

## (CORREGENDUM : CASE NO 436387/P-43)

1. Tender Opening date has been extended up to **01 April, 2019**.
2. Following points are required to be catered for in addition to the already floated IT documents:-
  - (a). **M6 integration.** OEM would provide either ICD for facilitating integration of Mode 6P module by PAF **or** would do onsite integration of M6P with his equipment within Pakistan.
  - (b). **Civil works.** Detailed technical drawings of building, complete layout of ATCR equipment, ECS / HVAC etc and infrastructure would be provided by OEM and civil works would be executed **by PAF** through MES.
  - (c). **Miscellaneous Works / Requirements.** OEM would specify detailed power layout / requirements (including Backup Power arrangements), communication requirements and **PAF would execute** the same.
  - (d). **Backup Power and ECS.** Specifications of power rating, SPDs' requirements, ECS / HVAC (with load calculation and exact layout of ducting inlet /outlet and cooling requirement) & Backup Power including Generator, UPS, AVR inclusive of load calculation and ratings (in KVA) would be provided by OEM. ECS / HVAC, Genset, AVR and UPSs would be accordingly procured and installed **by PAF** as per its procedure in vogue.
  - (e). **ONLY S-BAND ATCR RADAR IS TO BE OFFERED.** All bidders should note that requirement pertains to a S-Band ATCR system which is primarily used for Air Traffic Control functionality and its use in Air Defence Surveillance is a secondary function. S-Band is generally regarded as more resistant to electronic warfare attacks and uses relatively smaller antennas and transmitters. From technical perspective, higher bands ensure better positional accuracy of targets which is of fundamental importance in Air Traffic Control Radars. Accurate weather maps are another advantage of S-Band ATCR systems.
  - (f). **Advanced payment will NOT** be made to the successful bidder.
  - (g). Partial payment against partial shipment is **NOT** allowed for the Radar.
  - (h). This is a turn key project, therefore, all items should be quoted by a bidder. Partial offer will be rejected.
  - (i). Six (06) Months delivery period from contract effective date is desired; however, firm may quote the delivery time as soon as possible for them. In any case, delivery period more than **nine (09) months is NOT Acceptable**.



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**PERMISSION TO PARTICIPATE IN TENDER**

- 1. REGISTERED AND INDEXED FIRMS MAY PARTICIPATE WITHOUT ANY FORMAL APPROVAL. OFFER MUST BE ACCOMPANIED WITH A CHALLAN FORM 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).**
  
- 2. UN-REGISTERED/ UN-INDEXED FIRMS SHOULD SEEK PRIOR APPROVAL FROM CONCERNED ADP FOR PARTICIPATION ON 5% ERNEST MONEY. OFFER MUST BE ACCOMPANIED WITH CHALLAN FORMS OF Rs. 200/- AND Rs. 2,000/- (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).**
  
- 3. BARRED FIRMS ARE NOT ALLOWED TO PARTICIPATE.**

**INVITATION TO TENDER**  
**GENERAL INSTRUCTIONS TO TENDER**  
**CIP/F.O.B/DIRECT**

No **436387 /P-43**  
Directorate of Procurement (Air)  
Air Headquarters, Nur Khan,  
Chaklala Rawalpindi  
Tel: **+92-51-9281363**  
Fax: **+92+51-9271499**  
Dated: **10-03-2019**

**M/s** \_\_\_\_\_

**Invitation to Tender and General Instructions**

Dear Sir,

1. I invite you to tender for the supply of stores/ development/ repair/ overhaul/ training/ documents as per details indicated in the attached Schedule to Tender (Form DP-2).
2. **Conditions Governing Contracts.** This IT mean the agreement entered into between the parties i.e. the "Purchaser" and the 'Seller' on Directorate General Defence purchase (DGDP) contract Form "DP-19" in accordance with the law of contract Act, 1872 and those contained in DPP&I-35 (Revised 2017) and other special conditions that may be added to given contract for the supply of Defence Stores specified herein.
3. **Delivery of Tender.** The offer is to be submitted in duplicate as under:-

- a. **Technical Offer.** Should contain all relevant specifications in duplicate in an envelope and clearly marked "Technical Offer" without prices, tender number and date of opening. Both the "envelopes" of commercial and technical offers should be enclosed in one cover, properly sealed and bear the address of this office without any indication that there is tender within. Technical offer will be opened half an hour after the date and time for receipt of tender mentioned in DP-2.
- b. **Commercial Offer**
  - i. The offer will be in single and indicate prices quoted in figures as well in words along with essential literature/ brochure. It should be clearly marked in fact on the envelope "Commercial Offer", tender number and date of opening. Commercial offer of only those firms will be opened, whose technical offers are accepted by technical authorities. Date of opening of commercial offer would be intimated after receipt of technical scrutiny report from technical authorities. Commercial offer of technically rejected forms will be returned to the firms un-opened.
  - ii. If the equipment/ system is quoted, the price of all major and optional components to be quoted separately. Conversion rate of FE/CL components will be considered w.e.f opening of commercial offer.
- c. The tender duly sealed will be addressed to the following:  
(Name of Officer receiving the tender) (Appointment/ designation of above officer) i.e

**ADP-43**  
**Directorate of Procurement (Air)**  
**Air Headquarters, Nur Khan (Chaklala)**  
**Rawalpindi. Pakistan**  
**Tel: +92-51-9281363**  
**Fax: +92-51-9271499**

**Special Instructions:** Tender documents and its conditions may please be read point by point and understood properly before quoting. All tender conditions should be responded clearly. In case of any deviation due to non-acceptance of tender conditions(s), the same should be highlighted along with your changed offer/ conditions outlined by Purchaser in this IT.

4. **Date and Time for Receipt of Tender.** Your tender must reach this office by the date and time specified in the Schedule to Tender (Form DP-2) attached. This Directorate will not accept any excuse of delay occurring in post. Tenders received after the appointed/ fixed time will NOT be entertained. The appointed time will, however, fall on next working day in case of closed/forced holiday.
5. **Validity of Offer**

- a. The validity period of quotations must be indicated and should invariably be 120 days from the date of opening of commercial offer or 30<sup>th</sup> June which ever is earlier.
  - 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 on going contract rates) with discount.
6. **Part Bid.** You may quote for the whole or any portion, or to state in the tender that the rate quoted, shall apply only if the entire quantity is taken from you. The Director Procurement reserves the right of accepting the whole or any part of the tender or portion of the quantity offered, and you shall supply these at the rate quoted.

**Note** This condition would be used very rarely except ration items.

7. **Return of IT/ With-drawl of Offer**

- a. In case you are Not quoting, please return the tender inquiry starting the reason of NOT quoting. In case of failure to return the ITs either quoted or not quoted consecutively 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.
- b. If the firm withdraws it offer within validity period the competent authority may place such firm under embargo for a period, which may be extended up to one year.

8. **Photocopies of documents.** Following information/ copy of documents must be provided/ attached with offer:-

- a. A copy of letter showing firm's financial capability.
- b. Registration/ renewal letter/ indexation/ additional indexation letter as applicable.
- c. Income tax No to be mentioned on the offer and copy of registration certificate issued by sales tax department.
- d. Foreign seller has to provide its registration Number issued by respective Department of Commerce authorizing export of subject stores.
- e. Principal/ Agency Agreement. (In case of FOB contracts)

9. **Disqualification.** Offers are liable to be rejected if:-

- a. Taxes and duties, freight/ transportation and insurance charges NOT indicated separately.
- b. There is any deviation from the General/ Special/ Technical Instructions.
- c. Offers are found conditional or incomplete in any respect.
- d. Treasury Challan is NOT attached with the offer.
- e. Form DP-3 duly signed, is NOT received with the offers.
- f. Multiple rates are quoted against one items.
- g. Manufacture's relevant original brochures and technical details on major equipment assemblies are not attached in support of specification.
- h. Received later than appointed/ fixed date and time.
- j. Subject to restriction of export license.
- k. If the validity of the agency agreement is expired.
- l. The commercial offer against FOB/ CIF/ C&F tender quoted in local currency and vise versa.
- m. Principals invoice in duplicate clearly indicating whether prices, quoted are inclusive or exclusive of the agent commission is not enclosed.
- n. Earnest money not provided where applicable.
- o. If validity of offer is not quoted as required on IT or made subject to confirmation later.
- p. Offer made through Fax/ E-mail/ Cable/ Telex.
- q. If your offer is found to be based on cartel action in connivance with other sources/ participants of the tender.
- r. Un-called offer/ quotations will be rejected.

10. **Earnest Money/ Tender Bond:-** Your tender must be accompanied by a Bank Draft in favour of CMA (DP), Rawalpindi for the following amount:-

- a. **Registered/Indexed Firms:** Earnest money is not required, the firms those are registered/indexed with DGDP for the tendered store..
- b. **Registered Firms:** 3% of the quoted value subject to maximum ceiling of Rs 0.200 Million.
- c. **Un-registered Firms:** 5% of the quoted value subject to maximum ceiling of Rs 0.400 Million.

