



DELHI METRO RAIL CORPORATION LTD.

TENDER DOCUMENT

TENDER No:	DMRC/S&T/Radio communication /2014 dated 31.12.2014
TENDER Notice No:	NIT/11/GM(S&T)/2014-15 dated 31.12.14
Name of the Work:	Provision of radio communication for DMRC security including CAMC (T-11)
Sale of Tender Documents:	31.12.2014 to 14.01.2015 between 09:00 to 17:30 hrs.
Last date for clarification/queries:	19.01.2015
Pre Bid meeting:	27.01.2015
Last for Addendum/Corrigendum:	02.02.2015
Date for Receipt of Tenders:	09.02.2015 between 09:00 hrs to 15:00 hrs
Date & time of Opening of Tender:	09.02.2015 at 15:30 Hrs



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NOTICE INVITING TENDER

NIT No. : NIT/11/GM(S&T)2014-15 Dated- 31.12.2014

1.1 General

Delhi Metro Rail Corporation (DMRC) Ltd. invites sealed open tender (**on 02 packet system**) for the work of **“Provision of radio communication for DMRC security including CAMC”**

Name of Work	Approximate Cost of Work (in Rs.)
“Provision of radio communication for DMRC security including CAMC”	2,77,42,674/-

Delhi Metro Rail Corporation (DMRC) Ltd. herein after called the “EMPLOYER” Invites tender for the above-mentioned work

Approximate Cost of work	: Rs. 2,77,42,674/-
Tender Security amount	: Rs 2,77,427 /-
Cost of Tender form(Non-Refundable)	: Rs. 20,000/- + 5% VAT = Rs.21,000/-
Completion period of the Work	: For schedule A of BOQ 6 Months from the date of issue of LOA, 2 years DLP after completion of work mentioned in Schedule “A”. CAMC of 6 years after successfully completion of 2 years of DLP
Tender documents on sale	: 31.12.2014 to 14.01.2015 Between 09:00 to 17:30 hrs.
Last date for clarification/queries	: 19.01.2015
Pre Bid meeting	: 27.01.2015
Last for Addendum/Corrigendum	: 02.02.2015
Date & time of Submission of Tender	: 09.02.2015 between 09:00 hrs to 15:00 hrs.
Date & time of Opening of Tender	: 09.02.2015 at 15:30 Hrs.



The tender document can be obtained on written request, from the Office of Jt. General Manager/S&T, Delhi Metro Rail Corporation Ltd., Metro Bhawan, 6th floor, "B" wing, Fire Brigade lane, Barakhamba Road, New Delhi-110001, Tele/fax 011-23415831, Against Payment through demand draft drawn in favour of DMRC Ltd. payable at New Delhi. Or it can also be downloaded from DMRC website www.delhimetrorail.com and if downloaded the tenderer has to submit a bank draft of Rs.21,000/- in favour of DMRC Ltd. payable at New Delhi along with the tender towards the cost of tender document at the time of submission of Bid.

1.2 Eligibility Criteria

(A) Work Experience

Experience of having satisfactorily completed similar works during last 5 years ending last day of month previous to the one in which the tenders are invited should be either of the followings:-

- a. Three similar completed works costing not less than the amount equal to Rs. 1,10,97,070/-
Or
- b. Two similar completed works costing not less than the amount equal to Rs. 1,38,71,337/-
Or
- c. One Similar completed work costing not less than the amount equal to Rs. 2,21,94,139/-

"Similar work: Supply, installation, testing & commissioning of radio communication network comprising of repeaters/base stations, hand portables, mobile/static radio sets in Metro/Railway/Police/Defence environment

Note: Successfully completed portion of ongoing works shall also be considered for qualifying these criteria.

(B) Financial Standing (Annual Turn Over)

Application should have average Annual Turnover of last three audited financial years not less than Rs. 2,21,94,139/-

1.3 COMPLETION PERIOD

As mentioned in item 1.1



1.4 TENDER DOCUMENT

1.4.1 Tender document consists of the following:

- a. Notice Inviting Tender - consisting of
 - i. Notice Inviting Tender
 - ii. Scope of Work
 - iii. Tender prices
- b. Instructions to Tenderers
- c. Special Conditions of Contract
- d. General Conditions of Contract
- e. Particular Specifications
- f. Bill of Quantities
- g. Bidders eligibility criteria: *Appendix-II*

1.4.2 Employer's General conditions of contract are deemed to be part of tender papers. These can be obtained from the office of Jt. General Manager/S&T on separate request.

1.4.3 The Contract shall be governed by the tender documents.

1.4.4 The Tenderer may obtain further information in respect of these tender documents from the office of Jt. General Manager/S&T, Delhi Metro Rail Corporation Ltd., Metro Bhawan, 6th floor, "B" wing, Fire Brigade lane, Barakhamba Road, New Delhi 110001, Tele/fax 011-23415831.

1.4.5 Tenderer is cautioned that the tender containing any material deviation from the tender document as mentioned in the clause of 1.4.1 of NIT which consists of NIT, Instructions to Tenderers, General conditions of contract, Special Conditions of Contract, Bill of quantities is liable to be summarily rejected as non-responsive.

1.4.6 EMPLOYER reserves the right to accept or reject any or all proposals without assigning any reasons. No tenderer shall have any cause of action or claim against the EMPLOYER for rejection of his proposal.

1.4.7 The Tenderer should not assume that his bid shall automatically be accepted. The same should contain all technical, Financial & other details as required for the consideration of tender.

**Jt. General Manager / S&T
Metro Bhawan, 6th floor, "B" wing
Barakhamba Road, New Delhi 110001**



SECTION-2

SCOPE OF WORK

2.1 Brief Scope of work:

The contractor will have to carry out the work of "Provision of Radio Communication network for DMRC Security including CAMC"

- The contractor shall supply and install UHF repeaters, Fixed/static Radios, Handportables and associated accessories, connecting cables, softwares, licenses, RF cables and, antenna etc.
- The UHF repeaters system supplied and installed should include facility of Network Monitoring system (NMS) and patching facility with existing TETRA system of DMRC at Metro Bhavan .
- The UHF repeaters are to be installed at NDMC building Parliament Street, Dwarka Sector 21 metro station, Tughlakabad metro station and Welcome metro station.
- The contractor shall provide connectivity of repeater installed at NDMC building with DMRC network.
- The contractor shall prepare necessary design documentation, training documents, application engineering, configuration details, site drawings etc and submit to Employer for evaluation and approvals.
- All configurations, Programming will be done by contractor as per design.
- Contractor shall prepare all as built drawings and documents and same will be submitted to DMRC along with method statement for installations to be carried out.
- Contractor shall co-ordinate with DMRC representative for all interface requirements from other systems like OFC, Networking etc.
- Contractor shall submit technical offer of the Radio equipments being offered along with their specs, and method statements of step by step procedure for installations.
- Contractor shall inspect all the sites / locations where the equipments are proposed to be installed and shall plan site activities, prepare drawings and details.
- All cables /Connectors/installation material required for the work will be supplied and installed by contractor.
- Contractor shall also provide training to DMRC staff for Radio system installed.
- The Radio system installed and commissioned by the contractor will also be maintained for the next 02 years after date of successful commissioning of the system. This period will be treated as Defect liability Period (DLP).
- During DLP period, it will be the responsibility of the contractor to



Provision of radio communication for DMRC security including CAMC (T-11)

maintain sufficient no. Of DLP spares, necessary softwares, necessary software upgrades and necessary repairs support for any equipment getting defective like repeater/ handportable/ static mobile radio.

- Contractor will provide necessary standby equipment during this DLP period against any equipment is taken for repairs purpose.
- Beyond DLP period, contractor will maintain whole of the system for Six years as part of CAMC.
- During AMC contractor will carry out scheduled inspections and preventive maintenance of the systems. Contractor will also take up necessary repair works.
- Contractor will maintain sufficient no. of spares during AMC period. Contractor will also maintain necessary softwares, necessary software upgrades and necessary repairs support for any equipment getting defective like repeater/ handportable/ static mobile radio/connectivity equipment/provisions from NDMC building to DMRC network provided by contractor.
- Contractor will submit for review and approval the scheduled preventive maintenance activities to be taken up by them.
- Contractor shall depute his engineer for required scheduled monitoring & repairs.
- Contractor will also be responsible for any interface required with Govt. agency like DOT/ WPC with regard to necessary clearances for the frequencies already allotted to CISF for DMRC security network.

2.2 Time Schedule.

Contractor has to complete the work in schedule A of BOQ in 6 Months from the date of issue of LOA followed by DLP of 2 years & CAMC for 6 years.

NOTE:

EMPLOYER is an ISO-14001 & OHSAS 18001 certified Organization for Environment, Health & safety. The work is to be carried out as per International Norms/Standards and in such a manner that all premises always look Neat & Clean. Similarly, the waste disposal is also carried out in totally sealed manner without affecting the Environment.



SECTION 3

TENDER PRICES AND SCHEDULE OF PAYMENT

3.1 Tender Prices

- a) The rate quoted by the tenderer shall be inclusive of all duties, taxes, fees, octroi and other levies, spares, materials, labour etc.
- b) The Price Variation is not applicable in this contract.

3.2 Schedule of Payment

- a) Payment shall be done after completion of whole of the work as mentioned in schedule "A" of BOQ. After completion of works mentioned in schedule "A" of BOQ there will be 2 years of DLP. During DLP period contractor will maintain PBG of value of 10% of scheduled "A".
- b) For Schedule "B" of BOQ, payment will be made on half yearly basis on successful completion of CAMC for that period.

3.3 Conditions for Payment

- a) Successful tenderer can claim mobilization advance of 5% of the value of Schedule A of BOQ against Irrevocable Bank Guarantee of value of Schedule A of BOQ in the prescribed format issued by a Scheduled Commercial Bank based in India or from a branch in India of a scheduled foreign bank. The validity of this Bank Guarantee shall be up to the date of recovery of advance payment through the subsequent invoice.
- b) All payment shall be made on issue of the Certificate by DMRC within a reasonable time of the submission of the necessary bills by the Tenderer.
- c) The Income Tax at source and other statutory Levis as applicable if any would be deducted from bill.
- d) The contractor should not be an Income Tax defaulter.

