#### **Tender Covering Form**

#### **Directorate of Procurement (Navy)**

Through Bahira Gate
Near SNIDS Centre,
Naval Residential Complex E-8
ISLAMABAD

Contact: Reception: 051-9262311

Bahria Gate: 0331-5540649 Section: 051-9262304

Email: <a href="mailto:dpn@paknavy.gov.pk">dpn@paknavy.gov.pk</a>

Adpn31pre@paknavy.gov.pk

P- 31/F0	OR Section (Contact: 0519267411, 05120062059, Em	ail: adpn31pre@	@paknavy.gov.p
Tender I	No & Date		
Tender I	Description		
IT Open	ing Date		
Firm Na			
Postal A			
	ddress for Correspondence		_
	Person Name		
Contact	Number (Landline) (Mobile	<b></b>	_)
<u>Docume</u>	ents to be Attached with Quotation		
	o submit its proposal in a sealed envelope which sha ils given below:	II contain 03 x S	Sealed Envelops
Sealed	Envelop 1 – Technical Offer in Duplicate		
	evelope must contain 02 x sets of Technical Offer (01	x Original + 01	x Copy). Each
	ust contain following documents as per this order		
✓ agaii	nst each to ensure that these documents have been at	ached:	
S No	Document	Original Set	Copy Set
1.	Bank Challan		
2.	Principal Authorization Letter (where applicable)		
3.	Principal Invoice (Muted – without Price) (where applicable)		
4.	DP -1 Form of IT (with compliance remarks)		
5.	DP – 2 Form of IT with compliance remarks against		
	each clause of the Annex A)		
6.	Technical Offer / Specs		
7.	Annex A of IT (with compliance remarks)		
8.	Annex B & C of IT (with compliance remarks)		
9.	DP-3 form of IT (dully filled & signed)		
10.	DGDP Registration Letter (If firm is registered with DGDP)		
11.	Tax Filling Proof		
Sealed	Envelop 2 – Earnest Money		
	This Envelop must contain Earnest Money only.		
Sealed	Envelop 3 – Commercial Offer		
<u>Jealeu</u>			
4	This Envelop must contain following documents:	Original	
1.	Firm's Commercial Offer 01 x	Original	

01 x Original

Principal Invoice (where applicable)

2.

3.	Dully filled DP-2 Form of IT	01 x Original	

#### Firm's Declaration

It is certified that we have submitted tender in compliance with above instructions and we understand that our offer is liable to rejection if tender is not prepared / packed as per above instructions.

Firm's Authorized Signatures \_\_\_\_\_

#### **DIRECTORATE PROCUREMENT (NAVY)**

	Directorate of Procurement (Navy) Through Bahira Gate Near SNIDS Centre, Naval Residential Complex E-8 ISLAMABAD	
	Contact: Reception: 051-9262311 Bahria Gate: 0331-5540649 Section: 051-9262304 Email: dpn@paknavy.gov.pk Adpn31pre@paknavy.gov.pk	
M/s		
	Date	
INVITATION TO TENDER AND GENE	RAL INSTRUCTIONS	
Dear Sir / Madam,		
1. DP (Navy) invites you to tender as per details given in attached Schedu	for the supply of stores/equipment/ services ule to Tender (Form DP-2).	
the successful bidder is governed by t	subsequent contract agreement awarded to the rules / conditions as laid down in PPR/ agreed	Understood not agreed
contracts laid down by MoDP / DGDP you and your firm to first acquewww.ppra.org.pk) and DPP&I-35 (Rev DGDP Registration Cell on Phone N tender. If your firm / company poss capability, you must be registered or	2017) covering general terms & conditions c 2. As a potential bidder, it is incumbent upon uaint yourself with PPRA Rules 2004 vised 2017) (print copy may be obtained from lo. 051-9270967 before participating in the sesses requisite technical as well financial willing to register with DGDP to qualify for de after security clearance and provision of oned in Para 15 of this DP-1.	
(Invitation to Tender) i.a.w PPRA Rule	cts. The 'Contract' made as result of this I/I Understood les 2004 shall mean the agreement entered agreed naser' and the 'Seller' on Directorate General	Understood not agreed

Defence Purchase (DGDP) contract Form "DP-19" in accordance with the law of contract Act, 1872 and those contained in Defence Purchase Procedure & Instructions and DP-35 (Revised 2017) and other special conditions that may be added to given contract for the supply of Defence Stores / Services specified

herein.

ercial of	ffers are to be furnisl	ned as under:-			
indicate mention envelop duties, separa mention reserve	Commercial Offer.  e prices quoted in ned in IT. It should be "Commercial Of freight/transportation tely. Total price of the ned. In case of most the right to accept tions were accepted.	figures as we be clearly mark fer", tender nun on, insurance clue items quoted fore than one op ot lowest technic	II as in words  sed in fact on  nber and date of  harges etc are  against the ten  otion offered b  ally accepted of	a separate sealed of opening. Taxes, of opening. Taxes, of to be indicated der is to be clearly the firm, DP(N)	Underste not agree
specific literatu envelop numbe hour at	Technical Offer: (Vecations in DUPLICA) re/brochure, drawing pe and clearly marker and date of openifer the date and time confirm/comply with	TE (or as spec gs and complian ked "Technical ( ng. Technical of ne for receipt of	cified in IT) ald nce metrics in Offer" without p fer shall be op tender mentior	a separate sealed prices, with tender ened first; half an and in DP-2. Firms	Understo
S.No	Technical requirement as per IT	Firm's endorsement (Comply/ Partially Comply/ Non Comply	Basis of C, PC of NC i.e. Refer to page or brochure	availability of	
c. please tender to non-	be read point by p conditions should be acceptance of tend	e their offer does no ns. Tender doc oint and unders e responded clea er conditions(s),	uments and it tood properly l arly. In case of the same sho	s conditions m Understood perfore quoting. agreed any deviation due puld be highlighted	Underste not agree
tender to non-alongwrejected.  copy of the IT) proposicalled	conditions should be acceptance of tend ith your offered co	e responded clear conditions(s), nditions. Tende their offers in the their offers in the their offers of arly marked "Tenmercial offer wall offer will not	arly. In case of the same showever may however wo separate er of the technical echnical proposill include rates indicate the ra	any deviation due buld be highlighted er be liable to be envelopes (i.e. one offers as asked in sal", "Commercial of items/services tes. Both types of	not agr

(technical and commercial offer) shall be placed in one envelope (second cover) duly sealed and signed. This cover should bear the address of the

**Delivery of Tender.** The tender documents covering technical and

procurement agency indicating, issuance date of IT and No, with its opening date. This should be further placed in another cover (third cover), addressed and indicated in the tender documents, without any indication that there is a tender within it.

e. <u>FORM DP-1, DP-2, DP-3 and Questionnaires.</u> Form DP-1, DP- Und (alongwith annexes), DP-3 and Questionnaires duly filled in are to be submitted with the <u>technical</u> offer duly stamped/signed by the authorized signatory/ person. It is pertinent to mention that all these are essential requirement for participation in the tender.	derstood Understo
f. The tender duly sealed will be addressed to the following:-	
Directorate of Procurement (Navy) Through Bahira Gate Near SNIDS Centre, Naval Residential Complex E-8 ISLAMABAD	
Contact: Reception: 051-9262311 Bahria Gate: 0331-5540649 Section: 051-9262304 Email: dpn@paknavy.gov.pk Adpn31pre@paknavy.gov.pk	
Date and Time For Receipt of Tender. Tender must reach this office by t Under date and time specified in the Schedule to Tender (Form DP-2) attached. The agreed after the appointed of time will NOT be entertained. The appointed time will, however, fall on next working day in case of closed/forced holiday. Only legitimate/registered representatives of firm will be allowed to attend tender opening. In case your firm has sent tender documents by registered post or courier service, you may confirm their receipt at DP (Navy) on Phone No 051-9271468 well before the opening date / time.	rstood Understood d not agreed
6. <u>Tender Opening.</u> Tenders will be opened as mentioned in the schedule under tender. Commercial offers will be opened at later stage if Technical Offer is fou acceptable on examination by technical authorities of Service HQ. Date and time not opening of Commercial offer shall be intimated later. Only legitimate / registered representative of firm will be allowed to attend tender opening. Tenders received after date & time specified in DP-2 would be rejected without exception and returned un-opened i.a.w Rule 28 of PPRA-2004.	rstood Understood d not agreed
7. <u>Validity of Offer.</u>	
a. The validity period of quotations must be indicated and shot Under invariably be 120 days from the date of opening of Technical offer or 30 agreed June whichever is later. Firm undertakes to extend validity of offer if required by equal number of original bid period (i.e. 120 days as per original offer) i.a.w PPRA Rule-26.	
b. The quoting firm will certify that in case of an additional requirement of the contract items (s) in any qty(s) within a period of 12 months from the	

date of signing the contract, these will also be supplied at the ongoing

contract rates with discount.

is take the w	Part Bid. Firm may quote for the whole or any portion, or to state in the Understood or that the rate quoted, shall apply only if the entire quantity/range of store agreed en from the firm. The Director Procurement reserves the right of accepting whole or any part of the tender or portion of the quantity offered, and firm supply these at the rate quoted.	Understood not agreed
other reject and ta	Quoting of Rates. Only one rate will be quoted for entire quantity, it Understood In case quoted rates are deliberately kept hidden or lumped together to tri agreed competitors for winning contract as lowest bidder, DP(N) reserves the right to such offers on-spot besides confiscating firm's Earnest Money / Bid Security ake appropriate disciplinary action. Conversion rate of FE/LC components will nsidered w.e.f. opening of commercial offer as per PPRA Rule-30(2).	Understood not agreed
10.	a. In case you are Not quoting, please return the tender inquiry stati the reason of NOT quoting. In case of failure to return the ITs either quoted or not quoted consequently on three occasions, this Directorate, in the interest of economy, will consider the exclusion of your firm's name from our future distribution list of invitation to tender.	Understood not agreed
	b. For registered firm(s), case will be referred to DGDP for necessary administrative action if firms registered / indexed for tendered items/stores do not quote / participate.	
	c. It is a standard practice to invite all firm(s) including those unregistered with DGDP who gave their preliminary budgetary/ technical proposals to end users / indentors. If your firm has been invited to participate in the tender, you must either participate in tender. In case of your inability to do so, you must inform DP (Navy) by a formal letter/email.	
firm v Earne	Withdrawal of Offer. Firms shall not withdraw their commercial offe Understood e signing of the contract and within validity period of their offers. In case to a significant withdraws its offer within validity period and before signing of the contract, est Money of the firm shall be confiscated and disciplinary action may also be ded for embargo up to 01 year.	Understood not agreed
12. a con	Provision of Documents in case of Contract. In case any firm with tract, it will deposit following documents before award of contract:	Understood not agreed
	<ul> <li>a. Proof of firm's financial capability.</li> <li>b. Foreign Seller has to provide its Registration Number issued by respective Department of Commerce authorizing export of subject stores.</li> <li>c. Principal/Agency Agreement.</li> <li>d. Registration with DGDP (Provisional Registration is mandatory)</li> </ul>	
13.	Treasury Challan.	
	a. Offers by registered firms must be accompanied with a Challan forn Attached of Rs.200/- (obtainable from State Bank of Pakistan/Government Treasury and debit able to Major Head C02501-20, Main Head-12, Sub Head 'A' Miscellaneous (Code Head 1/845/30). Each offer will be covered by one Challan.	Not Attached

†:	avour of CMA (DP).	
in a sep rejected Your te	parate envelop (not inside Technical of in case Earnest Money is packed	nase ensure Earnest Money is contained Attached or commercial offer). Offer is liable to be doing in in independent in its inde
f 1 0 a	urnished with tender is strictly in coll 14 of DP-1 and clause 10 of DP-2) o confiscation of Earnest Money/Bid se	st Money. Earnest Money/Bid Security informity of tender/IT conditions (Clause on the subject. We have no objection on ecurity and rejection of our offer in case ity is improper/insufficient in violation of
	o. Rates for Contract. The maximum ceil for different categories	e rate of earnest money and its OF FIRMS would be as under:-
	(i) Registered/Indexed/Pr quoted value subject to maxim	re-Qualified Firms. 2% of the num ceiling of Rs. 0.500 Million.
		i <u>ed but Un-indexed Firms</u> . 3% of aximum ceiling of Rs. 0.750 Million.
	` '	Qualified/Un-indexed Firms. 5% of aximum ceiling of Rs. 1.000 Million.
c	c. Return of Earnest Money	
	(i) Earnest money to the u	unsuccessful bidders will be returned on
	` '	ne firm/firms with whom contract is submission of Bank Guarantee and its
15. <u>[</u>	Documents for provisional registra	ation: In case your firm wins Understood Understood
	t on Earnest Money (EM),it will ration Section) before the award of co	deposit following documents to DGE agreed Not agree
(Negisti	ration Section) before the award of Co	ontract for provisional registration:-
S No	Local Supplier	Foreign Supplier
a.	Three filled copies of SVA-8121 of each member of management.	Three filled copies of SVA-8121-D of each member of management.
h	<u> </u>	Ţ
b.	Three filled copies of SVA-8121-A	Three filled copies of SVA-8121.
C.	Three photocopies of NIC for each member of management.	Three photocopy of Resident Card or equivalent identification Card for each member of management.
d.	Three PP size photographs for each member of management.	Three PP size Photographs for each member of management.

Challan Form

standing/audit

balance

Financial

Firms, un-registered / un-indexed with DGDP (Registration Section)

are) to participate in the tender by submitting Challan Form of Rs 300 in

b.

Challan Form

Bank Statement for last one year.

e. f.

		sheet
g.	Photocopy of NTN	Photocopy of passport
h.	Foreign Principal Agency Agreement in case of local agent.	Agency Agreement in case of Trading House/ Company/ Exporter /Stockiest etc.

		/Stockiest etc.	
inspe	gnee & Specialist User or a team nom	nt Inspection will be carried out by IN Understood inated by Pakistan Navy. CINS agreed agreed agreed and PP & I (Revised 2017) or as per	Understood not agreed
17. Warra	Condition of Stores. Brand ne anty/Guarantee Form DPL-15 enclosed	ew stores will be accepted on Firm Understood agreed	Understood not agreed
18. subm	<b>Documents Required.</b> Following tted along with the quote:	documents are required to be	
	a. OEM/Authorized Dealer/Agen Evidence.	t Certificate along with OEM Dealership	
	CINS and DP(N). Supplier/contra Conformance Certificate to CINS intimation to DP (Navy). Hard copy courier. On receipt, CINS shall	e correct and valid e-mail and Fax No to acting firm shall either provide OEM or is to be e-mailed to CINS under of COC must follow in any case through approach the OEM for verification of OEM. Companies/firms rendering false	

c. Original quotation/Principal/OEM proforma invoice.

OEM Conforming Certificates will be blacklisted.