**Note:**

In case of firm wins a contract on EM, it will deposit following documents for provisional Regn before the award of contracts:-

S. No	Local Supplier	Foreign Supplier
i)	Three filled copies of SVA-8121 of each member of management	Three filled copies of SVA-8121-D of each member of management
ii)	Three filled copies of SVA-8121-A	Three filled copies of SVA-8121
iii)	Three photocopies of NIC for each member of management	Three photocopy of Resident Card or equivalent identification Card for each member of management
iv)	Three PP size photographs for each member of management	Three PP size photographs for each member of management
v)	Challan Form (*)	Challan Form (*)
vi)	Bank Statement for last one year	Financial standing/audit balance sheet
vii)	Photocopy of NTN	Photocopy of passport
viii)	Foreign Principal Agency Agreement in case of local agent	Agency Agreement in case of Trading House/Company/Exporter/Stockiest etc.

d. **Return of Earnest Money**

- (1) Earnest money to the unsuccessful bidders will be returned on finalization of the contract.
- (2) Earnest money of the firm/ firms with whom contract is concluded will be returned on submission of Bank Guarantee stipulated in the contract.

11. **Treasury Challan**

- a. Offers must be accompanied with a challan form 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.
- b. In case of un-registered firms, whether they have applied for registration or not, will pay tender inquiry fee (Challan Form) at following rates:-
  - (1) Bid for value upto. Rs 2, 50,000/- Rs 1,000/-
  - (2) Bid for value from Rs. 2, 50,000/- to Rs 50, 00,000/- Rs 1,500/-
  - (3) Bid for value above Rs 50, 00,000/- Rs 2,000/-

**Note:- Offer of Un Registered firms will be considered with 5% EM {Subject to approval of DP (Air)}.**

12. **Rights Reserved.** Respective procurement agency reserves full rights to accept or reject any or all offers including the lowest, after assigning grounds for its rejection and upon request, the grounds of rejection shall be communicated to supplier / contractor, who submit the offer

13. **Application of Official Secret Acts.** All the matters connected with this enquiry and subsequent actions arising there from come within the scope of the Official Secret Act 1923. You are, therefore, requested to ensure complete secrecy regarding documents and stores concerned with the enquiry and to limit the number of your employees having access to this information.

14. **FORM DP-2, DP-3 and Questionnaires.** Form DP-2, DP-3 and Questionnaires duly filled in are to be returned with the offer duly signed by the authorized signatory/ person.

15. **Copy of DPP&I-35 Revised 2017.** Copies of DPP&I-35 revised 2017 are available with Registration Section DGDP and the same be obtained by the Supplier on payment at the rate of Rs 250/- each.

16. **Acknowledgement.** If applicable, firms will send acknowledgement slips within 07 days from the date of receipt of IT. In case IT is not received by a registered firm within 10 days IT published in the Bulletin, the firm must ask for it from ADP-43 DP(Air) in writing with intimation to Registration Section (DGDP).

17. **Appeal against rejection of Bid.** Bidder aggrieved by technical rejection of their offers may forward their appeal to Grievance Redressed Committee constituted at DP (Air). All such appeals be forwarded in writing within 15 days of technical rejection. Complaints received after 15 days would not be entertained.

18. **Tender Opening:** Technical offer shall be opened at least thirty minutes after the deadline for submission of bids on same day. Commercial offers will be opened at later stage if Technical Offers is found acceptable on examination by technical authorities of Service HQ. Date and time for opening of Commercial offer shall be intimated later. Only legitimate / registered representatives of firm will be allowed to attend the tender opening.

19. **Reservations / Preference:-** Supplier/contractors intending to avail any reservations for preferences like Price Preference, First Right of refusal, Intellectual Property Rights or any other in accordance with the policy of the Federal Govt, authority or SRO are to intimate DP (Air) at least 07 days in advance of tender submission date alongwith supporting documents and are to clearly mention such reservation/preference in Tender Technical & Commercial proposals.



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**Enclosures:-**

1. Matrix Proforma
2. DP-2, Part-I
3. Appendix-I to DP-2, Part-I (Schedule of Tender)
4. Appendix-II to DP-2, Part-I (Technical Specs)
5. DP-2, Part-II
6. Appendix-I to DP-2, Part-II
7. Appendix-II to DP-2, Part-II
8. Appendix-III to DP-2, Part-II
9. Appendix-IV to DP-2, Part-II
10. Appendix-V to DP-2, Part-II
11. DP-2, Part-III
12. DP-3

**MATRIX PROFORMA**  
**FOREIGN CURRENCY TENDER**

- Notes:**
- This mandatory Proforma is to be filled and attached with technical offer. Non-filling / incomplete filling may result in outright rejection of offer.
  - Please fill the blank columns and tick ( ✓ ) the choice of YES or NO, as applicable. No column is to be left un-actioned.

S. No	Description of Requirement	Firm's Compliance	
1.	Principal Firm's Name, Address, Email, Phone No & Fax No. (On award of contract, Letter of Credit will be opened in favour of stated Principal Firm).		
2.	Agent Firm's / Representative's / Liaison Office's Name, Address, Email, Phone No & Fax No.		
3.	Weather Principal or its Agent Firm is registered with DGDP or Not?	<input type="checkbox"/> YES	<input type="checkbox"/> NO
4.	Weather Principal is Indexed with DGDP's Registered Agent Firm or Not?	<input type="checkbox"/> YES	<input type="checkbox"/> NO
5.	Copy of DGDP Registration Certificate along with extension certificate is attached with Technical Offer.	<input type="checkbox"/> YES	<input type="checkbox"/> NO
6.	Agency agreement between Principal and Agent Firm is attached with the Technical Offer (for un-registered and registered but un-indexed firms only)	<input type="checkbox"/> YES	<input type="checkbox"/> NO
7.	Authorized Distribution-ship Letter from manufacturer of the offered equipment in favour of Principal is attached with Technical Offer . OR If Principal is not authorized distributor of manufacturer of the offered equipment then a Letter from the manufacturer (or its Authorized Distributor) on their letterhead confirming that they have offered their quote to the Principal firm for supplying against this tender No 436387/P-43_ is attached.  {Relevant address, phone no and email of the Manufacturer/ Distributor must be provided, if already not mentioned on their letterhead. DP(Air) will confirm authenticity of such authorization}.	<input type="checkbox"/> YES	<input type="checkbox"/> NO
8.	Original Treasury Challan Form valuing Rs 200/- is attached with Technical Offer (Both by DGDP Registered and Un-registered firm)	<input type="checkbox"/> YES	<input type="checkbox"/> NO
9.	Original Treasury Challan Form valuing Rs 1,000/- or Rs 1,500/- or 2,000/- (as per bid value defined at para 11b of FORM DP-1) is attached with Technical Offer (Only by DGDP un-Registered firm )	<input type="checkbox"/> YES	<input type="checkbox"/> NO
10.	Bank Draft in lieu of Earnest Money as per the required amount in favour of <b>CMA (DP)</b> is attached with Technical Offer in a separate sealed envelope titled "Earnest Money Tender No _____". { Earnest money @ 5% (max ceiling Rs 0.4000 Mil ) by un-registered firm, Earnest money @ 3% (max ceiling Rs 0.200 Mil ) by Registered/firm, Earnest money <b>NOT REQUIRED</b> for Registered/indexed firm }	<input type="checkbox"/> YES	<input type="checkbox"/> NO
11.	Principal's Proforma invoice <b>without</b> prices is attached with Technical Offer. This is also known as Bill of Quantity. This should bear exactly the same Serial No as per IT. If some item(s), required in IT, is not quoted then its Serial No should be skipped.	<input type="checkbox"/> YES	<input type="checkbox"/> NO
12.	Principal's Proforma invoice <b>with</b> prices is Attached with <b>Commercial Offer</b> only.	<input type="checkbox"/> YES	<input type="checkbox"/> NO
13.	Offered prices should be on <b>CIF Karachi</b> basis (Incoterm-2010)	<input type="checkbox"/> YES	<input type="checkbox"/> NO
14.	The validity period of Offered prices must be indicated and should be at-least 90 days from the date of opening the tender, extendable for further 30 days if needed.	<input type="checkbox"/> YES	<input type="checkbox"/> NO