3.4 Mode of payment

- a) Mode of payment will be through e-payment.

For the e-Payment fill the Performa at T-V & Bank details is required to be verified by the bank on its letter head duly signed and stamped. (Supported with one cancelled cheque).



INSTRUCTIONS TO TENDERERS

GENERAL

1.0 INTRODUCTION

- 1.1 Sealed open tender (**on two packet system**) are invited for "Provision of radio communication for DMRC security including CAMC" by Delhi Metro Rail Corporation Limited hereinafter called the 'Employer', for Works in accordance with this Tender Package. The tender papers consist of the following documents, along with their appendices, addenda and errata if any.

Notice Inviting Tender (NIT)

Instructions to Tenderers (ITT)

Special Conditions of Contract (SCC)

Particular specifications

Bill of Quantities

Bidder's eligibility criteria: *Appendix-II*

Tender shall be prepared and submitted in accordance with the instructions given herein.

- 1.2 Relevant address for correspondence relating to this tender is given below:
**Jt. General Manager/S&T, Delhi Metro Rail Corporation Ltd. Metro Bhawan
6th floor "B" wing, Fire Brigade lane Barakhamba Road New Delhi 110001.**

- 1.3 Some essential data/requirements pertaining to this Tender along with reference to Clause number of this volume where full details have been given are detailed below.

"Tender Security" to be furnished by the Tenderer (Clause 12.0): Rs. 2,77,427/-

Tenders will be accepted in the office of Jt. General Manager/S&T, Delhi Metro Rail Corporation Ltd. Metro Bhawan 6th floor "B" wing. Fire Brigade lane, Barakhamba Road, New Delhi 110001.

Late or delayed tenders will not be accepted under any circumstances.

Date of opening of the Tender Package: **09.02.2015 at 15:30 Hrs.**

Period for which the tender is to be kept valid (Clause 11.0): 60 days from the last date of submission of Tender.

Completion period: For schedule A of BOQ 6 Months from the date of issue of LOA, 2 years DLP after completion of work mentioned in Schedule "A". CAMC of 6 years after successfully completion of 2 years of DLP.



2.0 POST QUALIFICATION REQUIREMENTS.

- 2.1 The Tenderer shall submit only one tender either himself or as a lead partner/ Lead Constituent in a joint venture/consortium for the work. The tender who submits more than one tender for the same work will be disqualified.
- 2.2 The tender, and, in the case of a successful tender, the Form of Agreement, shall be individually signed so as to be legally binding on all partners/constituents as the case may be.
- 2.3 Each page of tender shall be signed by the authorized signatory of the Tenderer. Power of Attorney in favour of the signatory will be required to be furnished as detailed in Clause 13.0. Board resolution of power of attorney for individual signing on behalf of company/firm.

3.0 COST OF TENDERING

- 3.1 The Tenderer shall bear all costs associated with the preparation and submission of his tender and the EMPLOYER will in no case be responsible or liable for these costs.

4.0 SITE VISIT

- 4.1 The Tenderer is advised to visit and examine the Site of Works and its surroundings at his/their cost and obtain for himself on his own responsibility, all information that may be necessary for preparing the tender and entering into a Contract.
- 4.2 The agency shall be deemed to have inspected the Site and its surroundings before hand and taken into account all relevant factors pertaining to the Site in the preparation and submission of the Tender

TENDER DOCUMENTS

5.0 CONTENTS OF TENDER DOCUMENTS

- 5.1 The Tenderer is expected to examine carefully all the contents of the tender documents as mentioned in Sub-clause 1.1 (ITT) including instructions, conditions, forms, terms, and take them fully into account before submitting his offer. Failure to comply with the requirements as detailed in these documents shall be at the Tenderer's own risk. Tenders that are not responsive to the requirements of the tender documents will be rejected.

6.0 AMENDMENT TO TENDER DOCUMENTS

- 6.1 At any time prior to the deadline for the submission of tenders, EMPLOYER may, for any reason, whether at its own initiative or in response to a clarification or query raised by a prospective Tenderer, modify the tender documents by an amendment.
- 6.2 The said amendment in the form of an addendum will be sent to all prospective Tenderers who have received the tender documents, on or prior last date mentioned in Clause 1.1 of NTT. This communication will be in writing or by telefax and the same shall be binding upon them.



Prospective Tenderers should promptly acknowledge receipt thereof by telefax to the EMPLOYER.

7.0 PREPARATION OF TENDERS

7.1 LANGUAGE OF TENDER

The tender prepared by the Tenderer and all correspondence and documents relating to the tender exchanged between the Tenderer and the EMPLOYER shall be in the English language

8.0 DOCUMENTS COMPRISING THE TENDER

8.1. TENDER PACKAGE

This is an open tender on two packet system comprising of Technical and Financial bid.

The Tenderer shall, on or before the date given in the Notice of Invitation to Tender, submit his Tender in the **two separate** sealed envelopes clearly marked with the name of the Tenderer and indicating type of package as indicated below on the envelopes with

- NIT/11/GM(S&T)2014-15/Technical Package
- NIT/11/GM(S&T)2014-15/Financial Package

Note: Any tender submission without separate Technical and Financial package will be rejected as non-responsive.

8.1.1 **Technical Package:** The sealed envelope shall be clearly labelled **“Technical Package”**

The Tenderer shall submit the Tender Package of his tender with the following documents, duly completed, which in the event of acceptance of the Tender, shall form part of the contract:

- a) Tender Security in Original in a separate sealed envelope.
- b) Form of Tender (**Duly filled & without indicating the price**).
- c) Resources proposal for the work personnel - Form T-III and Annexure A
- d) Total value of similar works executed for the last five financial years may be given in the format prescribed (Form T-IV).
- e) Self Attested copies of the
 - a) PAN. No. Under income Tax Act,
 - b) Registration with Contract cell of Sales Tax Department as per “Delhi Sales Tax Act 1999/ VAT Dept,
 - c) Service tax registration No.,
 - d) PF registration no.,
 - e) ESI registration no. & code no. as per ESI act 1948.



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- f) Signed copy of Tender documents as listed below:
 - i Notice Inviting Tender
 - ii. Instructions to Tenderers
 - iii Special Conditions of Contract
 - iv Checklist/submission of documents to be submitted for bidders qualification criteria Appendix-II
- g) Statement of deviations from tender documents (Form C).
- h) Experience record of similar works during the last five years and in progress on date may be furnished in the format prescribed (Form T-II).
- i) General Information Form T-I
- j) Bank Detail **(Form T-V)**
- k) Financial data (Form T-IV)
- l) Compliance statement for PS
- m) Technical information of equipment proposed by tenderer along with data sheets as per Annexure B
- n) Information for justifying the provenness of the equipment as per Annexure-C.

8.1.2 Financial Package: The sealed envelope shall be clearly labeled **“Financial Package”**

The tenderer shall submit the following documents duly complete with the Financial Package of his Tender submission.

- a) BOQ duly filled, amount to be entered in figure & words. These prices should include all costs associated with the contract including Taxes & duties.
- b) Form of Tender (Form “A”) **duly filled and indicating the cost of the work i.e. contract value.**

8.2 Documents to be submitted by the Tenderer under technical and financial packages have been described under the respective Clauses 8.1 of ITT. This list of documents has been prepared mainly for the convenience of the Tenderer and any omission on the part of the EMPLOYER shall not absolve the Tenderer of his responsibility of going through the various clauses in the Tender Documents including the specifications and to submit all the details specifically called for (or implied) in those clauses.

8.3 All documents issued for the purposes of tendering as described in Clause



1.1, and any amendments issued in accordance with Clause 6.0 shall be deemed as incorporated in the Tender.

9.0 TENDER PRICES

- 9.1 The tender is required to quote for all the items as per tender documents.
- 9.2 Price quoted by the Tender shall be inclusive of all tax/duties/Levis including service tax.

The contractor shall ensure full compliance with tax laws of India with regard to this contract and shall be solely responsible for the same. The contractor shall submit copies of acknowledgements evidencing filing of returns every year and shall keep the EMPLOYER fully indemnified against liability of tax, interest, penalty etc. of the contractor in respect thereof, which may arise.

- 9.3 The Tenderer shall keep the contents of his tender and rates quoted by him confidential.

10.0 CURRENCIES OF THE TENDER

- 10.1 Tender prices shall be quoted in Indian Rupees only.

11.0 TENDER VALIDITY

- 11.1 The tender shall remain valid and open for acceptance for a period of 60 days from the Last date of submission of tender.
- 11.2 In exceptional circumstances, prior to expiry of the original tender validity period, the EMPLOYER may request the Tenderers for a specified extension in the period of validity. The request and the response thereto shall be made in writing or by telefax. A Tenderer may refuse the request without forfeiting his tender security. A Tenderer agreeing to the request, shall not be required or permitted to modify his tender but will be required to extend the validity of his tender security correspondingly.

12.0 TENDER SECURITY

- 12.1 The Tenderer shall furnish, as tender security, an amount as mentioned in Clause 1.3(a) of ITT.

The Tender Security shall be accepted only in the following forms:

- a) Bank Draft in favour of Delhi Metro Rail Corporation Ltd. payable at New Delhi from a Scheduled Commercial Bank based in India, or
- b) Irrevocable Bank Guarantee in the prescribed format issued by a Scheduled Commercial Bank based in India.

Tender Security shall be valid for a period of minimum **180 days** beyond the



validity period of the tender.

12.2 The tender security shall be submitted in a separate envelope super scribed "Tender security --- (Name of Work as mentioned under clause 1.1 of NIT)

12.3 Any tender not accompanied by an acceptable tender security will be summarily rejected by EMPLOYER as non-responsive.

12.4 The tender securities of unsuccessful Tenderers shall be discharged/returned by the EMPLOYER as promptly as possible as but not later than 60 days after the expiration of the period of tender validity as defined in Clause 11.0. In this connection, Clause 25.3 may also be referred to.

