALONGWITH THE TENDERS.

- 1. a) Name of Manufacturer
  - b) Trade Name (if any)

#### 2. CABLE CONDUCTORS

- a) Number of conductors in cable
- b) Nominal cross-section (Diameter) of conductors
- c) Shape of conductors
- d) Material of conductor (with specification)
- e) Tolerance on conductor diameter
- f) Weight of conductor in kg/KM
- g) Resistance of conductor in Ohms/Km at 20 °C
- h) %age elongation (minimum)

#### 3. INSULATION

- a) Material of the thread (with specification)
- b) Diameter of the thread
- c) Material of the tube for insulation (with spec.)
- d) Thickness of the tube (with tolerance)
- e) Overall core diameter over the tube
- f) Dielectric strength
- g) Thickness of Polyester tape

#### 4. SHEATHING

- a) Material of Inner sheath & Jacket/Outer most sheath (with specification).
- b) Colour of sheath (Inner sheath & outer sheath)
- c) Thickness of inner sheath
- d) Thickness of outer sheath/jacket
- e) Tolerance on sheath thickness (inner & outer sheath)
- f) Maximum overall diameter of finished cable
- g) %age elongation (min.)
- h) Tensile strength

#### 5. SCREENING

- a) Material of braid wire with applicable standard
- b) Thickness of braid wires with tolerance
- c) %age elongation
- d) Braid angle
- e) Number of carriers
- f) Diameter of cable under the shield
- g) No. of ends per carrier
- h) Picks per inch.
- i) %age coverage Min.

#### 6. ARMOURING

- a) Thickness of G.I. Wire with tolerance
- b) Tensile strength and %age elongation
- c) Braid angle

- d) Number of carriers
- e) Diameter of cable under the shield
- f) No. of ends per carrier
- g) Picks per inch.
- h) %age coverage Min.

#### 7. TEST VALUES

- a) Capacitance of cable in picofarads/metre
- b) Capacitance unbalance
- c) Velocity Ratio
- d) Attenuation at various frequencies:

Frequency Attenuation in db/km max.

10 KHz

60 KHz

300 KHz

500 KHz

- e) Characteristic impedance with tolerance
- f) Insulation resistance at 27 °C and 70 °C

#### 8. PACKING INFORMATION

- a) Length of cable per drum
- b) Net weight of cable per drum
- c) Gross weight per drum
- d) Tolerance on drum
- 9. Whether sample of the H.F.Cable submitted along with tender
- 10. ANY OTHER INFORMATION WHICH THE TENDERER WANTS TO FURNISH

# **ANNEXURE-I**

# **SCHEDULE OF DEVIATIONS:**

technical dev	iations from PSTCL's specification.	hen it will be presumed that there are no
Sr.No.	Details of Technical Specification	Remarks
		Signature and Seal of tenderer.
	ereunder otherwise it will be presume	general Terms and Conditions must be ed that there are no such deviations and specification and General Terms and
Sr.No.	Details of deviations from General Terms & Conditions of specification .	Remarks
		Signature and Seal of tenderer.

#### **ANNEXURE-J**

Signature of

Constituted attorney.

# UNDERTAKING FORM FOR ORDER PREFERENCE

(TO BE ENTERED ON A NON-JUDICIAL STAMPED PAPER OF APPROPRIATE
VALUE).
We state that our works are situated in the state of Punjab and
we claim "Order Preference" as stipulated in the PSTCL tender specification
No due on against which we have submitted
our tender No dated We undertake to execute the
order/contract if placed/awarded on to us even by counter offer at the rates worked out
by Punjab State Transmission Corporation Ltd. in accordance with its Purchase
Regulations. It is further understood that in the event of refusal by us or failure on our
part to execute the order/contract (full or part) placed/awarded on to us under "Order
Preference' on any account what-so-ever, the Punjab State Transmission Corporation
Ltd. shall have the right to forfeit the earnest money deposited by us and we shall have
no claim for the refund thereof. The Punjab State Transmission Corporation Ltd. shall
also have the right to suspend business dealing with us and to black-list our firm,
without prejudice to other rights accruing to the Punjab State Transmission
Corporation Ltd. under the purchase Order/Contract, if placed/awarded on to us.

# **ANNEXURE -K**

# **CONTRACT AGREEMENT FORM**

(TO BE ENTERED ON NON-JUDICIAL STAMP PAPER WORTH Rs. 15 ONLY)

This contract agreement made this	day of	in the
yearbetween the Punjab	State Transmission Corporat	tion Ltd., herein
after called 'Purchaser' and M/s.	havi	ing their Regd.
office atherein af	fter called Contractor, for t	the supply and
delivery/construction of in accordance with		
dated and Co	ntractor's Proposal No	
dated		
This is in confirmation of the advance No wherein, the Pu contractor for supply and delivery/construct order No dated  In view of the foregoing, the Purchaser	rchaser has accepted the prior ofas per	proposal of the purchase/work
of work and the terms and conditions of the or		eed to the scope
The NIT/ tender specification, correspondence and the P.O. acknowledged/a agreement.	<u> </u>	
This agreement contains to have affixed their signatures on the day, mo		-
CONTRACTOR.	PURCHASER	

# **ANNEXURE -L**

# PERFORMA FOR BANK GUARANTEE

`	E EXECUTED ON NON-JUDICIAL STAMP PAPER OF THE APPROPRIATE JEBANK GUARANTEE NODATED
1.	The bank of hereby agrees un-equivocally and unconditionally to pay, within 48 hours, on demand in writing from the Chief Engineer/TS, PSTCL or any officer authorized by him in this behalf, of any amount upto and not exceeding Rs (in words Rupees) to the PSTCL on behalf of M/s who have entered into a contract or have unconditionally accepted for the Purchase Order No dated for the supply of material for order value of Rs
2.	This guarantee shall be and binding on this bank upto and including and shall not be terminable by notice or on account of any change in the constitution of the Bank or the firm of contractor/suppliers or by any other reasons what-so-ever and our liability hereunder shall not be impaired or discharged by any extension of time or variation of alternation made, given, conceded or agreed with or without our knowledge or consent by or between the parties to the said contract/purchase order.
3.	Our liability under this Guarantee is restricted to Rs(in word Rs  Our guarantee shall remain in until
4.	We hereby agree that any claim or dispute arising under this deed shall fall with the jurisdiction of competent courts at Patiala.  We hereby further declared that this Deed has been executed by our lawfully constituted attorney legally competent to sign and execute such deeds.
	Signature
	For Prop
	Bank