15.	Technical Offer must be submitted in 02 sets and commercial offer in 01 set only. Both should be packed separately in sealed envelopes. Such sealed envelopes should further be sealed in one large envelop having Tender No and Firm's name clearly written.	<input type="checkbox"/> YES	<input type="checkbox"/> NO
16.	Technical Scrutiny Report (TSR) document is duly filled, signed and stamped at appropriate column by the Principal firm. Such filled TSR document must be enclosed with the Technical Offer.	<input type="checkbox"/> YES	<input type="checkbox"/> NO
17.	Firm can quote any number of Line items. However, in case of a <b>Packaged Indent</b> , all items in a package have been quoted. (Details of all or certain items making a package (if applicable) is mentioned at "Special Notes" under "Schedule of Stores". )	<input type="checkbox"/> YES	<input type="checkbox"/> NO
18.	Principal's Financial Capability establishing documents like Audit Report / Bank Statement etc which should support execution of the contract (if awarded) in terms of finance availability is attached with Technical Offer. (For Un-registered Firms Only)	<input type="checkbox"/> YES	<input type="checkbox"/> NO
19.	Principal's existing Financial load (in Million) {Value of all ongoing contracts with DP(Air)/ DP (Army)/ DP (Navy) or any other Govt/ Civil Organization		
20.	Indicate the currency of offered bid. (US \$, GBP, Euro etc):-		
21.	Is Agent Commission applicable?	<input type="checkbox"/> YES	<input type="checkbox"/> NO
22.	Is Principle's Proforma Invoice inclusive of Agent Commission?	<input type="checkbox"/> YES	<input type="checkbox"/> NO
23.	Store will be delivered within required time period of <b>06 Months</b> after signing of contract.	<input type="checkbox"/> YES	<input type="checkbox"/> NO
24.	Manufacturers / Maker's Name, Brand Name and address of OEM.		
25.	Country of Origin of store. List down names of countries in case of more than one country.		
26.	Mode of Shipment should be <b>By Sea</b> .	<input type="checkbox"/> YES	<input type="checkbox"/> NO
27.	Indicate Airport / Seaport of Shipment.		
28.	Submission of Contract Performance / Warranty Bank Guarantee @ 10% of contract value which should be valid 2 months beyond expiry of warranty period.	<input type="checkbox"/> YES	<input type="checkbox"/> NO
29.	Warranty of equipment is minimum <b>24 Months</b> after release of CRVs.	<input type="checkbox"/> YES	<input type="checkbox"/> NO
30.	Acceptance of terms of Payment through irrevocable / Non-transferable letter of credit with 80% on shipment and 20% on release of CRVs.	<input type="checkbox"/> YES	<input type="checkbox"/> NO
31.	Acceptance of Special Notes as per IT.	<input type="checkbox"/> YES	<input type="checkbox"/> NO
32.	Acceptance of Inspection Criteria as per IT.	<input type="checkbox"/> YES	<input type="checkbox"/> NO

**Comments / Justification by Firm for non-compliance (if any):-**

\_\_\_\_\_

\_\_\_\_\_

**Signatures:** \_\_\_\_\_

**Name & Designation:** \_\_\_\_\_

**Direct Contact No & email:** \_\_\_\_\_

**Stamp of Firm:** \_\_\_\_\_

**SCHEDULE OF TENDER**

1. I/T No **436387/P-43**
2. Time and Date of Opening: **01-04-2019** at **1100 Hrs**
3. **Please see the Schedule of Tender at Appendix-I to DP-2, Part-I.**

**General Instructions**

1. Tech Specification/ GSR/ NSR/ ASR are reflected at Appendix-II to this schedule must be studied carefully prior to filling in Tender.
2. Date by which stores are required \_\_\_\_\_ (in case of not possible for you to give delivery by given date please indicate DP by which store can be delivered by the firm).
3. As per the IT quotation will be submitted on FOR/ FOB/ CIF/ C&F/ FAS/CIP Basis and in case of FOR (import) the principal invoices on C&F basis to be attached with offer.
4. The firm shall indicate availability of raw material and in case the same is to be imported then will give the requirement for import license.
5. The price quoted must be not per accounting unit as shown in the schedule to tender inclusive of sales Tax/ Excise Duty/ Surcharge (fix/ variable taxes or any other relevant tax). The breakdown of price will be indicated is as under:-
 

a. Ex-factory/ Base price	-	LC/ Relevant FE
b. Taxes/ Duties	-	LC/ Relevant FE
c. Total price	-	LC/ Relevant FE
d. Freight/ transportation/ Allied Charges	-	LC/ Relevant FE
e. Insurance Charges	-	LC
f. Agent commission (agent Commission ranging for 0.5% To 4% will be declared in the offer in case of contracts involving local agent whereas foreign principal is not paying commission to local agent then in that case the firm will attached certificate as Appendix-II	-	LC/ Relevant FE
6. Prices will be mentioned for each items separately both in figures, and words. Additional information if any would be linked with entries on the schedule tender.
7. Only one rate will be quoted for entire qty, items wise and multi-rates if quoted will lead to rejection of offer.
8. In case of FOR Contracts the price will be quoted in Pak Currency and in case store is to be imported, then quotation should be on FOB basis indicating the element to be added to make it CIF/ C&F/ FSA in such cased %age to be paid in foreign, currency and commission to be paid in Pak Currency will be clearly indicated.
9. Original quotations from the mfr/ supplier must be attached in support of quoted price. A certificate from the principal will be endorsed on the original quotation to the effect that the prices do include \_\_\_\_\_ - \_\_\_\_\_ %age of agent commission discount and do not include any such commission. And apart from this, there is no other element of agent's commission/ discount included in the quotation. Only one rate will be quoted for entire qty items-wise.
10. In case of OEM products are offered, OEM part No and its interchangeability with demanded part No should be indicated and provided with the help of relevant catalogue/ extract.
11. FOR Station/ FOB & FAS port must be given while filling the schedule.
12. In case of FOB/ CIF/ C&F/ FAS/ CIP requirements the prices will be indicated in US\$/ EURO/ UK£ (in case quoted prices are in different currencies then for the sake of comparison, these will be converted into Pak Currency at rate prevailing on opening day of commercial offers).

**Special Instructions.** You may say “Agreed” / “Not Agreed” to conditions/ clauses mentioned in the succeeding Part II & III of this DP-2. In case of disagreement you may suggest option/ alternative course for consideration by Procurement agency but it will not be binding on Director of Procurement to Accent the same.

**SCHEDULE OF TENDER**

TENDER INQUIRY NO. : **436387/P-43**  
TENDER TITLE : **Procurement of ATCR SYSTEM FOR PAAK**  
TENDER TYPE : **Foreign Currency, CIF Karachi (Incoterm 2010)**  
SUBMISSION TIME : **Before 1030 Hrs on opening date.**  
TIME & DATE OF OPENING : **1100 Hrs on 01-04-2019**  
DELIVERY PERIOD : **Within 06 months after signing of contract**

**SCHEDULE OF STORE  
(PROCUREMENT OF ATCR SYSTEM FOR PAAK)**

S No	Part No	Description of Store	Specs	A/ U	Qty
1	NIL	PRIMARY SURVIELLANCE RADAR (PSR) WITH ACCESS	Attached	LO	1
2	NIL	SECONDARY URVIELLANCE RADAR		LO	1
3.	NIL	OPERATION CONTROL CENTER (OCC)		EA	2
4.	NIL	INSTALLATION AND ALLIED SERVICES ATCR SYSTEM		EA	1
5.	NIL	ON SITE SUPPORT AFTER SAT		EA	1
6	NIL	COMMERCIAL TEST EQUIPMENT RECOMMENDED		EA	1
7	NIL	SUB SYSTEMS FACTORY ACCEPTANCE TEST (PSR,SSR,OCC AND ANTENNA)		EA	1
8	NIL	USER PARTICIPATION AND CIVIL WORKS		EA	1

**Important Notes:-**

1. Quotations must be submitted in Foreign Currency on **CIF Karachi Sea Port** basis (Incoterm 2010)
2. **Particular Governing Supply**  
Specification /Technical data entered against each item on the indent form for guidance of manufacturer and inspector. **(Specifications Attached)**
3. **Inspection Criteria:-**  
100% physical inspection will be carried out by the inspectors of No. 101 ALC, PAF with assistance of Co-Opted member of specialist Dte as follows:-
  - a. **Physical Check**
    - i. Store will be checked for physical damage, scratches, Corrosion and deformity.
    - ii. Accessories/leads/cables/connectors/screws/nuts and bolts
    - iii. Serviceability of accessories, RF combiner, gear box and blower assy.
    - iv. Brand name, model, country of origin and dimensions.
    - v. Documentation / publications / complete manuals and IPBs (If applicable).
    - vi. Items will be identified with part number and serial number.
    - vii. OEM Certificate, certificate of conformity and verifiable documents will be provided by the supplier that store has been procured from certified source.
    - viii. Calibration certificate (If applicable).
  - b. Stores must be factory new and from current production. Certificate of current production is to be rendered by the supplier at the time of inspection.
  - c. **Functional Checks**

Functional / fitment / operational check of the equipment will be carried out as per contractual specifications at PAF sites designated by Specialist Dte.

d. **Warranty:-**

A warranty sticker is to be pasted on by the form highlighting following information:-

- |                            |                            |
|----------------------------|----------------------------|
| (i) Name of firm.          | (ii) Contract No and date. |
| (ii) Description of store. | (iv) Warranty validity     |

**Note:** In case of premature failure, firm has to be replace / rectify the equipment/spares free of cost during warranty period. Required transportation charges would be paid by the supplier.

e. **Packing**

- (i) Each item (including spares and accessories) must be packed separately using waterproof material in standard packing / appropriate boxes.
- (ii) Packing must be suitable for transportation of item over long distance by road / rail / sea / air.

f. **Delivery of Store**

After 100 % inspection suppliers will dispatch the stores to consignee at his own arrangement.

4. **Release of CRV:-**

CRV will be released by consignee after the receipt of acceptance certificate by the specialist Dte.

5. **Site Acceptance Test (SAT):**

Functional / fitment / ops checks will be carried out at PAF designated site by the specialist Dte as per contractual specifications.