12.5 The tender security of the successful Tenderer shall be returned upon the Tenderer executing the Contract Agreement after furnishing the required performance guarantee for performance, as mentioned in Clause 27.0.

12.6 The tender security shall be forfeited:

1. If a Tenderer withdraws his tender during the period of tender validity, or
2. If the Tenderer does not accept the correction of his tendered price in terms of Clause 22.0, or
3. In the case of a successful Tenderer, if

The successful Tenderer refuses or neglects to execute the contract or fails to furnish the required Performance Security within the time specified or extended by the Employer or Commence the work as per Terms Conditions of Tender after issuance of LAO.

12.7 No interest will be payable by EMPLOYER on the tender security amount cited above.

13.0 FORMAT AND SIGNING OF TENDERS

13.1.1 If the tender is submitted by a proprietary firm it shall be signed by the proprietor above his full name and the full name of his firm with its current address.

13.1.2 If a limited company or a limited corporation submits the tender, a duly authorized person holding the power of attorney for the firm shall sign it. A certified copy of the power of attorney shall accompany the tender.

13.2 The documents required to be submitted by the Tenderer will be as described under Clause 8.0 herein.

13.3 Entries to be filled in by the Tenderer shall be typed or written in indelible ink. The person submitting the Tender along with the date of signing should sign each page of such document in full at the bottom. The person submitting the tender along with the date of initialing should initial each page of printed documents at the bottom.

13.4 The complete tender shall be without alterations, overwriting, interlineations or erasures except those to accord with instructions issued by EMPLOYER or as necessary to correct errors made by the Tenderer. All



amendments/corrections shall be initialed by the person signing the tender.

- 13.5 All witnesses and sureties shall be persons of status and probity and their full names, occupations and addresses shall be written below their signatures.

14.0 SEALING AND MARKING OF TENDERS

- 14.1 The Tenderer shall follow the procedure as indicated below:

14.1.1 Each tender will be submitted in one set which shall contain documents as detailed in Appendix - I.

14.1.2 The Tender package shall be sealed in separate envelope. The envelope shall be wrapped in an outer envelope addressed to Jt. General Manager/ S&T, Delhi Metro Rail Corporation Ltd. Metro Bhawan 6th floor "B" wing. Fire Brigade lane Barakhamba Road New Delhi 110001. EMPLOYER duly super scribing the tender number, name of work, time and date for submission and time and date for opening. The envelope should also bear the name and address of the Tenderer.

14.1.3 The contents of Tender Package shall be as detailed under Clauses 8.0 hereon.

14.2 No responsibility will be accepted by EMPLOYER for the misplacement or premature opening of a tender, not sealed or marked as per aforesaid instructions.

15.0 SUBMISSION OF TENDERS

- 15.1 Tenders should be submitted at the following address:

Jt. General Manager/S&T, Delhi Metro Rail Corporation Ltd. Metro Bhawan 6th floor "B" wing. Fire Brigade lane, Barakhamba Road, New Delhi 110001.
Date and time as mentioned in 1.1 of NIT.

15.2 Tenders shall be submitted in person to the Office of EMPLOYER. EMPLOYER cannot take any cognizance and shall not be responsible for delay in transit.

15.3 Tenders sent telegraphically or through other means of transmission (telefax etc.) which cannot be delivered in a sealed envelope shall be treated as defective, invalid and shall stand rejected.

16.0 LATE TENDERS

16.1 Any tender received in the office of EMPLOYER after the deadline prescribed for submission of tenders in Clause 15.1 herein will not be considered.

16.2 It will be the responsibility of tenderer to ensure that tender is delivered to the designated executive only.



TENDER OPENING AND EVALUATION

17.0 TENDER OPENING

- 17.1 EMPLOYER or its authorized representative will open the Tender package in the presence of Tenderers or their Authorized representatives on date and time as mentioned in sub clause 1.3(d) of ITT in the office of **Jt. General Manager/ S&T, Delhi Metro Rail Corporation Ltd. Metro Bhawan 6th floor "B" wing, Fire Brigade lane Barakhamba Road New Delhi 110001**. If such nominated date for opening of Tender is subsequently declared as a Public Holiday by EMPLOYER, the next official working day shall be deemed as the date of opening of Tender at the same time. The Tender of any Tenderer who has not complied with one or more of the foregoing instructions may not be considered.
- 17.2 The Tenderers name, the presence or absence of the requisite tender security and such other details as EMPLOYER or his authorized representative, at his discretion, may consider appropriate will be announced at the time of tender opening.
- 17.3 The Tenderer is advised that, he may, if he so desires, be present at the opening of the Technical Packages. After opening of Technical Packages, the submissions of tenderers shall be evaluated to determine whether they pass the evaluation criteria shall be done by nominated committee. Such of those tenderers, who do not meet the criteria/pass the evaluation criteria shall not be considered for opening of their financial bid. The tenders of those Tenderers who do not pass the evaluation criteria will be rejected and the corresponding Financial Package will be returned unopened. Tenders that are not accompanied by valid Tender Security, or are accompanied by an unacceptable or fraudulent Tender Security shall be considered as non-compliant and rejected.
- 17.4 The date, time and place of opening of Financial Package will be advised to Tenderers whose Technical Package have been found acceptable so that they can be present at the stipulated time of opening of the Financial Packages.

18.0 PROCESS TO BE CONFIDENTIAL

- 18.1 Except the public opening of tender, information relating to the examination, clarification, evaluation and comparison of tenders and recommendations concerning the award of Contract shall not be disclosed to Tenderers or other persons not officially concerned with such process.
- 18.2 Any effort by a Tenderer to influence EMPLOYER/Engineer in the process of examination, clarification, evaluation and comparison of tenders and in decisions concerning award of contract, may result in the rejection of the tenderer's tender



19.0 CLARIFICATION OF TENDERS

To assist in the examination, evaluation and comparison of Tenders, the Engineer / Employer may ask Tenderers individually for clarification of their tenders, including breakup of prices. The request for clarification and the response shall be in writing or by telefax but no change in the price or substance of the tender shall be sought, offered or permitted except as required to confirm correction of arithmetical errors discovered by EMPLOYER/ Engineer during the evaluation of tenders in accordance with Clause 21.0 herein.

20.0 DETERMINATION OF RESPONSIVENESS

20.1 Prior to the detailed evaluation of tenders, EMPLOYER/Engineer will determine whether each tender is responsive to the requirements of the tender documents.

20.2 For the purpose of this Clause, a responsive tender is one, which conforms to all the terms, conditions and specifications of the tender documents without material deviation or reservation. Technical Package evaluation will be based on the documents submitted vide 8.1.1. "Deviation" may include exceptions, exclusions & qualifications. A material deviation or reservation is one which affects in any substantial way the scope, quality, performance or administration of the works to be undertaken by the Tenderer under the Contract, or which limits in any substantial way, EMPLOYER's rights or the Tenderers obligations under the Contract as provided for in the Tender documents and / or is of an essential condition, the rectification of which would affect unfairly the competitive position of other Tenderers presenting substantially responsive tenders at reasonable price.

20.3 If a tender is not substantially responsive to the requirements of the tender documents, it will be rejected by EMPLOYER, and will not subsequently be permitted to be made responsive by the Tenderer by correction or withdrawal of the non-conformity or infirmity. However minor clarifications if required may be asked from the Tenderer.

20.4 The decision of EMPLOYER/ Engineer as to which of the tenders are not substantially responsive or have impractical / methods or Program for execution shall be final.

21.0 EVALUATION OF TENDER

21.1 ***Technically acceptable tenders will be eligible for consideration of their financial proposals.***

21.2 The evaluation of Financial proposals by EMPLOYER / Engineer will take into account, in addition to the tender amounts, the following factors:

- a). Arithmetical errors corrected by EMPLOYER/Engineer in accordance with Clause 22.0
- b). Such other factors of administrative nature as EMPLOYER/Engineer



may consider to have a potentially significant impact on contract execution, price and payments, including the effect of items or unit rates that are unbalanced or unrealistically priced.

21.3 Offers, deviations and other factors, which are in excess of the requirements of the tender documents or otherwise will result in the accrual of unsolicited benefits to EMPLOYER, shall not be taken into account in tender evaluation.

21.4 Price adjustment provisions applicable during the period of execution of the contract shall not be taken into account in tender evaluation.

22.0 CORRECTION OF ERRORS

22.1 Tenders determined to be technically acceptable after technical evaluation will be checked by EMPLOYER/Engineer for any arithmetical errors in computation and summation during financial evaluation. Errors will be corrected by EMPLOYER / Engineer as follows:

Where there is a discrepancy between amounts in figures and in words, the amount in words will govern

If there is discrepancy in BOQ summary (top sheet) and BOQ schedules, the top sheet will prevail; Employer will do the correction proportionately.

22.2 If a Tenderer does not accept the correction of errors as outlined above, his tender will be rejected and the tender security forfeited.

23.0 AWARD OF CONTRACT

23.1 AWARD CRITERIA

Subject to Clause 8.0, 9.0 and 21.0, Employer will award, the Contract to the Tenderer, whose tender has been determined to be substantially responsive, technically & financially suitable, complete and in accordance with the tender documents.

24.0 EMPLOYER'S RIGHT TO ACCEPT ANY TENDER AND TO REJECT ANY OR ALL TENDERS

24.1 Notwithstanding Clause 23.0, EMPLOYER reserves the right to accept or reject any tender, and to annul the tender process and reject all tenders, at any time prior to award of Contract.

25.0 NOTIFICATION OF AWARD

25.1 Prior to the expiry of the period of tender validity prescribed by EMPLOYER/Engineer, EMPLOYER/Engineer will notify the successful Tenderer by telegram or telefax, to be confirmed in writing by registered letter, that his tender has been accepted. This letter (hereinafter and in the Conditions of Contract called 'the Letter of Acceptance') shall name the sum which EMPLOYER will pay to the Contractor in consideration of the execution, completion of the works by the Contractor as prescribed by the



Contract (hereinafter and in the conditions of Contract called 'the Contract Price'). The "Letter of Acceptance" will be sent in duplicate to the successful Tenderer, who will return one copy to EMPLOYER duly acknowledged and signed by the authorized signatory, within three days of receipt of the same by him. No correspondence will be entertained from the unsuccessful Tenderers.

