

SL NO.



**UTTAR PRADESH POLICE RADIO HEADQUARTERS, MAHANAGAR
LUCKNOW -226006**

Price : Rs. 300.00

REVISED TENDER FORM

(AGAINST TENDER NOTICE E-178/2015 DTD 10/11/2015)

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1. GUIDELINES/INSTRUCTIONS FOR PREPARATION & SUBMISSION OF TENDERS

DOCUMENTS REQUIRED TO FILL TENDER FORM

1. All the enclosures should be valid on the date of opening of the tender.
 2. All the certificates/documents mentioned in the tender notice/tender form or details of which are attached with the tender form must be submitted by the tenderers and should be valid and up-to-date.
 3. If the tenderer is an Agent/Dealer/Supplier, they should submit the authority of their principal on stamp paper of requisite amount duly notarized by the public notary along with proof of manufacturing from principal firm for quoted item and fulfilling under mentioned conditions (Proforma enclosed):-
 - (a)(i) The Tendering firms (if not manufacturer of the item) should submit along with their offer, an authority letter from their principals (who should be manufacturer) that they are their authorized agents / dealers.
 - (ii) In normal course an agency / dealer agreement attested copy, (attested by notary public), once in each year or whenever there is a change, should be submitted with the U.P. Police Radio Hqrs.
 - (iii) It shall be duty of the tenderer as well as principal to inform the U.P. Police Radio Hqrs regarding any material change that takes place in the above agreement during the finalisation / pendency of the contract. Failure to do so, may entail civil as well as criminal liability and this without prejudice lies with the U.P. Police Radio Hqrs. Rights to cancel the order or take such necessary action as it may deem fit.
 - (b) The authority letter should be speaking and specific. It should clearly bring out the relation of principal and agent/dealer as the case may be. It should speak of territory and acts assigned to the agent/dealer.
 - (c) The principal should commit themselves through this authority letter for short comings / defects / substandard supplies / supplies not according to norms or law of land etc. and shall be solely accountable for quality of product. Principal should also clearly mention that the rate quoted by agent/dealer are reasonable.
 - (d) Vague authority letter or any business letter shall not be considered as an authority letter and such offer may be ignored out rightly.
 - (e) It must be mentioned in the notarized authority letter that quoted item and principals have not been black listed in the past.
- All of the above points should be clearly mentioned in the notarized authority letter desired as per Sl. No. 3 and should be signed by the principals.
4. In case of U.P. state firm, enclose valid trade tax/VAT, registration certificate. In case of outside U.P. firms enclose valid C.S.T./VAT registration certificate.
 5. Firm must submit the copy of the tender fee deposited (Tender fee may be deposited either in cash or in the form of IPO/Demand Draft in favour of IGP/Dir.(Telecom) U.P. Police Radio Hqrs., Lucknow.)
 6. Firms will have to provide an affidavit on non-judicial stamp paper worth Rs. 100/- that their firm/Company has no criminal back ground and they are not involved in any criminal activity.
 7. Firms will have to provide an affidavit on non-judicial stamp paper worth Rs. 100/- that their firm and the equipments, which they are offering, are not black listed by any department/authority.

GUIDELINES TO FILL TENDER FORMS

1. The essential details of specifications & instructions are to be followed strictly in accordance with the tender notice. The tendering firms are required to submit their offer in two PARTS. The first part will be named as TECHNICAL OFFER & the second part will be called as FINANCIAL OFFER. THE TECHNICAL OFFER AS WELL AS FINANCIAL OFFER ARE TO BE PREPARED IN DUPLICATE SEPARATELY. (i.e. in separate covers i.e. Total Four Envelopes clearly indicating ORIGINAL & DUPLICATE on envelopes). Indicating very clearly on all the envelopes all the relevant details. Details are given as under:-

BOTH TECHNICAL OFFER & FINANCIAL OFFER, IN DUPLICATE, BE KEPT SEPARATELY IN FOUR SEALED AND SEPARATE COVERS. THESE FOUR COVERS, INDICATING ORIGINAL/DUPLICATE OFFER AND OTHER RELEVANT DETAILS ON FRONT, MUST BE KEPT IN ONE COVERING ENVELOPE (I.E. IN FIFTH ENVELOPE) & IT SHOULD BE DULY SEALED AND PROPERLY ADDRESSED. IN TECHNICAL OFFER & FINANCIAL OFFER/BID COVERS, FOLLOWING MUST BE SPECIFICALLY INDICATED ON THE COVERING ENVELOPE -THE TENDER NOTICE NO. ----- DATED ----- DUE/OPENING ON ----- . PLEASE NOTE THAT SINGLE OFFER IN ANY OF THE COVERS I.E. TECHNICAL OR FINANCIAL OFFERS OR RATE QUOTED IN TECHNICAL OFFER WILL NOT BE ACCEPTED.

2. After opening of the tender any change in the rates shall not be acceptable and offer will summarily be rejected.
3. In case, any required document(s)/paper(s) is short at the time of submission of tender, the tenderer, may give the reasons of non-submission of papers in their technical offer. Decision of PC (purchase committee) will be final in this regard.
4. Tenderer (Authorized person) shall sign the offer and all the enclosures being submitted by them with their designation, seal and date.
5. Mention full technical details of your items specifications-wise as desired in the tender notice.
6. Mention if there is any deviation in your offer in comparison to that of desired specifications.
7. Financial offer in two copies should be duly signed by the authorized signatory. single copy of offer shall not be accepted and will be rejected out rightly.
8. Tenderers will quote their rates according to proforma mentioned in the financial offer i.e. rates, Trade tax, Excise duty extra etc. separately, failing which offer may be rejected/ignored. Any cutting/corrections, if any, shall be properly attested by the tenderer.
9. Quoting any conditional discount which affects the quoted rates shall not be acceptable and such offer shall be rejected out rightly. Any discount given on quoted price as a whole shall however be acceptable.
10. No representation shall be entertained after opening of financial cover of tender.
11. If the rates in financial bid are typed then it should be with the same typewriter by which other details are typed in Financial Bid.
12. If the rates in Financial Bid are typed with other typewriter then it should be signed by the same person who has signed Financial Bid.
13. If the rates are written by pen then it should be signed by the same person who has signed Financial Bid.
14. Any cutting or overwriting in Financial bid should be signed by the same person who has signed Financial Bid.
15. In Technical offer, Index should be made with page number clearly mentioned on every page.

SECURITY AND WARRANTY CONDITIONS

1. Wherever, Earnest money and Security is asked for, the same shall have to be given/submitted as desired along with the Technical offer. Offers without E.M.D./Security, if asked for, will be ignored. E.M.D./Security in the form of demand draft should be enclosed with technical offer.
2. Tender documents/ certificates and EMD must be attached with main copy of the technical bid.
3. Successful bidder/bidders will have to execute purchase agreement deed along with a deposition of 10% security money of total tender value in the form of PO Cash Certificate/PO Saving Bank Accounts, Govt. Promissory Notes/ Fixed Deposit Receipts of State Bank of India/NSC/Deposit at Call Receipts of SBI (Bank guarantee) for a period of six months.
4. Firms will have to provide min. two year on site warranty for Radio sets & Heavy Duty Batteries and one year warranty for other items/accessories.
5. During warranty period the supplier will have to ensure that all the complaints relating to defects and non-functioning of equipment are addressed to and rectified within three days of information given by the U.P. Police Radio Headquarters, Lucknow, failing which a proportionate amount at the discretion of Director General Of Police/ Addl. Director General Of Police Telecom, will be deducted from the security deposit given by the supplier firm/company to the U.P. Police Radio Headquarters, Lucknow, and the company/firm may also be black listed for future.

SUPPLY OF MATERIAL

1. Details of the delivery period must be mentioned. Unless, Specially ordered, all goods must be delivered to Radio Headquarters within 30 days of the receipts of supply order by the suppliers.
2. Dealer/agent being tenderer shall have to ensure dispatch of item direct from factory premise to purchaser, if so desired.
3. Firms will have to deliver at RHQ, Lucknow, all the equipments/batteries within a period of 30 days from the date of receipt of supply order.
4. The supplier will supply items/material/equipment strictly in numbers specified in BOQ for each items and strictly as per technical specification provided by U.P. Police Radio Headquarters, Lucknow.
5. When goods are ordered F.O.R., station of destination, the supplier shall be required to bear all risks of loss, leakage or damage and shall deliver the goods in good order to the consignee at the destination i.e. U.P. Police Radio Headquarters, Lucknow, where the testing/inspection of the items will be performed to check its workability.
6. Packing cases, containers, gunny packages, etc. which may be used for purposes of packing and which are delivered with stores will not be returned or paid for.
7. If all the ordered equipments are not supplied within the specified period then the supply order issued, may be cancelled besides taking recourse to other legal / contractual provisions.

DEMONSTRATION, INSPECTION AND TEST REPORTS

1. Details of quality control agreement with the manufacturing unit may also be given.
2. Those firm who qualify the process of evaluation of technical bid, will have to demonstrate the equipments before the technical committee of the Radio Headquarters as per procedure and schedule laid down by the Radio Headquarters, Lucknow at short notice. The concerned firms whose demonstration will be satisfactory as per the required specifications will be timely intimated about exact date & time of opening of financial bids.
3. Copy of the test reports, UNDER STANDARD TEST CONDITIONS about the equipments/batteries will have to be submitted to the department, when asked for.
4. It will be the responsibility of the firm to satisfy the department about proper functioning of the equipments/batteries according to specifications provided with the tender form.