**Special Notes:-**

1. Documentation (ATCR/PAR System) are to be provided free of charge Appendix "A".
2. ASR of ATCR system as per Appendix "B".
3. Proposal requirement attached as per Appendix "C".
4. See Appendix "D" for special instruction / Notes.
5. Inspection criteria / acceptance test procedure attached as Appendix "E".
6. Training on PSR / SSR / PAR system is to be provided free of charge as per Appendix "F".
7. Tools (ATCR System) are to be provided free of charge as per Appendix "G".
8. Radar software and hardware design shall be patented.
9. Maximum items should be proprietary by OEM.
10. 3<sup>rd</sup> party items should be of OEMs country.
11. On site support for 02 month after SAT (complete ATCR system) is to be provided free of charge.
12. Voice recorder (> 32 channels) is to be provided free of charge.
13. During training in Pakistan Airfare Boarding and Landing charges would be borne by the supplier.

## AIR STAFF REQUIREMENTS: ATCR SYSTEM

### Primary Surveillance Radar

#### 1. Transmitter

Frequency	S – Band →
Peak Power	≥ 19 Kw →
Pulse width	
Short Pulse	1 μs
Long Pulse	75 μs
PRF (Avg)	>900 Hz (average)
Type of Power Amplifier	Air Cooled, Modular, Solid State
Power Modules	Min 8~10

**Note:-** Transmitter design is to be robust and incorporated with built-in graceful degradation feature during continuous / prolonged operations

#### 2. Receiver

Type	Low noise, triple conversion equipped with STC Stage →
Noise Figure	1.3 dB max
Channels	Dual Redundant Channels with Automatic Switch over Aircraft (High, Low) Integrated (High, Low)
MTI	Adaptive MTD employing <u>Doppler</u> signal processing techniques.
Receiver Sensitivity	Better than – 108 dBm
Sub Clutter Visibility	
Ground Clutter	> <u>60 dB</u>
Rain Clutter	≥ <u>37 dB</u>

#### 3. Range

Instrumented Range	<u>70 – 120NM</u>
Detected Range	<u>70 – 120NM</u>

#### 4. Accuracy

Range	<u>45 m</u>
-------	-------------

<b>5. Resolution</b>	
Range	230 m
Azimuth	2.0
<b>6. ECCM Features</b>	
Frequency Agility	
Pulse Compression	
PRF Stagger	
CFAR Processing	
Side Lobe Blanking	
<b>7. Detection Probability Pd</b>	<u>99%</u>
<b>8. False Alarm Probability Pfa</b>	<u><math>10^{-8}</math></u>
<b>9. Radar Cross Section</b>	<u><math>\geq 1M^2</math></u>
<b>10. Antenna</b>	
Reflector Type	Parabolic with mesh reflecting surface
Gain	34 dB
Polarization	Linear, Circular
Rotation Rate	6 to 15 rpm
Azimuth Beam width	1.3° – 1.4° (Low / High)
Vertical Beam width	4.8° – 6.5° (Low / High)
Side Lobes	-33 db
Tilt	$\pm 3^\circ$ relative to horizontal
<b>11. Polarization</b>	Linear / Circular
<b>12. Target per scan</b>	900
<b>13. No of false plots</b>	<20 plots / scan
<b>14. MTBCF</b>	> 30,000 Hours
<b>15. Sub clutter visibility</b>	48db
<b>16. MTTR</b>	$\leq 22$ min
<b>17. Bite and Remote Control Monitoring System (RCMS)</b>	<ul style="list-style-type: none"> <li>• Continuous monitoring of radar status and performance parameters</li> <li>• Detection of faults at the level of PCBs and sub units in real time.</li> </ul>
<b>18. Environmental Conditions</b>	
Storage	
- Temperature	-40° to +70°

- Relative Humidity 93 % at 40°C

Operating Indoor

- Temperature -20°C to +55°C (operating environment)

- Relative Humidity Upto 80%

- Altitude 0 to 10,000 ft

Wind speed for Outdoor  
Operation

Rotation 160 km / hr

Survival 220 km / hr

**19. Power Requirements**

- Voltages 230 V / 400 VAC ± 10% three phase

- Frequency 50 Hz ± 5%

**20. Additional Features**

(a) Control and monitoring through 02 Operational Control Centers (OCCs) are required with following features:-

- (i) Radar Scopes should be of 40 inches in size for better visibility of controllers.
  - (ii) Racks for scopes should be capable to accommodate the size of scopes and along with other 01 PC for weather, IDVCS, UHF, VHF and Speakers.
  - (iii) Headsets should be internationally practiced, one eared light weight.
- (b) Availability of recording facility (Voice & Video)
  - (c) Availability of VHF / UHF radio facility
  - (d) Convenient transportability by air / road
  - (e) Integration of Mode 6
  - (f) Provision of 3D height for non-IFF equipped aircraft

## Secondary Surveillance Radar

<b>21. Transmitter</b>	
Type	Modular, Solid State
Frequency	1030 $\pm$ 0.01 MHz
Power	> 2.5 KW
PRF	Programmable 50 to 450 Hz
<b>22. Instrument Range</b>	
Max Range	$\geq 256$ NM
Min Range	< 0.5 NM
<b>23. Interrogation</b>	
Modes	1, 2, 3/A, C, 4, 6 S and ADS (B)
<b>24. Receiver</b>	
Frequency	1090 $\pm$ 3 MHz
Noise Figure	< 3.6 db
Channel	Dual Redundant channel receivers
<b>25. Accuracy</b>	
Azimuth	0.022°
Range	$\leq 15$ m Mode S $\leq 30$ m Mode A/C
<b>26. Antenna</b>	
Type	Large Vertical Aperture, Co-located with Primary Radar Antenna
Gain	27 db
Azimuth Beam width	2.4 deg
Side lobes	- 25 db (max)
Scan Rate	Upto 15 rpm
Lobe Suppression	ISLS / RSLs
<b>27. Remote Control and Monitoring System (RCMS)</b>	Monitoring all functions of radar system and means for controlling major system elements
<b>28. Probability of Detection</b>	> 99 %
<b>29. MTBF</b>	> 1500 Hrs
<b>30. MTBCF</b>	> 50,000 Hrs
<b>31. MTTR</b>	< 1 Hour



32. **Bite** Isolation of faulty sub assys with 95 % accuracy.
33. **Environmental Conditions**
- Storage
- |                   |                     |
|-------------------|---------------------|
| Temperature       | -40° to + 70°C      |
| Relative Humidity | <u>93 %</u> at 40°C |
- Operating Indoor
- |                   |  |
|-------------------|--|
| Temperature       | -20°C to +55°C (Operating environment) |
| Relative Humidity | <u>Upto 80%</u>                        |
| Altitude          | 0 to <u>10,000 ft</u>                  |
- Wind speed for Outdoor Operation
- |          |                    |
|----------|--------------------|
| Rotation | <u>160 km / Hr</u> |
| Survival | 220 km / Hr        |
34. **Power Requirements**
- |           |                                       |
|-----------|---------------------------------------|
| Voltages  | 230 V / 400 VAC $\pm$ 10% three phase |
| Frequency | <u>50 Hz <math>\pm</math> 5%</u>      |
35. **General**
- (i) ATC and Mil modes should be supported
  - (ii) Two algorithms for azimuth angle estimation
36. **Additional Features**
- (a) System should be equipped with NATO Mode-5 capability of level 1 & 2 along with backward compatibility with NATO Mode-4
  - (b) Provisioning of interface control document (ICD) for IFF – Radar Interface
  - (c) Provisioning of ICD for IFF – (M-4/5) Secure Mode Crypto Unit Interface
  - (d) Secure Mode-4 / 5 capabilities must not be disabled inside the SSR

(e) Interfacing capability with PAF existing ATCRs, Air Defence System and Civil Aviation radars

(f) Integration of ATCR with higher echelon C<sup>2</sup> center

#### **Hardware Interface / Requirements**

- Physical connection: Dual redundant Ethernet ports
- Connection point : Output of Data Processing Unit (DPU)
- Network Protocol: UDP (Unicast & Multicast)
- Destination: 40
- Data Protocol: ASTERIX
- ADS-B Receiver: Integrated & installed by OEM
- Auto North Alignment: Auto-align its picture with true north using means like GPS-differential compass etc
- Auto Calibration: Automatic removal of offsets in range and azimuth
- Installation of Voice communication panel (VCP) at each console (console design)
- At least 25U spaced required at the rack / back end

#### **Data from Radar to C<sup>2</sup> Centre**

- Plot & Track Data
  - Correlated Plot (Primary, Secondary & ADS-B correlated plot)
  - Height measured by primary radar
  - Positional information {(r,  $\theta$ ), (x, y) and (Lat, Long)}
  - Mode 1, 2, 3, C, S & Mode 6 (secure Mode)
  - Target Classification i.e. Air, surface, simulated, UAV, Anti Radar Missile, Helicopter & Missile
  - Doppler speed
  - Calculated Track Speed
  - Radar Plot Characteristics (SNR, RCS,  $\Delta$  in PSR, SSR & ADS-B position (r,  $\theta$ ))