- d. In case of bulk proforma invoice, a certificate that prices indicated in the bulk proforma invoice have not been decreased since the date of bulk proforma invoice from the manufacturers/suppliers.
- e. Submit breakup of cost of stores/services on the following lines:
  - (i) Imported material with break down item wise along-with import duties.
  - (ii) Variable business overheads like taxes and duties imposed by the federal/provincial government as applicable:-
    - (1) General Sales Tax
    - (2) Income Tax
    - (3) Custom Duty. PCT code along with photocopy of the related page is to be attached where applicable.
    - (4) Any other tax/duty.
  - (iii) Fixed overhead charges like labour, electricity etc.
  - (iv) Agent commission/profit, if any.
  - (v) Any other expenditure/cost/service/remuneration as asked for in the tender.

19.	Rejec	tion of Stores/Services. The stores/services offered as a result	Understood	Understoo
contra	ct cond	cluded against this tender may be rejected as follows:	agreed	agreed
	a.	1 <sup>st</sup> rejection on Govt. expense		
	b.	2 <sup>nd</sup> rejection on supplier expense		
	C.	3 <sup>rd</sup> rejection contract cancellation will be initiated.		

20. <u>Security Deposit/Bank Guarantee</u> . To ensure timely and correct supr Understood of stores the firm will furnish an unconditional Bank Guarantee (BG in the curren	Understood not agreed
in which contract is concluded) from a schedule Bank of Pakistan for an amount	
upto 10 % of the contract value (excluding Taxes, duties/freight handling charges) on a Judicial Stamp Paper (All pages) of the value of (Rs 100.00) as per prescribed format or in shape of CSD/Bank draft. The Bank Guarantee shall be endorsed in favour of CMA (DP) Rawalpindi who is the Accounts Officer specified in the contract. The CMA (DP) Rawalpindi has the like power of seeking encashment of the Bank Guarantee as if the same has been demanded by the purchaser himself. The Bank Guarantee shall be produced by the supplier within 30 days from the date of issue of the contract and remain valid for upto 60 days after completion of warranty period and remain in force till one year ahead of the delivery date given in the contract. If delivery period is extended, the supplier shall arrange the extension of Bank Guarantee within 30 days after the original delivery period to keep its validity always one year ahead of the extended delivery period. The BG form can be obtained from DP(N) on e-mail address given on page 1. Format of BG is enclosed at Annex B.	
21. <u>Integrity Pact</u> . There shall be "zero tolerance" against bribes, gift Understood commission and inducement of any kind or their promises thereof by Supplier / File to any Government official / staff whether to solicit any undue benefit, favour or otherwise. Following provisions must be clearly read & understood for strict compliance:	Understood not agreed
a. Integrity Pact shall be applicable to all tenders / contracts irrespective of their financial value. However, a written Integrity Pact shall be signed for contracts exceeding Rs 10 Million between the procuring agency and the supplier / contractor i.a.w Rule-7 of PPRA-2004. The form is available at www.ppra.org.pk or can be requested at dpnavy@paknavy.gov.pk	
b. If a Supplier / Contractor is found involved in any unbusiness-like / unethical activity, same would be considered a serious breach of the Integrity Pact. DP (Navy) shall take severe disciplinary action against that person(s) and the firm / company, which may include, but not limited to,	

contractor is responsible for bearing such expenses, detailed breakdown of the same should be given separately in the commercial offer.

	clause er and	(s) modify the existing clauses with the mutual agreement by the purchaser; such modification shall form an integral part of true	Understood not agreed
	rned w gnment	epancy. The consignee will render a discrepancy report to Understood vithin 60 days after receipt of stores for discrepancies found in tlagreed. The quantities found short are to be made good by the supplier, free	Understood not agreed
26.	<u>Price</u>	Variation.	
	a.	Prices offered against this tender are to be firm and final.	
	then p on pro stores stores	Where the prices of the contracted stores/raw material are controlled understood a government or an agency competent to do so on government behalf agreed price increase/decrease will be allowed at actual on case to case basis oduction of government notification by the Supplier for the subject where the firms are contractually obliged and bound to produce the from raw materials supplied by government/State controlled timents in consultation with Military Finance.	Understood not agreed
	increa in the	Except for calculation or typographical errors, the rates of the acts not having a price variation clause PVC clause will not be sed subsequently. But when such an increase is considered desirable interest of expeditious supply of stores and is necessitated by the estances beyond the control of the Supplier, the case may be decided dingly.	
27.	Force	Majeure.	
	War, ( agenc circum inform timefra writing export	The supplier will not be held responsible for any delay occurring Understood of equipment due to event of Force Majeure such as acts of Gc agreed Civil commotion, Strike, Lockouts, Act of Foreign Government and its sites and disturbance directly affecting the supplier over which events or instances the supplier has no control. In such an event the supplier shall at the purchaser within 15 days of the happening and within the same ame about the discontinuation of such circumstances/happening in g. Non-availability of raw material for the manufacture of stores, or of a permit for the contracted stores from the country of its origin, shall not tute Force Majeure.	Understood not agreed
		The Supplier shall provide the Purchaser with all the necessary proof occurrence of the events and its effect on the contract performance 30 days from the start to force majeure event.	

d. Where the delay was due to genuine force majeure event it shall extend the delivery for a period of equal to the period in which such force majeure remains operative.

of delay reported by the Supplier.

The Purchaser shall be entitled to conduct investigation into the cause

<ul> <li>e. Such extension in delivery period, due to force majeure, shall not entitle the Suppliers to claim any extra from the Purchaser.</li> </ul>	
	nderstoo ot agreed
a. The dispute will be referred for adjudication to two arbitrators one to be nominated by each party, who before entering upon the reference shall appoint an umpire by mutual agreement, and if they do not agree a judge of the Superior court shall be requested to appoint the umpire. The arbitration proceedings shall be held in Pakistan and under Pakistani Law.	
b. The venue of the arbitration shall be the place from which the contract is issued or such other places as the Purchaser at his discretion may determine.	
c. The arbitration award shall be firm and final.	
<ul> <li>d. In course of arbitration the contract shall be continuously be executed except that part which is under arbitration</li> </ul>	
e. All proceedings under this clause shall be conducted in English language and in writing	
	Inderstoo ot agreed
are liable to be imposed on the suppliers by the purchaser in accordance with D	Inderstoo ot agreed
35, if the stores supplied after the expiry of the delivery date without any valid reasons. Total value of LD shall not exceed 10% of the contract value.	
	Understroot agre
32 Compensation Breach of Contract It the contractor talls	Inderstoo ot agreed
declared defective and caused loss to the Government, contractor shall be liable to pay to the Government compensation for loss or inconvenience resulting for his default or from the rescission of his contract when such default or rescission take place such compensation will be in excess to the RE amount, if imposed by the competent authority. Compensation amount in terms of money will be decided by the purchase officer and will be deposited by contractor / seller in Government	

treasury in the currency of contract.

re ex go br no th	Gratuities/Commission/Gifts. No commission, rebate, bonus, fee Understood agreed of presentative, sales promoter or any intermediary by the Manufacturer/Supplier scept the agent commission payable as per the agent commission policy of the overnment and as amended from time to time and given in the contract. Any each of such clause(s) of the contract by Manufacturer/Supplier and/or their sole ominated representative may result in cancellation of the contract blacklisting of the Manufacturer/Supplier financial penalties and all or any other punitive measure nich the purchaser may consider appropriate.	Understood not agreed
34	1. Termination of Contract.  Understood	Understood
	a. If at any time during the currency of the contract the Purchas decides to terminate the contract for any reason whatsoever (other than for reasons of Non-Delivery) he shall have right to do so by giving the Supplier a registered notice to that effect. In that event the Purchaser will accept delivery at the contract price and terms of such stores/goods/services which are in the actual process of manufacture that is completed and ready for delivery within thirty days after receipt by the Supplier of such notice.	not agreed
	b. In the case of remainder of the undelivered stores/goods/services the Purchaser may elect either:	
	(i) To have any part thereof completed and take the delivery thereof at the contract price or.	
	(ii) To cancel the remaining quantity and pay to the Supplier for the articles or sub-components or raw materials purchased by the Supplier and are in the actual process of manufacture at the price to be determined by the Purchaser. In such a case materials in the process of manufacture shall be delivered by the Supplier to the Purchaser.	
	(iii) No payment shall however be made for any materials not yet in the actual process of manufacture on the date notice of cancellation is received.	
	c. Should the Supplier fail to deliver goods/services in time as per quality terms of contract or fail to render Bank Guarantee within the stipulated time period or any breach of the contract the Purchaser reserves the right to terminate/cancel the contract fully or any part thereof at the risk and expense (RE) of the Supplier.	
re	Rights Reserved. Directorate of Procurement (Navy), Rawalpindi reserved. Understood agreed ll rights to accept or reject any or all offers including the lowest. Grounds for su ijections may be communicated to the bidder upon written request, but justification regrounds is not required as per PPRA Rule 33 (1).	Understood not agreed
of se	Application of Official Secrets Act, 1923. All the matters connect understood agreed the Official Secrets Act, 1923. You are, therefore, requested to ensure complete ecrecy regarding documents and stores concerned with the enquiry and to limit the umber of your employees having access to this information.	Understood not agreed

	wledgment. Firms will send acknowledge of downloading of IT from the PPRA Web		
38. <b>Disqu</b> a	alification. Offers are liable to be rejected	if:-	
b. c. Instruct d. NOT red. indicate e. f. g. equipm j. k. amend l. m. currend n. are inco p. q. specifie r. confirm s. t. source u. mentio	If validity of offer is not quoted as requination later. Offer made through Fax/E-mail/Cable/Tel If offer is found to be based on cartel ac s/ participants of the tender. If OEM and principal name and complete	e in any respect. General /Special/Technical  a, and DP-3 duly signed, are  and insurance charges NOT down mentioned at Para 17. e technical offer.  a. technical details on major ort of specifications.  hon-initialed/ unauthenticated  expired.  C&F tender is quoted in local cating whether prices quoted on is not enclosed.  the technical offer (or as red in IT or made subject to ex. tion in connivance with other address is not	Understood not agreed
decision of D the contract n PN Officers a	Is by Supplier/Firm. Any aggrieved P (N) or CINS or any other problematic a nay prefer an Appeal to Standing Appeal and military finance rep at Naval headquarre preferring appeals is given below:	rea towards the execution agreed Committee (SAC) comprising	Understood not agreed
S.No.	Category of Appeal	Limitation Period	
a.	Appeals for liquidated damages	Within 30 days of decision	
b.	Appeals for reinstatement of contracts	Within 30 days of decision	
C.	Appeals for risk & expense amount	Within 30 days of decision	
d.	Appeals for rejection of stores	Within 30 days of decision	
e.	Appeals in all other Cases	Within 30 days of decision	
	tion. Any appeal received after the lape	se of timelines given in pa understood agreed	Understood not agreed
		Understood	Understood

41. For Firms not Registered with D undertake to apply for registration with DG be found on DGDP website <a href="www.dgdp.gov">www.dgdp.gov</a> iaw paras 12 and 14 above and provision of status of the firm alongwith NTN and GST respectively.	<u>.pk</u> .These firms can participate in tender of documentary proof regarding financial
42. Firms which are not registered registration in accordance with Para 41. E (FS) Team will be made for security clears after technical opening. Firms undertake to check by FS Team:	ince related to participation in the tender
a. NTN b. Income Tax Return c. Sales Tax Return d. Sales Tax Certificate e. Chamber of Commerce Indus f. Professional Tax Certificate (Eg. Office/Home/Ware House Pro h. Utility Bills (Phone/Electricity) j. Firm Vehicle/Personal Vehicle k. CEO Visiting Card/NIC Copy, l. DGDP Registration letter m. Firm Bank Statement n. Non Black List Certificate p. 2 X Witness + CNIC and Mob q. Police Verification r. Agency Agreement s. OEM Certificate t. ISO Certificate u. Stock List with value v. Company Profile/Broachers w. Employees List x. Firm Categories y. Sole Proprietor Certificate z. Partnership Deed aa. Pvt Limited ab. Memorandum of Articles ac. Form 29 and Form A ad. Incorporation Certificate	Excise & Taxation) perty documents  03Xspecimen signature of CEO
43. We solemnly undertake that all IT clashall not be changed / withdrawn after ten shall form the baseline for subsequent cont	· · · · — - —
<ul><li>The above terms and conditions are</li><li>Format of DPL-15 (warranty form) are</li></ul>	confirmed in total for acceptance. and PBG are enclosed as Annex A & B.
	Sincerely yours,
Řa	b be Signed by Officer Concerned) nk: me:

#### **DPL-15 (WARRANTY)**

FIRM'S NAME: M/s			 

- 1. We hereby guarantee that the articles supplied under the terms of this contract are produced new in accordance with approved drawings/specification and in all respect in accordance with the terms of the contract, and the materials used whether or not of our manufacture are in accordance with the latest appropriate standard specifications, as also in accordance with the terms of complete of good workmanship throughout and that we shall replace FOR/DDP Karachi free of cost every article or part thereof use or in use shall be found defective or not within the limits and tolerance of specifications requirement or in any way not in accordance with the terms of the contract.
- 2. In case of our failure to replace the defective stores free of cost within a reasonable period, we shall refund the relevant cost FOR/DPP Karachi (As the case may be in currency in with received).
- 3. This warranty shall remain valid for <u>01 Year</u> after the acceptance of stores by the end user

The signature must be the same as that on the tender/contract, or if otherwise must be shown to be the signature of a person capable of giving a guarantee on behalf of the contractor

SIGNATURE
DATE
PLACE

# BANK GUARANTEE FOR PERFORMANCE ON JUDICIAL STAMP PAPER OF RS. 100/- OR AS SUITABLE TO THE AMOUNT OF BG

(i)	Contract No	dated	
(ii)			
(iii)			
(iv)	Name of Guarantor		
(v)	Address of Guarantor		-
(			-
\	(i	n words)	
(vii)	•	·	
		: Republic of Pakistan through t Defence Purchase) Rawalpindi.	he
Sir,			
1.	, ,	e entered into Contract No dated	
with I	Messer's		-
	(Full Name a	nd Address)	
herei	nafter referred to as our custo	mer and that one of the conditions of t	the
Conti	ract is the submission of uncor	nditional Bank Guarantee by our custom	ner
to yo	ur good self for a sum of Rs. <sub>-</sub>	Rupees/FE (	(as
applic	cable)		
	In compliance with this stipul undertake as under: -	ation of the contract, we hereby agree	
refere	ence to our Customer and	onally on demand and/or without a amount not exceeding the sum or F Rupees or FE (as applicab as would be mentioned in yo	Rs. ole)
writte	en Demand Notice.		
b.	To keep this Guarantee in fo	rce till	
which i.e. Model which i.e. Model with the content of the content	d of the original/extended delines of ever is later in duration or the duration of the later in duration of the later in duration of the later in duration or before antee shall cease on the closing the later and the later and the later and the later and la	k Guarantee shall be kept one clear yearly period or the warrantee of the store receipt of information from our Custom or from your office. Claim, if any more this day. Our liability under this Bang of banking hours on the last date of the Claim received thereafter shall not loss or not. On receipt of payment under the clearly cancelled.	res ner ust ank the be der

d. That we shall inform your office regarding termination of the validity of this Bank Guarantee one clear month before the actual expiry date of this Guarantee.
e. That with the consent of our customer you may amend/alter any term/clause of the contract or add/delete any term/clause to/from this contract without making any reference to us. We do not reserve any right to receive any such amendment/alternation or addition/deletion provided such like actions do not increase our monetary liability under this Bank Guarantee which shall be limited only to Rs (Rupees).
f. That the Bank Guarantee herein before given shall not be affected by any change in the constitution of the Bank or Customer/Seller or Vendor.
g. That this an unconditional Bank Guarantee, which shall be enchased on sight on presentation without any reference to our Customer/Seller or Vendor.
Guarantor
Dated:
(Bank Seal and Signatures)