TERMS OF PAYMENT

1. ½% rebate must be allowed by the firm on timely payment i.e. within 30 days from the supply of complete material at Radio Headquarters . This is to be pointed out in technical offer itself.
2. 100% payment shall be made only after satisfactory delivery and testing of equipments.
3. Final payment shall be made after satisfactory inspection and functioning of the equipments. TDS will be deducted as per prevailing rules.

OTHER CONDITIONS

1. It shall be the responsibility of the tendering firms to present themselves on the date of Technical & Financial bid opening and meeting thereof and acquaint themselves with the shortcomings. No separate intimation will be sent to them in this regard.
2. Units having registration with NSIC/DI/SPS UP etc., registration for tendered items only, shall be eligible for consideration for exemption from EMD as per prevailing rules of U.P.Govt.
3. If any regulatory act is applicable to the items, copy of clearance by the competent authority should also be enclosed.
4. Give any other special information if asked for.
5. If OEM doesn't have its service centre in India, then it's dealer/distributor must have service centre in India, which may be visited by a committee constituted by U.P. Police Radio Headquarter, Lucknow to ascertain it's capability in repairing/maintenance of supplied equipments.
6. The Bidder must provide a declaration certificate that they will support the quoted item for installation, testing and commissioning & maintenance for its prescribed life as detailed in technical offer (Profarma enclosed)
7. Firms will have to provide documents such as operation Manuals, user manuals, software with CDs, circuit diagram and other relevant materials along with each equipment, free of cost.
8. Firms will have to train staff for handling/operation/servicing of the equipments/batteries without any charges.
9. In the event of any dispute arising out of or concerning this supply, the decision of Director General of Police, Telecom, UP/Addl. Director General of Police, Telecom, UP will be final.
10. Without prejudice to any other remedy provided by the law, any amount due from the supplier to the Government of UP, may be recovered by deduction from the bill raised or from the security money deposited.
11. At any stage, even after delivery if it is found that the make/model/specifications of the goods or materials supplied are different from the offered ones, order may be cancelled and penalty may be imposed accordingly, including black listing the supplier company/firm.
12. Supplier firm must have valid Dealer Possession License (DPL) for Radio equipment from the ministry of communication, Govt. of India.
13. The Bidder must provide the DMR associations membership certificate obtained from OEM.
14. The Digital Radio system should be confirming to DMR OPEN STANDARD/PROTOCOL floated by ETSI will be preferred. Venders should provide supporting documents to this effect.
15. The Bidder must provide the Interoperability certificate for the sets obtained from the OEM
16. The supplier firm will ensure and provide Compliance Certificate for the Technical Specification of Items quoted.
17. U.P. Police Radio Hqrs reserves the right to accept or reject any tender either in part or in full without assigning any reason thereof.
18. The OEM should be in production line at least for the 15 years since date of supply for similar type of item.
19. The supplier firm must have made at least three supply orders of similar items in govt. / semi Govt. offices in last three years.

2. CONDITIONS OF AGREEMENT

1. The agreement is to last till _____ but in the event of any breach of the terms of agreement at any time on the part of the supplier the agreement shall be terminated summarily by the U.P. Police Radio Hqrs Mahanagar, Lucknow without any compensation to the supplier.
2. The goods or materials to be supplied under the agreements are to be of the same quality in every respect, equal and answerable to the patterns of sample demonstrated and approved by the U. P. Police Radio HQRS.
3. U.P. Police Radio HQRS may, by notice in writing, call upon the supplier to supply additional goods or materials to serve as samples, and on such notice in writing the supplier shall be bound to supply additional samples of goods or materials, such additional samples should be in all respects of the same quality of sort as the first sample supplied.
4.
 - (a) All rates are to be based on delivery, securely packed, and F.O.R., station nearest to suppliers or indenting Officer as asked for in the tender notice i.e. U.P. Police Telecom. Hqrs, Mahanagar, Lucknow.
 - (b) Railway freights, if pre-paid, shall be added to the original quotations.
 - (c) When goods are ordered **F.O.R.** the station nearest to supplier, the Indenting Officer may at his option direct that this shall be booked either by goods train or by passenger train and either at owner's risk or at railway risk. The supplier shall carry out his direction and shall, in any case, be responsible for the safe delivery of the goods soundly and securely packed to the Railway administration and shall obtain a clear receipts from such Railway administration, for the goods in evidence thereof. In the absence of a clear receipt, the suppliers will be held responsible for all damages or loss caused by breakage or leakage, which may occur to the goods while in transit and until they have been delivered to the consignee at railway station of destination.
 - (d) When goods are ordered **F.O.R.** station on destination, the supplier shall be required to bear all risks of loss, leakage or damage and shall deliver the goods in good order to the consignee at railway station of destination, mentioned in the indent in such quantities of number and within such times and in such manner as the Indenting Officer shall, from time to time, directed.
5. Unless, Specially ordered, all goods must be delivered to Radio Headquarters within 30 days of the receipts of supply order by the suppliers.
6. U.P. Police Radio HQRS or any of the experts attached to the Industries Department of the Indenting Officer or any other Officer or person duly authorized in writing by the U.P. Police Radio HQRS shall have power to inspect the stores before, during and after manufacture, collection, dispatch, transit of arrival and to reject the same or any part or portion, if he or they be not satisfied that the same is equal according to the sample of specifications in weights, quantity and number etc.
7. Goods, materials rejected or refused on the ground of inferior quality or any other ground shall be removed by the supplier at his own risk and expense within ten days after notice has been received by him of such rejection. In the event of non-removal by the supplier as aforesaid within the said period of ten days, it shall be lawful for the U.P. Police Radio HQRS to authorize the Indenting Officer to sell by public auction any rejected materials or goods and in such cases the supplier shall be credited with the sale proceeds thereof but will not be entitled to any loss or damage that may be occasioned by such sale. If the supplier firm is not satisfied with the decision of the authority rejecting or refusing the goods, he may appeal to the U.P. Police Radio HQRS within five days of the receipt of such notice, and the decision of the U.P. Police Radio HQRS, will be final in all cases.

8. The system of payment shall be as follows;

Bill in triplicate shall be sent by the supplier to the Indenting Officer and on receipt of these, the Indenting officer or his superior officer shall make payment. The suppliers may, however, for their own convenience send advance intimation for the amount of the bill to the Indenting Officer but no advance payment shall be made.

Payment shall ordinarily be made within one month of delivery. All payments shall be subjected to the deduction of any amount to which the supplier may be or render himself liable under the terms of this agreement.

9. Packing cases, containers, gunny packages, etc. which may be used for purposes of packing and which are delivered with stores will not be returned or paid for, unless specially stipulated.
10. The supplier firm shall not sub-let or assign this contract without the written permission of the U.P. Police Radio HQRS. In the event of the contractor sub-letting or assigning this contract without such permission, he shall be considered as having thereby committed breach of this contract.
11. In the event of the suppliers not being in strict accordance with these conditions or Supplies not being delivered within the time allowed, the U.P. Police Radio HQRS may recover from the contractor as liquidated damages and not by way of penalty the sum of one percent of the value of the said goods or materials for each and every day up to 25 days during which the articles to be supplied are not delivered or bad articles are not replaced. Further, it shall be lawful for the U.P. Police Radio HQRS or the Indenting Officer to purchase the required articles or any suitable quality obtainable in the open market at the risk and cost of the contractor, who in addition to the liquidated damages aforesaid shall be liable for any loss or damages caused by the said purchase. The U.P. Police Radio HQRS shall alone be entitled to adjudge upon the penalty or compensation or damages due for delay in performance, as also to adjudge upon the advisability of taking other suitable action. If the delay shall have arisen from any cause which the U.P. Police Radio HQRS may declare in writing to be a reasonable, such additional time may be allowed as may be considered necessary in the circumstances of the case. In such a case he may also forego the whole or any part of the aforesaid liquidated damages but not the other loss or losses.
12. In case of non-performance in any form or shape of the conditions of this agreement the U.P. Police Radio HQRS shall have power to annul, rescind or cancel the agreement and upon his notifying in writing to the supplier that he has so done, this agreement shall absolutely determine. He may also debar the firm for the Uttar Pradesh Police Radio Hqrs. contracts for such periods as he thinks fit.
13. In the event of any dispute arising out of or concerning this Agreement (except as to any matters the decision of which is specially provided for this Agreement), the same shall be referred to the arbitration of an arbitrator nominated by the U.P. Police Radio HQRS, Lucknow and an arbitrator nominated by the contractor, or in the case of the contractor or the said U.P. Police Radio Headquarters failing to nominate an arbitrator within the time fixed in the notice to be served on him by the said U.P. Police Radio Headquarters or the Contractor, as the case may be, by the arbitrator, nominated by the said U.P. Police Radio Headquarters and the contractor or in case of disagreement between the said arbitrators to an umpire appointed by them and the decision of such arbitrators or umpire, as the case may be, shall be final and binding on the parties. The arbitrators/arbitrator/umpire may from time to time with the consent of the parties enlarge the time for making and publishing the award.
14. Without prejudice to any other remedy provided by the law any amount due from the supplier to the Governor will be recoverable as arrears of land revenue and may also be recovered by deduction from any amount due from the supplier to the Governor on any account under any other transaction.

3) **TECHNICAL OFFER**

TENDER No.

The tenderer should furnish the following details to be pre-qualified for the price bid opening.