- Scan-to-plot Latency < 50 msec
- Sector change (at least 32 sectors)
- Plot number, Track number & Associated Track number with plot
- End of Scan message / plot
- Radar output messages to be time-stamped
- Target report Description (PSR, SSR, ADS-B or combined detection)
- Track Quality Track quality indicator from 0 to 7. Where, 0 depicts worst & 7 shows best
- Status of a radar track (Tentative, Confirm, Simulated or Manual etc.)
- Error Covariance Matrix from radar tracker
- Plot-to-Track Latency < 50 msec & Level of Confidence against plot-to-track association process to be provided
- Jam strobe information along with jam strobe type (ECCM feature)
- Track drop message

### **Control Messages**

---

- Frequency Mode & Transmit frequencies information
- Radar Sector Control Messages i.e. Tx silence & sector blanking / Non Automated Initiation (NAI)
- Radar data reporting to C2 centre i.e. Enable / Disable plot / Track report
- Radar Rotation rate
- System Configuration and health Status (BITE & Link Status with C2 Centre)
- Radar Registration message (Lat and Long of radar installation)
- Burn-Through messages to overcome jamming
- Clutter Map & Automatic clutter rejection handling
- Recursive estimation of terrain based clutter maps

## C<sup>2</sup> Centre to Radar

### Tracks Control Functionalities

- Track-controlling functions like (Delete, Update and Initiate) which need to be extended to GMCC from radar
- Radar data reporting to C<sup>2</sup> Centre i.e. Enable / Disable plot / Track report
- C<sup>2</sup> System Track number
- Provision for display of system generated test plot or plots and track or tracks
- Provision of Back Told Tracks: C<sup>2</sup> Centre tracks to radar HMI
- Free text messages & Position Pointer

### Radar Ops Related Functionalities

- Mechanism to check link status between radar & C<sup>2</sup> centre
- Change Frequency mode & Transmit frequencies
- Change Radar RPM
- Radar Sector Control Messages i.e. Tx silence & sector blanking (NAI)
- Emission Control (Enable/Disable PSR/SSR/ADS-B transmit)
- Request System Configuration and Status

### Modification at Radar PPI

- Symbology: MIL-STD 2525C, IJMS & custom PAF symbology
- Parameter units (NM, Knots & feet)
- MAP Coordinate system should be WGS84 (ellipsoid datum)
- Projection technique: Lambert Conformal Conic using Real earth model
- GEOREF
- Free text messages & Position Pointer between C2 & Radar
- Integration for synchronized recording/playback of voice and data
- Automatic self-calibration of radar using

ADS-B for online estimation of systematic error information in Azimuth and range

- User selectable data log of the radar output in ASTERIX format
- Capable of tracking a minimum of 6G's manoeuvring target

## Documentation

1. Technical manuals are to cover the following: -
  - (a) Complete Primary / secondary radar functions.
  - (b) Data processing system.
  - (c) Antenna sub system.
  - (d) Display sub system.
  - (e) Hydraulic sub system.
  - (f) BITE
  
2. Operational Manuals are to include the following: -
  - (a) Setting up procedures of complete radar system.
  - (b) Operation of primary / secondary radar and ancillary equipment.
  - (c) Operation of all sub systems.
  - (d) Description of safety system of radar.
  
3. Maintenance Manuals are to include: -
  - (a) Maintenance manuals for 'O' and 'I' level maintenance.
  - (b) Trouble shooting and subsequent maintenance actions.
  - (c) Complete Assembling / dis-assembling procedures.
  - (d) Preventive maintenance schedules and work cards for radar and ancillary equipment.
  - (e) Block diagram of complete system.
  - (f) Signal flow diagram of sub assemblies upto schematic level.
  - (g) Test set ups / reports documents on FAT and SAT.
  - (h) IPB's upto component level specifying the categories of each component / item as XB3, XD1 – 3, XF and lifetime.

## Training

The training of PAF personnel should include operational training for ATCOs and ATC Airmen and O & I level maintenance of radar system with following objectives: -

- (a) To master the composition of radar system and sub system and the fundamental operational principle.
- (b) To carry out O & I level maintenance of the radar system
- (c) Extensive training on operational software for maintenance of SRUs.
- (d) Additional Practical training on ATCR antenna group for 07 days will be conducted by OEM on-site during installation and before SAT.

## **PROPOSAL REQUIREMENTS : ATC RADAR SYSTEMS**

### **System Outline**

1. Static Primary Surveillance Radar (PSR) based on Solid State technology with dual channel transmitter / receiver for redundancy having high quality processing capability and distributed structure that will permit a high degree of future expandability and upgrade capability both in hardware and software should be able to interface with Air Defence System.
2. Static Secondary Surveillance Radar (SSR) in a co-mounted configuration, having dual channel to interrogate all the civilian (A,C,D) and military (1, 2, 3 & 6) modes with an interlacing pattern and upgradeable to mode 'S' in future, should be able to interface with Air Defence System.
3. Operations Control Centre (OCC) for the presentation of PSR/SSR radar and weather data received from the radar site via microwave / optical fibre link. The OCC is to essentially include the following: -
  - (a) 06 radar display workstations.
  - (c) Remote Control & Monitoring System (RCMS) for monitoring of all the functions of the radar system and providing means for controlling major system elements remotely.
  - (d) Voice and data recorder with play back option in relation to date / time.
  - (e) Electronic flight plan generation.
  - (f) Six level weather picture.
  - (g) Map overlays.
  - (h) Position (without scope) for ATC Assistants.
  - (j) Software and Hardware for Minimum Safety Altitude Warning system (MSAW) for controller.

### **Cross – Site Communication / Data Interface**

5. The data interface equipment between PSR and Operation Control Centre to be used with point to point communication links shall be provided by the supplier, however provisioning of the communication links will be responsibility of PAF.
6. PAF shall have the option to use either optical fibre or microwave link. The distance for point to point communication can extend upto 15 KMs depending upon the site requirements.

### **Civil Works**

7. The supplier will provide a civil works requirements specifications and technical drawing which will outline the requirement for the radar building and equipment room in the ATC tower building. The details and specifications for erecting antenna tower of surveillance radar will also be included in the civil works requirement. The supplier will liaise and co-ordinate with the buyer to assist in concluding the civil works.
8. The supplier shall provide all electrical cabling, waveguides, distribution boxes, data frames and any other material needed for the installation and operation of the system.

### **Site Surveys**



9. The site survey is to be conducted jointly by the supplier and the PAF's technical / civil engineering staff prior to the finalization of contract to determine accurately the requirements and define responsibilities and tasks expected of each party.

### **System Installation**

10. The supplier shall perform the installation, testing, calibration and commissioning of the complete equipment and other facility items as described in the scope of work to be prepared separately and made part of the contract.

### **Master Programme**

11. Master programme schedule will be developed during contract negotiations to include all reviews, testing, training and implementation efforts mutually agreed upon by both the buyer and seller.

### **Lightning Protection and Earthing**

12. The requirement of typical lightning protection system specified by the supplier for the radar tower along with the civil works requirement specifications shall be provided at the site. The height of lightning rods will be such that the system will provide a cone protection against direct strikes to the radar building and supporting equipment.

### **Electromagnetic Compatibility**

13. The system shall not be affected by normal electromagnetic emissions found in an airport environment that are not operating within the radar's frequency range.

### **ECCM Features**

- 14. (a) Frequency Agility
- (b) Pulse Compression
- (c) PRF Stagger
- (d) CFAR Processing
- (e) Side Lobe Blanking

### **Software Compatibility**

15. IBM compatible software to ensure easy replace ability and reliability.

### **Interfacing Capability**

16. The connectivity of data with Air Defence Networks.

### **Data Format / Protocol**

17. The data format and communication protocols is to be provided by the supplier.

### **Warranty**

18. Two years warranty on all supplied equipment.

## NOTES

1. Guaranteed equipment supportability for 25 years after delivery of last radar is to be ensured by the supplier.
2. The procedures and methodology for acceptance of radar system and other ancillary equipment both at factory and PAF site be finalized prior to contract finalization.
3. Draft contract be submitted to PAF and is to be vetted by Dte of ATS and Dte of Short Range Radars before finalization.
4. Equipment delivery time schedule be negotiated and agreed prior to finalization of the contract.
5. The warranty period shall be 24 months after signing of SAT certificate. Details of warranty claim and issues be included in the contract.
6. Part No and price of each LRU/ Spares, discrete components, consumables, Cables, Connectors etc to be included in the contract.
7. Technical assistance for 02 months and the man-month cost for technical assistance be specified.
8. Supplier would make a programme for feedback of buyer / user about the performance of the radar / equipment and disseminate changes / modifications to buyer for updating technical manuals.
9. All Printed Circuit Cards should have conformal coating for protection against weather / dust etc.
10. No jumper wires in Printed Circuit Cards be used.
11. Equipment exposed to weather should have anti corrosive treatment.
12. Anticorrosive treatment specifications for radars and radiating surfaces of antenna be provided.
13. Prior consultation with buyer for finalizing the paint / colours scheme for radars be included in the contract.