## AFFIDAVIT/UNDERTAKING (WORTH RS, 100/- ON JUDICAL STAMP PAPER)

Mr	Authorized	signatory/
Partner/MD of M/s	, do hereby solemnly aff	firm to DGP
	ir) and Directorate General Defence Purchase	
Defence Production, Raw	valpindi that our firm M/s	has
	with Director General Defence Purchase (I	
completed all the docume	ents required by registration section on	(date)
i,e before signing the co	ontract. I certify that the above mentioned s	statement is
correct. In case it is de	tected on any stage that our firm has not	applied for
registration with Director	General Defence Purchase or statement giv	en above is
incorrect, our firm will be I	iable for disciplinary action initiated (i,e debar	ring, the firm
do business with other D	efence Establishment and Govt Agencies). I	also accept
that any disciplinary action	n taken will not be challenged in any Court of L	_aw.
	Signature	
Station:		
Date:	Appointment in Firm	

ATTESTED BY OATH COMMISSIONER WITH STAMP

#### **INVITATION TO TENDER FORM**

- 1. Schedule to Tender No.<u>2090002/B-2008/310005</u> dated <u>15-07-2020</u>. This tender will be closed for Acceptance at <u>1030</u> Hours and will be opened at <u>1100</u> Hours on. <u>14-10-2021</u> Please drop tender in the Tender Box No <u>201</u>.
- 2. You are requested to please use this Performa for price quotation, fill in the prices, affix your stamp on the same, sign it and forward it in original as your Commercial offer along with the covering letter of your firm. If you do not use this form as price quotations your offer might be rejected.
- 3. You are requested to please attach DP-1 and DP-3 alongwith your technical quotation duly signed & stamped. Same are available at www.ppra.org.pk.

0.110	DETAIL OF OTODEO	OT) (	LIVIE DOLOE	TOTAL DDIOE
S NO	DETAIL OF STORES	QTY	UNIT PRICE	TOTAL PRICE
1.	Establishment of 01 X Master ,03 X	01		
	Remote Radio interception Centres	No		
	(RICs) and 01 X Remote Analysis			
	Centre for V/ UHF Creeks as per			
	technical specifications given at			
	Annex A and general terms/			
	conditions given at Annex B.			
	_			
	<b>Detailed Technical Specification</b>			
	alongwith mandatory			
	accessories/spares list:			
	As per Annex A.			
	·			
	<b>Detailed</b>			
	Requirements/Instructions:			
	As per Annex B.			
	·			
	Grand Total		•	

Term	ns & Conditions		Understood agreed	Understood not agreed
1.	Terms of Payment.	As per Annex B (Para – 4).		
2.	Origin of Stores.	Imported (Name & Country to be clearly mentioned).	Understood agreed	Understood not agreed
3.	Origin of OEM.	Imported (Name & Country to be clearly mentioned).		
4.	Technical Scrutiny Rep	ort. Required.	Understood agreed	Understood not agreed
5.	Delivery Period.	<b>08</b> Months after signing of contract		
6.	Currency.	US\$	Understood agreed	Understood not agreed
7	Basis for acceptance.	CIP (Karachi) Basis		

- 8. <u>Bid validity.</u> The validity period of quotations must be indicated and should invariably be 120 days from the date of opening of technical offer or 30th June whichever is later. Firm undertakes to extend validity of offer if required by equal number of original bid period (i.e. 120 days as per original offer) i.a.w PPRA Rule-26.
- 9. <u>Tendering procedure</u> Single Stage- Two Envelope bidding procedure will be followed. PPRA Rule 36 refers.
- 10. <u>Earnest Money/Tender Bond</u>:- Your tender must be accompanied by a **Pay Order/Demand draft/Call Deposit Receipt (CDR)** in favor of CMA (DP) in separate envelope, Rawalpindi for the following amounts:
  - a. <u>Submitting improper Earnest Money</u>. Earnest Money/Bid Security furnished with tender is strictly in conformity of tender/IT conditions (Clause 14 of DP-1 and clause 10 of DP-2) on the subject. We have no objection on confiscation of Earnest Money/Bid security and rejection of our offer in case amount of Earnest Money/Bid Security is improper/insufficient in violation of IT condition.
  - b. <u>Rates for Contract</u>. The rate of earnest money and its maximum ceil for different categories OF FIRMS would be as under:-
    - (i) Registered/Indexed/Pre-Qualified Firms. 2% of the quoted value subject to maximum ceiling of Rs. 0.500 Million.
    - (ii) Registered/Pre-Qualified but Un-indexed Firms. 3% of the quoted value subject to maximum ceiling of Rs. 0.750 Million.
    - (iii) <u>Unregistered/not Pre-Qualified/Un-indexed Firms</u>. 5% of the quoted value subject to maximum ceiling of Rs. 1.000 Million.

#### c. Return of Earnest Money

- (i) Earnest money to the unsuccessful bidders will be returned on finalization of the contract.
- (ii) Earnest money of the firm/firms with whom contract is concluded will be returned on submission of Bank Guarantee and its acceptance by CMA (DP).

#### 11. Special Note.

All Participating firms must submit technical offers in duplicate (one for TSR committee and one for DP (Navy) record).

- b. Unregistered (Not registered with Directorate General Defense Purchase) firms must provide the documentary evidence of their financia capability to undertake the project.
- c. Unregistered firms are to submit a certificate along with their Technical offer stating that the firm is not black listed by any government organization and not under disciplinary trial or embargo.
- d. Only registered suppliers on Active Taxpayers List (ATL) of FBR are eligible to participate in the Tender and submit quote.
- e. Release of payments is subject to mandatory submission of Filer Certificate duly issued by FBR showing the name of supplier on

active Taxpayers List (ATL). No payment will be released by CMA (DP) unless latest Filer Certificate duly issued by FBR showing the name of supplier on its Active Taxpayers list is submitted alongwith payment documents.

- f. In case of Pakistani firms, sales tax, NTN and income tax registration certificates are to be attached with the offer. These certificates are mandatory with the BID, otherwise offer shall be REJECTED.
- g. Company registration certificates are to be attached with offer.
- h. Requisite amount of earnest money (in shape of CDR/Demand Draft/Pay Order in the favour of CMA (DP)) is to be attached in separate envelop in sealed condition with the Technical offer. Photocopy of the same shall also be attached with DP-2 as a testimony. Cheques/crossed cheques shall not be accepted. Technical offers received without earnest money shall not be accepted and will be rejected on spot.
- j. Duly completed Form DP-1 and DP-3 are to be attached with Technical Offer.
- k. DP-2 Form shall also be submitted with Technical Offer without mentioning of prices. Moreover, compliance or otherwise against each para/requirement of Annex A & B duly signed & stamped by firm authorized rep is to provided for technical scrutiny.
- I. Price preference is admissible to local manufacturers over foreign vendors as per PPRA Rule 24 and Govt of Pakistan (Ministry of Commerce) SRO 827 (I)/2001.

Note: <u>In case of failure to comply above instructions, Terms and conditions, offer will liable for rejection.</u>

### Tender No.<u>2090002/B-2008/310005</u> dated <u>15-07-2020</u>

4	IN	DENT NO 200	10020	
S No	TECHNICAL SPECIFICATION OF SHORE BASED V/UHF COMINT SUITE	Firm's Reply (Complied Partially Complied/ Not Complied)	Attached Firm's	to
Note:	Guidelines for Firm for Submitting Technical Proposals for Technical Evaluation Firm is required to clearly mention Complied/ Partially Complied/ Not Complied remarks against each mentioning references in respective Clause from the attached firm's technical proposal/ brochures as per following format:			
1.	a. Use of ashore V/UHF COMINT system enables Combat Management System (CMS) or works as standalone for identification of threats and situational awareness.  b. Targets not using radar equipment can be detected by intercepting their Radio Communications.  c. V/UHF Communication Intelligence (COMINT) system provides wide band Detection, Classification, Direction Finding and Monitoring of radio signals alongwith bearing of Radio emitters in a given EM environment in the VHF and UHF band (30 to 6000 MHz).  d. Helps in building Recognized Air and Maritime Picture (RAMP) and ground enemy movements; thus enabling the Command/ Senior Officer to comprehend the tactical situation for subsequent decision making.  e. Recording function, off-line analysis and gathered data-base enables development of more comprehensive strategies by the Commanders.			



- MAIN FEATURES OF SYSTEM Main features of the V/UHF COMINT system shall be as under:
  - a. Provide EM emitter information with High Probability of Detection (nearly 100%), accurate identification and tracking of targets in a dense EM scenario.
  - b. Provide tactical information about enemy Communication systems including COMINT analysis.
  - Provide spatial and temporal patterns for predictions and analysis of future threats.
  - Should have training capability for operations based on recorded scenarios.
  - e. Enables establishing and updating Communications Electronic Order of Battle (CEOB)
  - f. System shall be able to operate as a standalone system or integrated in a networked system as a sensor.
  - g. System shall be able to instantaneously detect and locate V/UHF radio emitters.
  - System shall have database for recording, which can store operating parameters, interception & DF data, etc.
  - j. System shall be able to browse, search, delete, summarize, backup, import and export the stored data alongwith other options as desired by PURCHASER at later stage.
  - k. System shall be capable for integration and real time data sharing with other V/UHF COMINT systems of PN. Details for integration will be provided by PN.
  - I. System shall preferably have common modules/ equipment which can be later integrated with both aircraft and ship version of V/UHF COMINT suites.



OPERATIONAL CAPABILITIES. The offered VHF/ UHF
COMINT system shall have following operational
capabilities:

- a. System shall be capable to receive signals (both voice and data) in V/ UHF range with wide bandwidths.
- b. System should be able to intercept, analyze, decode and record wideband and narrowband radio communication signals along with latest Automatic Identification System (AIS), Automatic Dependent Surveillance Broadcast (ADS-B) and Control Pilot Data Link Communication (CPLDC) solutions incorporated with V/ UHF.
- c. System shall have correlative phase interferometer DF methodology with an instrument DF accuracy ≤ 0.1° RMS and system DF accuracy 1~2° RMS (in test field as per ITU). Further, system should be capable of localization of emitters.
- d. SUPPLIER shall provide Automatic Program Interface (API) for transferring/ sharing of signals/ data intercepted by ashore COMINT system with user terminals (already installed), analysis centers and Headquarters (Karachi and Islamabad).
- e. The system should process intercepted signals, making them suitable for display after decoding at Operator Consoles (OC).
- f. Facility of noise blanker circuit filters (for eliminating noise) be provided within the system.
- g. This system should provide real time transfer of data from V/ UHF system to Analysis Centers and thereon to operation centre in Karachi & Islamabad through software encryption. Hardware encryption/ encryptors will be installed by the PURCHASER.
- h. Signals intercepted shall be initially analyzed at local/ remote analysis centers (Remote Post 1, 2 & 3) and then communicated to Master ashore analysis center, for expert analysis and investigation (see Appendix 1 to Annex A).
- j. System should be able to communicate intercepted traffic/ intelligence at forward located interception sites and sharing the same with different operation centers in Karachi & Islamabad.

Tory On

- k. For sharing data with other similar shore stations along the coast, necessary provisions in existing Pakistan Navy systems may be required for integration.
- I. Systems provided and installed by supplier (V/UHF receiver, Remote analysis centers, Master analysis center) are to be integrated by SUPPLIER. For integration with existing analysis center in west of Karachi and operation centers Karachi & Islamabad, provision of API of newly installed systems will be the responsibility of SUPPLIER. Media (OFC, DVBS, Microwave etc) will be provided by purchaser.
- m. System shall have Disaster Recovery (DR) and backup data facility along with Uninterrupted Power Supply with at least 04 hours of backup time.
- n. System shall have capability to interface future such shore COMINT stations without any extra hardware/ cost on part of PURCHASER.
- p. System shall be designed and finalized after technical survey of sites and existing PN Optical Fiber/ Microwave network/LTE.
- q. Operation of the system should be via Graphic User Interface (GUI) on external PC with latest version of software (at least Windows 10 or higher).
- Should support available existing mediums in PN (IP based).
- s. Should be capable to transfer data from Local/ Remote Station to Master Analysis Station through existing Microwave Link/OFC/LTE with maximum 10 MBPS data rate transmission.
- t. Should have instantaneous IF Bandwidth between 40 MHz to 80 MHz.
- u. 100% probability of detection and simultaneously DF of all signals in desired band of interest is required.
- Provision for display of data collected/ stored in data base, as and when required by the operator.
- w. Provision of Monitor spectrogram, frequency histogram and display on a map with bearing rays



from sensors (i.e. azimuth vs time and azimuth vs frequency displays).

- System shall have flexibility in design as per user requirements/ space constraints for incorporations/ additions/ alterations.
- y. System should have provision for handshake/ interface with existing sensors fitted onboard PN ships and aircraft.
- System shall be able to blank unwanted signals (e.g. GSM/ 3G/ 4G/ LTE/5G).
- Capable of networked multi -site geo location of emitters of interest with comparison through offline library.
- ab. System should have Built-In-Test capability with Power Built In Test (PBIT), Continuous Built In Test (CBIT) and Initial Built In Test (IBIT).
- ac. System should have log amplifiers, VSWR and Gain measurement alongwith Auto calibration facilities.
- ad. Automatic surveillance of electromagnetic environment according to pre-defined settings or as defined by the User.
- ae. Operator shall have option of appropriate colour markings on all selected emitters of its choice.
- af. Detection of both new and pre-defined signals, including LPI emitters, Frequency Hoppers, Broad spectrum, Burst signals etc.
- ag. Demodulation and Decoding of data and voice signals and searching/ monitoring.
- Real time sharing of received information with all other similar V/UHF COMINT systems (existing & future).
- aj. Provided Maps in display software must be as per standard GIS (Geo Information System) with updating feature available. Moreover, provision to load S57/S63 charts for seaward coverage be provided.