Sl	Description	To be filled by Tenderer	Reference Page No. of Tech. bid
1	Name of the organization		
2	Year of Incorporation		
3	Nature of organization		
4	Address of the Registered office of tenderer with phone number and fax No. & email		
5	Registration No. VAT: CST: Self-attested copy of the document to be attached		
6	Audited balance sheet and income tax return statements of the just concluded year and the previous two years (documents to be attached)		
7	Letter of authority In the case of sole distributor (or) dealer the tenderer must enclose a letter of Authority (prescribed proforma provided with the tender form) from the Principals to the effect that they will support the quoted equipment for installation, testing and commissioning and maintenance for its prescribed life as per condition No. 3 of <u>DOCUMENTS REQUIRED TO FILL TENDER FORM.</u>		
8	a Firms must enclose valid DPL for radio equipments from the ministry of communication, govt. of India		
	b DMR associations membership certificate obtained from OEM.		
	c The Digital Radio system should be confirming to DMR OPEN STANDARD/PROTOCOL floated by ETSI will be preferred. Venders should provide supporting documents to this effect.		
	d The Bidder must provide the Interoperability certificate for the sets obtained from the OEM		
9	Details of OEM/Dealer/Distributor Service Centre, to provide services for the supplied equipments in India(Address with phone number and fax number & e-mail)		

10	i	Please mention make and model of the equipment /equipments /items being offered.		
	ii	Technical Specification - Enclose pamphlets with specification datasheet and mention the Website.		
	iii	Mention 'Yes' or 'No' in front of required Technical Specification given along with the tender form by the Police Radio Hqrs.		
	iv	Minimum 10 persons of the organisation should be trained for operation/servicing of offered equipments free of cost.		
	v	The firm must provide warranty period of Minimum 2 years for radio sets & 2 year for heavy duty batteries and one year for other items.		
	vi	Supply documents such as operation Manuals, user manuals, software with CDs, circuit diagram and other relevant materials along with each equipment, free of cost.		
	vii	Supply trouble shooting and service manuals free of cost in numbers specified in BOQ .		
	viii	In case any fault occurs in any of the equipments during warranty period, the supplier firm shall make arrangement to repair or replace within 72 hours after intimation received or shall make stand-by arrangement to provide new equipments.		
	ix	All the trainings/after-sales/warranty services shall be provided at the consignee's address		
	x	The Tenderer is required to support the spare parts and accessories of the quoted item after warranty period for the next six years for St/Mob Set and four years for H/H sets & other items.		
	xi	The Bidder must provide a declaration certificate that they will support the quoted item for installation, testing and commissioning & maintenance for its prescribed life (Profarma enclosed)		
11		Name of the Government agencies and other organizations, to whom the supply of same Items were made in the preceding three years (enclose copy of major purchase orders and other documents)		
12		SOLVENCY certificate from a nationalized/ Scheduled bank.		
13		Earnest Money Deposited D.D. No: DATE : Name of the Bank: Amount (in Rs.):		

14	Detail of Tender form fee deposited		
	a) If form purchased through Cash (proof be attached)		
	b) If tender form downloaded then DD details (proof be attached) D.D. No : DATE : Name of the Bank : Amount (in Rs.) :		
15	Indicate your delivery schedule (against the various activities listed) Letter of award :D Signing of Agreement :D+ days Supply of equipments :D+ days		
16	½ % rebate will be allowed on timely payment i.e. within 30 days from the complete supply of material at Radio Headquarters .		

I/we hereby declare that I/We have read all the terms and condition of the tender documents and agree, abide by the same and by the decision of the purchaser as per these terms and conditions.

Company Seal

Date:

Signature
(Authorized Signatory)
Name:

4) FINANCIAL OFFER

TENDER No.-----

1. I/We hereby quote to supply the goods and materials in the under writing Schedule in the manner in which and within the time specified, as set forth in the conditions of agreement stated above at the rates given in the Schedule below. I/We hereby agree that in the event of tender being accepted, the condition of Para Sl. 1 to 17 and those contained in the acceptance letter will be binding upon me/us and will, along with the quotation, be converted into and shall be deemed to be a completed agreement between me/us and the Governor of Uttar Pradesh from date of acceptance letter. I/We hereby further agree that if so required by the U.P. Police Radio HQ, I/We shall execute formal Agreement Deed.

2. I/We herewith deposit a sum of Rs..... as earnest money and should I/We fail to execute a fresh Deed of agreement if so required by the U.P. Police Radio HQ on behalf of the Governor of Uttar Pradesh and deposit the security as laid down in the tender notice within 10 days of the acceptance of my/our tender, I/We hereby agree that my/our liabilities under the agreement, the above sum of the earnest money will be forfeited for the Governor.

SCHEDULE OF RATES

Sl. No.	Description of equipments	Qty. / Unit	Basic price	Taxes		Total	Disco-unt if any	Make and Brand
				Sales Tax/ VAT	Excise Duty			
1								
2								

All rates are F.O.R.....

Dated the _____ day of _____ 2014

Signature

[illegible]

N.B. Please do not forget to fill in all the above columns.

Accepted.....

Signed

Designation.....

For and on behalf of the Governor of Uttar Pradesh.

2. VALIDITY :

3. DELIVERY PERIOD :

4. TRAINING :

5. WARRANTY :

5) CHECK LIST FOR SUBMITTING OFFERS

निविदा डालने के बारे में चेक लिस्ट (मुख्य बिन्दु)

क्र०	विवरण
1	दो अलग-अलग बन्द लिफाफों में टेक्नीकल बिड (ओरिजिनल एवं डुप्लीकेट), जिसमें Original Technical Bid के लिफाफे में ई0एम0डी0 लगी हो तथा दो अलग-अलग बन्द लिफाफों में फाइनेन्सियल बिड (ओरिजिनल एवं डुप्लीकेट)/उक्त चारों लिफाफे एक सीलबन्द बड़े लिफाफे में जिस पर निविदा संख्या, दिनांक व उपकरण का नाम एवं चेकलिस्ट के अनुरूप अभिलेखों की उपलब्धता अंकित हो ।
2	<p>टेक्नीकल बिड के महत्वपूर्ण बिन्दु—</p> <p>(i) यदि डीलर/डिस्ट्रीब्यूटर हो तो Principals से टेक्नीकल ऑफर प्रपत्र के बिन्दु सं०-7 एवं Documents required to fill tender form की भारत संख्या-3 को पूरा करते हुए निर्धारित प्रारूप पर Notarized Authority Letter संलग्न करें।</p> <p>(ii) VAT & CST (attach self attested documents.)</p> <p>(iii) Audited Balance Sheet & income tax return statements of the just concluded year and the previous two years. (attach documents)</p> <p>(iv) Details of service centres in U.P./NCR(Address/Phone/Fax/ e-mail)</p> <p>(v) (a) Mention Make & model of the each equipments being offered (b) Enclose pamphlets with specifications data sheet. (c) Mention "Yes" or "No" in front of departmental Technical Specifications provided by the deptt. reg compliance by the offered equipment. (d) Declaration certificate that they will support the quoted item for installation, testing and commissioning & maintenance for its prescribed life (Profarma enclosed)</p> <p>(vi) Valid EMD, as desired in Tender Notice</p> <p>(vii) Tender form fee deposition proof.</p>
3	<p>If bid is for wireless sets then enclose-</p> <p>a) Valid Dealer Possession License (DPL) for Radio equipment from the ministry of communication, Govt. of India.</p> <p>b) DMR association's membership certificate obtained from OEM.</p> <p>c) The Digital Radio system should be confirming to DMR OPEN STANDARD/PROTOCOL floated by ETSI will be preferred. Venders should provide supporting documents to this effect.</p> <p>d) Interoperability certificate for the sets obtained from the OEM</p>
4	Conditions of Agreement का प्रत्येक पृष्ठ Authorised signatory द्वारा नाम सहित हस्ताक्षरित करना तथा स्टैम्प लगाना ।
5	Guidelines/Instructions for preparation & submission of correct tenders में अंकित प्रत्येक बिन्दु के अनुपालन हेतु Tender form के प्रत्येक पृष्ठ Authorised signatory द्वारा नाम सहित हस्ताक्षरित करना तथा स्टैम्प लगाना ।
6	निविदा सूचना की भारत के अनुसार रु० 100.00 के स्टाम्प पेपर पर फर्म एवं ऑफर किये जा रहे उपकरणों को काली सूची में न डालने विशयक भाष्य-पत्र ।
7	निविदादाता द्वारा रु० 100.00 के स्टाम्प पेपर पर उनकी आपराधिक पृष्ठभूमि न होने तथा न ही किसी आपराधिक गतिविधि में सम्मिलित होने विषयक शपथ पत्र ।
8	निविदादाता द्वारा सम्पूर्ण टेण्डर डाक्युमेंट पर पृष्ठ संख्या अंकित करना तथा प्रत्येक पृष्ठ समुहर हस्ताक्षरित करना ।
9	निविदादाताओं द्वारा सम्पूर्ण टेक्निकल बिड के सम्बन्ध में (Index)इण्डेक्स बनाकर संलग्न करना ।
10	Name of govt. agencies with copy of supply order, to whom supplies of same items has been made in preceding three years.

6) PROFORMA FOR AUTHORITY LETTER

We.....(Name of OEM) hereby declare that in respect of items/equipment tendered by.....(Name of tenderer firm) is our authorized..... (Relationship between the two firms). We ensure that -

1. We will support the quoted equipments for installation, testing, commissioning & maintenance including supply of spare parts for its prescribed life.
2. We will be accountable for any shortcomings/defects/substandard supplies/supplies not according to norms & will be accountable for quality of products.
3. Quoted items and we..... (Name of OEM) have not been blacklisted by any Government department/authority in the past.
4. We undertake to inform to U.P. Police Radio Headquarters in case any material change that take place in the items/equipment during the finalization/pendency of the contract.