14. Marking on PCBs, Cables, Connectors consoles, etc should be in English and non-erasable.
15. Information on any future modification by seller to improve the performance and reliability of radar system should be provided free of cost.
16. Any suggestion by the buyer and mutually agreed by the seller to improve reliability should be provided free of cost.
17. Summary of stores with weight and dimensions to be included in the contract (as given in the proposal documents).
18. All documents shall be in English and should be comprehensive covering all essential details.
19. CRVs would be released on receipt of stores and completion of quality inspection, commissioning, installation and performance check by the buyer in Pakistan.
20. A six monthly PMR (Programme Management Review) meeting between the buyer and the seller be held alternately at buyer's and seller's premises till completion of warranty period of last consignment). PMR meeting will be scheduled in such a way so as to facilitate buyers to monitor the smooth execution of contract.
21. All equipment should be from factory's new current production and should have OEM certification for completeness, serviceability and accompanied with acceptance results data sheets.
22. The ops/ working software along with source code shall be provided by the supplier as a part of the contract for the radar system.
23. Completeness of the material and equipment for ATC radar and associated equipment, fitted or otherwise, whether covered in the attachments or not, shall be the responsibility of the supplier. The seller is to meet deficiencies, if any, found during commissioning, immediately through rush order.
24. Specifications of lubricant / oil, antenna paint, anticorrosive paint must be made part of the contract.
25. The buyer reserves the right to return the facility complete or part of it or any test equipment, accessories and Jigs etc, which in buyer's opinion is not required under the buy back clause.
26. Lightning arresters for the radar antenna to be provided by seller.

27. A specific annotation for following categories of each component / item used in the radar system / accessories be given in the technical manual (IPBs).

- XB3 = For consumables & expendables.
- XD1-3 = For repairable items at depot level.
- XF = For expendable / Repairable at field / shop level.
- Life items.
- Recommended level of maintenance.

28. Complete detail of customized items with blue prints to be provided.

29. All upgrades of software should be provided free of cost during life cycle of radar.

30. Facilities be provided for programming of E-PROMS, BGA and ASICS etc.

31. Specialized tools and rework stations to be provided free of cost with the radar.

32. EFM TOs to be provided with the radar.

33. List of commercial items with in-lieu part numbers to be provided for maintenance.

34. MTBF of LRUs / SRUs is to be provided for forecasting future pre issue.

35. PAF is to carry out 100% functional check of contracted store and issue inspection / functional certificate to all concerned.

## **INSPECTION CRITERIA**

### **INSPECTION DURING MANUFACTURE**

1. The Purchaser is permitted to witness and review the progress of equipment during manufacture and shall be given escorted access to the Supplier's plant during normal working hours, subject only to Italian Government Security Regulations. In the event that during any such inspection by the Purchaser's representative any comments are made or observation raised by the Purchaser's representative the parties shall discuss and agree what, if any, action should to be taken in connection with such comments or observations. The Supplier will be responsible for applying for and obtaining security clearance of the Italian Government for the access to the Supplier's plant in respect of Purchaser's representative(s).
2. In case the Equipment on inspection are found to be not of good workmanship or not in strict conformity with specification, the Supplier shall undertake to replace or repair (at the Supplier's option) the rejected equipment free of cost and without any obligations, before shipment, to the Pakistan.

### **FACTORY ACCEPTANCE TESTING**

3. The overall radar testing and acceptance process shall be inspected by the Supplier's Quality Manager, witnessed by the Purchaser's authorised representative. The objective of Factory Acceptance Testing (FAT) is to verify that the equipment satisfies the contract requirements as defined in the technical specification / ASR. All testing shall be conducted in accordance with the test specification which shall be mutually agreed between the parties. The FAT for the equipment shall be conducted at the Supplier's factory, prior to the shipment of the equipment to Pakistan with following recommendations:-

- (a) The Supplier shall submit to the Purchaser for approval the proposed test specification at least 3 (three) months before the scheduled date for a FAT.
- (b) Within 1 (one) month from receipt of the document, the Purchaser will either forward his comments to the Supplier or approve the test specification.
- (c) In the event that the Purchaser does not issue any comments within the above specified period then the proposed test specification shall be considered to be approved.
- (d) In the event that the Purchaser issues comments, then these shall be reviewed by the Supplier and a revised specification issued to the Purchaser within 1 (one) month of receipt. If the Purchaser still believes changes are necessary, then he shall advise the Supplier within 14 days. The changes sought by the Purchaser will then be discussed at a specially convened meeting with the Supplier at a place to be agreed. The purpose of this meeting will be for the Purchaser and Supplier to mutually agree the contents of the specification.
- (e) The Purchaser will have the right of witnessing the testing, subject to Italian Government security clearance. The Supplier shall give the Purchaser sixty (60) days notice of the expected commencement of final factory acceptance tests to

enable the Purchaser's representative to attend the acceptance testing of the equipment.

(f) Inspection and acceptance tests of the equipment shall be carried out by Supplier's standard factory inspection and acceptance procedures or in the case of equipment not of the Supplier's own manufacture in accordance with procedures approved by the Supplier's Quality Assurance Department.

(g) The equipment or any part thereof having passed the inspection and acceptance tests shall be deemed to be accepted by the Purchaser on the issue of a Factory Acceptance Certificate by the Supplier's Inspection Organisation, certifying that the equipment has passed the said inspection and acceptance tests and the Factory Acceptance Certificate shall be signed by the representatives of both the Supplier and the Purchaser. The Factory Acceptance Certificate aforesaid shall be issued in duplicate and one copy shall be retained by the Purchaser's representative

(h) Under the foregoing procedure, only completed units of the equipment shall be tested. Component parts and materials to be supplied separately shall only be inspected. A definition of what is "parts and materials" shall be agreed as part of the acceptance specifications.

(j) The Supplier shall bear all the expenses of the inspection and acceptance tests.

(k) Should any item of equipment fail during Factory Acceptance Testing in accordance with the requirements of the FAT specification, the Supplier shall take all appropriate actions to rectify any defect and the relevant tests shall be repeated. Should the item/equipment fail the subsequent FAT then such item and/or equipment shall be finally considered as rejected. In such circumstances the Supplier and the Purchaser shall mutually agree on the course of action which shall be taken to resolve the matter.

(l) Upon successful completion of FAT, as evidenced by signature of the acceptance certificate, the Supplier shall be entitled to deliver the accepted equipment to Pakistan.

(m) On the bases of previous experience of FAT it is also recommended that, all spares, test equipment, tools and special tools shall be inspected by the purchaser during the FAT.

#### **SITE ACCEPTANCE TESTING (SAT)**

4. The Supplier shall be responsible for carrying out commissioning and site acceptance testing of sensors and associated systems at PAF Base Bholari or other sites as shall be mutually agreed.

(a) The Supplier shall submit to the Purchaser for approval the proposed test specification at least 3 (three) months before the scheduled date for a SAT.

(b) Within 1 (one) month from receipt of the document, the Purchaser will either forward his comments to the Supplier or approve the test specification.

(c) In the event that the Purchaser does not issue any comments within the above specified period then the proposed test specification shall be considered to be approved.

(d) In the event that the Purchaser issues comments, then these shall be reviewed by the Supplier and a revised specification issued to the Purchaser within 1 (one) month of receipt. If the Purchaser still believes changes are necessary, then he shall advise the Supplier within 14 days. The changes sought by the Purchaser will then be discussed at a specially convened meeting with the Supplier at a place to be agreed. The purpose of this meeting will be for the Purchaser and Supplier to mutually agree the contents of the specification.

(e) When the equipment will have passed the Site Acceptance Test provided under this Contract, the Purchaser shall issue within 1 (one) week the relevant Site Acceptance Test Certificate as per Annex G2 to be released to the Supplier in original for payment purposes.

(f) In case, partial Site Acceptance Test are scheduled to be performed between the Parties, the above sub-clause shall apply to each release of the relevant Site Acceptance Test Certificate.

## TOOLS REQUIRED WITH ATCR SYSTEM

### SPECIAL TOOLS

S NO	DESCRIPTION	QTY
1	STRIP EXTENDER	1
2	PCB EXTRACTOR	1
3	STD CABLES FOR RADAR SITE	1
4	STD TERM / ADAPT FOR RADAR SITE	1
5	STRIP EXT CABLE	1
6	BOARD EXTRACTOR	1
7	RF LOAD 50 OHM 20W	1
8	PHASE CALIB TOOL	1
9	OSM TORQUE WRENCH	1
10	750Kg TIRFOR	2
11	ROTARY JOINT LIFTING JIG	1
12	GEARED MOTOR LIFTING JIG	1
13	ANT MOTOR LIFTING JIB	1
14	PCB EXTENDER WITH TIP	1
15	PHASE EQUALIZATION KIT	1
16	EEPROM WRITING ENABLING CONNECTOR	1
17	A/D CONVERTER MODULE CALIBRATION TOOL	1

### COMMERCIAL TOOLS

1	TOOL BAG CONSISTING OF	
2	TOOLS CASE	1
3	NEEDLE ROUND FILE	1
4	NEEDLE TRIANGULAR FILE	1
5	NEEDLE HAND FILE	1
6	SMALL MIRROR 025	1
7	FLASHLIGHT	1
8	OILER-PEN	1
9	SPRING STRETCHER	1
10	CLOSING PLIERS	1
11	PLASTIC SCREW DRIVER	1