25.2 The Letter of Acceptance will constitute the binding contract.

25.3 Upon "Letter of acceptance" being signed and returned by the successful Tenderer as per Clause 25.1, EMPLOYER will promptly notify the unsuccessful Tenderers and discharge / return their tender securities.

26.0 **SIGNING OF AGREEMENT**

26.1 EMPLOYER shall prepare 3 copies of the Agreement in the **Performa (Form E)** included in this Document on Rs.100 Stamp paper, duly incorporating all the terms of agreement between the two parties. Within 30 days of submission of Performance Security or 60 days from the date of issue of LOA whichever is later.

27.0 **PERFORMANCE SECURITY**

27.1 **Within 30 days of receipt of the Letter of Acceptance** the successful tenderer, is required to deposit Performance Security for an amount of 10% of contract value of Schedule "A" & Scheduled "B" of BOQ. The validity period for Performance Security for Schedule "A" shall be 6 months from the date of expiry of DLP and the validity period for Performance Security for Schedule "B" shall be up to 6 months from the date of expiry of 6th year of CAMC after DLP. Performance Security shall be in any one of the following forms:

(a) Bank Draft in favour of **Delhi Metro Rail Corporation Ltd.** payable at New Delhi from a Scheduled Commercial Bank based in India, or

(b) Irrevocable Bank Guarantee in the prescribed format issued by a Scheduled Commercial Bank based in India or from a branch in India of a scheduled foreign bank.

(c) In case of a joint venture / consortium, the performance security is to be submitted in the name of the JV/consortium. However, splitting of the performance security (while ensuring the security is in the name of JV / consortium) and its submission by different members of the JV / consortium for an amount proportionate to their scope of work or otherwise is also acceptable.



28.0 Cancellation of Letter of Acceptance (LOA) and Form of Tender.

28.1 In case Successful Tenderer fails to commence the work (for whatsoever reasons) as per Terms and Conditions of Tender after issuance of LOA then the LOA shall be cancelled and the tender security shall be forfeited.



SPECIAL CONDITIONS OF CONTRACT

1. **Advance Payment:** - AS per NIT Section 3 item 3.3 (a)
2. **Penalty:** Penalty for non-completion of work will be 0.5 % per week of the contract value for Schedule "A" of BOQ subject to max.10% of the Contract. Any poor quality of work will not be acceptable and DLP will commence only after making good all the deficiencies.
3. **Termination of Contract:** - As per GCC clause no. 13
4. **Safety of Personnel:** - The Contractor will take full responsibility for the Safety of his Staff, Materials etc.
5. The EMPLOYER shall have the right to make minor alterations/additions/substitutions in the specifications in the scope of work or issue instructions that may be deemed necessary during the period of the contract and contractor shall carry out the work in accordance with the instructions which may be given to him by Authorized EMPLOYER' representative.
6. The rate quoted by the Contractor should include all taxes, duties, Levies, Service Charges and any other charges applicable during currency of contract.
7. Insurance: Insurance to be done in accordance with GCC clause 15.
8. The EMPLOYER' **General Conditions of Contract** are applicable; however in case of differences between G.C.C and SCC, the SCC shall be binding.
9. Any damage/breakage to the EMPLOYER property during the execution of work will be at the risk & cost of the Contractor & in this regard the EMPLOYER' decision will be final regarding amount of damage/breakage etc. The amount will be deducted from contractor's bill
10. The contractor shall also be responsible to comply with the rules and regulations as per Delhi Labour Law.
The violation of Labour Laws viz. Contract Labour (Regulation & Abolition) Act, 1970 & Central Rules , 1971 made there under or other applicable Labour Laws under the jurisdiction shall attract following penalties in addition to the penalties imposed by Statutory Authorities in terms of applicable Act/ Rule :-



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a	Delay in payment of dues to any Workman	Rs.100/- per day per workman
b	Making payment in the absence of Principal Employer's representative deputed by Engineer	Rs.10,000/- for each violation date
c	Not maintaining the labour facilities like Canteen, urinals etc. in proper hygienic conditions, to the entire satisfaction of Employer/Engineer or their representative	Rs.10,000/- for the day of inspection and 2000/- per day for subsequent day(s) till facilities are restored to the satisfaction of Employer/Engineer or his/her representative under the contract.
d	Not providing the medical facilities to workman as per contract provisions	Rs.1000/- per day.
e)	Non-compliance(s) of any other provision of labour laws, pointed Out by Employer /Engineer or their	Rs 5000/- for each non compliance informed in writing , under the contract

The decision of Engineer with regard to the merits of imposition of penalty, determination of non-compliances and amount of penalty shall be final and binding on Contractor. The 'Contract' under this sub-clause shall include any workman employed by contractor working within premises of Works at Employer's establishment whether directly or through Sub-Contractor etc "

11. Only authorized staff of Contractor having proper Photo Identity Card issued by the Contractor and with Permission granted by EMPLOYER, shall be permitted to work. The Contractor will have to submit the list of the Authorized staff along with a set of the Photo Identity Cards to whom permission will be required to be issued by EMPLOYER.
12. The Contractor during the Execution of work shall follow the Indian Electricity Rules, Indian Electricity Act & all other Statutory Rules, Regulations & Acts as available on date & during the period of contract.
13. The Contractor shall be responsible to fulfil all statutory liabilities, if any towards his staff such as payment of minimum wages, PF, ESI and any other dues etc including all amendments issued by the Govt. from time to time. Being a Principal Employer, EMPLOYER may ask to submit documents in original.



14. Any damage / breakage to the EMPLOYER property during the execution of work will be at the risk & cost of the Contractor & in this regard the EMPLOYER' decision will be final regarding amount of damage / breakage etc. the amount will be deduced from contractor's bill.
15. The contractor scope includes, supply of all installation material for items supplied as per BOQ, like thimbles, connectors, interconnecting cables etc.
16. **DLP:** DLP period for new equipments installed shall start from date of successful completion and acceptance of tests. DLP period shall be of 02 years. During DLP period contractor shall maintain the systems installed and commissioned along with maintaining availability of spares at DMRC premises as well as repairs support. Repair support during DLP period includes provision of standby equipments. The personnel who will report to attend the fault shall be well trained and well versed with the system.
17. **AMC:** AMC period will be of 06 years beyond DLP period. During AMC contractor will carry out scheduled inspections and preventive maintenance of the systems. Contractor will also take up necessary repair works.

Contractor will maintain sufficient no. of spares during AMC period. Contractor will also maintain necessary softwares, necessary software upgrades and necessary repairs support for any equipment getting defective like repeater/ handportable/ static mobile radio.

The personnel who will report to attend the fault shall be well trained and well versed with the system.
18. **Exemption Certificate:** Under no circumstances the exemption certificate of custom duties, excise duties, CST/VAT or any other cess/levy will be issued.
19. Minimum Scope of work for **Preventive Maintenance** to be carried out at least once every quarter :
 1. **Physical** - Check the equipments for physical damage and unusual wear. Check that all equipments are properly screwed and secured.
 2. **Clean** – Open all service panels and remove accumulated dust with vacuum cleaner and foreign objects. Clean all cards from inside and outside, clean the exterior of all panels.
 3. **Connections** – check and ensure that all PCB.'s connectors and cables are fully mated. Remove all dust check for their proper functionality.



4. **Hardware, software & operating system of equipments** – Check and clean the hardware, update the software and operating system if required.
5. Check/worthiness of the equipments for entry of dust & rodent. Take appropriate measures as per requirement.
6. The contractor shall undertake all software & hardware support & it's up gradation to maintain stipulated life of 8 years from the date of commissioning of each lot of equipment supplied. Nothing shall be paid extra.
7. During the entire service period of equipments, if any part/equipment becomes obsolete then the contractor shall make good the deficiency due to obsolescence with alternate part/equipment without compromise with the availability & performance of the equipments.
8. However, contractor, if required may add any work content/test check in addition to the above specified minimum scope of work to be done at least once every quarter. The periodicity of the preventive schedule may also be increase if required in a year.
9. The contractor shall submit a detail schedule (date and time) at least one month in advance for carrying out the preventive schedule for each of the equipment, so that authorized representative of DMRC is available well in advance on the schedule machine on pre fix date & time to witness the quarterly work done in preventive maintenance & certify the same on corresponding maintenance certificate jointly by contractor & DMRC's representative immediately after carrying out the site work.
10. The Scheduled Preventive maintenance of the equipment shall be carried out with DMRC signed PTW (Permit to Work).
11. The cost of Scheduled Preventive Maintenance and replacement spare parts, materials for servicing, T&Ps, Testing instruments, consumables etc., during 2 years of DLP shall be part of cost of supply and installation as per schedule "A" of BOQ. The contractor has to maintain minimum ready stock of spares parts and consumables as per requirement of site.
12. Any spare part replaced during carrying out Preventive Maintenance clearly recoded in the service report.
20. **Unscheduled breakdown maintenance:-** The contractor shall carry out breakdown maintenance as and when required as per stipulated time.
 - * **Complaint reporting Centers:** Complaints regarding malfunctioning of the equipments could be registered by the customer either on phone or by Email at nearest service centre of the contractor in Delhi. Contractor shall issue a complaint no. for this purpose. Complaint's can be made at any time.
 - * **Response Time:** Immediately after receiving complain, the engineer must reach at site within 04 hrs.



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- * **Rectification time of unscheduled breakdown:** This clause is applicable for all type of defects involving hardware defects , software defects, defects related with cables , connectors , antennae etc.

This clause is not applicable for defects involving replacement of equipment like repeater, base radio , Handportable .

- * The rectification time for all type of defects applicable as mentioned above, shall not exceed 04 hours from the time of registration of complaint.

- * Penalty:

1. Penalty for response time: If response time exceeds 04 hrs, penalty of Rs 1000/- shall be levied.

2. Further, If delay of more than 04 hrs takes place for rectification of failure beyond response time, penalty of Rs 1000/- shall be imposed. Then Penalty of Rs 1000/- for every additional 04 hrs shall be levied on contractor subject to max. Rs 5000/- for 24 hrs.