Signature
(For and on behalf of OEM)
Seal

7) DECLARATION

We.....(Bidder Firm) hereby declare that in respect of items/equipment tendered, we ensure that -

1. We will support the quoted equipments for installation, testing, commissioning & maintenance including supply of spare parts for its prescribed life.
2. We will be accountable for any shortcomings/defects/substandard supplies/supplies not according to norms & will be accountable for quality of products.
3. Quoted items and we..... (Name of bidder) have not been blacklisted by any Government department/authority in the past.

Signature

(For and on behalf of Bidder)

Seal

8)-TENTATIVE BOQ

Item no.	Name of the Equipment		Item	Qty	Offered (To be filled by Tenderer)	
					Make	Model
1	DIGITAL VHF STATIC/MOBILE RADIO SET WITH ACCESSORIS	1-	VHF Digital set 25 Watt Synthesized with DTMF Mic and Battery lead	404		
		2-	0 dB GP Antenna	164		
		3-	Magnetic Standard 0dB gain ¼ wave mobile whip antenna with 3 mtr. cable, connector with magnetic base	240		
		4-	12 V 10 Amp SMPS Power supply cum charger suitable for offered Radio	164		
		5-	30 mtr coaxial feeder RG-213 with connectors	164		
		6-	Programming Hardware & Software kit windows base (windows-7 or higher version)	30		
		7-	Technical/Service Manual	30		
	DIGITAL HAND HELD RADIO SET WITH ACCESSORIES	1-	VHF H/H Digital 1 watt/5 watts with helical antenna and Nimh/li-ion battery capacity min. 2000 mAh	1100		
		2-	Spare rechargeable Battery 7.2V/7.4V Capacity min. 2000 mAh	1100		
		3-	Battery Charger	1100		
		4-	Spare helical antenna	1100		
		5-	Head set with mic and vox facility	350		
		6-	Programming Hardware & Software kit windows base (windows-7 or higher version)	110		
		7-	Technical/Service Manual	110		
2	HF SET	1-	Transceiver HF Static 100 Watt adjustable to 15 Watt	10		
		2-	Head Phone with mike assembly	10		
		3-	Morse Key	10		
		4-	12 V 30 Amp SMPS Power supply cum charger suitable for offered Radio set	10		
		5-	Bare Copper Wire 7/22	1000ft.		
		6-	Antenna Tuning Unit(ATU)	10		
		7-	30 mtr coaxial feeder RG-213 with connectors	10		
		8-	Dipole Antenna	10		
		9-	Programming Hardware & Software kit	03		
		10-	Tech/Service Manual	03		
3	WIRELESS BASED PA SYSTEM	1-	P.A. Amplifier	100		
		2-	Driver Unit with LMT	300		
		3-	Horn	300		
		4-	Mic with Mic lead	100		
		5-	Connecting Lead Radio to Amplifier	100		
		6-	Connecting Lead Amplifier to Horn	100		
		7-	6 mtr. G.I. Pole with base plate	100		
		8-	Umbrella	100		
4	9" GALVANIZED AERIAL MAST	1	8 Section 10'each	15		
		2	Installation kit	15		

Item no.	Name of the Equipment		Item	Qty	Offered (To be filled by Tenderer)	
					Make	Model
5	TEST/MEASURING EQUIPMENT	1	Power Supply 12 V for HF Transceiver Static 100 Watt Adjustable to 15 Watt	45		
		2	Power Supply 12 V for VHF Transceiver Static /Mobile 25 Watt Synthesized	45		
		3	Power Supply 12 V for VHF Repeater sets	30		
		4	Soldering De-soldering Station	15		
		5	Digital Multimeter	75		
		6	Analog Multimeter	75		
		7	SWR meter	45		
		8	Tools of Good Quality	60		
		9	Magnifying glass with lamp	75		
6	12 V 100 AH SMF BATTERY	1	12 V 100 AH VRLA SMF Battery	261		
7	60' LATTICE MAST WITH INSTALLATION KIT	1-	6 Section 10'each	24		
		2-	Installation kit	24		

9)-TECHNICAL SPECIFICATIONS

आइटम नं०-1

SPECIFICATIONS OF DIGITAL Transceiver VHF STATIC/MOBILE SET and Accessories

Digital VHF ST/Mob Transceiver 25Watt Synthesized		
Sl.	Particulars	Desired Specification
A	GENERAL	
1	Frequency Range	136-174 MHz (full band)
2	Channel capacity	255 or more
3	Protocol	TDMA (02 slot)
4	Channel spacing	12.5 KHz
5	Frequency Stability	± 1.5 PPM or better
6	Weight	Less than 2 kg
7	Operating Voltage	10.8 to 15.6Volt DC with reverse polarity protection
8	Antenna Impedance	50 Ohm
9	Communication Interface	Ethernet/USB/RS232
10	Display	Multifunction alphanumeric LCD display with back light/LED display. Readable in day light, sun light and in night. <u>Minimum 3 rows or better.</u>
11		Standard warranty is for 02 years
12		With all types of existing analog radios(ie Motorola, Kenwood , icom, vertex etc.)
13	Encryption	1- High grade 256 bit or higher Digital Encryption module built in/plug in type for secrecy. 2- Programmable key management facility.
B	TRANSMITTER	
1	RF Power output	25 W \pm 0.5 dB as Programmable
2	Type of emission	Analog 11KOF3E Digital-4 FSK or equivalent technique complying to open standards/ non propriety digital protocol as defined by international standard body like ETSI/FCC etc.
3	Digital Modulation	4FSK
4	Modulation Limiting	<u>+2.5 KHz</u>
5	Audio Response	+1, -3dB, as per TIA 603D
6	FM Hum noise	-40dB or better
7	Adjacent channel power	-60dB or Better
8	Digital Vocoder	AMBE+2
C	RECEIVER	
1	Sensitivity	Analog: 0.30 μ V(12dB SINAD) or better. Digital: 0.30 μ V @5% BER or better
2	Adjacent channel	60 dB or better as per TIA603A-1T
3	Inter -modulation	70dB or better as per TIA603A-1T
4	Audio output	Minimum 3 watt with built speaker
5	Audio distortion	3% or better
D	ENVIRONMENTAL SPECIFICATION	
1	Operating Temperature	-30 ⁰ C to +55 ⁰ C
2	Storage Temperature	-30 ⁰ C to +60 ⁰ C
3	Humidity	95% non-condensing (-20 ⁰ C to +60 ⁰ C)
4	Applicable MIL standard	MIL standard 810 C/D/E/F/G
5	Applicable IP standards	IP 54/IP 57/IP 67

E	FEATURE	
1	Mode of operations	Analog conventional, digital conventional
2	GPS capability	<ul style="list-style-type: none">• In built GPS with TTFF < 20 sec• Horizontal accuracy <10 meters• GPS data access methods (a) by polling (b) by fetching (on request) (c) Vendor should mention– coordinate file Format Compatible with free map, Google map will be preferred for receiving and extracting GPS data/ info. for the use of location tracking purpose. (This is not part of BOQ at present but this feature has to be demonstrated at the time of testing/trial for future use.)
3	Status message and SMS text message facility	<ul style="list-style-type: none">• Status messaging facility• Short and long data message facility• Messaging facility using PCs one to many radios• Necessary hardware, software shall be provided for interfacing PC.
4	Data transmission facility	Text messaging (file transfer) facility must be demonstrated using PCs through accessory connector. (PC is not part of BOQ at present).
5	Protection	Reverse polarity protection. Protection against high VSWR
6	Radio Programming Facility	PC programmable
7	Hand set with Mike Keypad	DTMF Front panel keypad with backlight
8	Signal Strength indicator	Receiver signal strength indicator or digital readout
F	OTHER FEATURES	
1	Alpha numeric list of 256 users for sending SMS & for selective calling	
2	Alpha numeric channel alias	
3	Alpha numeric PTT ID alias	
4	Facility to assign network access code ,CTCSS/DCS	
5	Channel scan & priority channel scan	
6	Call alert	
7	Talk around	
8	Emergency call	
9	Selective call, group call	
10	Late entry	
11	Busy channel lock out	
12	Capable to kill-unkill, disable -enable	
13	Externally accessible accessory connector.(For connecting programming kit. Repeater interface, Data interface etc.)	
14	Vendor shall mention other manufacturer's models of the radios which are inter portable for voice & data communication to the system offered	
1- 12 Volt Power Supply for VHF Static/Mobile set		
Sl.	Parameter	TECHNICAL SPECIFICATION
1	DC Current Capacity	10Amp : Max. output current 10 Amp
2	Type of Power Supply	SMPS/Linear
3	Input Voltage	230 Volt AC \pm 10% at 50 Hz
4	Out Put Voltage	13.5 Volt DC \pm 5% on 80% load or better
5	Operation	Continuous Duty
6	Charging	Float and Boost
7	Protection	i) Short circuit protection ii) Reverse Polarity protection
8	Efficiency	More than 80% for SMPS and more than 50% for Linear power supply
9	Weight	Less than 5 Kgs
10	Changeover	Automatic changeover to battery in case of mains power supply failure along with float charging facility. Maximum charging current of 8 Amp for power supply with boost charging facility and 3 Amp for power supply with float charging facility
11	Battery cable	Should be provided with power supply

2. Antenna arrangements & Feeder for VHF radio		
Sl.	Type of Radio	TECHNICAL SPECIFICATION
1	Transceiver VHF Static radio, 25 Watt Synthesized	i) Standard 0dB GP Antenna, of reputed brand: OEM test Certification to be attached. ii) Standard RG-213 Coaxial cable, 30 meter with connectors of reputed brand: Defence certification issued by any Govt. approved laboratory/UP Govt. laboratory to be attached.
2	Transceiver VHF Mobile radio 25 Watt Synthesized	Standard 0dB gain $\frac{1}{4}$ wave mobile metallic Antenna with 3 mtrs., cable, connector with magnetic base of reputed brand: OEM test Certification to be attached.