12	NEEDLE NOSE TWEEZERS	1
13	TWEEZERS	1
14	BRISTLE BRUSH 30x5	1
15	STEEL TAPE M.2	1
16	MANUAL UNSOLDERING PUMP	1
17	BEND SRIBER	1
18	PLASTIC OILER	1
19	HAMMER	1
20	STRAIGHT BLADE SNIPS	1
21	SOLDERING IRON (USAG) (220V/30V)	1
22	IMM DIA SOLDERING	1 KG
23	NON MAGNETIC SCREW DRIVER 6x75 A B C	1
24	CROSS SCREW DRIVER	1
25	CROSS SCREW DRIVER	1
26	4X100 SCREW DRIVER	1
27	3.5X100 SCREW DRIVER	1
28	2.5X75 SCREW DRIVER	1
29	1.65X75 SCREW DRIVER	1
30	1.6X150 SCREW DRIVER	1
31	6X150 SCREW DRIVER	1
32	5X125 SCREW DRIVER	1
33	6X30 SHORT REVERSIBLE SCREW DRIVER	1
34	6X60 REVERSIBLE SCREW DRIVER	1
35	2.5X200 EXTRA LONG SCREW DRIVER	1
36	LINE FINDER (110V/380V) SCREW DRIVER CIRCUIT	1
37	ADJUSTABLE SPANNER	1
38	SET OF HALLEN WRENCHES	1
39	SET OF HALLEN WRENCHES	1
40	SET OF FORK SPANNER	1
41	POLIGRIP PLIERS	1
42	CUTTING PLIERS	1
43	WIRE STRIPPERS	1
44	HALF ROUND NOSE PLIERS	1
45	NETTING NIPPERS	1
46	FLAT NOSE PLIERS	1
47	ROUND NOSE PLIERS	1



**LEGAL/ ADMINISTRATIVE**  
**TERMS AND CONDITIONS GOVERNING THE CONTRACT**

(to be filled by DP as appropriate this IT as per DP-35)

1. **Warranty.** All goods/ stores/ offered would be brand new, from current year of production. These will be supplied on Form DPL-15 (Appendix III) and will be governed as per warranty clause. This warranty period may be covered by a BG as stipulated above depending on the value/ critically of the tendered equipment/ stores Format of BG against warranty is attached as appendix IV.
2. **Security Deposit/ Bank Guarantee (BG)**
  - a. BG equal to 10% will be imposed on all FOB/ FOR contracts on issuance of letter of Intent/ Acceptance or signing of the contract, the Supplier shall within a period of 30 days, submit a Security Deposit in the following forms:-
    - (i) Demand Draft/ Pay Order from any scheduled bank of Pakistan.
    - (ii) Cash deposit on Form PAFA 507 in favour of Controller Military Accounts (DP).
    - (iii) Treasury Receipt.
    - (iv) Unconditional and irrevocable Bank Guarantee form a scheduled bank of Pakistan, which shall be endorsed in favour of Controller Military Accounts (DP) in the case of local contracts.
    - (v) Unconditional and Irrevocable Bank Guarantee form a scheduled bank of State Bank of Pakistan or through LC opening Pakistani Bank in the case of foreign contracts. Such a Bank Guarantee shall be endorsed in favour of Controller Military Accounts (DP).
3. **Agent Commission.** In case of Involvement of foreign firm's local (Pakistani) agent, the commission %age being paid to the agent must be declared in the offer. This commission will be paid to agents in Pakistani currency (rupees) by CMA (DP) on satisfactory completion of supplier. Letter of Credit will be reduced by corresponding Dollar value of agency commission at the exchange rate of date of opening of commercial offer. In case firm does not have any local agent, then a certificate as per format attached as (appendix-II) will be signed by OEM/principal and included as integral part of contract.
4. **Taxes/ Duties/ Letter of Credit Charges.** All taxes/ duties/ import License Fee/ LC charges as applicable under Govt laws in Pakistan as well as country of Supplier shall be non Supplier's account.
5. **Term of Payment.** Principal/ Supplier may be allowed to draw 80% payment through Letter of Credit on dispatch of stores and 20% on issuance of Certificate Receipt Voucher (CRV) by consignee.
6. **Late Delivery.** In the event in delivery at Supplier's fault, the Supplier shall inform the purchaser before expiry of such delivery period giving reasons/ justification for it. The purchaser shall have the right to take following actions:-
  - a. Cancel the contract, and/ or
  - b. To purchase from elsewhere stores not delivered, at the risk and expense of the Supplier and without notice to him, or
  - c. To recover liquidated damages when the Competent Purchase Officer is satisfied that the failure to supply the stores within the scheduled delivery period has been for reasons with the control of the Supplier, and/ or if the Government has suffered loss for reasons of belated delivery. These liquidated damages, if imposed, will be recovered at the rate of upto 2% but not less than 1% (depending on the merit of the case as decided by Competent Purchase Officer) of the value of stores supplied late per month or a part of month for the period exceeding the original delivery period, subject to the provision that the total liquidated damages thus imposed will not exceed 10% of the total value of the stores delivered late
  - d. The purchaser's decision under this clause shall NOT be subjected to arbitration.
7. **Shipment.** In case of FOB contracts, shipment will be made through PNSC vessel or PIA on Purchaser's account. Details to be incorporated in the contract Shipment through foreign vessel/ flight due to any compulsion will require prior approval of Purchase/ DGDP. For further detail referred to DP-35.
8. **Insurance.** In case of FOB contract, insurance in this contract if required will be on Purchaser's account with NICL, Pakistan.
9. **Subletting.** Supplier not allowed wholly or part of the contract to any other firm/ company without prior permission of the Purchaser. Firm found in breach of this clause will be dealt with as per purchaser's right and discretion.
10. **Purchaser's Right.** Government of Pakistan (represented) by Directorate General Defence Purchase does not pledge himself to accept the lowest or any tender and reserves the right of accepting the whole or any part of the quantity offered. Please be notified that the tender does not constitute ANY obligation or commitments what-so-ever on the part of the Government of Pakistan to negotiate or conclude ANY or part

thereof of the subject contract under any terms or conditions irrespective of the cost, lowest cost or any gradation of the cost. Government of Pakistan reserves the right to cancel the indent, tender or inquiry or to reject any offer or quotation without assigning any reason or explanation.

The purchaser also reserves the right of deletion, addition and cancellation of the contract in part or full without assigning and reason whatsoever and without financial repercussion on either side within 30 days after the signing of contract. Such information will be passed to the supplier on his legal address by the purchaser through the fastest possible means i.e. Telephone, Fax, Telex, Cable Telegram etc.

11. **Export License/ Permit/ End User Cert.** It shall be the responsibility of the supplier to obtain from the Government concerned all permits and export licenses, etc required to enable each consignment to be shipped immediately as per the delivery schedule. In case the supplier fails to arrange export license within 30 days of signing the contract the purchaser reserves the right to cancel the contract on the risk and expense of the supplier without prior notice. The purchaser will provide End User Certificate (EUC) to the supplier within 15 days of signing of the contract for the purposes of getting the export license/ permit. However purchase will not be responsible to arrange export license/ permit on behalf of the supplier for the export of the contracted goods/ stores.

12. **Failure/ Termination.** The purchaser shall be entitled to terminate the contract on Risk and Expense for default on the part of supplier. In case the Purchaser elects to terminate the Contract, the Purchaser shall give notice in writing to the Supplier to make good the default. Should the Supplier fail to initiate proceedings in order to comply with the notice within 15 days from the date of servicing of such notice, the Purchaser may forthwith terminate this contract by notice in writing to the Supplier without prejudice to any rights of supplier. Extra cost if incurred on re-purchase form else where will be on your account.

13. **Secrecy.** The Supplier 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 Director General Defence Purchase Division to receive it. Any breach on this account will be punishable under the Official Secret Act-1923 in addition to termination of the contract at the risk of Supplier.

14. **Signature on Appendix V to DP-2 Part-II.** In case of un-registered firm, the attached Appendix V to DP-2 Part-II is required to be signed by the supplier. **(Ref DGDP letter No 1566/01/Gen/Registration dated 19 February, 2014)**

15. **Award of Contract to Un-Registered Firm Valuing Rs 1 Million and above** In case of contract is awarded to un-registered firm valuing Rs 1 million and above, BG from any scheduled Pakistani Bank will be submitted to DP (Air) **BEFORE SIGNING OF THE CONTRACT.** **(Ref DGDP letter No 1566/01/Gen/Registration dated 19 February, 2014)**

16. **Declaration of Movable / immovable Property:** Prior to the award of contract the potential supplier, the firm is required to provide details of movable / immovable property on Rs. 100 judicial stamp paper duly attested by the oath commissioner.

**CERTIFICATE**

It is certified that no person, firm, corporation, subsidiary or entity in Pakistan or elsewhere shall directly or indirectly receive any rebate, bonus, commission, gift or favour in case or kind other than the commission allowed to M/s (No one allowed) against Contract No----- . In case it is discovered that the contents of this certificate have been infringed/ violated by the supplier, the purchaser will have the right to cancel the contract and/ or impose a penalty equal to 25% f the contract value.