### REQUISITE FUNCTIONALITIES The COMINT system should have the following in-built functions:

- Support real time decoding of signals, both online and off-line decoding capability along with continuous up-gradation of decoders.
- b. Support both omni-directional and directional antennas and their integrated use.
- c. Capability to intercept and analyse shortduration emissions like frequency hopping, burst transmission, spread spectrum and other contemporary transmission signals/ modes.
- Automatic and manual search functions with software supported optimization of decoders sorting be provided.
- e. Capable of integrated classification, signal demodulation and decoding system as per local environment.
- f. Automatic comparison of detected emission with stored basic data in the library for quick matching and analysis. The library should be extendable. GUI with comparison matched emissions from same source stored in library may pop up at every exact match.
- g. Multi Function Consoles (MFCs) with Master and Slave configuration.
- System shall be modular and proven design employing state of the art technology and latest techniques.
- System shall have high sensitivity and dynamic response along with:
  - Reliable detection of short time signals with replay/ recording facility.
  - (2) Azimuth coverage of 360 degree.
  - (3) Facility of Noise Blanker circuit for eliminating pulse type noise.
  - (4) Capability of sector scanning (defining the sectors) and simulations scanning in different bands.
  - (5) Data link capable and integration with



existing PN command and control system. Integration will be via medium provided by PN

- (6) System should be fully supportable in case of an upgrade in hardware is necessitated due maintainability and/ or technological advancement.
- (7) Provision of all related documents/ publications (operator/ maintainer manuals), source Code and compilers.
- (8) Provision of user configurable Role Based Access Mechanism for viewing classified data based on Admin discretion/ need to know basis.
- (9) Provision of User selectable/ configurable options to filter unwanted emissions.
- Power distribution system to provide safe and uninterrupted power supply.
- Data at rest and data at transit to be encrypted in terms of AES256 with integrated algorithm.
- Digitizer acquisition memory be 128GB or more for faster data acquisition.
- Single Point Of Failures (SPOFs) in the system be identified and mechanism to mitigate the same be mentioned by OEM.
- p. <u>Early Warning and Long Range Detection</u>. The COMINT suite shall possess the ability to provide early warning and long range detection of threat communication signals.
- q. <u>Tactical Situational Awareness</u>. The system shall possess the ability of sending data to Combat Management System (CMS) in order to contribute to geo-location of communication signals, complementing similar capability of radar ESM (RESM) signal on Radar Signals.
- r. Simultaneous CESM/ COMINT Capability.
  The system shall possess simultaneous CESM/
  COMINT capability including monitoring, automatic
  identification of complex transmissions (Spread)

	S	pectrun	ns) and recording	g capacities for signal in and demodulation/	1 1 2 3	
	d	ecoding				
	P cc e	ystem s robabili ombined nabling	ty of Intercept (HP d with powerful sig real-time and pos	ction and DF. The nked, fast scanning High I) detection/ DF displays nal isolation capabilities, t facto detection and DF ing frequency hopping		
	in m se to po	low the high sissions election, merge est fact gnals of	speed data base, with different grap Any single station data sets from mu to triangulation a	DF reports to be stored allowing replay of all phical setting and signal a should have the ability altiple stations, providing and geo-location of all m capacity of 10 TB for		
5.	ENVIRON	MENTA	AL CONDITIONS.	The system should		
	a. Equipment should be suitable for exposure in an uncontrolled marine/ coastal environment throughout the day.					
	b. who	Equ en subje	ipment should acted to 95% relation			
	95% pro	/ IEC s 6 relativ	s not subjected to tandards (such as re humidity. Detail it least 02 month			
	d.	Ope (1)	Operating:	limits of the system: -20 to +70		
			temperature	degree Celsius		
		(2)	Storage temperature:	-20 to +80 degree Celsius		
		(3)	Relative Humidit	y: ≥95 %		
		(4)	Wind speed limitation:	Capable to withstand upto 80 Knots with 120 of gusting wind.		(2)
		(e)	Vibration, shock	proof, dust, sand, Fog,		( A)

mist and water	resistant	as	per	relevant MIL	-
standards defin					-1

- Provision of EMI/ EMC certificate (f) Provision of EMI/ EMC certificate alongwith protective/ shock proof and EMP proof covering (to withstand E2 pulse) for safe stowage.
- e. Non-operating temperature range of the equipment: -20 to +80 degree Celsius.
- f. Equipment which is exposed to weather and other environmental conditions should be fully ruggedized and hardened to withstand the natural deterioration/ degradation.

  TECHINAL SPECIFICATIONS

Category	rees standard	Type 2, Class 4
Power over Ethernet	IEEE standard 802. 3atTM	
Power consumption		< 25.5 W
Data interface	IEEE standard 802.3	100BASE-TX Dual Homing
Line input level	1 dB step size	-18 dBm to + dBm @ 600Ω
Line Output level	1 dBm step size	-18 dBm to + dBm @ 600 Ω
Headset interfaces	Standard	Standard
Earphone output		50 mW @ 300 Ω
Dynamic microphone	Adjusted through headset identification	0.5 mV/Pa to 10 mV/Pa
Electric microphone voltage	Adjusted through headset identification	6.3 V
Louder speaker interfaces	Standard	Standard
Loudspeaker output level		≤ 2 W
Discrete output	DC voltage	≤ 50 V DC (galvanically isolated)
	AC voltage	≤ 50 V AC (galvanically isolated)
	Current	≤ 500 mA
Discrete input	VIH	4 V to 30 V 0.02 mA to 0.1

		mA	
	VIL	0 V to 1.0 V	
USB		Standard US 3.0	
	Power	≤ 100 mA	

b.

Operational/ Technical Capability	Specifications	
Modes	a. Scan: High Speed Scan modes for prompt detection, recognition and identification of signals of interest.	
	b. Search: Search Shall be qualified by transmission method, modulation modes or directional data. Pre-parameterization for operator may be possible.	
	c. Wide band Mode	
	d. Fixed Frequency Mode	
	e. Fixed Freq DF (FF-DF).  Multi-Channel/Freq Direction Finding with variable bandwidths intended for Fixed Frequency signals of narrow bandwidth (1 KHz to 20 MHz. adjustable in each channel) shall be provided. Number of Fixed Freq DF channel must ≥ 10.	
	f. Freq Hopping DF (FHSS-DF). DF system should have the potent capability of Direction Finding the fast (up to and more than 2000 hop/sec) and slow (less than 500 hops/sec) hopping tactical radios. Instantaneous Direction finding of more than 200 MHz real-time bandwidth in FHSS mode shall be achieved. The DF system should have the capability of detection, DF and sorting of multiple hopping nets along with calculating their corresponding FH net details (FH List, Hop time, Hopping speed, Hopping pattern, any important / actionable automatic signal	

	g. Direct Sequence Spread Spectrum DF (DSSS-DF). The DF system shall be capable of detection, interception and Direction Finding of modern LPI/LPD wideband signals like DSSS. The DF system shall provide this special dedicated mode for modern DSSS and Ultra Wide Band signals.	
	*	
Detection, Interception, Direction Finding, Recognition and Recording of signal types & conditions (Analog / Digital, Narrowband/ Wideband):-	a. Analog Communication Signals (AM, FM, etc). b. Direct/ Indirect Digitally Modulated / Coded Signals. c. Direct/ Indirect Digitally Modulated / coded Signals. d. Fast Frequency Hopping (FFH) Signals (up to 1000 Hops / second). e. Jamming subject to range and limitations of physics in wave propagation f. It is desirable to have Direct Sequence Spread Spectrum Signals (DSSS). g. Unknown category Signals	
Display	and Open Source assures continuous growth.  Well organized, highly user friendly MMI with multiple displays for simultaneous viewing of multiple	

	data.	
	Real time visualization of df polar display, histogram, spectrum, water- fall etc.	
	In case of multiple systems deployed at different locations, moving map display integrated with nav system for auto-triangulation of fixed/ mobile emitters and update of comm order of battle (cob) must be implemented through multiple df systems that receive signal concurrently	
	Display resolution less than 2°	
	Azimuth versus frequency, level versus frequency, polar diagram, histogram, waterfall, real time if panoramic display bandwidth selection, Ultra-narrow band ~ 25khz to 1000 khz Narrow band ~ 1 mhz to 5mhz Wide band ~ 5 mhz to 50mhz Ultra wide band ~ 50mhz to 300mhz	
Integration	The system is required to be intelligently integrated with the comm esm and ecm sub-system for sharing of cesm/df/ threat library information.	
Library	Comprehensive threat library (signal parameters, transmission system, geographic coordinates (e.t.c) allowing surveillance, monitoring and identification of signals/transmission systems and update of comm order of battle. (cob).	
Coverage	The system is required to cover 360 degrees in azimuth and maximum elevation for signal interception in entire frequency band depending on los.	
Frequency Span in wide Band	30MHz to 6GHz Ultra-Narrow Band ~ 25KHz to 1000 kHz Narrow Band ~ 1 MHz to 5MHz Wide Band ~ 5 MHz to 50MHz Ultra Wide Band ~ 50MHz to 300MHz	60

America of the	a. Direction Finding Antenna based on number of integrated groups 05 Omni-directional dipoles covering full operating Freq range from 30 to 6000 MHz, having excellent matching/ characteristics to implement correlative phase interferometry must be incorporated.  b. 01x Omni-directional and 01 Directional Log Periodic with	
	automatic Rotator may be integrated for enhanced detection. Antenna may be mounted on building/mast or any high point with suitable height with rotators	
	c. No of Channels = number of elements of antenna i.e. 5 (five) or more for ensuring accurate and simultaneous direction finding of agile signals	
System Operational Regime / Deploy- ability.	The DF system must be developed and built in such a way that it can be operated/utilized and deployed in a stand-alone as well as in tight integration with communication intelligence and DF system (CIDFS) to support full scale communication EW operations.	
DF System	a. The system is to provide COMINT/ESM capability from a ground location for strategic/ tactical operations. It must provide methods and tools to obtain strategic and/or tactical information from signals originating from communication/ transmission systems/ tactical (adios (including data links) operating in 20 to 6000 MHz band. Following features shall be provided:	
	(1) Comprehensive threat library (signal parameters, transmission system, geographic coordinates e.t.c. allowing surveillance, monitoring and identification of signals/ transmission systems and update of	CHI OXP
	17	700

	COMM Order of Battle (COB).	
	(2) The system is required to cover 360 degrees in azimuth and maximum elevation for signal interception in entire frequency band depending on LOS, in addition the system is to provide directional reception antenna installed on automatic Rotator for fine reception in desired sector.	
	b. DF Remote Access Server (DFRAS). The Direction Finding system must incorporate a DF server method for DF requests/access by the remote non-DF COMINT users. The DF system (server) must listen to remote calls/requests by the remote COMINT systems and reply back the correspond DF results over the network. This would ultimately aid in implementing the Triangulation of various emitters from two or more DF systems.	
DF Sensitivity (S/N = 0 dB, BW = 1 Hz)*	100 – 1000 MHz (-30 dBμV/m) 1 – 3 GHz (-35 dBμV/m) 3 – 6 GHz (-40 dBμV/m)	
Bandwidths Direction Finding	Ultra-Narrow Band ~ 25KHz to 1000 kHz Narrow Band ~ 1 MHz to 5MHz Wide Band ~ 5 MHz to 50MHz Ultra Wide Band ~ 50MHz to 300MHz	
Intermodulation Dynamic Range	typ. 80 dB	
Dynamic Range	>120 dB	
Instantaneous Bandwidth	Ultra-Narrow Band ~ 25KHz to 1000 kHz Narrow Band ~ 1 MHz to 5MHz Wide Band ~ 5 MHz to 50MHz Ultra Wide Band ~ 50MHz to 300MHz	
Monitoring Channels.	The Analysis Station is meant to replay and analyze recorded IF data coming from the COMINT/. The data recorded during an operation is to be replayed for analysis and report generation. Offline Analysis is planned to be very comprehensive	<b>B</b>

1		the following
		equirements:  (1) Analysis of signals(analog/digital, narrowband/wideband)
		(2) Audio interception of signals (analog/ digital).
	THE REAL PROPERTY.	(3) Classification/ Demodulation/ Decoding/ Bit Stream Analysis
*		(4) Processing of IF/analysis of broadband signals (various IF formats).
		(5) Narrow band signal extraction from the wideband signal record
		(6) Analysis of recorded FH signal hopping band leading up to audio interception (if not encrypted)
		(7) Analysis of Low Probability of Intercept (LPI) signals (FH, DSSS, Chirp, Burst) and other unknown signals.
		(8) Replay of spectrum data recorded during the live operations
		(9) Tools for update of COB database/ report generation.
		(10) Relevant statistical tools for the analysis/modulation analysis e.t.c.
		(11) Provisioning of customized Decoder development for future signals.
	Channel Spacing	100 kHz/50 kHz/25 kHz/20 kHz/ 12.5 kHz/10 kHz/8.33 kHz/5 kHz/ 2 kHz/1 kHz/500Hz/100Hz/10Hz/1Hz (depending on selected FFT real- time bandwidth)
	Modes of Demodulation	CW, AM, FM, SSB, LSB, USB, AM- DSBSC, PM, FSK, FSK-2, ASK-2, MFSK, MASK, MPSK, M-QPSK,



-title-					
	QAM, MSK, GMSK				
Filter Selectivity	Raised Cosine, Root Raised Cosine, Gaussian				
Frequency Setting Accuracy	Less than 2µsec				
Image Frequency Rejection	>80 dB				
IF Rejection	>80 dB				
Impodones	500				
Impedance Phase Noise	50Ω <-128 dBc (1 Hz) at 10 kHz offset				
CRITICAL PARAME	TERS Following critical provided in the system:				
a. Freque MHz.	ency band (DF & Monitoring) of 30-6000				
b. Instantaneous IF Bandwidth upto 300 MHz and above.					
c. High Direction Finding accuracy of ≤ 1 <sup>0</sup> RMS (V/ UHF).					
d. System for use in mar	is offered should be certified/ qualified itime/ coastal environment,				
attenuation op lobes, jammer	on of complete blanking/ reduce otion of own emitters (radar main/ side rs, communication transmitters etc) as g of transmissions from ships operating				
for quick tria	on of standalone or integrated data link angulation with ships/ aircrafts and information with other shore based ems.				
Ground Supp	analysis features shall be included in port Equipment (GSE) for offline crypted/ coded signals.				
h. Option data distributio	for CESM library management and in system.	The same			
j. Installat responsibility. SUPPLIER	Installation design prepared by	11/3			

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- k. System's interface/ power requirements must be compatible with available PN systems. (In this regard, supplier may survey sites). Any shortcoming w.r.t interface or power requirements shall be suggested and offered by the SUPPLIER.
- OEM V/UHF undertake survey of sites for installation of COMINT system and propose suitable location in feasibility study.
- m. All Line Replaceable Units (LRUs) of the system shall be compatible with standard shore supplies i.e. 150 240 V AC (50-60 Hz) three/ single phase and on UPS backup.
- REQUIRED STANDARDS Following additional requirements/ standards are to be met:
  - a. <u>High DF Accuracy</u>. Upto 2 degree RMS (V/ UHF) as independent unit i.e. in case of Single Site Location Mode and 1~2 degree RMS in Triangulation mode.
  - Reliability Factor. Following figures of reliability factors are to be considered during design phase by the developer:

S No	Capacity	Requirement
(1)	MTBF	25,000 hrs (System level) 50,000 hrs (Assembly/ Sub-assembly level)
(2)	MTTR	<1 hr

c. <u>Operational Standards</u> Equipment shall be proven, rugged design and should conform to (but not limited to) following military/ international or equivalent standards and be able to operate in hot and humid areas throughout the year without any environmental limitations/ constraints as per para 5:

Requirements	Relevant Standards
Electromagnetic Emission & Susceptibility Compliance	MIL-STD-461G MIL-STD-464G MIL-STD-469
Interoperability and performance	MIL-STD-194 MIL-STD-188/184
Conducting EMI survey	MIL STD 1605 A
Military specific environmental effects	MIL STD 810H



	Humidity	MIL STD 810H	
	Vibration	MIL STD 167-1A	
	A INTERIOR	MIL STD 167-2	
	Shock Proof	MIL-STD-901	
		MIL-STD-810H	
	Electrical Requirement	MIL-STD-1399	Maria Letter III
	Cooling Requirements	MIL-STD-1399	
	Shipboard bonding,	MIL STD 1310	
	grounding and other techniques for EMC/ safety	HDBK 454A	
	Requirements for	MIL STD 108	
	equipment enclosures	MIL-E-24762 MIL-E2036	Miles Al Tear
	Test procedures EPM mode	NATO STANAG 4444	
	TEMPEST Proof	NATO SDIP-27 Level A US NSTISSAM Level-I	
	Additional Standards	a. MIL-STD-498. b. ISO-12207. c. DI-IPSC-81427~48. d. MIL-HDBK-800. e. ANSI/IEEE STD 1016. f. ISO/IEC 9126. g. IEEE-1061. h. IEEE-STD 1298. j. MIL-STD-882. k. IEEE-STD-1219. l. ANSI/IEEE STD	
9.		829/1008/1012. m. ANSI/IEEE STD 1063. n. MIL-STD-1379.	
	onboard Generators' supply or Sho	pre supply: hree phase, 50-60 Hz.	
	b. Online UPS with the	W = 3 8 11	
10.	SYSTEM SOFTWARE FEATURES shall have following features:		CONT.
		hall be documented in	( ) ( )
	operations.	or understanding their	13

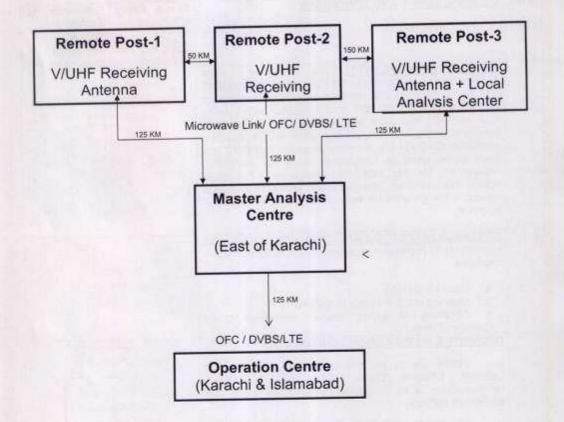
300	V due	
	upgrade in hardware is necessary due maintainability and/ or technological advancements.	
	c. In case of any proprietary software / module full access shall be provided with full functionality.	
	d. Software shall be warranted for at least 05 years of trouble free operation. During this period updates/ bulletins be provided to Purchaser on FoC basis.	
	e. Software shall have password protected user/ supervisor accounts for security and restricted access.	
	f. Software is to be developed according to a consistent process capable of supporting predicative and quantifiable metrics.	
1.	Technical Assistance. Following technical assistance will be required from SUPPLIER:	
	a. <u>General</u> .	
	(1) Complete survey of nominated sites within 45 days of contract signing.	
	(2) Installation of complete equipment/ systems at selected sites.	
	(3) Integration and interfacing via PN provided medium with the other systems, networks, equipment and ancillary equipment which are required for complete functioning of the offered equipment/ system.	
	(4) Set To Work (STW) and commissioning of system.	
	(5) Technical assistance w.r.t requirements/ blue prints in development of support infrastructure ashore involving civil works.	
	b. <u>Decoders/ CODECS</u> . SUPPLIER shall provide continued signal analysis support, which shall facilitate decoding of digital/ analog encrypted signals. OEM shall also be required to provide subsequent solution to the developed Decoders/ Codecs for extraction of information till voice level (where applicable). In addition, OEM shall also provide the already available decoder/ codec library with the offered system.	abar Ay

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12.	Lintal	(electrical, NA Supplier shall EMC/ EMI te render EMC/ EMI te render EMC/ Ed. Calibraticalibration set provided to cal also include prwith periodicity routines. In ad tools required standards of the maintenance in including but not (1) 1strouble sanags.  (2) 2million (2) undertake diagnosis  (b) by  (c) products (c) products (c) (c)	with a V, wear be responded to Regalong with a long wi	already instance on sible for consible consible overall system and conditions are provided to following the provided of the following th	An manual is to be stem. This should be routines along by out calibration instruments and sired calibration uct of all level of by the vendor.		
	To the state of th	idatory Items.			+		
	S No	Items	Qty	Firm's Reply (Complied Partially Complied/ Not Complied)	Reference to Attached Firm's Technical Brochures		
	(1)	V/UHF COMINT System (Master Station)	01			(	(Ja)
	(2)	V/UHF	01				1

	COMINT System (Local Station Remote Post- 3)			zeiden .
(3)	Wideband Direction Finder (DF)	03	+	1992 11
(4)	V/UHF Wideband DF Antenna	03		
(5)	V/UHF Wideband monitoring receiver	03		
(6)	Digital Compact Hand-Off receiver	03		
(7)	Digital wideband storage device	04	*	
(8)	Active Omni- directional receiving antenna	03		
(9)	Antenna signal distribution unit	03		
(10)	Multichannel Signal Analysis system	03+1		
(11)	Hardware for COMINT server	*		To be reviewed as per
(12)	COMINT Application server		+	requirement
(13)		•		
(14)	A STATE OF THE PARTY OF THE PAR			
(15)	workstation hardware			
(16)	Software package for Operator workstation			

(17) IT and network accessories (18) Subsystem internal testing capability (19) COMINT Training Simulator (20) Adequate Critical Spares (For 02 years) (21) Rack and Installation Accessories (22) System Documentation (23) Training  b. Optional items.  S Items Qty Firm's Reply (Compiled Partially Compiled Partially Compiled Not Compiled) (1) Test Bench/ Not Complied) (1) Test Bench/ Repair Facility OEM shall provide Test bench/ Repair facility at PN Dockyard, Karachi to undertake post-induction 3rd & 4th level repair/ maintenance.  Feasibility/ Survey. Supplies/ OEM shall conduct survey of								
(18) Subsystem internal testing capability  (19) COMINT Training Simulator  (20) Adequate Critical Spares (For 02 years)  (21) Rack and Installation Accessories  (22) System Documentation  (23) Training -  b. Optional items.  S Items Qty Firm's Reply (Complied Partially Compiled/ Not Compiled/ Not Compiled/ Not Compiled/ Not Repair Facility OEM Shall provide Test bench/ Repair facility at PN Dockyard, Karachi to undertake post-induction 3 <sup>rd</sup> & 4 <sup>th</sup> level repair/ maintenance.  Feasibility/ Survey. Supplies/ OEM shall conduct survey of		(17)	CONTRACTOR AND ADDRESS OF THE PARTY OF THE P	-				
(19) COMINT Training Simulator (20) Adequate Critical Spares (For 02 years) (21) Rack and Installation Accessories (22) System Documentation (23) Training  b. Optional items.  S Items Qty Firm's Reference Partially Complied Partially Complied/ Not Not Complied/ Not Complied/ Not Complied/ Not Complied/ Not Repair Facility OEM Shall provide Test bench/ Repair facility at PN Dockyard, Karachi to undertake post- induction 3rd & 4th level repair/ maintenance.  Feasibility/ Survey. Supplies/ OEM shall conduct survey of		(18)	Subsystem internal testing	-		Take 1		
Critical Spares (For 02 years)  (21) Rack and Installation Accessories  (22) System Documentation  (23) Training Doubled Partially Complied Partially Pacific Paci			COMINT Training Simulator					
Installation Accessories  (22) System Documentation  (23) Training  b Optional items  S Items Qty Firm's Reference to Attached Partially Complied/Partially Complied/Not Complied/Not Complied/Not Complied Brochures  (1) Test Bench/ 01 Repair Facility, OEM shall provide Test bench/Repair facility at PN Dockyard, Karachi to undertake post-induction 3rd/8 4 4th level repair/maintenance.  Feasibility/ Survey. Supplies/ OEM shall conduct survey of		A 0 (2 PK (24)	Critical Spares	5.00				
Documentation  (23) Training  b. Optional items  S Items Qty Firm's Reference to Attached Partially Complied/ Not Complied/ Not Brochures  (1) Test Bench/ Not Complied)  (1) Test Bench/ Repair Facility			Installation Accessories	100				
b. Optional items  S Items Qty Firm's Reply (Complied Partially Complied Not Complied)  (1) Test Bench/ Not Complied)  Repair Facility.  OEM Shall provide Test bench/ Repair facility at PN Dockyard, Karachi to undertake post-induction 3rd & 4th level repair/ maintenance.  Feasibility/ Survey. Supplies/ OEM shall conduct survey of		10000	Documentation	*				
S Items Qty Firm's Reply (Complied Partially Complied/ Not Complied)  (1) Test Bench/ Repair Facility. OEM Shall provide Test bench/ Repair facility at PN Dockyard, Karachi to undertake post-induction 3rd & 4th level repair/ maintenance.  Feasibility/ Survey. Supplies/ OEM shall conduct survey of		(23)	Training	-				E ELIP
No  Reply (Complied Partially Complied/ Not Complied)  (1) Test Bench/ Not Complied)  (1) Test Bench/ Repair Facility.  OEM Shall provide Test bench/ Repair facility at PN Dockyard, Karachi to undertake post-induction 3rd & 4th level repair/ maintenance.  Feasibility/ Survey. Supplies/ OEM shall conduct survey of	b.			le Carlotte et la car				
Repair Facility OEM shall provide Test bench/ Repair facility at PN Dockyard, Karachi to undertake post- induction 3 <sup>rd</sup> & 4 <sup>th</sup> level repair/ maintenance.  Feasibility/ Survey. Supplies/ OEM shall conduct survey of		No			Reply (Complied Partially Complied/ Not	to Attached Firm's Technical		
repair/ maintenance.  Feasibility/ Survey. Supplies/ OEM shall conduct survey of		(1)	Repair Facility. OEM shall provide Test bench/ Repair facility at PN Dockyard, Karachi to undertake post- induction 3 <sup>rd</sup>	01				
Feasibility/ Survey. Supplies/ OEM shall conduct survey of			repair/ maintenance.			<b>)</b>		
sites within 45 days of contract signing and showing feasibility/ survey report with PURCHASER within 60 days of contract signing.	sit fea	es wil	thin 45 days o	f con	tract signin	g and showin	g	100
Attachment Annex A	A ***	chmo	nt Annoy A					1 Harris

## CONCEPT - SHORE V/ UHF COMINT SYSTEM





## GERNERAL TERMS AND CONDITIONS

S No	6 5 ma	MS AND CONDITIONS	Firm's Reply (Complied Partially Complied/ Not Complied)	Reference to Attached Firm's Technical Brochures
1.	demonstrate his operate its equiponboard ship an equipment, 30 diagency or during certificate alongy been under tak requirement for submit this certificate actions.	equipment to the Purchaser to successfully oment at firm's or Purchaser's premises of shore unit w.r.t integration with existing ays after issuance of IT by the Procuring TSR stage. The supplier MUST provide a with the technical proposal that POC has en in compliance to tender mandatory this particular requirement. Failure to ficate alongwith technical proposal shall bunds for technical rejection of submitted	Somplied	brochures
2.	established by Purequisites:  a. Contract S b. Opening of	LC in favour of Supplier. of export license concerned Govt /		
3.	a. Stores are Contract Effect commissioning is equipment deliver b. The shipming	to be delivered within 8 months of the Date (CED) and installation/		
4.	terms will be muti	S/PAYMENT MILESTONES. Payment ually agreed during contract negotiations. t terms are proposed.		1
	Timeline (Months)	Remarks		
	To + 3-4 FATs	Nil Payment		
	To + 6	a. 60% payment on completion of following:      (1) Delivery of stores at		

		Purchaser's site at Karachi/ installation site.	
		(2) Joint Inspection.	
		(3) Provision of relevant Documents.	
	To + 8-9	20% payment on successful completion of installation/ integration/ interfacing/ STW/ commissioning of equipment at Purchaser site complying all specifications/ acceptance criteria and issuance of acceptance certificate by Purchaser.	
	To + 12	a. 20% payment on completion of following:  (1) Satisfactory conduct of operator and maintainer training of Purchaser team.	
		(2) Issuance of CRV by Consignee.	
	To + 24	10% payment in form of Bank Guarantee provided by SUPPLIER to be released on completion of warranty period.	
	furnish an irredays of Contra in the same or to 10% of the	CE BANK GUARANTEE The Supplier will evocable and un-conditional PBG within 30 act Signing from a scheduled Pakistani Bank ontext as that of contract for an amount equal total value of the contract (on judicial stamp propriate value as per prescribed format. It valid till 60 days beyond the completion of period.	
ì.	2% of the cor or a part of r by the Purch 2019), if the s	DAMAGES (LD) Liquidated Damages upto intract value (but not less than 1%) per month month is liable to be imposed on the Supplier aser in accordance with DPP&I-35 (Revised tores/ services are supplied after the expiry of ate without any valid reasons. Total LD should 10% of the contract value.	
7.	ACCEPTANO	E CRITERIA	
	Trials (FATs)	UPPLIER is to provide Factory Acceptance , Set-to-Work (STW) and Acceptance Trials ures (in English) Four (04) months in advance ry of equipment by SUPPLIER for study and	STATE OF THE STATE
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	vetting by PURCHASER. Final acceptance procedures will be made by PURCHASER, taking into consideration the trial procedures recommended by the SUPPLIER, system specifications provided by the SUPPLIER and PN's experience in operating/ maintaining as per operational equipment.	
	b. SUPPLIER shall carry out Factory Acceptance Trials (FATs) at its premises with PN participation and provide conformance certificate to PURCHASER. 03 x PN officers will witness the FATs at SUPPLIER's expense. Performance of the equipment will be further evaluated through ATs. STW and commissioning of system will remain the responsibility of SUPPLIER.	
	c. SUPPLIER shall make inspection under the same conditions as laid down in Acceptance criteria/ User requirement defined by PURCHASER.	
	d. After FATs of supplied equipment, SUPPLIER will carryout all acceptance and tests/ trials in Pakistan, in the presence of PURCHASER reps to prove that entire system is performing as per the criteria prepared.	
	e. EM interference (EMI/EMC) to or from nearby equipment/ sensors is to be validated during ATs.  f. Final Acceptance Certificate (FAC) will be signed by PURCHASER only after successful completion of all	
	acceptance trials and 100% operational performance proven by the SUPPLIER to the entire satisfaction of PURCHASER, as per tech specs of system i.a.w relevant Acceptance Trial Procedure (ATPs).	
3.	REJECTION CRITERIA	
	Equipment shall not be acceptable in case of following:	
	(1) Equipment specifications are not as per Annex A or not accepted by PURCHASER.	
	(2) Documentation is not provided as per Appendix-1 to Annex B.	
	(3) Certification Requirements are not met as per clause 30 of Annex B.	OHE SHOOT
	(4) Confirmation of performance and functions is not same as given in contract and relevant documentation/ manuals.	
	(5) Unsuccessful completion of installation/	

# integration/ interfacing/ HATS/ SATS of equipment.

### TRAINING

- a. Comprehensive training plan, both for operators and maintainers, is to be prepared by OEM in consultation with PN. Training is to be conducted in Pakistan for crew and maintenance teams. Curriculum for operator and maintainer training shall be specifically designed keeping in view PURCHASER's requirements. Broad contour of training are as under:
  - a. Operator training.
  - b. I Level Maintenance (Level-2/3) training.
  - D level Maintenance (Level-4) Training.
- Following training is to be conducted by the SUPPLIER in Pakistan:

S No	TYPE OF COURSE
(1)	02 x Weeks Operator Course for 15 Personnel.
(2)	02 x Weeks Maintainer level Course for onsite maintenance including software/ computer based training with respect to interfacing with other systems for 10 Personnel.
(3)	02 x Weeks Depot level maintainer Course for enabling maintainers to carry out maintenance of the equipment for 10 Personnel.