SPECIFICATIONS OF DIGITAL Transceiver VHF Hand Held Radio Set and Accessories

Sl No.	Particulars	Specification
A	GENERAL	
1	Frequency range	136-174 MHz (split or full band)
2	Channel capacity	255 or higher (For display)
3	Protocol	TDMA (02 Slot)
4	Channel spacing	12.5 KHz or better
5	Frequency stability	±1.5 PPM or better
6	Weight	Light in weight preferable, including accessories.
7	Battery capacity	Capacity Preferable Li-ion rechargeable battery of 2000mAH or better. Vendor shall mention DC Voltage. During capacity test, battery shall give 100% of its rated capacity if discharged by C/5
8	Antenna Impedance	50 ohm
9	Communication Interface	Ethernet/USB/RS232
10	Display	Multifunction alphanumeric LCD display with back light/LED display. Readable in day light, sun light and in night. Minimum 3 rows or better.
11	Warranty	Standard warranty is for 2 years
12	Compatibility	With all types of existing analog radios (ie Motorola, kenwood, icom, vertex etc.)
13	Encryption	1- High grade 256 bit or higher Digital Encryption module built in/plug in type for secrecy. 2- Programmable key management facility
B	TRANSMITTER	
1	RF Power output	1 Watt to 5 Watt±0.5 dB programmable
2	Type of Emission	Analog-11K OF 3E Digital-4 FSK or equivalent technique complying to open standards/ non propriety digital protocol as defined by international standard body like ETSI/FCC etc.
3	Digital modulation	4FSK
4	Modulation Limiting	± 2.5 KHz
5	Audio Response	+1, -3dB, As per TIA 603D
6	FM Hum noise	- 40dB or better
7	Adjacent channel	power -60 dB or better
8	Digital Vocoder	AMBE+2
C	RECEIVER	
1	Sensitivity	Analog:0.30μV(12dB SINAD)or better Digital:0.30 μV @5% BER or better
2	Adjacent Channel Selectivity	60 dB or better as per TIA603A-1T
3	Inter- modulation	70 dB or better as per TIA603A-1T
4	Audio Output	Minimum 500 m watt
5	Audio distortion	3% or better
D	ENVIRONMENTAL SPECIFICATION	
1	Operating temperature range	-30°C to +55°C
2	Storage temperature	-30°C to +60°C
3	Humidity	95% non condensing(-20°C to +60°C)
4	Applicable MIL standards	MIL standard 810 C/D/E/F/G
5	Applicable IP standards	IP 57/IP67

E	FEATURES	
1	Mode of operations	Analog conventional, digital conventional Simple press to talk
2	GPS capability	<ul style="list-style-type: none"> • In built GPS with TTFF <20 sec. • Horizontal accuracy <10 meters • GPS data access methods (a) by polling (b) by fetching (on request) (c) Vendor should mention– coordinate file Format Compatible with free map, Google map will be preferred for receiving and extracting GPS data/ info. for the use of location tracking purpose (This is not part of BOQ at present but this feature has to be demonstrated at the time of testing/trial for future use.)
3	Status message and SMS text message facility	<ul style="list-style-type: none"> • Status messaging facility • Short and long data message facility. • Messaging facility using PCs one to many radios • Necessary hard ware , Soft ware shall be provided for Interfacing PC
4	Data transmission facility	Text Messaging (File Transfer) Facility must Be demonstrated using PCs through Accessory Connector. (PC is not part of BOQ at present).
5	Protection	Reverse polarity protection. Protection against high VSWR
6	Radio Programming Facility	PC programmable
7	Front panel Key pad	DTMF front panel keypad with back light
8	Battery strength indicator	Battery strength bar indicator or digital readout. Beep alert for low battery
9	Signal Strength indicator	RSSI-Received signal strength indicator bar or digital read out.
10	OTAR	Should have provision for over the air frequency re-programming (wirelessly).
11	Integrated Bluetooth (optional)	Should be supplied with Integrated Bluetooth for sharing data wirelessly and instantly between devices. (optional)
	Networking	Should be IP based for automatic roaming etc
F	OTHER FEATURES	
1	Simple press to talk	
2	Alpha numeric list of 256 users for sending SMS & for selective calling.	
3	Alpha numeric channel alias.	
4	Alpha numeric PTT ID alias	
5	Facility for locking the channel or keypad.(Programmable)	
6	Facility to assign Network access code, CTCSS/DCS	
7	Channel scan & priority channel scan	
8	Call alert	
9	Talk around mode	
10	Transmitter Time Out Timer (TOT) operation	
11	Emergency call facility (SOS)	
12	Selective call, group call.	
13	Late entry	
14	Busy channel lock out	
15	Capable to kill-unkill, disable-enable	
16	Any one of 2 tone/5 tone/DTMF signaling	
17	Text message & pre defined messages	
18	Automatic number identification	
19	Vendor shall mention other manufacturer's models of the radios which are inter- operable for voice & data communication to the system offered.	

Battery for digital VHF Hand held radio		
Sl.	Type of Radio	TECHNICAL SPECIFICATION
1	Transceiver VHF Hand Held, 1/5 Watt Synthesized	i) Rechargeable Battery pack (original from OEM) of minimum 2000 mAh capacity, Ni-Mh or Li-ion or Li- polymer suitable for offered VHF digital hand held radio set : Certificate from OEM to be attached. ii) All Batteries should be mechanically and electrically interchangeable with the corresponding Transceiver model. iii) The battery capacity should not be less than the rated capacity when discharged at C/5 rate and at least 90% or better of the rated capacity when discharged at C rate. iv) Month & year of manufacture and the Logo/Trade mark of the OEM to be embossed/heat stamped. This Logo/Trade mark is to be indicated in the offer. v) The sleeve of the cells used should preferably indicate the following : (a) Part Number (b) Month & year of manufacture (c) Voltage of cell (d) Capacity (e) Country of origin vi) One battery pack may be cut open (generally 1 out of 500) at the time of inspection. Sample Battery will not be the part of BOQ.

3. Charger for Battery Pack of VHF Digital Hand Held Radio set	
Sl.	TECHNICAL SPECIFICATION
1	Single Unit Battery charger from OEM of offered radio : Certificate from OEM to be attached
2	Input Voltage : 230 Volt AC \pm 10% at 50 Hz
3	Output Voltage : As per the set rechargeable battery pack for which charger is supplied
4	Capable of charging Battery packs of 7.2V/7.4V Ni-Mh or Li-ion or Li- polymer up to 3000 mAh capacity or better
5	Visual Indication for all mode of charging status
6	Reverse polarity protection (DC input) should be provided
7	Reverse polarity protection (Battery terminal) should be provided
8	Short circuit protection should be provided
9	Battery Charging Rate on constant current: The battery charger may be standard type or rapid type. In case of standard type charger, the charging current shall not exceed 400 mA and for Rapid type it shall be within 1 Amp. The charging time shall be 6 to 14 hours for standard charger and 1 to 3 hours (for charging batteries up to 1800 mAh) or 2 to 4 hours (for charging batteries from 2000 to 3000 mAh) respectively.

वी0एच0एफ0 डिजिटल स्टैटिक, मोबाइल, हैंड-हेल्ड एवं रिपीटर आर/टी सेटों के बेन्च टेस्ट एवं फील्ड ट्रायल हेतु निर्धारित प्रक्रिया

निविदा में प्रतिभाग करने वाली विभिन्न फर्मों के द्वारा ऑफर किये जा रहे उपकरणों का बेन्च टेस्ट एवं फील्ड ट्रायल निम्न प्रकार से किया जायेगा। तत्पश्चात् बेन्च टेस्ट एवं फील्ड ट्रायल में जिस फर्मों के सेटों की कार्यक्षमता संतोषजनक पाया जाता है उसी फर्म के फाइनेंशियल बिड को खोला जाना उचित होगा। सेटों की संतोषजनक कार्यक्षमता निम्न प्रकार से निर्धारित किया जायेगा:-

(अ) बेन्च टेस्ट:-

उ0प्र0 पुलिस रेडियो विभाग द्वारा मापक उपकरणों (Measuring Equipments) की सहायता से फर्मों द्वारा ऑफर किये जा रहे उपकरणों की तकनीकी विशिष्टताओं का परीक्षण किया जायेगा। जिन तकनीकी विशिष्टताओं का परीक्षण विभागीय मापक उपकरणों से सम्भव नहीं होगा उनके सम्बन्ध में सम्बन्धित फर्म द्वारा Govt. Accredited lab या National Accreditation Board For Testing and Calibration Laboratories (NABL) अथवा International Laboratory Accreditation Corporation (ILAC) राजकीय मान्यता प्राप्त प्रयोगशाला (Approved Lab) से जारी प्रमाण पत्र प्रस्तुत करना होगा।