3. Penalty related to availability of the system: In case of failures which leads to unavailability of the system during DLP as well as CAMC, a penalty of Rs.100000/- will be imposed. The availability of the system to be maintained shall be 99.95%. It may be noted that failure affecting availability will be such failure, where Rf coverage of the system is affected. The Rf coverage is divided in 04 zones. Complete failure of coverage in 01 zone will also be considered as coverage failure. The availability of the system will be calculated at the end of 02 years after taking over of the system, i.e on completion of DLP period. Thereafter on completion of every year during CAMC.

- * The deputed engineer of the contractor will report to the customer or customer's representative at the site and will inspect the system against suspected faults (if any). The necessary faulty parts will be identified and replaced from contractor's stock of spares.

On rectification, the system will be checked for normal operation both by the Contractor's service engineer and the customer or customer's representative and update shall be made telephonically against the complained no.

- * On completion of job, service report (DMRC duly approved Performa), in triplicate, will be made by the Contractor's service engineer and the same should be signed by both the service engineer and authorized customer's representative. One copy of the said service report will be handed over to the Customer for their own records. Any spare part replaced during carrying out unscheduled breakdown maintenance clearly recorded in the service report.



- * The cost of Unscheduled Breakdown Maintenance and replacement spare parts, materials for servicing, T&Ps, Testing instruments, consumables, etc. are included in cost of supply and installation of the equipments during 2 years of DLP and quoted cost of CAMC after DLP.
21. At the end of every quarter the contractor shall submit the details of unscheduled work/replacement carried out along with list of parts replaced/repared along with corrective measures undertaken to prevent there reoccurrence.



PARTICULAR SPECIFICATIONS

SPECIFICATIONS FOR RADIO EQUIPMENTS (Repeaters/Hand portables/Mobile Radios)

1. General

- The radio shall be robust, shock proof and complete with antenna, radio transceiver unit.
- Each mobile shall be identified by a unique Radio identity number
- The train radio shall be robust and ruggedized. All equipment and accessories shall comply with

1. US MIL STD 810C&D or equivalent International Standard for low pressure, high temperature, low temperature, solar radiation, rain, humidity, salt, fog, dust, vibration and shock..
2. IEC 529 or IP 54 concerning condensing requirements.
3. MIL-STD-810 C/D/E or IEC 68 for environmental testing

1.1 Radio equipment shall not generate EMI which affects the radio or any other equipment on, or external to the railway. Radio equipment shall be designed for protection from external EMI. Notwithstanding this, the Contractor shall be responsible for carrying out any modifications to his equipment to rectify such interference, should it occur that the equipment supplied is the originating source.

1.2 The radio shall have a local port for the connection to a notebook computer with interface for field programming and diagnostic.

1.3 The Contractor shall provide a note book computer along with programming software, programming cables and its accessories.

1.4 Auxiliary interfaces for connecting external portable fist microphones, loudspeaker shall be provided.

1.5 The emergency button and ON/OFF control shall be protected against accidental activation/deactivation Red and green color shall be prohibited from use on the radio display.



1.6 Switching 'ON' the radio MMI shall cause self test of MMI and display status of the radio.

1.7 Radio Unit

- The Radio shall be fully compliant with the relevant ETSI.

1.8 The microphone and audio circuits shall be sensitive enough to provide full modulation when it is used within 150 mm from the speaker's mouth.

1.9 Protection against mismatch of RF output impedance is essential.

1.10 Built-in Test Routine

- Built-in test routines shall be able to test the radio unit. These routines shall operate in an off-line mode to allow a complete functional test of the module in problem.
- The Contractor shall ensure that shall perform automatic self diagnostic routine test on the all Radio Communication Equipment and associated equipment upon every initialisation. An audible tone shall indicate the readiness state of the Radio Communication System and associated equipment.
- The fault and self diagnostics information shall be processed and sent to Dispatcher to indicate the status of the Radio Communication equipment to facilitate prompt fault diagnosis and enable DMRC staff to locate faulty modules for first line replacement.
- The Repeater shall be provided with a radio test port to enable full specification testing of the Radio Communication equipment. The port shall be able to interface to a Notebook Computer. As a minimum, one Notebook Computer shall be supplied and shall include the necessary software to present the data in user friendly format. The selection of functions and data to be monitored shall be menu driven by the Notebook Computer. The data indicating the Radio's performance shall be displayed in an informative and comprehensive manner. Information shall be presented graphically where possible. The Contractor shall provide a full description of Radio Communication System performance functions to be monitored, as well as those which are not monitored.



General Description, interface requirements and features.

- 2.1 The repeater, mobile radio and hand held Radio equipments should patch with the existing Motorola System (Tetra 6.2 version of MSO) installed in DMRC. Contractor shall be responsible for the Design, retrofitting, Configuration, supervision, testing and commissioning of the complete Radio equipments..
- 2.2 Calls of varying priorities shall be handled automatically.
- 2.3 A continuous visual indication from initiation to termination and short audible indication for duration upto 20 seconds shall operate on activation of emergency functions. A continuous visual indication from initiation to termination and short audible indication shall operate on activation of emergency functions.

2.4 Call Types

The Radio shall support following voice communication as a minimum:

Individual call

- a) individual call shall allow two users to talk to each other on one-to-one basis;
- b) the conversation of the individual call shall not be heard by other radio users in the talk group;

Group Call

- a) Radio users shall normally communicate with each other in a single group. All radio shall be pre-programmed to belong to a number of groups;
- b) Group call shall be initiated by selecting the desired talk group position on the radio and by pressing PTT.
- c) The user may speak in a group call when permission in the form of audio indications is granted by the network after the request by using the PTT function.
- d) An out of range indication shall be provided when the user moves out of the group call area whilst the call is in progress.



Emergency Call

- a) Emergency call shall be initiated by radio through a dedicated function key.
 - b) Emergency call shall be given higher priority even when all the channels of repeater are occupied.
 - c) visual and audible indications shall be available at the called radios and to inform the radio users of an incoming emergency call;
 - d) Emergency calls shall be in the form of group or broadcast call.
- 2.5 Contractor shall submit technical offer of the radio equipments offered along with their specs, and method statements of step by step procedure for replacement.
- 2.6 Contractor shall also submit compliance statement for all the specifications and descriptions along with his offer.
- 2.7 Programming of new mobile, repeater and hand held will be done by contractor.
- 2.8 Contractor shall prepare all as built documents as per new radio equipments to be installed in train and same will be submitted to DMRC.
- 2.9 Contractor shall co-ordinate with DMRC representative for all interface requirements.
- 2.10 Contractor shall submit list of acceptance tests along with test procedures to be conducted for approval.
- 2.11 Contractor shall conduct all static and acceptance tests in presence of DMRC representative.
- 2.12 DLP period for above new equipments installed shall start from date of successful completion and acceptance of tests. DLP period shall be of 02 years. During DLP period contractor shall maintain availability of spares at DMRC premises as per List attached at Annexure-B as minimum.
- 2.13 All cable/Connectors/installation material required for above activity will be supplied and installed by contractor.
- 2.14 Contractor shall submit clause by clause compliance matrix of all the clauses of PS

**Technical Specification****Specification for UHF Repeater (Digital- 25 W)**

Sr. No.	Parameters	Specification
1	General	
	Frequency range	403-470 MHz (In split band or full band)
	No. of channel	Two
	Channel Spacing	12.5 KHz or better
	Frequency Stability	± 1.0 PPM or better
	Protocol	Digital TDM/FDM Technology
	Type of Emission	Analog: 11K0F3E Digital : 4 FSK 7K60FXE or equivalent Modulation technique complying to Open Standard/non-propriety Digital Protocol.
	Type of Operation	Repeater mode at 100% duty cycle
	Type of Antenna	6 dB gain omni directional antenna with flexible feeder cables with connector. Antennas should be supplied with clamping mast and supporting mast of 3 m height to be installed on roof .
	Weight	Less than 18 KGs without external battery & Antenna
	Power Source	Integrated power source with (i) Operation supply voltage 230 V AC $\pm 10\%$, 50Hz $\pm 2\%$ (ii) 12V/24V DC +10% (negative ground) (iii) Automatic change over to battery in case of mains failure
2	Transmitter	
	R F Power output	25 watts or more at 100% duty cycle
	FM Hum / Noise	12.5 KHz : 40 db or better
	Frequency Deviation	± 2.5 KHz in 12.5 KHz spacing
3	Receiver	
	Sensitivity	(i) Analog 0.30 μ V for 12 dB SINAD or better (ii) Digital 0.30 μ V at 5% BER or better
	Selectivity (Adjacent channel)	60 dB @ 12.5 KHz or better
	Inter Modulation	60 dB or better as per ETSI standard / equivalent or better
4	Environmental Specification	
	Operating Temperature	-30 °C to + 60°C
	Storage Temperature	-40 °C to + 70°C
	Humidity	90% at 50°C (per MIL standard 810 E)



5	Features	
	Networking	IP based with capability to network up to 12 or more repeater stations to enabled wide-area network of user Radio sets operating in the network from one site to another without manual Intervention.
	Interface	Ethernet port RJ45 to provide following: (i) Wide area IP connectivity for voice and data up to 12 Nos repeaters or more (ii) Remote monitoring and status check
6	Accessories	
	Literature	(i) users manual with each radio sets. (ii) technical repairing manual with complete block diagram, circuit layout etc for each repeater.
7	Description	
	<p>i) The Repeater station should be lightweight, compact with state-of-the-art synthesized Radios to electronically generate the Radio frequencies. The Repeater should be continuous full duty cycle at rated power, AC-DC Operation. The Repeater should be capable of operating in unattended mode with remote diagnostics and maintenance features. The Repeater should be capable of automatic switch over to DC supply in case of mains failure. The repeater should support all features of HRS & Mobile Radios with two simultaneous communications for voice & Data. The repeater should have capability of NMS (Network Monitoring). The Repeater should be capable to have patching facility with DMRC TETRA system.</p> <p>ii) The firm should have DOT/WPC license for supplying radio equipment in India during the course of the contract.</p> <p>iii) All the technical features will be shown during the tests.</p>	