- Maintainer course shall include maintenance training of modules having programmable devices.
- Duration of courses shall be adjusted as such that trainees shall be able to attain following standards.
  - (1) On completion of operater training, trainees should be able to use the system to its optimum capabilities and performance with optimized/ customized GUIs in dense EM environment and harsh environmental conditions.
  - (2) On completion of training, maintainers should be able to diagnose faults (both hardware and software related), development/ incorporation of decoders/ CODECs and carry out maintenance upto PCBs/ modules/ LRU level.
  - (3) On completion of course, maintainers should be able to carry out all routine maintenances of



	equipment.	
	(4) SUPPLIER is to provide complete details of syllabi for categories of training stated in para 9 to the PURCHASER within 60 days after contract finalization for vetting and acceptance by PURCHASER.  (5) SUPPLIER will provide all training material including course notes/ handouts and practical on job training.	
10.	DOCUMENTATION. Supplier shall provide four set of original documents (in English) as per details given in Appendix-I to Annex B.	
11.	CONTINUOUS LOGISTIC SUPPORT.	
	a. Supplier should provide guarantee to supply necessary spares for next 15 years from date of signing of the contract. A certificate to this effect should be provided by the Supplier prior to acceptance of the system.  b. In case of discontinuation of production of any component/ part as result of obsolescence or development of upgraded version, SUPPLIER should inform PURCHASER at least one (01) year in advance.  c. SUPPLIER shall ensure provision of such components/ parts as demanded by PURCHASER prior discontinuation of the production and shall provide alternate for such components/parts in case original is not available without any additional cost involved.	
	d. SUPPLIER shall ensure spare supportability during warranty period in terms of DPL-15 and after warranty in terms of clause 29 of the Annex B.  e. For efficient/ smooth spare supportability SUPPLIER	
	shall provide the spares from its own stock (preferably held in Pakistan at Karachi or Islamabad).	
12.	SPARES.	
	a. SUPPLIER will provide onboard spares to keep system functional at its optimum performance for an operational period of two (02) years and list of Depot level spares required for Ten (10) years along with following information for each item and the same is also to be made part of the contract:	Just 1

Part Number. (1) NATO Stock Number. (2) Description/Nomenclature. (3) Denomination. (4) (5) Shelf Life. OEM. (6) Main Equipment. (7) Price. (8) Quantity Required. (9) (10) Special storage requirement. Composition of spares package provided as part of Scope of Supply should include atleast Five (05) of each type of major PCBs. SUPPLIER is to provide (as part of Scope of Supply), a price catalogue of all spares required for the system to provide Purchaser a datum for ascertaining/ planning future stock requirements. Supplier should render Logistic Support Certificate which guarantees through life supportability of spares. PACKING AND MARKING 13. Standard Export packing worthy for transportation by Air and Sea ensure their undamaged arrival at ultimate destination. Each consignment/ Packages is to contain a "Packing Note" detailing the contents of the consignment/ package. The packages are to be marked as under: FRONT SIDE: Name & Address of Purchaser OTHER SIDE: Contract No (2) Gross Weight TOP: (3) Dimensions: A yellow disc 4" or 6" in (4) diameter according to the size of packing. For fragile stores word "FRAGILE" is to be marked in bold letters on all sides of the consignment/ package. Any loss or demurrage occurring due to wrong marking or packing will be borne by the Supplier. All stores will be marked with a broad arrow pointing upward, by stamping, painting or tallying. Each individual item of stores must bear the Part No to facilitate identification.

14.	ARBITRATION	*
	Parties shall make their attempt to settle all disputes arising under this contract through friendly discussions in good faith. In the event that either party shall perceive such friendly discussion to be making insufficient progress towards settlement of dispute at any time, then such party may by written notice to the other party refer the dispute(s) to final and binding arbitration as provided below:	
	a. The dispute shall be referred for adjudication to two arbitrators one to be nominated by each party, who before entering upon the reference shall appoint an umpire by mutual agreement, and if they do not agree a judge of the superior court shall be requested to appoint the umpire. The arbitration proceedings shall be held in Pakistan and under Pakistani Laws.	
	b. The venue of arbitration shall be the place from where the contract is issued or such other places as the PURCHASER at his discretion may determine.	
	c. The arbitration award shall be firm and final and binding on both the parties to the contract.	
	<ul> <li>d. In course of arbitration the contract shall be continuously be executed accept that part which is under arbitration.</li> </ul>	
	All proceedings under this clause shall be conducted in English language and in writing.	
	AGENT COMMISSION DECLARATION CERTIFICATION/ INTEGRITY PACT.	
	a. The Supplier hereby declares its intention not to obtain or induce the procurement of any contract, right, interest, privilege or other obligation or benefit from Government of Pakistan or any administrative subdivision or agency thereof or any other entity owned or controlled by it (Government of Pakistan) through any corrupt business practice.	TOHN &
	b. Without limiting the generality of the foregoing, the Supplier represents and warrant that it has fully declared the brokerage, commission, fees etc, paid or payable to anyone and not given or agreed to give and shall not give	( ) ( ) ( ) ( ) ( ) ( )

or agree to give to anyone within or outside Pakistan either directly or indirectly thorough any natural or juridical person, including its affiliate, agent, associate, broker, consultant, director, promoter, shareholder, sponsor or subsidiary, any commission, gratification, bribe, finder's fee or kickback, whether described as consultation fee or otherwise, with the object of obtaining or inducing the procurement of a contract, right, interest, privilege or other obligation or benefit in whatsoever from the Government of Pakistan, except that which has been expressly declared pursuant hereto.

- c. The Supplier certifies that it has made and will make full disclosure of all agreements and arrangements with all persons in respect of or related to the transaction with Government of Pakistan and has not taken any action or will not take any action to circumvent the above declaration, representation or warranty.
- d. The Supplier accepts full responsibility and strict liability for making any false declaration, not making full disclosure, misrepresenting facts or taking any action likely to defeat the purpose of this declaration, representation and warranty. It agrees that any contract, right, interest, privilege or other obligation or benefit obtained or procured as aforesaid shall without prejudice to any other rights and remedies available to Government of Pakistan under any law, contract or other instrument, be avoidable at the option of Government of Pakistan.

#### 16. FORCE MAJEURE.

- a. If one the parties is unable to perform its obligations under this contract because of intervention of Force Majeure, shall include blockade, Government Mobilization, Civil Commotion, War Riots, Pandemics, Lock downs and confiscation of facilities, Sabotage, Lockouts, Acts of God, Terrorism, Plague, quarantines, freight embargoes, major fire, Bankruptcy of OEMs/ material SUPPLIERs specified in the contract and disturbances directly affecting the supplies or any other catastrophe specifically or wholly beyond the control of that party (in case of the contract) provided that such Force Majeure conditions relevant directly affect the work or deliveries under this contract.
- b. If one of the parties has been delayed by Force Majeure conditions then additional period to the extent of such delay shall be allowed to that party for completion of his obligation so affected. Provided that all contractual activities fit in the extended period allowed, shall be executed within the contract price.
- In case of Force Majeure, the parties shall, every 06 (six) months, decide on Force Majeure claims presented in



	the preceding 06 (six) months.	
	d. The party initiating the force majeure shall as soon as reasonably possible and within 14 (fourteen) days notify the other party in writing of any occurrence of Force Majeure event.	
	e. The party initiating the Force Majeure shall provide the other party with proof of the occurrence of any of the aforementioned Force Majeure event and of its effect on the construction, auditing and delivery of the supplies or any of its obligations towards contract.	
	f. If Force Majeure exists for more than 03 (THREE) continuous months, or exceeding total of 06 (SIX) months then both parties shall mutually decide future course of action.	
17.	CHECKING OF STORES AT CONSIGNEE'S END.  Packing of all stores will be checked visually at consignee's end in the presence of SUPPLIER's representative within fifteen (15) days after arrival of the stores at the consignee's premises. The consignee will inform the SUPPLIER in due time about the aircraft/ vessel's date of arrival. If for the reasons of economy, or any other reason, the SUPPLIER decides not to nominate his representative for such checking; an advance written notice to this effect will be given by the SUPPLIER to the PURCHASER prior to shipment of stores. In such an event, the SUPPLIER will clearly undertake that the decision of consignee with regard to quantities and description found will be accordingly made up by SUPPLIER. In all other cases the consignee shall inform the SUPPLIER immediately on receipt of stores through registered mail or fax. If no response from the SUPPLIER is received within thirty (30) days from receipt of stores, the consignee will have the right to proceed with the checking without SUPPLIER's representative. Consignee's report on checking of stores will be binding on the SUPPLIER in such cases.	
18.	ADDITIONAL PURCHASE. SUPPLIER is to agree that in case PURCHASER wishes to buy additional quantity/ number of stores within next 24 months after the completion date of the contract, SUPPLIER shall provide equipment at same or lower cost.	
19.	PRICE VARIATION Prices in the schedule of stores of this contract are firm and final. The stores must be of brand new manufactured.	NOHA .
20.	OBSOLESCENCE.	( Aux )
	Following obsolescence clauses will also be included in the contract as part of continuous logistic support:	

- a. The SUPPLIER should provide guarantee to supply the necessary spares for next Ten (10) years from CED. A certificate to this effect should be provided by the SUPPLIER prior to acceptance of the system.
- b. In case of manufactured equipment becoming obsolete and is not manufactured anymore, and no replacement is offered, by SUPPLIER after Ten (10) years, whereas user still wishes to continue using the same equipment, in such case SUPPLIER would provide Technical drawings at Free Of Cost for essential items manufactured which would facilitate user to arrange its development through user's incountry resources. Apart from provision of technical drawing, SUPPLIER would not be responsible for such in-country development by user.
- c. In case of discontinuation of production of any component/ part as result of obsolescence or development of upgraded version, the SUPPLIER should inform the PURCHASER at least one (01) year in advance. The SUPPLIER shall ensure the provision of such components/ parts as demanded by the PURCHASER prior discontinuation of the production and shall provide alternate for such components/ parts in case the original is not available. The SUPPLIER shall ensure the spare supportability during warranty period in terms of DPL-15 and after warranty. For efficient spare supportability the SUPPLIER shall provide the spares from its stock (preferably held in Pakistan at Karachi or Islamabad).
- d. If SUPPLIER's manufactured Radio Equipment declared obsolete by SUPPLIER, and SUPPLIER does supply an equivalent replacement within five (05) years from CED, the SUPPLIER will provide the new equipment at the same price as of original equipment.
- e. In case any component of the SUPPLIER's radio becomes obsolete or put of production, SUPPLIER is to give one year advance notice and would be bound to provide an alternate solution at same cost as of the given component, to keep the Radio sets in optimum operational condition.
- RISK & EXPENSE (R/E). In event of failure on part of supplier to comply with contractual obligations, the contract will be cancelled at Risk and Expense of supplier in accordance with DPP&I-35 (Revised 2019).



22.	INSPECTION. a. (1) Inspection Authority: CINS Karachi	
	(2) However, Joint inspection will be carried out by officers nominated by DNCW (Tech) comprising technical reps of user, consignee and CINS.	
	(3) Place of inspection: At NSD	
23.	END USER CERTIFICATE (EUC). End User Certificate for SUPPLIER to export the system to Pakistan shall be provided by PURCHASER within 30 days after signing of contract by both the parties (if required by SUPPLIER).	
24.	EXPORT LICENSE/ PERMIT. It is the responsibility of the SUPPLIER to apply for obtaining Export License/ Permit from its Govt. or its Country of Origin for export of indented items/ stores for supply/ delivery of equipment to Pakistan.	
25.	MAN MACHINE INTERFACE (MMI). The equipment	
	should be user friendly, MMI configurable by PURCHASER as per PN user requirement.	
26.	TECHNICAL ASSISTANCE. The SUPPLIER is to provide the services (FOC basis) of its qualified engineers and technicians to undertake assembling and successful trials of delivered equipment in Pakistan as per PURCHASER agreed trials procedures i.a.w Acceptance Trial Procedures (ATPs).	
27.	COMMISSIONING/ TRIALS.	
	a. Commissioning of the system is to be arranged within 120 days of supply of equipment by the SUPPLIER through OEM at PURCHASER site.	
	<ul> <li>b. Commissioning trials to be carried out by SUPPLIER on site. Any defect/ damage of the equipment during commissioning trials is to be replaced by the SUPPLIER without any additional cost.</li> </ul>	
	c. STW and FATs of the equipment (at any place) will remain the responsibility of SUPPLIER at its own expense.	
	d. ATs and/or Commissioning charges (if any) are to be separately indicated.	CAPHIN .
	e. Undertaking of all or any tests/ trials will remain the prerogative of the PURCHASER.	(Py)
28.	WARRANTY/ GUARANTEE.	1/3
	a. Complete equipment including accessories are to be	100