**Agent**

**Principal**

\_\_\_\_\_  
**Seal & Signature**

\_\_\_\_\_  
**Seal & Signature**

**COUNTERSIGNATURE**

\_\_\_\_\_  
**DP Concerned  
Seal & Signature**

**GUARANTEE FORM DPL-15  
PRINCIPAL'S MANUFACTURER'S STANDARD WARRANTY/  
SELLER'S LETTER OF GUARANTEE**

Firm Name: **M/s** \_\_\_\_\_

Contract No: \_\_\_\_\_

1. We hereby guarantee that the articles supplied under the terms of this contract are produced now in accordance with approval drawings in all respect in accordance with the terms of the contract, and that the material used, whether or not of our manufacture, are in accordance with the latest appropriate standard specification, and also in accordance with the terms of the contract complete of good workmanship throughout and that will replace free of cost (FOB/ CIF/ C&F/ FOR) Karachi as the case may be every article or part hereof which before use or in use shall be found defective or is found not within the limits and tolerance of specification requirement or if any way are not in accordance with the requirement of the contract.
2. In case of our failure to replace the defective stores free of cost within a reasonable period, we will refund the relevant cost (FOB/ CIF/ C&F/ FOR) Karachi as the case may be in the currency/ currencies in which received plus freight charges, up to consignee's and the purchaser shall have the right to purchase the stores declared defective at our risk and expense.
3. The supplier also undertakes to make good the deficiency in supply if any.
4. The warranty will remain valid for -----on receipt of stores by the consignee.

Signature: \_\_\_\_\_

Dated: \_\_\_\_\_

**Note:** The signature must be the same as the one on the Tender/ Contract, if otherwise must be shown to be the signature a person capable of giving guarantee on behalf of the contractors.

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

CONTRACT No:  
NAME OF FIRM/ CONTRACTOR:  
ADDRESS OF FIRM/ CONTRACT:  
NAME OF GUARANTOR: \_\_\_\_\_  
ADDRESS OF GUARANTOR: \_\_\_\_\_  
AMOUNT OF GUARANTOR: Rs \_\_\_\_\_  
DATE OF EXPIRY OF GUARANTEE: \_\_\_\_\_ (In Words)

To: **The President of Islamic Republic of Pakistan through the Controller of Military Accounts  
(Defence Purchase), Rawalpindi**

Sir,

1. Whereas your good self have entered into Contract No. \_\_\_\_\_  
dated \_\_\_\_\_

With Messrs \_\_\_\_\_

Full Name and Address

Hereinafter referred to as our customer and that one of the conditions of the Contract is the submission of unconditional Bank Guarantee by our customer to your good-self for a sum of Rs \_\_\_\_\_ Rupees \_\_\_\_\_

2. In compliance with this stipulation of the contract, we hereby agree and undertake as under:-

a. To pay to you unconditionally on demand and/ or without any reference to our Customer an amount not exceeding the sum of Rs \_\_\_\_\_ Rupees

\_\_\_\_\_

as would be mentioned in your written Demand Notice.

b. To keep this Guarantee in force till \_\_\_\_\_

c. That the validity of this Bank Guarantee shall be kept one clear year ahead of the original/ extended delivery period or the warrantee of the stores which so ever is later in duration on receipt of information form our Customer i.e. \_\_\_\_\_ or form your office. Our liability under this Bank Guarantee shall cease on the closing of banking hours on the last date of validity of this Bank Guarantee. Claim received thereafter shall not be entertained by us whether your suffer a loss or not. On receipt of payment under this Guarantee, this document i.e. Bank Guarantee must be clearly cancelled, discharged and returned to us.

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/ cause 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/ Supplier or Vendor.

g. That this is an unconditional Bank Guarantee, which shall be encashed on sight on presentation without any reference to our Customer/ Supplier or Vendor.

**GUARANTOR :**

Dated: \_\_\_\_\_

**Bank Seal & Signature:**

**AFFIDAVIT / UNDERTAKING**  
**(WORTH RS 100/- ON JUDICIAL STAMP PAPER)**

Mr \_\_\_\_\_ Authorized signatory/ Partner/MD of M/s \_\_\_\_\_, do hereby solemnly affirm to DP (Air), and Directorate General Defence Purchase, Ministry of Defence Production, Rawalpindi that our firm M/s \_\_\_\_\_ has applied for registration with Director General Defence Purchase (DGDP) duly completed all the documents required by Registration Section on \_\_\_\_\_ (date) i.e. before signing the contract. I certify that the above mentioned statement is correct. In case it is detected on any stage that our firm has not applied for registration with Director General Defence Purchase or statement given above is incorrect, our firm will be liable for disciplinary action initiated (i.e. debarring, the firm to do business with other Defence Establishment and Government Agencies). I also accept that any disciplinary action taken will not be challenged in any Court of Law.

Station \_\_\_\_\_

Signature \_\_\_\_\_

Dated \_\_\_\_\_

Name \_\_\_\_\_

Appointment in Firm \_\_\_\_\_

**ATTESTED BY OATH COMMISSIONER WITH STAMP**



**CERTIFICATE**

It is certified that no change/amendment has been made in the documents available on the PPRA website. In case, found guilty of any tempering to the IT documents, severe disciplinary action will be taken against my firm.”

Principal / Agent

\_\_\_\_\_

Seal & Signature

**TECHNICAL CONDITIONS/ SPECIFICATIONS OF STORES**

1. **Technical Specifications**

1.1 The store/ equipment should confirm to specification/ service requirements and technical data/ drawing (if applicable as per attached **Appendix "A"**. Offer not confirming to required specification or multi offers will be rejected. The supplier shall further undertake to provide all the contracted stores/ goods as per the specification.

1.2 All stores/ Items/ Goods delivered would be brand new, from current year of production, confirming to purchaser specifications/ satisfaction. The supplier will provide all the OEM certificate, quality certification/ inspection documents to the purchaser confirming the quality of the product being supplied under this contract. Stores must bear the manufacture's Identification marking/ monogram.

2. **Requirement of Samples.** The requirement of tender sample will be included in the IT in case the same is required for evaluation by technical authorities. Beside this advance sample if required will be made part of the IT as well as the contract.

3. **Change in Specification/ Mfr/ Model.** No alteration in make/ brand and quality of stores will be entertained after the tenders have been opened. To contrary, any change/ improvement requires approval of tech authority/ user.

4. **Technical Documentation.** All original publication, catalogues and technical/ operational manuals will be supplied free of coat by the supplier at the request of purchaser unless otherwise stated in the contract. Supplier will also provide two copies of compact disc and hand made drawings wherever applicable. The supplier will provide two sets of following documents free of coat for technical scrutiny of the offer (as applicable):-

- a. Technical literature of each item in original form.
- b. Manufacturer's Specifications/ Technical Data/ Drawings and packing details etc of each item in original form.
- c. Acceptance test procedure/ criteria of each item.
- d. Country of origin of each items and port of shipment.

5. **Interchangeability.** A certificate of complete interchangeability must be endorsed on the quotation for substitutes/ in lieu and superseded items. A copy of relevant page of publication must be attached to prove correctness of offered items.

6. **Checking of Store at Consignee End.** All stores will be checked at consignee's end, in the presence of supplier's representatives. 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 consignee prior to or immediately on shipment of stores. In such an even the supplier will clearly undertake that the decision of consignee with regard to quantities and description of a consignment will be taken as final and discrepancy found will be accordingly made up by supplier. In all other cases the consignee will inform the suppliers about arrival of consignment immediately on receipt of stores through registered mail or fax. If no response from the supplier is received within 15 days from initiation of letter 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.

7. **Packing/ Marking.** The supplier shall be responsible for proper packing of the stores in accordance with the relevant paper particulars under the conditions laid down in the contract or other relevant Instructions on the subject in standard export packing worthy of transportation by Sea/ Air/ Road/ Rail so as to ensure their contents being free from loss or damage due to faulty packing on arrival at the ultimate destination. Packing of stores will be done at the expense of the Supplier. All packing cases, containers and other packing material shall become the property of the State on receipt. Marking of packages/ containers shall also be done by end at the expense of the Supplier in accordance with the instructions given by the Purchaser. Failure to mark consignment in accordance with these instructions will render the store liable to rejection. Any loss occurred/ demurrage paid due to wrong marking will be made good by the Supplier.

**UNDERTAKING**

**To:**

**The Director of Procurement (AIR)  
(Section P-43)  
Air Headquarters, Chaklala/ Rawalpindi**

Dear Sir,

1. I/We hereby offer to supply to the Director of Procurement (Air) the stores detailed in schedule to the tender inquiry or such portion thereof as you may specify in the acceptance of tender at the prices offered against the said schedule and further agree that this offer will remain valid up to -----and will not be withdrawn or altered in terms of rates quoted and the conditions already stated therein or on before this date. I/We shall be bound by a communication of acceptance to be dispatched within the prescribed time.

2. I/We have understood the instructions to Tenders and General Conditions, Governing Contract in Form No DPP&I-35 (Revised 2017) included in the pamphlet entitled, Government of Pakistan, Military of Defence (Directorate General Defence Purchase) "General Conditions Governing Contracts" and have thoroughly examined the specifications/ drawings and/ or patterns quoted in the schedule hereto and am/are fully aware of the nature of the stores required and my/ our offer is to supply stores strictly in accordance with the requirements.

**Yours faithfully,**

\_\_\_\_\_  
**(Witness's Signatures)**

\_\_\_\_\_  
**(Signature of Tenderer)**