Specification for UHF Mobile Radio set

Sr. No.	Parameters	Specification
1	General	
	Frequency range	403-470 MHz
	No. of channel	12 or higher
	Channel Spacing	12.5 KHz or better
	Frequency Stability	±1.0 PPM or better
	Protocol	Digital TDM/FDM Technology
	Type of Emission	Analog : 11K0F3E Digital : 4 FSK 7K60FXE or equivalent Modulation technique complying to Open Standard/non-propriety Digital Protocol.
	Type of Operation	Simplex press to talk



	Type of Antenna	3 dB gain whip antenna with 3 mtrs. Co-axial cable with connector, magnetic base/ mounting bracket for veh. use.
	Weight	Less than 2000 grams without external battery & Antenna
	Display	The Radio Should be supplied with Alphanumeric colour display
	Power Source	Typical 13.8V DC $\pm 10\%$
	Protection	i) Reverse polarity protection ii) Protection against high VSWR
2	Transmitter	
	R F Power output	Programmable/ switchable up to 20 watt or more
	FM Hum / Noise	12.5 KHz : 40 db or better
	Frequency Deviation	± 2.5 KHz in 12.5 KHz spacing
3	Receiver	
	Sensitivity	(i) Analog 0.30 μ V for 12 dB SINAD or better (ii) Digital 0.30 μ V at 5% BER or better
	Selectivity (Adjacent channel)	60 dB @ 12.5 KHz or better
	Inter Modulation	65 dB or better as per ETSI standard / equivalent or better
	Audio output	3 W internal or 7.5W external speaker 8 ohms
4	Environmental Specification	
	Operating Temperature	-30 °C to + 60°C
	Storage Temperature	-40 °C to + 70°C
	Humidity	90% at 50°C (per MIL standard 810 E)
	Environmental Standard	MIL 810 C,D,E,F standard
5	Features	
	Support GPS	Should be supplied with GPS with accuracy less than 15m to enable being tracked from Remote Control Station with appropriate system.
	Support GIS	Radio Should have Application protocol interface along with software applications to provide locations and messaging on PC /Console.
	Text Messaging	Should be capable of sending short messages from keypad and pre defined messages
	Transmitter Time Out Timer (TOT)	The time should be programmed to best suit the application
	Emergency Button	Convert emergency signalling to allow users to send help signals to user defined individuals or groups in critical situations.
	Scan with priority facility	should be available
	Mode of calls	Selective call, Group call, Inter and Intra group call facility



	Remote Radio Killing/ Stun/ Revive facility	should be available
	Caller ID Display	should be available
	Networking	IP based for feature like automatic roaming
	Field Programmable	In field programming changes allows the radio to easily adapt as the user's communication need grow and change
	Secrecy	Should provide inherent protection against casual eavesdropping
6	Accessories	
	Microphone	DTMF Microphone
	Antenna	3 dB gain whip antenna with 3 mtrs. Co-axial cable with connector, magnetic base/ mounting bracket for veh. use
	Programming Kit	All necessary software and hardware required for programming of the set with USB and over the air.
	Literature	(i) User manual with each radio sets. (ii) Technical repairing manual with complete block diagram, circuit layout etc at a scale of 10% of equipment being procured.
7	Description	
	<p>i) The radio set should be light weight and compact operating in conventional system in single location and automatic roaming in other areas of operation using IP based repeater network without manual intervention. The microprocessor control of key circuits should provide automatic operation of most internal function, which allows for consistent performance and reliability. The radio should have battery cable and mounting fixtures.</p> <p>ii) The firm should have DOT/WPC license for supplying radio equipment in India during the course of the contract.</p> <p>iii) All the technical features will be shown during the tests.</p>	

Specification for UHF Hand Held Radio set

Sr. No.	Parameters	Specification
1	General	
	Frequency range	403-470 MHz
	No. of channel	256 or higher
	Channel Spacing	12.5 KHz or better
	Frequency Stability	±1.0 PPM or better
	Protocol	Digital TDM/FDM Technology
	Type of Emission	Analog : 11K0F3E Digital : 4 FSK 7K60FXE or equivalent Modulation technique complying to Open Standard/non-propriety Digital Protocol as



		defined by an international standards body like ETS/FCC.
	Type of Operation	Simplex press to talk
	Type of Antenna	Rugged flexible aerial preferably with in-built GPS antenna.
	Weight	Less than 400 grams without battery.
	Display	The Radio Should be supplied with Alphanumeric four line colour display
	Power Source	Ni-Mh or Li-ion rechargeable battery with belt clips to meet the operating time of 8 Hours with 5:5:90 duty cycle at peak conditions.
2	Transmitter	
	R F Power output	Programmable/ switchable up to 4 watt or more
	FM Hum / Noise	12.5 KHz : 40 db or better
	Frequency Deviation	± 2.5 KHz in 12.5 KHz spacing
3	Receiver	
	Sensitivity	(i) Analog 0.35 μ V for 12 dB SINAD or better (ii) Digital 0.30 μ V at 5% BER or better
	Selectivity (Adjacent channel)	60 dB @ 12.5 KHz or better
	Inter Modulation	60 dB or better as per ETSI stds.
	Audio output	500mW or higher
4	Environmental Specification	
	Operating Temperature	-30 °C to + 60°C
	Storage Temperature	-40 °C to + 70°C
	Humidity	90% at 50°C (per MIL standard 810 E)
	Environmental Standard	MIL 810 C,D,E,F
	Water proof Protection	IP 54 or better
5	Features	
	Support GPS	Should be supplied with GPS with accuracy less than 15m to enable being tracked from Remote Control Station.
	Support GIS	Radio Should have Application protocol interface along with software applications to provide locations and messaging on PC /Console.
	Text Messaging	Should be capable of sending short messages from keypad and pre defined messages
	Emergency Button	Allows a user to obtain help in critical situations
	Scan with priority facility	should be available
	Mode of calls	Selective call, Group call, Inter and Intra group call facility



	Contact list	Contact list of more than 100 users for SMS and selective calling
	Remote Radio Killing/ Stun/ Revive facility	should be available
	Networking	IP based for feature like automatic roaming
	Secrecy	Should provide inherent protection against casual eavesdropping
	Caller ID Display	should be available
	Low Battery Alert	This alerts the user to recharge or replace the radio's battery before the excessive drain ceases operation.
	Time Out Timer (TOT)	Disallows inadvertent keying of the transmitter for extended periods of time, to prevent locking up one of the communication channels unnecessarily. The time should be programmed to best suit the application
	Field Programmable	In field programming changes allows the radio to easily adapt as the user's communication need grow and change
6	Accessories	
	Battery Charger	Single unit rapid charger capable of charging NiMh/Li-Ion batteries (100% of number of sets)
	Hands free Kit (VOX unit with PTT)	The vendor should provide hands free kit.
	Programming Kit	All necessary software and hardware required for programming of the set with USB and over the air.
	Literature	(i) User manual with each radio sets. (ii) Technical repairing manual with complete block diagram, circuit layout etc at a scale of 10% of equipment being procured.
7	Description	
	<p>i) The radio set should be light weight and compact operating in conventional system in single location and automatic roaming in other areas of operation using IP based repeater network without manual intervention. The microprocessor control of key circuits should provide automatic operation of most internal function, which allows for consistent performance and reliability. The radio should have battery cable and mounting fixtures</p> <p>ii) The firm should have DOT/WPC license for supplying radio equipment in India during the course of the contract.</p> <p>iii) All the technical features will be shown during the tests.</p>	

For each system/sub-system the Tenderer shall submit:

- * Details of Project Staff: **Annexure A**
- * Technical information of equipment proposed by the Tenderer. The Tenderer shall also submit a summary in the format given in **Annexure B**
- * Information for justifying the provenness of the equipment proposed by the



Tenderer in the format given in **Annexure C**

- * Proposed design criteria
- * Type test results performed on the equipment.
- * Physical dimensions, space requirements.
- * Power supply requirements.
- * Information for equipment/sub-systems to be manufactured/ procured subcontracted in India proposed by the Tenderer in the format given in **Annexure D.**



APPENDIX I

CHECK LIST OF DOCUMENTS TO BE SUBMITTED WITH THE TENDER

Sl. No.	Document	Reference to Clause No. of "Instructions to Tenderers"
	TENDER PACKAGE COMPRISING OF:	
1.	Tender Security	12.2
2.	Tender documents	8.0
3.	Power of attorney for individuals signing on behalf of Company/Firm Or Power of attorney in favour of the leading member of Joint Venture / Consortium.	2.3 & 13.0
4.	Financial Data (Form T-IV)	8.1.1 (d)
5.	1. Pan No. as per Income Tax Act. 2. Registration with contract cell of Sales Tax Department as per "Delhi Sales Tax Act 1999". 3. PF Registration No. 4. ESI Registration No. & Code No. as per ESI Act 1948. 5. Service tax registration No.	8.1.1 (e)
6.	Statement of deviations from Tender Documents (Form C)	8.1.1 (g)
7.	Experience record (Form T-II).	8.1.1 (h)
8.	Resources proposal for the work personnel. (Form T-III)	8.1.1 (c)
9.	Check list/submission of documents for bidder's eligibility criteria	8.1.1 (f)(iv)
10.	Financial package in separate sealed envelope	8.1.2



APPENDIX -II

Check list/submission of documents for bidder's qualification criteria

• Bidder Qualification Criteria		Bidder's Compliance Yes / No	Bidder's Remarks
(A)	<p>Work Experience</p> <p>Bidder should have experience of having satisfactorily completed/executed the work of Supply, installation, testing & commissioning of radio communication network comprising of repeaters /base stations, hand portables, mobile/static radio sets in Metro/Railway/Police/Defence environment during the last five years as on 30.11.14 and the value of such work should be either of the followings:-</p> <p>(a) Three similar completed works each costing not less than Rs. 1,10,97,070/-approx. OR</p> <p>(b) Two similar works each costing not less than the Rs. 1,38,71,337/- approx. OR</p> <p>(c) One similar completed work costing not less than Rs. 2,21,94,139/-approx.</p> <p>Order copies of works executed along with their satisfactorily completion letter from the Purchaser should be provided by Bidder.</p> <p>Successfully completed portion of ongoing works shall also be considered for qualifying the above criteria.</p>		
(B)	<p>Financial Standing (Annual Turn Over)</p> <p>Application should have average Annual Turnover of Last Three audited financial years not less than Rs. 2,21,94,139/-</p>		

Date: _____

Signature : _____

Company Seal

Name : _____



FORM OF TENDER

- Note: i. The Appendix forms part of the Tender
ii. Tenderers are required to fill up all the blank spaces in this Form of Tender and Appendix.