(ब) फील्ड ट्रायल:-

(i) स्टैटिक/मोबाइल सेट (25 वाट वीएचएफ आरटी सेट):-

स्टैटिक से स्टैटिक- इसके अन्तर्गत दो स्टैटिक केन्द्र बनाकर दोनों छोर पर एक ही मेक/ब्रांड के 25 वाट आर/टी सेटों का अधिष्ठापन कराकर उनके मध्य संचार रेंज का परीक्षण कई दिनों (लगभग 07-10 दिवस) तक किया जायेगा। इस हेतु एक छोर पर लगभग 90-100 फीट के एरियल टावर का तथा दूसरे छोर पर लगभग 60-70 फीट के टावर का प्रयोग किया जायेगा। इस स्थिति में न्यूनतम लगभग 55 किमी (हवाई दूरी) तक संचार सम्पर्क (आर 4/आर 5) अपेक्षित होगा।

स्टैटिक से मोबाइल-

इसके अन्तर्गत किसी स्थान पर 25 वाट के एक सेट को स्थाई रूप से अधिष्ठापित कराकर (लगभग 90-100 फीट के एरियल टावर का प्रयोग करते हुए) उसी ब्रांड के दूसरे सेट (25 वाट) को मोबाइल वाहन में लगाकर उसके मध्य संचार परीक्षण किया जायेगा। इस स्थिति में लगभग 10-12 किमी (हवाई दूरी) तक का न्यूनतम अपेक्षित संचार होगा।

स्टैटिक से गतिमान मोबाइल-

इसके अन्तर्गत मोबाइल वाहन की स्पीड जिसमें 25 वाट का सेट अधिष्ठापित कराया जायेगा तथा क्रमशः मोबाइल वाहन की गति बढ़ाते हुए कम्युनिकेशन की स्थिति चेक की जायेगी और विभिन्न स्थितियों अर्थात् वाहन की स्पीड एवं दूरी के अनुसार यह देखा जायेगा कि संचार सम्पर्क कैसा हो रहा है तथा सिग्नल की स्थिति क्या है, अर्थात् सिग्नल सही प्राप्त हो रहा है अथवा कट-कट के प्राप्त हो रहा है।

(ii) हैण्ड हेल्ड सेट(5 वाट):-

इसके अन्तर्गत एक हैण्ड हेल्ड सेट (5 वाट) से दूसरे हैण्ड हेल्ड सेट (5 वाट) के मध्य संचार सम्पर्क का परीक्षण किया जायेगा। इस हेतु न्यूनतम लगभग 1.5 किमी तक (हवाई दूरी) का संचार (आर 4/आर 5) अपेक्षित होगा।

(iii) अन्य महत्वपूर्ण बिन्दु:-

- परीक्षण के दौरान सेट के गर्म होने, ध्वनि गुणवत्ता, सिग्नल गुणवत्ता आदि विभिन्न बिन्दुओं को भी चेक किया जायेगा।
- सभी फर्मों हेतु परीक्षण का मानक/स्थान एवं भौगोलिक परिस्थितियाँ एक ही होगी। इसमें किसी भी प्रकार की छूट अनुमन्य नहीं होगी।
- फील्ड ट्रायल के में यदि कोई व्यय भार निहित होता है तो उसे सम्बन्धित फर्म द्वारा ही वहन किया जायेगा।
- उपरोक्तानुसार वर्णित परीक्षण पद्धति के अतिरिक्त विभाग द्वारा कोई अन्य व्यवहारिक परीक्षण पद्धति भी अपनाई जा सकती है जो सभी फर्मों पर समान रूप से लागू होगी।

TECHNICAL SPECIFICATION

Transceiver HF Static 100 Watt Adjustable to 15 Watt.		
Sl.	Parameter	TECHNICAL SPECIFICATION
A	GENERAL	
1	Frequency Range	2 MHz to 21 MHz or higher
2	Mode of Operation	SSB (LSB and USB) CW/MCW, AM, AFSK
3	Frequency Steps	100 Hz
4	Frequency Control	Synthesizer
5	Frequency Stability	± 1 PPM
6	Roles	Fixed/Transportable/Mobile
7	Antenna Impedance	50 Ohms (Nominal)
8	Protection	(i) Reverse Polarity Protection should be provided (ii) The Final Transistor should be protected against high VSWR
9	Power Source	12 V DC Nominal
10	Cooling	Air cooling with built – in fan (for 100 watt)
11	VSWR	Better than 1.5
12	Visual display	LCD or better Display
13	Accessories	All essential accessories such as Antennae, ATU, Power Supply, RF Cable, Modem etc. are to be quoted separately
B	TRANSMITTER	
1	RF Power Output	15 watt. to 100 watt adjustable (± 0.5 dB measured at CW) or better RF Power output should not degrade by more than 1 dB in any case
2	Spurious suppression	Better than 40 dB
3	Harmonic suppression	Better than 40 dB
4	Suppression of Carrier & unwanted side band	40 dB min. for 15watt/100 watt
5	Audio response	Within 6 dB from 300 Hz to 2700 Hz or better
6	Keying Speed	25 WPM by Morse key & 300 bauds for packet modem or better
7	Side tone level	Better than 0.1mV into 150 Ohms load for 5mV of audio input at 1 KHz
8	Modulation Sensitivity	1 to 10 mV at 1 KHz for full power under SSB Mode or better
C	RECEIVER	
1	Sensitivity	It should not degrade by more than 1 dB
	a) CW/MCW	0.5 micro V p.d for 10 dB (S+N)/N at 1 KHz/ MCW frequency or better
	b) SSB	0.5 micro V p.d for 10 dB (S+N)/N at 1 KHz or better
2	Selectivity	
	CW	For 6 dB better than 300 Hz For 60 dB less than 2.5 KHz
	MCW	For 6dB better than 2.7 KHz For 60 dB less than 4.8 KHz
	SSB	For 6 dB better than 2.7 KHz For 60 dB less than 4.8 KHz
3	Inter modulation distortion	Better than 25 dB
4	Image rejection	Better than 60 dB
5	IF rejection	Better than 60 dB

6	AGC	Audio power output variation less than 6dB for a 60 dB level variation in the input RF signal from 10 micro V to 10mV or better
7	Audio response	Within ± 6 dB from 300 Hz to 2700 Hz with 1 KHz as reference
8	Audio output	1W across loudspeaker should be greater than 2.5 mW across 150 ohm headphone or better
9	Audio Distortion	Less than 5% at 1KHz for CW/SSB/MCW at specified AF Output or better
D	Feature configurations	Static mode, Head gear assembly and head gear socket, LCD Display with backlit keypad, Selective calling facility, scan, ALE, Data interface, Front panel programming and Emergency Alarm
E	Environmental Conditions	
1	Operating Temperature	-10 ⁰ to 55 ⁰ C or better
2	Storage Temperature	-40 ⁰ to 70 ⁰ C or better
3	Relative humidity	95% Max at +40 ⁰ C non condensing or better
4	Environmental Tests	Dry heat, Damp heat (Cyclic), Cold test, Drop test (in packed condition), Vibration test, Storage test and Bump test should be according to IS: 9000 or better: Certificate to be enclosed

Antenna arrangements & Feeder for HF radio		
Sl.	Type of Radio	TECHNICAL SPECIFICATION
1	Transceiver HF Static 100 Watt Adjustable to 15 Watt	i) Standard Dipole Antenna of Copper wire, of reputed brand : OEM test Certification to be attached ii) Standard Long wire Antenna of Copper wire, of reputed brand : OEM test Certification to be attached iii) AMU/ATU for HF set should be from OEM : Certificate to be attached iv) Standard RG-213 Coaxial cable, 30 meter with connectors of reputed brand : Defense certification of the OEM or any other equivalent Approval by Govt. of India-Certificate to be attached

12 Volt Power Supply for HF Transceiver

Sl.	Parameter	TECHNICAL SPECIFICATION
1	Input Voltage	230 Volt AC $\pm 10\%$ at 50 Hz
2	Out Put Voltage	13.5 Volt DC $\pm 5\%$ on 80% load or better
3	Operation	Continuous Duty
4	Charging	Float
5	Protection	i) Short circuit protection ii) Reverse Polarity protection
6	Efficiency	More than 80% for SMPS and more than 50% for Linear power supply
7	Weight	Less than 10 Kgs
8	Changeover	Automatic changeover to battery in case of mains power supply failure along with float charging facility.
9	Battery cable	Should be provided with power supply

Specification of Wireless Based PA System.**(A) AMPLIFIER**

SL. No.	Parameter	Specification	Yes/No
1	AC	220V – 240V	
2	DC	12 V	
3	Power out put	120W (RMS) at 10% THD/160W RMS Max	
4	Input mike	5 mikes & two Aux	
5	Freq response	50Hz to 15 KHz ± 3 db	
6	Tone control	Bass ± 8 dB at 100 Hz ,Treble : ± 8 dB at 10 KHz	
7	Output taps for speaker matching	4, 8, 16 Ω , (for direct connections) 70v and 100v line(for use with LMT)	
8	MP3 playback	Built in play back facility (USB,SD,MMC card) Remote control to be provided.	
9	Signal to noise ratio	60 db or better	
10	Protection	AC: fuse 3 amp (T3AL); DC: fuse 13 amp (T13AL)	
11	Pre amplifier output	200mV/600 Ω	
12	Line output	1V/k Ω	

(B) Low Impedance PA. Horn Speakers With Driver Unit

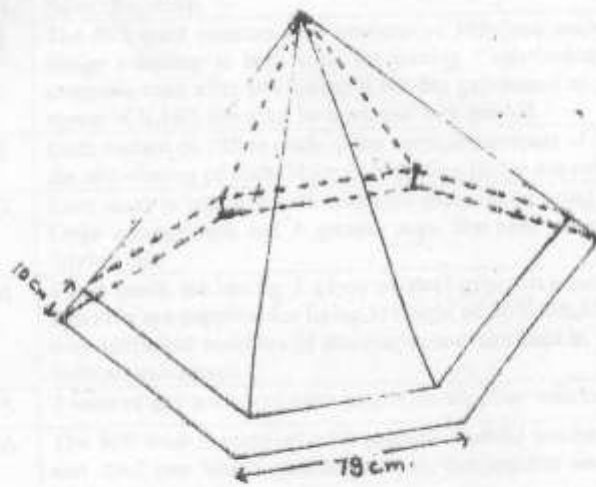
SL. No.	Parameter	Specification
1	Input Power	40W Rms/60W Max.
2	Impedance	LMT Built in driver unit 100V line
3	Freq. Response	180-7000 Hz
4	Horn type and size	Reflex horn 18 inch ± 10 %
5	Shock Weather Proof	
6	Clear & Loud Audio freq. Response.	
<u>Accessories</u>		
1	Appropriate mic with lead & connector	
2	Connecting Lead radio set to amplifier	1 mtr connecting lead with PL -55 jack and one side audio connector
3	Required good quality 01 role (approx. 91.00 mtrs.) PVC wire/lead for amplifier to horn unit connectivity.	Required 23/.36 or better all tin copper 2 core wire double insulated 91 mtr role approx.