174	warranted by the SUPPLIER for a period of 02 year, for all		
•	defects from the date of final acceptance by Pulchaser.		
	b. The supplier is to guarantee that all the items supplied under the terms of this contract are of the latest version, OEM certified and brand new. Stores, which are not procured directly from OEM or his authorized dealer/ agent/ stockist will not be acceptable.		
	c. The Supplier is to guarantee that materials used, whether or not of his manufacture, conform to the international quality standards for such equipment.		
	d. Post delivery, the Supplier will replace DDP at consignee's warehouse without any additional cost within 30 days every article or part thereof which before use or in use shall be found defective/ damaged or not within the limits and tolerances of specifications, or in any way not in accordance with the terms of the contract at the time of Joint Inspection.		
	e. In case of Supplier's failure to replace the defective stores without any additional cost within 30 days he will refund relevant cost DDP at consignee's warehouse in the currency in which received along with a reasonable compensation as claimed by Purchaser.		
9.	CUSTOMIZED COMPONENTS. The Supplier is to provide list of all customized components as well as all programmable components used in the system, to meet the PN maintenance/ repair requirements for next Ten (10) years.		
0.	CERTIFICATION REQUIREMENT.		
	SUPPLIER will confirm through OEM certificate at the time of supply/ delivery of the equipment at consignee's end, that equipment being supplied has been made SAT to work and is a proven equipment.  b. SUPPLIER through certificate is to confirm that he		
	b. SUPPLIER through certificate is to commit that he will provide import documents at time of delivery of stores.		
	c. SUPPLIER certificate for conformance of 100% indent specifications, any deviation to be clearly indicated in the offer will be provided at the time of delivery of stores.	extract.	
	d. SUPPLIER's "Certificate of Conformity" originating from "Principal" who is neither the OEM nor the OEM's authorized dealer/ agent/ stockist will not be acceptable.	SUE STORY	
	e. "Certificate of Confirmation" originating from	2000	-

	"Principal" OEM as well as Supplier regarding system/ software's fool proof internal security/ secrecy w.r.t data/ operation. Any compromise on same due to system/ software glitch/ bug will have legal and financial consequences for both Supplier/ OEM.  f. Final Acceptance Certificate will be signed by PURCHASER within 02 weeks only after successful commissioning of the entire Communication System	
31.	CUSTOMER BASE.	
	Supplier MUST provide alongwith the offer a list of main customers; to whom such range of equipment was sold/supplied during last ten years.	
	<ul> <li>Supplier MUST furnish alongwith offer, a certificate of satisfaction from at least one of the reputable customers.</li> <li>The certificate should clearly indicate the in-service quality of equipment against the given specifications.</li> </ul>	
32.	LIABILITY.	
	a. Supplier shall not be liable under any circumstances to Purchaser, its officers, agent, employees, successors and/or assignees, for any special, consequential and/or incidental damage of whatsoever kind or nature, including, without limitation, any loss, cost, damage, loss of revenue or profit or loss of use, incurred or suffered by the Purchaser or any third party arising out of or in connection with this Contract.	
	b. The foregoing shall not affect Purchaser's right to claim compensation against Supplier for damages suffered by the Purchaser arising directly from performance, bad performance or non performance of Supplier's duties and/ or obligations under Contract, provided that, aggregate liability of Supplier in connection with this Contract for any cause whatsoever including indemnity and risk purchase, shall not exceed TWNETY FIVE percent (25%) of total price actually paid to Supplier under this Contract.	
33.	QUALITY ASSURANCE AND QUALITY CONTROL. Supplier shall be responsible for the Quality Control/ Quality Assurance of the designed performance of the supplies. Supplier shall carry out stage inspections during every stage of process and provide Quality Control/ Quality Assurance Criteria to ensure quality conformance with Technical Data Package of the Contract.	
34.	LANGUAGE, MEASURMENTS AND WORKING METHODS. Contract specifications in English language shall be followed. All drawings, data-files in soft media, Man-Machinery Interface (MMI) of software and hardware,	

Ģ	all marking and documentation required to be produced or delivered to the Purchaser under the contract shall be written in the English language. Measurement shall be in metric units of measurement unless otherwise specified.	
5.	END USER. Director Radio Communication (DRC) is the Sponsor Dte who will provide list of End Users to whom indented items will be issued.	
16.	PENALTY.	
	a. The supplier before making the shipment will carry out complete test of the equipment at his facilities to ensure that the same has been manufactured as per the specifications. However, the Purchaser within 30 days of its receipt will carry out inspection and test/ trials. In case the equipment does not pass the tests/ trials, the Purchaser has the right to out rightly reject the equipment.	
	b. The penalty shall not absolve the supplier to undertake the repairs in Pakistan or abroad at his own cost and expense including freight charges. This shall be in addition to other penalties and obligations covered in the contract like warranty/guarantee obligations on form DPL- 15.	
37.	DISCREPANCY. The consignee shall render a discrepancy report to all concerned within 45 days after receipt of stores for discrepancies found in the consignment. The quantities found short/deficient/defective are to be made good by the Supplier free of cost.	
38.	SECRECY. The Supplier(s) shall undertake that any information about the sale/purchase of the stores under this contract shall not be communicated to any person, other than the manufacturer of the stores, or to any press or agency not authorized by the DP(N), to receive it. Any breach on this account shall be punishable under the Official Secret Act-1923 in addition to termination of the contract at the risk of Supplier.	
39.	INDEMNITY. The Supplier shall at all times indemnify the Purchaser against all claims which may be made in respect of the stores for infringement of any rights protected by Patent, Registration of Design or Trade Mark and shall take all risks of accidents or damages which may cause a failure of the supply from whatever cause arising and the entire responsibility for the sufficiency of all the means used by him for the fulfillment of the contract provided always that in the event of any claim in respect of alleged breach of Patent, Registered Design or Trade Mark being made against the Purchaser, the Purchaser shall notify the Supplier of the same and the Supplier shall be at liberty to settle any dispute or to conduct any litigation that may arise	Cather Cather

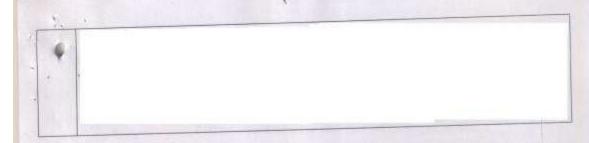
	there from at his own expenses.	
40.	SUBLETTING. The Supplier shall be entirely responsible for the execution of the contract in all respects according to the terms of the contract. The Supplier shall not sublet, transfer or assign the contract or any part thereof to any other firm/ party without prior written permission of the Purchaser.	
41.	AMENDMENT IN THE CONTRACT. Amendment in the contract, if required, shall be processed in writing by procurement agency upon mutual agreement of both the parties.	
42.	a. If at any time during the currency of the contract Purchaser decides to terminate the contract for any reason whatsoever (other than for reasons of non-delivery), he shall have right to do so by giving the Supplier a registered notice to that effect. In such event, Purchaser shall accept delivery at the contract price and terms of such stores/goods/ services which are in the actual process of manufacturing that is completed and ready for delivery within thirty days after receipt by the Supplier of such notice.	
	b. In the case of remainder of the undelivered stores/ goods/ services, the Purchaser may elect either to have any part thereof completed and take the delivery thereof at the contract price or to cancel the remaining quantity and pay to the Supplier for the articles or sub-components or raw materials purchased by the Supplier and are in the actual process of manufacturing at the price to be determined by the Purchaser. In such case, materials in the process of manufacturing shall be delivered by the Supplier to the Purchaser.	
	c. No payment shall, however, be made for any materials not yet in the actual process of manufacturing on the date notice of cancellation is received by Seller.  d. Should Supplier fail to deliver stores/ goods/ services in time as per terms of contract, or fail to render Bank Guarantee within the stipulated time period or any breach of the contract, Purchaser reserves the right to terminate/ cancel the contract fully or any part thereof at the risk and expense (RE) of the Supplier.	
13.	MISCELLANEOUS.	COHN X
	a. SUPPLIER should mention the price of all deliverables (i.e Equipment/ Services, Spares, Documentation, Test Bench/ Tools/ Test Equipment,	Ju )

Training, FATs (Factory Acceptance Trials), Installation/ Integrations, Test/ Trials/ Commissioning (Harbour Acceptance Trials, Site Acceptance Trials) etc where applicable) separately in financial quote. The same are to be subsequently incorporated in the contract document.

- SUPPLIER is to provide alongwith the offer the name of manufacture of all the major sub-assemblies, components and associated accessories of the offered system.
- c. SUPPLIER is to provide, alongwith the offer, copies of the Standards/ Specification referred to, or used, for the equipment and its accessories.
- d. SUPPLIER is to provide future updates/ upgrades/ modifications of the contracted stores. †
- e. It is responsibility of SUPPLIER to obtain license/ permits etc (if any) in the SUPPLIER's country. Failure to obtain the same shall not constitute grounds for "Force Majeure.
- SUPPLIER is to provide list of all customized components in his offer.
- g. SUPPLIER is to provide breakdown of prices of main equipment, accessories, spares, customized components, training, documentation and FATs/ HATs/ SATs/ STW expenditures etc in its commercial offer.
- Only OEM certified brand new equipment/ stores are to be accepted on SUPPLIER's warranty/ guarantee on DPL-15 at consignee's end.
- SUPPLIER is to render OEM certificate for compatibility with existing PN Communication equipment.
- t. TSR of case will be carried out by a committee nominated by NHQ.
- Proposal should include itemized prices of major equipment & accessories, including training & documentation.
- m. Equipment may be fitted with mechanical shock mounts/ absorbers.
- SUPPLIER is to provide complete 'Check off list' against the indent.
- p. Copies of contract be forwarded to following:



		THE RESERVE TO SERVE THE RESERVE
	(1) D Radio Comm NHQ Islamabad.	
	(2) DCM NHQ Islamabad. (3) DNCW (TECH)	THE RESTRICT
	(4) DNWE NHQ Islamabad.	
	(5) D Budget NHQ Islamabad.	
	(6) HQ COMCOAST.	
	(7) CO NSD Karachi.	
	(8) CO EHQ & PDD (Navy), Karachi.	
	(9) CO 31 <sup>st</sup> Creeks Bn.	
	(10) DP (N).	THE PERSON OF
	(11) CMA (DP).	
	q. The PURCHASER will have all the right to cancel/ reject bid of any SUPPLIER at any stage, if Pakistani security agencies declare un suitable or highlights any observations pertaining the product of the	
44.	participating vendor/ SUPPLIER.	
44.	COMPENSATION ON BREECH OF CONTRACT. If the Supplier fails to supply the contracted stores/equipment or contract is cancelled either on Supplier's Risk & Expense (RE) or without RE or contract becomes ineffective due to	
	default of Supplier or stores/equipment declared defective	
	and causes loss to the Purchaser, Supplier shall be liable to	
	pay to the Purchaser a compensation for loss or inconvenience resulting for his default/defect or from the	
	rescission of this contract. When such default/defect or	
	rescission take place such compensation shall be in excess	
	to the RE amount, if imposed by the competent authority.	
	Compensation amount in terms of money shall be decided	seriol to the series
	by the purchase officer and shall be deposited by Supplier	
	in Government of Pakistan treasury in the currency of contract.	
45.	ORIGIN OF SUPPLY AND ACCEPTABLE MAKES	
	Origin of supply is to be preferably imported and subject to provision of specified OEM country of	
	Origin.	
	The Mark the second	
	b. OEM has to certify that provided equipment is	
	its own product and is not of any third party equipment.	
6.	Oquipmon.	
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## Attachments Annex B:

Appendix-I: Documentation Requirements.

Appendix-II: ILS Requirement -- Shore V/UHF COMINT System.

Appendix-III: ICD Requirements for Shore V/UHF COMINT System.

Appendix-IV: Miscellaneous Requirement.



APPENDIX-I TO ANNEX B
INDENT NO 2002

## DOCUMENTATION REQUIRMENTS

S No	REQUIREMENT OF DOCUMENTATION & MANUALS FOR EQUIPMENT	Firm's Reply (Complied Partially Complied/ Not Complied)	Reference Attached Firm's Technical Brochures	to
1.	a. Following categories of documents/ manuals are to be provided by the Supplier prior induction of ICS system in PN. Contents of all the manual and other related documents including specifications, drawings and other lists should be standardized in accordance with Military Specification MIL-M-15071H (NAVY) containing requirement and format of manuals covering all aspects of operations, troubleshooting, schedule maintenance, workshop repair and IPC etc for all		Divenues	
	types of equipment and systems:  (1) Manuals  (a) Operator Manual.  (b) User Manual.  (c) Maintenance Manual.  (d) Workshop Manual.  (e) Technical Manual.  (f) Installation Manual.  (2) Catalogues. Catalogues of Ancillary Support Equipment required for operation and maintenance of equipment containing description, part number, quantity required, calibration periodicity and manufacture name of ASE, Portable Specialized Support Equipment (PSSE), Special to Type Test Equipment (STTE), Common User Hand Tools (CUHT), Common Use Mechanical Testing Equipment (CUMTE), Common Range Electrical Testing Equipment (CRETE) and Automatic Test Equipment (ATE) are to be provided with the equipment.  (3) Documents.  (a) Test Equipment/Tools.  (b) Part Identification Lists (PILS).  (c) Illustrated Parts Catalogues (IPCs).  (d) Recommended spare part (onboard)	9		

#### and depot level) Cable layouts for system interfacing. (e) Test & Trials sheets alongwith the (f) detailed procedures. Keep alive policy. (g) List of upkeep by exchange items. (h) List of R x R items. (j) Software procedures including sources (k) code. Drawings. Installation drawings. (a) Circuit diagram. (b) Component layout diagrams of PCBs. (c) for diagrams Schematic (d) verifications and physical connections. Test fixtures. **VARIOUS** OF CONTENTS/DETAILS 2. DOCUMENTATION/MANUALS The details of technical contents which should be included in the documentation are as under: (1) Operating Manual. This document

- (1) Operating Manual. This document should provide detailed operating procedures for the sets and use of the accompanied accessories.
- (2) Installation Manual. This document cover in detail pre-installation checks, detailed installation procedures alongwith drawings and post installation checks should also cover set to work & commissioning procedures alongwith relevant settings and performance data sheet. This should also provide installation specifications and test & trial procedures alongwith test forms.
- (3) <u>Maintenance Manual</u>. This document should include following:
  - (a) Technical data / specifications & general technical description of the equipment/system, including its all sub assemblies /sub system.
  - (b) Level 1 & 2 maintenance routines alongwith detailed procedure to complete



maintenance job including information contained in Job Information Cards, Engineering Procedure, Technical Repair Standard i.e. spares / stores divided into following categories:

- i. Mandatory items
- ii. High probability items i.e> 50% usage
- Low probability items i.e> 25% usage
- iv. Occasional items i.e> 5% usage
- v. Consumable items
- (c) Fault diagnostic procedure
- (d) Overhaul procedures (If applicable)
- (e) Part list
- (f) Operating space items/ready use stores (If applicable)
- (g) Hot/built-in spares (If applicable)
- (h) Shop consumable
- Technical data sheet (Reference/datum level data)
- (4) <u>Software Manuals</u>. Complete documentation (fully commented) to support all aspects of software maintenance alongwith the source code both in hard and soft from.
- (5) IPC (IF APPLICABLE). It should contain exploded view of assemblies & sub-assemblies alongwith identification of all components included there in. Prices of all items be also provided for future use and update periodically.
- (6) <u>Workshop Manual</u>. This document should include following:
  - (a) Technical data & general technical description of system.
  - (b) Technical description of all subassemblies & sub-systems.
  - (c) Level 3 & 4 maintenance routines



alongwith detailed procedure supported by information contained in Job Information Cards, Engineering Procedure, Technical Repair Standard i.e. maintenance procedure in detail, tool/test equipment required and list of spares /stores divided into following categories:

- i. Mandatory items
- ii. High probability items i.e> 50% usage
- iii. Low probability items i.e> 25% usage
- iv. Occasional items i.e> 5% usage
- v. Consumable items
- (d) Complete circuit diagrams of all PCBs modules & sub-assemblies of equipment.
- (e) Fault diagnostic upto component level.
- (f) FATs record alongwith base line VA record if applicable
- (g) Major overhaul detailed procedure.
- (h) Parts list.
- (j) Technical data sheet (Reference/datum level data)
- (k) Component layout of PCBs/modules
- (I) Mylar of all PCBs. &
- (m) List of customized IC's alongwith truth table.
- (n) List of programmable components alongwith software / firmware and source code.
- (p) Details of tolerances and wear limits according to manufactures standards.
- (q) Values alongwith limits of all safeties



and detailed procedure of setting/ adjustment.