Name of Work : As in the NIT clause No. 1.1

To
Managing Director,
Delhi Metro Rail Corporation Limited,
Metro Bhawan, Fire Brigade Lane
Barakhamba Road,
New Delhi – 110001

1. Having visited the site and examined the General Conditions of Contract as well as Special Conditions of Contract, Specifications, Instructions to Tenderers, for the execution of above named works, we the undersigned, offer to execute and complete such works and remedy defects therein in conformity with the said Conditions of Contract, Specifications, and Addenda for the sum of Rs. _____ (Amount in figures and words) for _____ or such other sum as may be ascertained in accordance with the said conditions.
2. We acknowledge that the Appendix forms an integral part of the Tender.
3. We undertake, if our Tender is accepted, to commence the works within 03 days of issue of the LOA to commence and to complete the whole of the Works comprised in the Contract within 6 months calculated from the date of Issue of LOA, as indicated in the Appendix.
4. If our Tender is accepted, we will furnish at our option a Bank Guarantee for Performance as security for the due performance of the Contract. The amount and form of such guarantee or bond will be in accordance with Clause 15.0 of the General Conditions of the Contract and as indicated in the Appendix.
5. We have independently considered the amount shown Clause 57.5 of the General Conditions of Contract as liquidated damages and agree that they represent a fair estimate of the damages likely to be suffered by you in the event of the work not being completed in time.
6. We agree to abide by this Tender for a minimum period of 60 days from the date fixed for receiving the same and it shall remain binding upon us and



may be accepted at any time before the expiry of that period or any extended period mutually agreed to.

- 7. Unless and until a formal Agreement is prepared and executed, this Tender, together with your written acceptance thereof, shall constitute a binding contract between us.
WE DECLARE THAT THE SUBMISSION OF THIS TENDER CONFIRMS THAT NO AGENT, MIDDLEMAN OR ANY INTERMEDIARY HAS BEEN, OR WILL BE ENGAGED TO PROVIDE ANY SERVICES, OR ANY OTHER ITEM OF WORK RELATED TO THE AWARD AND PERFORMANCE OF THIS CONTRACT. WE FURTHER CONFIRM AND DECLARE THAT NO AGENCY COMMISSION OR ANY PAYMENT, WHICH MAY BE CONSTRUED AS AN AGENCY COMMISSION HAS BEEN, OR WILL BE, PAID AND THAT THE TENDER PRICE DOES NOT INCLUDE ANY SUCH AMOUNT.
- 8. We acknowledge the right of EMPLOYER, if he finds to the contrary, to declare our Tender to be non-compliant and if the Contract has been awarded to declare the Contract null and void.
- 9. We understand that you are not bound to accept the lowest or any tender you may receive.
- 10. If our Tender is accepted we understand that we are to be held solely responsible for the due performance of the Contract.

Dated this.....day of..... 20..

Signature

Name..... in the capacity of

duly authorized to sign Tenders for and on behalf of.....

Address

Witness – Signature

Name

Address

Occupation



APPENDIX TO THE FORM OF TENDER

Condition of Contract Clause No.

- i. Amount of Bank **27.0** of ITT 10% of the Contract Price.
Guarantee as
Performance Security
- ii. Contract Period from the **1.3** of ITT For schedule A of BOQ 6 Months
date of issue of LOA from the date of issue of LOA, 2
years DLP after completion of
work mentioned in Schedule
"A". CAMC of 6 years after
successfully completion of 2
years of DLP.
- iii. Penalty for Non completion **2.0** of Special 0.5% per week of the value of
of work or poor quality of Conditions of work done subject to max.10%
work Contract of the Contract value.

Signature of authorised
signatory on behalf
of Tenderer

Date

Name

Place

Address



Undertaking for downloading the tender documents form websites.

I/We have downloaded the tender documents from the internet site www.delhimetrorail.com and I/we have not tampered/modified the tender documents in any manner. In case, if the same is found to be tampered/modified, I/we understand that my/our tender will be summarily rejected and the money deposited will be forfeited and I am/we are liable to be banned from doing business with DMRC and/or prosecuted.

Sign of Contractor with stamp



PROFORMA FOR STATEMENT OF DEVIATIONS

(Refer Clause 8.1.1 f)

1. The following are particulars of deviations from the requirements of the tender specifications:

Sr. No.	Clause	Deviations	Remark (including justification)	Cost of unconditional withdrawal (Rs.)

The following are particulars of deviations from the requirements of the "Instructions to Tenderers," "General Conditions of Contract" and "Special Conditions of Contract".

Sr. No.	Clause	Deviations	Remark (including justification)	Cost of unconditional withdrawal (Rs.)

Signature of Tenderer

Note

1. Where there is no deviation, the statement should be returned duly signed with an endorsement indicating 'No Deviations'.
2. The Tenderer shall indicate price adjustment against each deviation, which he shall like to add to the tender price for unconditionally withdrawing of his deviations if the same are unacceptable to EMPLOYER.



above , it is understood that the Bank will extend this Guarantee under the same conditions for the required time on demand by EMPLOYER and at the cost of the Contractor.

- 8. The Guarantee hereinbefore contained shall not be affected by any change in the Constitution of the Bank or of the Contractor.
- 9. The neglect or forbearance of EMPLOYER in enforcement of payment of any moneys, the payment whereof is intended to be hereby secured or the giving of time by EMPLOYER for the payment hereof shall in no way relieve the bank of their liability under this deed.
- 10. The expressions "EMPLOYER", "the Bank" and "the Contractor" hereinbefore used shall include their respective successors and assigns.

In witness whereof I/We of the bank have signed and sealed this guarantee on the _____day of _____ (Month) 201__ being herewith duly authorized.

For and on behalf of

the _____ Bank.

Signature of authorized Bank official

Name :

Designation :

I.D. No. :

Stamp/Seal of the Bank :

Signed, sealed and delivered for and on behalf of the Bank by the above named _____

In the presence of :

Witness 1.

Signature

Name

Address

Witness 2.

Signature

Name

Address



FORM OF AGREEMENT
CONTRACT AGREEMENT
(Refer Sub-Clause of GCC)

This Agreement is made at New Delhi on day of (month & year) by and between:

(1) Delhi Metro Rail Corporation Limited, with office located at Metro Bhawan, Fire Brigade Lane, Barakhamba Road, New Delhi 110 001, hereinafter referred to as the "DMRC" or the "Employer", as the case may be, of the one part, and;

(2) [Note 1] comprising:

a), a company registered and existing under the laws of, with head office located at represented by Mr. and Mr. authorised to sign and bind the company, under the Power of Attorney dated and the Board Resolution dated [Note 5]

b), a company registered and existing under the laws of, with head office located at represented by Mr. and Mr. authorised to sign and bind the company, under the Power of Attorney dated and the Board Resolution dated [Note 5]

c), a company registered and existing under the laws of, with head office located at represented by Mr. and Mr. authorised to sign and bind the company, under the Power of Attorney dated and the Board Resolution dated [Note 5]

[Note 2] who shall be jointly and severally liable for the undertaking of this contract;

hereinafter [Note 3] collectively referred to as the "Contractor" of the other part.



WHEREAS the Contractor has established a [Note 4] in accordance with Indian law and offered a tender for the design and construction of a rail based mass rapid transport system by procuring the design, execute, complete, test and commission (including Integrated Testing and Commissioning) and agrees to undertake performance of the Works under the terms and conditions set forth in this Contract.

Both parties hereby agree as follows:

Clause 1

DMRC agrees to hire and the Contractor agrees to be hired to implement the **(Name of the Contract)** under the terms and conditions specified in this Contract Agreement and the other Contract Documents attached hereto as mentioned below. These documents shall be signed by (for and on behalf of the Employer) and (for and on behalf of the Contractor)

- a) Letter of Acceptance
- b) Volume 1
 - i. Notice Inviting Tender
 - ii. Instructions to Tenderers (including Annexures)
 - iii. Form of Tender (including Appendices)
- c) Volume 2
 - i. General Conditions of Contracts for Design & Build Contracts
 - ii. Special Conditions of Contract (including Schedules)
- d) Volume 3
 - i. Employer's Requirements – General
 - ii. Employer's Requirements – Functional
 - iii. Employer's Requirements – Design
 - iv. Employer's Requirements – Construction
 - v. Employer's Requirements – Appendices
- e) Volume 4
Outline Design Specifications
- f) Volume 5
Outline Construction Specifications
- g) Volume 6
Tender Drawings
- h) Volume 7
Bill of Quantities
- i) Volume 8
Condition of Contract on Safety, Health & Environment (SHE) Ver 1.2
- j) Volume 9
Reference Document - Geotechnical Report



- k) The Tender
- l) Contractor's Proposal
- m) Any other documents forming part of the Contract

All of the foregoing documents, together with this Contract Agreement, are referred to herein as the Contract Documents. Also incorporated into these Contract Documents, and made part hereof, are all codes, standard specifications, and similar requirements that are referred to therein. In the event of a conflict, ambiguity or discrepancy between the contents of the Contract Documents, the order of precedence shall be according to the General Conditions of Contract.

Clause 2 – Obligation of the Contractor:

The Contractor agrees, subject to the terms and conditions of the Contract Documents, to perform efficiently and faithfully all of the work and to design and build the(Name of the Contract) and other facilities requisite for or incidental to the successful completion of the Works and in carrying out all duties and obligations imposed by the Contract Documents.