(C) 06 Meter G.I. Pole

1	Base Plate 300X300X8mm or better with appropriate socket and required foundation nut bolts.	
2	06 Meter GI Pole 75mm dia with wall thickness 3mm or better	
3	Provision of fitting 3N0s. Horn and driver unit with umbrella and required nut bolts.	

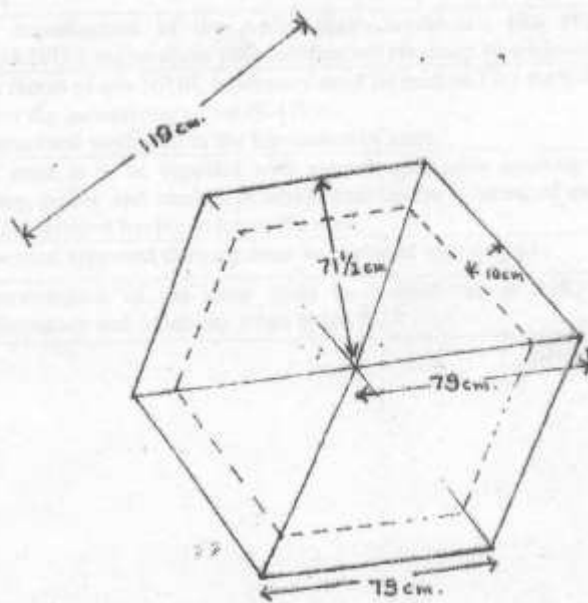
(D) Umbrella

1	Shock Weather Proof that may cover 3 Nos. of horn (as per attached diagram)	
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42 1/2 cm.

136 cm.



136 cm.

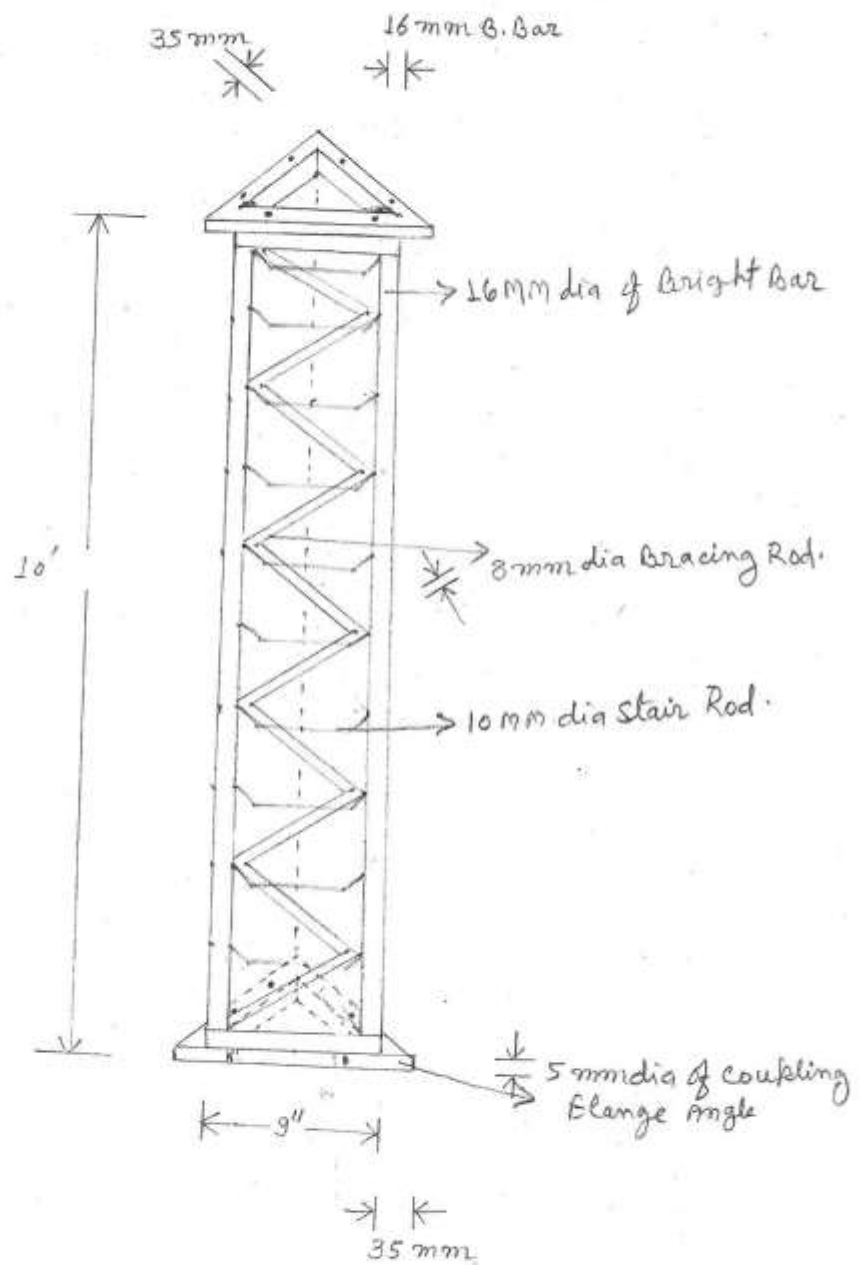
• PA System की धतवी की ली गई जाय ।

• Seat - 20 Swg.

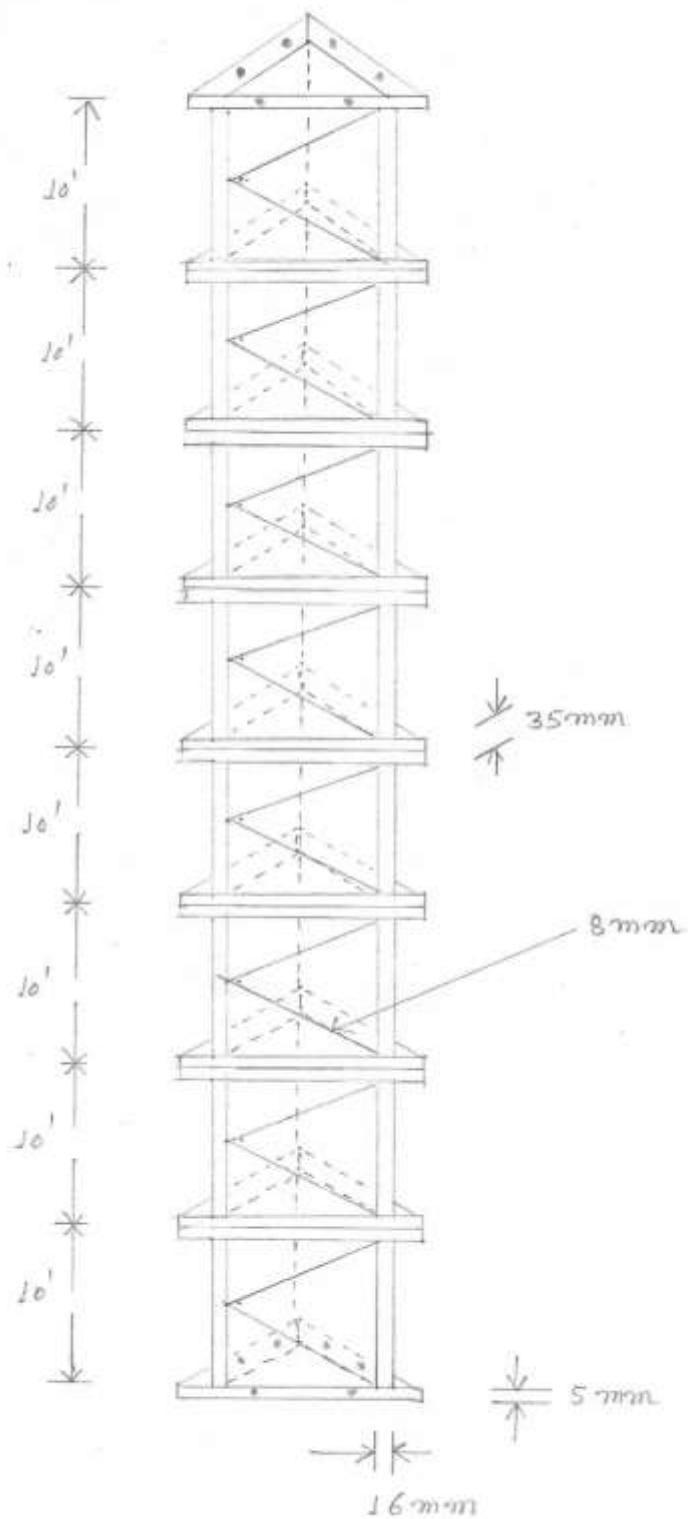
Specification of 9" Galvanized Aerial Mast