- (r) Performance chart.
- (s) List of standard test equipment.
- (t) List of special to type test equipment.
- (u) List of insurance / contingericy items.
- (v) List of U x E items.
- (w) List of R x R items.
- (7) <u>List of Onboard Spares</u>. List of onboard spares to support level 1 and 2 maintenance alongwith consumables for machinery/equipment upto 2 year.
- (8) <u>List Of Depot Spares</u>. List of depot stores to support level 1-4 maintenance for two complete maintenance cycle of 10 years.
- (9) Project Definition Document (PDD). Project Definition Document is to be provided by the Supplier 02 months after Contract Effective Date.



# ILS REQUIREMENT -SHORE V/UHF COMINT SYSTEM

ILS requirements have been mentioned with the assumption that off the shelf system
is being acquired by PN. Depth/ Scope of ILS requirements are to be further fine tuned in
consultation with the contractor at the time of Contract Negotiations. However, generalised
requirements are mentioned in ensuing paragraphs:

- a. <u>Configuration Management</u> Configuration Management of the equipment shall be undertaken i.a.w MIL-HDBK-61A to the level defined by PN.
- b. Logistic Support Analysis (LSA). Results of LSA processes shall be shared with PN as follows:
  - Reliability, Availability & Maintainability (RAM) analysis of offered system i.a.w MIL-STD-785, MIL-HDBK-217, MIL-STD 470.
  - Failure Mode Effects & Criticality Analysis (FMECA) i.a.wMIL-STD-1629A.
  - (3) Reliability Centred Maintenance Analysis (RCMA) i.a.w MIL-STD-2173AS & MIL-STD-3034A. Condition Based Monitoring is preferred maintenance approach. Port shall be available to take output of CBM data and interface with PN Computer Aided Management System (CAMS) for online monitoring.
  - (4) Maintenance Task Analysis (MTA) i.a.w MIL-STD-1478.
  - Level of Repair Analysis (LORA)i.a.w MIL-STD-1390D.
  - (6) Life Cycle Cost Analysis (LCCA) covering above supportability analysis processes.
- c. Logistic Support Analysis Record (LSAR). Seller shall furnish LSAR i.a.w MIL-STD-1388-2B.
- d. <u>Integrated Logistic Support Elements</u>. Based on LSAR, CONTRACTOR shall produce and provide following ILS elements to PN in hard copy and database format to carryout repair and maintenance upto Depot level:
  - (1) Maintenance Planning.
  - (2) Manpower & Personnel.
  - (3) Supply Support.
  - (4) Tools & Test equipment.
  - (5) Training & Training Devices.



- (6) Technical Documentation (including IETMS with 3D IPCs) PN Standard Technical Manual format is to be followed.
- (7) Packaging, Handling, Storage and Transportability.
- (8) Support Facilities.
- (9) RAM data.
- Through Life Maintenance Plan and Through Life Cycle Cost (TLCC), meeting 80% "Operational Availability" requirement of the offered system is to be provided by the Seller.
- Following parameters of offered System/ Equipment, Assemblies, Sub-Assemblies, parts are to be provided:
  - a. Reliability (MTBF).
  - b. Maintainability (MTTR).
  - Testability including fault coverage, fault resolution, fault detection time, fault isolation time, false alarm rate and system level test effectiveness.
- 4. CAMS Data is to be provided as per Purchaser provided database format.
- Supplier/ Contractor is required to forward following documents in soft copies (PDF Format searchable) to CICP at least two months in advance of dispatch of stores/ consignment date for inventory updation.
  - a. Illustrated Part catalogue duly verified by OEM.
  - List of all components/ parts/ assemblies in Excel format covering under mentioned field.
    - (1) OEM complete address.
    - (2) Part Number.
    - (3) NATO Stock Number (If held).
    - (4) Description/ Nomenclature of item/Part/assembly.
    - (5) Denomination.
    - (6) Shelf life.
    - (7) Equipment Name.
    - (8) Equipment Model No.
    - (9) Equipment Serial No.
    - (10) Population of items in equipment.
    - (11) Repairable/Non repairable source of availability.
    - (12) Units/ Price in US \$/ Pak rupees.
- Logistics support requirements for through life support of the system will be discussed/ negotiated during contract finalization.
- 7 Functional/ physical breakdown of the systems installed to the lowest PCB/ component level are to be provided.

- Necessary documents/ data indicating basis for calculation of declared/ notified MTBF
   of the systems are to be provided.
  - Onboard/ depot spares recommended by contractor will be vetted prior finalization of the contract. OEM is to clearly indicate the basis for ranging and scaling of spares.
  - Itemized cost of all spares along with turn-around time for repairs are to be provided by the contractor.
  - Detail of repair infrastructure required to be established at PN Dockyard for level 3 repairs/ testing alongwith cost estimates are to be provided.
  - 12. The Contractor shall perform a maintenance tasks analysis for each maintenance task requirement on the system and identify:
    - Sequential steps to perform the maintenance task.
    - Personnel skill and elapsed time requirements.
    - Support Equipment required.
    - Facility requirements.
    - Training task requirements.
    - Spares, parts, and consumable requirements.
    - g. Safety limitations or requirements.
    - h. Task frequency.
    - j. Transportability and Package Handling Storage and Transportation requirements.
    - k. Maintenance level.
    - Use of BIT/BITE.
  - PN will conduct overall supportability test, evaluation, and verification (TEV) of the system; the Contractor shall assist and support the conduct of TEV.
    - The Contractor shall conduct a BIT/BITE demonstration to prove the adequacy of BIT/BITE to meet fault detection and fault isolation requirements.
    - b. The Contractor shall prepare for and host a Maintainability Demonstration to prove the adequacy of the design of the system to be maintained and the adequacy of the logistics support package to support maintenance.
  - Provisioning documentation shall consist of separate Long Lead Items Lists, Contractor Spares Package Items Lists, Initial Provisioning Lists, for the system.
  - The Contractor shall perform availability predictions of inherent availability, achieved availability and operational availability for the system.

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16. The Contractor shall provide a complete Reliability Centered Maintenance (RCM) analysis for the system. This analysis shall form the basis for all preventive maintenance tasks, removals, and discard requirements.

## ICD REQUIREMENTS FOR SHORE V/UHF COMINT SYSTEM

For equipment, sensor or sub system interfacing, the requirements/details from OEM shall include but not be limited to the following information in Interface Control Documents (ICDs):

- a. <u>Electrical / Functional</u>. Following parameters are required considering the specific function or signal involved:
  - (1) Cabling and connectors.
  - (2) Power requirements.
  - (3) Electromagnetic interference, electromagnetic.
  - (4) Compatibility, electromagnetic radiation, and Grounding requirements.
  - (5) Functional flow and timing requirements.
  - (6) Signal definition.
  - (7) Digital data definition to the bit level.
  - (8) Protocol levels.
  - Seven-layer international standards Organization.
  - (10) Open system instruction stack definition or its equivalents.
  - (11) Error recovery procedures.
  - (12) Startup and shutdown sequences.
  - (13) Adequacy of standards used or reference.
  - (14) Interface signal type (e.g. analog or digital).
  - (15) Timing and other functional interdependencies.
  - (16) System handling of error conditions.
  - (17) Grounding requirements.
  - (18)

## b. Mechanical / Physical.

- Additional physical output ports (Ethernet / serial /ARINC).
- (2) A datum (reference) common to both sides.
- (3) Dimension and tolerance for all features of each part/port provided.
- (4) Compatibility of two mating parts / port and their specifications.

#### c. Structural Load.

- (1) Loading conditions (static or dynamics).
- (2) Duration of loading condition.
- (3) Characteristics of the equipment's.
- d. <u>Hardware Interface</u>. The requirements /details shall not be limited to the following:
  - It shall cover complete hardware configuration details /documentations, not just limited to the pin level diagrams, connector type, electrical voltage etc.



- (2) Each output port type ports (Ethernet / serial /ARINC), complete interface / configuration details shall be provided including peripheral devices connection, interface details.
- (3) OEM must provide sufficient documentation, so as PN shall be able to interface all hardware and peripheral devices with PN equipment's (where available / applicable) independent of OEM help/support.
- e. <u>Software Interface</u>. The requirements/ details must have definition of every interface by medium and by function including and shall not be limited to the following:
  - (1) ICD shall cover in details the following formats:
    - (a) Date type
    - (b) Input, output message
    - (c) Input, output controls codes
    - (d) Polarity
    - (e) Range
    - f) Units
    - (g) Bits weighing, Baud rate
    - (h) Frequency
    - (j) Min max timing constraints
    - (k) Legal / illegal values
    - (I) Accuracy
    - (m) Data Fields
    - (n) Message encoding
    - (p) Special characters definition
    - (q) Message control, construction rule / definition /formats
    - (r) Data processing /handshake rules
    - (s) Interface Protocol details/ formats
  - (2) Software ICDs must provide complete data decoding scheme for each interface type, i.e Ethernet/ Serial/ ARINC.
  - (3) Handshaking details including data flow scheme and command exchange mechanism, for input and output data exchange.

#### f. Environment

- Conditions required for equipment to function properly, storage, standby and operating scenarios established and defined.
- (2) Extreme and nominal environmental conditions defined.
- (3) Effect of uncontrolled extreme external environmental.



APPENDIX IV TO ANNEX B
INDENT NO 2.29 0002
DATED

## MISCELLANEOUS REQUIREMENTS

S No	Description	Remarks
a.	Computer Tables/ Lockers	For computers and COMINT system
b.	Office Chairs	For staff
C.	Computers with accessories	01 for OAS, OI/C etc
d.	UPS and Voltage Stabilizer	For COMINT systems and Remote Stations
e.	Printers	For preparation generation of Reports
f.	Diesel Generator s (25 KVA)	Able to provide standby 220V power supply for each station

#### Note:

Items & Qty to be finalized after survey/ feasibility. It will also include a simulator at Pakistan Navy Tactical School (PNTS) at Karachi for training requirements for use by at least 06 x Operators at a given time.



		<u>DP-3</u>
TENDE	r No	NAME OF THE FIRM
10.	Directorate of Procurement (Navy) Through Bahira Gate Near SNIDS Centre, Naval Residential Complex E-8 ISLAMABAD	
	Contact: Reception: 051-926231: Bahria Gate: 0331-5540649 Section: 051-9262304 Email: dpn@paknavy.gov.pk Adpn31pre@paknavy.gov.pk	1
DEAR S	IR	DATE
SCHEDU OF TENE WILL REI AND THE COMMUN 2. I/WE CONTRA PAKISTA GOVERN PATTERI REQUIRE	ILE TO THE TENDER INQUIRY OR SUCH PORTION TO DER AT THE PRICES OFFERED AGAINST THE SAID SET AND VALID UP TO 120 DAYS AND WILL NOT BE WITH E CONDITIONS ALREADY STATED THEREIN OR ON NICATION OF ACCEPTANCE TO BE DISPATCHED WITH E HAVE UNDERSTOOD THE INSTRUCTIONS TO THE ACT IN FORM NO. DP-35 (REVISED 2002) INCLUDIAN, MINISTRY OF DEFENCE (DIRECTORATE GENERALLY OF DEFENCE (DIRECTORATE GENERALLY OF DEFENCE (DIRECTORATE GENERALLY OF DEFENCE OF THOROUGHLY EXAINS QUOTED IN THE SCHEDULE HERETO AND AM/A ED AND MY/OUR OFFER IS TO SUPPLY STORES STR	ENDERS AND GENERAL CONDITIONS GOVERNING DED IN THE PAMPHLET ENTITLED, GOVERNMENT OF RAL DEFENCE PURCHASE) "GENERAL CONDITIONS AMINED THE SPECIFICATIONS/DRAWINGS AND/ OR RE FULLY AWARE OF THE NATURE OF THE STORES ICTLY IN ACCORDANCE WITH THE REQUIREMENTS.
3. THE	FOLLOWING PAGES HAVE BEEN ADDED TO AND FO	DRM PART OF THIS TENDER:
В		VOLIDO FAITHELIU V
		YOURS FAITHFULLY,
		(SIGNATURE OF TENDERER)  (CAPACITY IN WHICH SIGNING)  ADDRESS:

\*INDIVIDUAL SIGNING TENDER AND/OR OTHER DOCUMENTS CONNECTED WITH A CONTRACT MUST SPECIFY:-

- (a) WHETHER SIGNING AS "SOLE PROPRIETOR" OF THE FIRM OR HIS ATTORNEY.
- (b) WHETHER SIGNING AS A "REGISTERED ACTIVE PARTNER" OF THE FIRM OR HIS ATTORNEY.
- (c) WHETHER SIGNING FOR THE FIRM "PER PROCURATION".
- (d) IN THE CASE OF COMPANIES AND FIRMS REGISTERED UNDER THE ACT, 1913 AS AMENDED UP-TO-DATE AND UNDER THE PARTNERSHIP ACT 1932, THE CAPACITY IN WHICH SIGNING E.G., THE DIRECTOR, SECRETARY, MANAGER, PARTNER, ETC. OR THEIR ATTORNEY AND PRODUCE

- (e) Principal's Proforma invoice (in original)
- (f) Earnest money
- (g) Treasury Challan Form for tender Fees as applicable

# NECESSARY DATA FOR ISSUANCE OF CONTRACTS ON BID SECURITY/EARNEST MONEY

## **IMPORTANT**

Each column must be filled in with BLOCK CAPITAL LETTERS, incompletion shall render disqualification.

1.	Name :	
2.	Father's Name :	
	Address (Residential) :	_
<u> </u>	Designation in Firm :	_
	CNIC : (Attach Copy of CNIC)	
6.	NTN:	
	(Attach Copy of NTN) Firm's Address :	
	Date of Establishment of Firm :	
	Firm's Registration Certificate with FBR/Chamber of Commerce/Registrar of Companies. tach Copy of relevant CERTIFICATE)	
10	. In case PARTNERSHIP (Attach particulars at serial 1,2,3,4,5 and 6 of each partner).	
(Ki	ndly fill in the above form and forward it under your own letter head with contact details)	