Clause 3 – Obligation of the Employer:

The Employer agrees, subject to the terms and conditions of the Contract Documents, to pay the Contractor the amount specified, and at the rates and terms and in the manner set forth in the Contract Documents.

Clause 4 – Value of Work and Completion Time:

The Employer agrees to pay for the total cost of the Works and the Contractor agrees to accept the sums mentioned below in the following currencies, to be the total cost for the Work carried out by him as part of his obligations, responsibilities and liabilities under and according to the provisions and obligations imposed on him by the Contract.

Fixed Lump Sum Price

- (i) Rupees.....(Rs.....); and
- (ii) in the foreign currency of:..... (.....);
subject to adjustment in accordance with the provisions of GCC.

The above amounts include all taxes, royalties, duties, fees, cess, octroi, other levies etc. and any tax to be deducted at source including Delhi Value Added Tax (DVAT).

The Contractor shall complete the Works within..... (.....) weeks from the date stipulated in the Notice to Proceed, issued by the Employer.



Clause 5 – Notices:

All notices called for by the terms of the Contract Documents shall be in writing in the English language and shall be delivered by hand or by registered mail, acknowledgement due, to the parties' addresses given below. All notices shall be deemed to be duly made when received by the party to whom it is addressed at the following addresses or such other addresses as such party may subsequently notify to the other:

Employer Delhi Metro Rail Corporation Limited,
Metro Bhawan, Fire Brigade Lane,

Barakhamba Road,
New Delhi 110001, India.

.....**Contractor**
.....

Clause 6 – Integration

The Employer and the Contractor agree that this Contract Agreement, together with the other Contract Documents, expresses all of the agreements, understandings, promises, and covenants of the parties, and that it integrates, combines, and supersedes all prior and contemporaneous negotiations, understandings, and agreements, whether written or oral and that no modification or alteration of the Contract Documents shall be valid or binding on either party, unless expressed in writing and executed with the same formality as this Contract Agreement, except as may otherwise be specifically provided in the Contract Documents.

Clause 7 – Governing Law

This Contract is enforceable and construed under the laws of the Republic of India.

Clause 8 – Language

This Contract Agreement and the other Contract Documents are made in the English language.

Clause 9 – Jurisdiction of Court

The Courts at Delhi/ New Delhi shall have the exclusive jurisdiction to try all disputes arising out of this agreement between the parties.



DMRC, the Employer
Delhi Metro Rail Corporation Limited

[Note 6]....., **The Contractor**

(a)
.....
.....
(.....)

WITNESS

(b)
.....
.....
(.....)

(.....)

(.....)

(c)
.....
.....
(.....)

WITNESS

(.....)

Notes: (for preparation of but not for inclusion in the engrossment of the Contract Agreement)

1. If the Contractor comprises a partnership, consortium or joint venture, liability will be joint and several, and each member thereof must be identified.
2. In the case that the Contractor comprises a single company, this line should be deleted entirely, as also should be paragraphs (b) and (c) above.
3. In the case that the Contractor comprises a single company, the word "collectively" should be deleted from this line.
4. Enter the appropriate nature of the Contractor; company, partnership, consortium or joint venture as the case may be.
5. Enter the date of the appropriate resolution.
6. If the Contractor comprises a partnership, consortium or joint venture, each member thereof must execute.



A. GENERAL INFORMATION

Notes :

(i) **Attach an attested photocopy of Certificate of Registration and ownership as well as of Constitution and legal status.**

1. Names of participating member

(a)

13. Address, telephone, telefax, Email

Registered Office

Office for correspondence

(a)

.....

(b)

.....

(c)

.....

3. Contact persons address, telephone,Email etc.

(a)

.....

(b)

.....

(c)

.....



EXPERIENCE RECORD

(Refer Clause 8.1.1 h)

Details of experience of having satisfactorily completed/executed the work of Supply, installation, testing & commissioning of radio communication network comprising of repeaters/base stations, hand portables, mobile/static radio sets in Metro/Railway/Police/Defence environment.

Sl. No.	Period	Details of work handled	Total Cost of work in Rs.	Remarks
(1)	(2)	(3)	(4)	(5)

Notes :

- i) Details submitted in any other Performa will not be considered.
- ii) The details of work including the cost of the work should preferably be supported by self-attested copy of each client's certificate.
- iii) Additional pages may be attached if required.
- iv) The authorized signatory of the Tenderer must sign all the pages.
- v) The WPC/DOT license/approval document for use of equipment / spectrum should be enclosed.



DETAILS OF PERSONNEL

(Refer Clause 8.1.1 c)

S. No.	Designation	No. Of Personnel Available
A	B	C
1	Engineer	
2	Supervisors	
3	Technician	



FINANCIAL DATA

(Refer Clause 8.1.1 (d))

S. No.	Description	Year 2009-2010	Year 2010-2011	Year 2011-2012	Year 2012-2013	Year 2013-2014
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.	Financial Turn Over					



Bank Detail

Beneficiary Name :

Beneficiary Address

Line 1	
Line 2	
District/City	State UT
Pin Code	Tele/Fax
Mobile Alert	
1	
2	
Email ID	

Bank details:

Bank Name	
Branch Address	
Beneficiary A/C name	
Beneficiary A/C No	
Beneficiary A/C Type	Beneficiary A/C Type (Saving /Current)
9 Digit Branch MICR code	
IFSC Code of Branch	

**Stamp & Signature of Authorized Signatory
of tenderer.**

**Stamp & Signature of Authorized
Signatory of bank.**

Note :- Bank details is required to be verified by the bank on its letter head duly signed and stamped.(Supported with one cancelled cheque)



Bill of Quantity (B.O.Q.) Summary - Top sheet

S.No.	Item	Total amount in INR (in fig)
1	BOQ Schedule A total	
2	BOQ Schedule B total	
Grand Total		

Amount in words Rs.
.....

Above Price are inclusive of all taxes, duties and levies etc.

Date:.....

Sign of Contractor with stamp



Bill of Quantity (B.O.Q.)

Schedule "A"

S. No.	Item Description	Qty	Unit Price (in fig)	Tax (if any)	Total Amount (in fig)
A					
1	Supply of hand portable Radios.	483			
2	Supply of Programme Cable and Software for hand portables	15			
3	Supply of Fixed/Static Radios complete with UHF antenna, RF cable, connectors and associated power supply.	38			
4	Programme Cable and Software for fixed/static radios.	4			
5	Supply of UHF Repeater equipments complete with RF cable, connectors and UHF antenna.	4			
6	Software & Licenses				
a	IP Site Connect for Repeater	4			
b	Dynamic Mix Mode For Repeater work Automatically for Digital or Analog Mode	4			
c	IP Site Connect for Subscriber	483			
	Sub -Total				
B	IP Connectivity for non-DMRC location using optical fibre				
	Fibre connectivity from Patel Chowk to NDMC building. (One Time Charges)	LS			
	Sub-Total				
C.					
a	Installation, Testing and commissioning including application engineering, documentation and training.	LS			
b	DLP (Defect Liability Period) for 2 years	LS			
	Grand TOTAL				

Amount in words Rs.

.....
Above Price are inclusive of all taxes, duties and levies etc.

Date:.....

Sign of Contractor with stamp



Schedule – B

Bill of Quantity for Comprehensive annual maintenance contract for 06 Years after 02 Years DLP

Sr. No.	Comprehensive Annual Maintenance charges for 6 years after 2 year of DLP as per scope of work	Price (in fig)	Tax (if any)	Total Amount (in fig)
1	1st year of CAMC after 2nd year of DLP			
2	2nd year of CAMC after 2nd year of DLP			
3	3rd year of CAMC after 2nd year of DLP			
4	4th year of CAMC after 2nd year of DLP			
5	5th year of CAMC after 2nd year of DLP			
6	6th year of CAMC after 2nd year of DLP			

Amount in words Rs.

Above Price are inclusive of all taxes, duties and levies etc.

Date:.....

Sign of Contractor with stamp



Annexure "A"

PROJECT STAFF

1. Tenderer to submit list of all project management and technical staff to be allocated for the project from each consortium member or as the case may be.
2. Bio-Data for every staff to be allocated for the project to be submitted, only staff with adequate relevant experience shall be considered.
3. For every staff, it needs to be clearly identified that :
 - He is Employee of the relevant consortium member only (and not of sub-contractors/vendors/partners etc.
 - Where he will be based during the project execution.
4. Bio-data of the project manager to be submitted who shall be overall responsible for the project. He shall have minimum 5 years relevant experience and shall be continuously based in Delhi throughout the project and shall only be allocated for the work of "Provision of radio communication for DMRC security including CAMC".
5. Tenderer shall also propose min no. of personnel to be deployed during DLP period and CAMC beyond DLP period, sufficient for preventive and corrective maintenance of the system.



Annexure "B"

Technical Information of equipment proposed by the Tenderer

S. No.	Equipment	Specifications	Model No./Trade Name	Type Test Certificate or OEM Certified Data Sheet attached (Y/N)	Remarks
1	Hand portable Radios.	As per Technical Specifications			
2	Fixed/Static Radios complete with UHF antenna, RF cable, connectors and associated power supply.	As per Technical Specifications			
3	UHF Repeater equipments complete with RF cable, connectors and UHF antenna.	As per Technical Specifications			
4	Software & Licenses (Details to be submitted)				



Annexure "C"

Information regarding performance of the offered equipment etc.

S. No.	Equipment	Specifications	Model No./Trade Name	Details of Railway Authority/ Telecom Authority	Location of installation of Proposed Equipment on	Quantity of equipment in Use	Date of Commissioning	User Acceptance Certificate attached (Y/N)	Performance Data
1	Hand portable Radios.	As per Technical Specifications							
2	Fixed/Static Radios complete with UHF antenna, RF cable, connectors and associated power supply.	As per Technical Specifications							
3	UHF Repeater equipments complete with RF cable, connectors and UHF antenna.	As per Technical Specifications							
4	Software & Licenses								