Sl.	Specification	Yes/No
1	The 80ft mast consists of 8 sections of 10ft/3mtr each of lattice steel structure having flange coupling at both ends for joining / interlocking sections with each other. The complete mast after fabrication is hot dip galvanised as per IS 4759 and a copy of the test report of NABL lab must be enclosed with the bid.	
2	Each section of 10ft is made using vertical members of MS bright bar of minimum 16mm dia and bracing of 8mm MS rod. Coupling flange are made of MS angle 35x35x5mm.	
3	Each mast is supplied with one base plate made using MS sheet of 24"x24"x8mm with hinge arrangement and 4 ground pegs. the base plate is also hot dip galvanised after fabrication.	
4	4 sets (each set having 3 guys) of steel guy galvanised of suitable length of minimum 6mm dia are supplied for fixing at height of 20ft,40ft,60ft and 80ft . The mast is supplied with sufficient numbers of straining screw/turn buckle, d-sacle, dog clamp, thimbles, nut bolts all galvanised.	
5	3 sects of guy anchor of 1mtr length are supplied with each mast, fully hot dip galvanised.	
6	The 80ft mast is supplied with antenna hoisting mechanism consisting of pulleys, trolley and steel guy which enables to hoist the antenna and cable from the ground without having to lower the mast.	
7	Provision of stairs for each section (10 feet) of mast having a separation of 01 feet. Stairs bar should be minimum 10 mm dia MS Rod. Rod shall be designed to carry a point load of 150kg at any point without a deflection exceeding 6.0mm.	
Other:		
1	The manufacturer of the Aerial masts credentials like MSME registration, NSIC, DGS&D/D.I. registration, ISO certification etc. must be enclosed with tender document.	
2	Test report of any NABL laboratory must be enclosed for the following : a. Hot dip galvanising as per IS-4759 b. Structural steel used in the fabrication of mast.	
3	The mast is to be supplied with antenna and cable hoisting mechanism consisting of trulley, pulley and steel guys which enables the hoisting of antenna and cable from the ground without having to lower the mast.	
4	Structural approved drawing must be enclosed with the bid .	
5	Demonstration of the same must be carried out at RHQ Lucknow to assess the performance and suitability when asked for.	

9" GALVANIZED AERIAL MAST 10'



9"-80' GALVANIZED AERIAL MAST



Testing and Measuring Equipments for Workshop

Sl.	Equipments	Technical Specification		
1	Power Supply 12 V for HF Transceiver Static 100 Watt Adjustable to 15 Watt	1-	Input AC	230V at 50 Hz
		2-	Output DC	07V to 15V variable
		3-	Current	Upto 30 Amp
		4-	Volt & Current meter	Required
		5-	Input AC indicator	Required
		6-	Protection	Short circuit protection
2	Power Supply 12 V for VHF Transceiver Static /Mobile 25 Watt Synthesized	1-	Input AC	230V at 50 Hz
		2-	Output DC	07V to 15V variable
		3-	Current	Up-to 10 Amp
		4-	Volt & Current meter	Required
		5-	Input AC indicator	Required
		6-	Protection	Short circuit protection
3	Power Supply 12 V for VHF Repeater sets	1-	Input AC	230V at 50 Hz
		2-	Output DC	07V to 15V variable
		3-	Current	Upto 15 Amp
		4-	Volt & Current meter	Required
		5-	Input AC indicator	Required
		6-	Protection	Short circuit protection
4	Soldering De-soldering Station	1-	Input Line Voltage	230V at 50 Hz
		2-	Temperature control	a) Soldering Iron continuously: 150 ⁰ C to 450 ⁰ C or better b) De-soldering Hot air pencil continuously: 50 ⁰ C to 450 ⁰ C
		3-	Glass Tube Fuse	Required
5	Digital Multi-meter	1-	AC Voltage range	≤ 200 mVolt to ≥700 Volt or better
		2-	DC Voltage Range	≤ 200 mVolt to ≥1000 Volt or better
		3-	AC/DC current Range	≤ 20 micro Volt to ≥10 Amp or better
		4-	Resistance Range	≤ 200 Ohm to ≥200Mega Ohm or better
		5-	Diode Testing	Required
		6-	Continuity Testing	Required
		7-	Transistor Testing	Required
		8-	Digital display	Required
		9-	Polarity Protection	Required
		10-	High Voltage Protection	Required
		11-	High Current Protection	Required
6	Analog Multi-meter	1-	AC Voltage range	03 Volt to 100 Volt or better
		2-	DC Voltage Range	03 Volt to 100 Volt or better
		3-	AC/DC current Range	25 micro-amp to 500 m amp & 10 amp or better
		4-	Resistance Range	RX1, RX10, RX100, RX1000 or better
7	SWR meter	1-	Power	1W to 100 W or better
		2-	Frequency range	1.8 MHz to 200 MHz
		3-	Power Range	5/20/200 watt
		4-	Measurable	Forward, Reflected & VSWR

Sl.	Equipments	Technical Specification	
8	Tools kit of Good Quality	1-	Set of Screw driver
		2-	Heavy Duty Pliers
		3-	Nose Pliers Small
		4-	Nose Pliers Large
		5-	Crow Pliers
		6-	Twizer plain head & Angular head
		7-	Cutter heavy duty
		8-	Soldering Iron 100 W, 65 W, 35 W, 15 W
		9-	Wire stripper cum cutter
		10-	Screw driver 12"
		11-	Allen key set of 8 pcs
		12-	Adjustable Spanners small & heavy duty
		13-	Mini Hexa
		14-	Sharp blade cutter
		15-	100 mm magnified set of 6 pcs
		16-	Mains tester
		17-	Magnifying glass 4" dia
		18-	Hammer
		19-	Cleaning brush
		20-	Anti rusting spray small
		21-	De-soldering Pump
		22-	Wrench sets
		23-	Drill machine electric with bit set
		24-	Solder Paste
		25-	Soldering Resin Core 100 gm
		26-	Insulation Tape
9	Magnifying glass with lamp	1-	Magnifying glass $\geq 4"$ dia
		2-	Magnifying glass holding frame of min. one feet diameter fitted with round white florescence tube light to 230 V AC, 50 Hz
		3-	Adjustable frame holding stand of magnifying glass

TECHNICAL SPECIFICATION OF 12 V 100 AH SMF Battery

Sl	Specification
1	Sealed Lead -Acid Valve regulated type
2	Nominal Voltage : 12 Volts
3	Rated Capacity at 20 hour discharge rate : 100 AH
4	Confirming Japanese Industrial Standards JIS C 8702/2009 (Part 1) : Certificate to be enclosed
5	Supplier should submit Complete and Satisfactory "Type Test Report" from Authorised Govt. Laboratory to meet all the tests mentioned in JIS C 8702/2009 (Part 1) with technical bid.
6	Battery should be supplied with appropriate Batts leads.

Technical Specification of 60 feet triangular Lattice mast & Installation Kit

60 feet triangular Lattice mast & Installation Kit		
A)	Lattice Mast	
1	Length of section	10 ft.
2	Triangular C.D.	≥ 167 mm
3	Thickness of rod	≥ 12 mm
4	Bracing thickness	≥ 6 mm
5	Mast should be hot dip galvanized.	
6	Each section should have joining arrangements with (min. 35mm x 35mm x 5mm) iron strip (coupling arrangements). Both sides of 10' section should be reversible so that either of the ends can be used as a base or as a top.	
7	Each arms of the triangle should not be less than 7" uniformly.	
8	Lattice mast should be able to with stand minimum 60 feet height by putting 6 sections of 10 feet length.	
9	Brace to be provided at minimum 6 " intervals.	
10	Tri-angular frame of the angle iron to be provided for coupling section to each other.	
11	Top plate should have arrangements for installation of Vertical and Horizontal antennas and provision of holes for pulleys.	
B)	Installation Kit:	
1	Base plate : Min (6 mm x 300 mm x 300 mm)	
2	Base plate should have hinged arrangements for easy mast erection.	
3	4 nos. of foundation nails min (450 mm x 16 mm) or better, suitable for 60 feet lattice mast erection.	
4	Min. 3 sets of Guys of GI wire nos. 12 SWG at 60 feet, 40 feet and 20 feet ; (4x3)=12 Kg. for each set for 60 feet installation.	
5	Min. 9 nos. of straining screws 12 " long or better	
6	Min. 45 nos. zinc plated nuts and bolts with washer 2" x 3/8 " with full thread or better as required for 60 feet lattice mast installation.	
7	Min 18 Nos. 'D' shackles big 4 " long as required for 60 feet mast installation.	
8	Min. Three nos. of "T" angle irons spikes of 3 feet long (1 1/2" x 1 1/2" x 3/16") with 3 holes of 12 mm dia or 'D' shackles.	
9	Besides these items any other items which are required during demonstration/installation of 60 feet lattice mast erection should be included in the installation kit.	
10	Dog Clamp as required Min (9+3) 12 Nos. suitable for 60 feet lattice mast installation.	
11	Chutki as required Min (18+6) 24 Nos. suitable for 60 feet lattice mast installation.	
12	3 Nos. of Guy Anchor for permanent installation (min. 2 feet rod of thickness min. 12mm with circular bending at top of inner dia. of 8cms with square base plate of min 10 cm x 10 cm x 3mm)	